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Presented for filing is a new continuation in part patent application of:

Applicant: DAVID STROBER

Title: VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER

Assignee: Touchstream Technologies, Inc.

Enclosed are the following papers, including those required to receive a filing date under 37 C.F.R. § 1.53(b):

	Pages
Specification	17
Claims	7
Abstract	1
Declaration	[To be Filed at a Later Date]
Drawing(s)	4

Enclosures:

— Application Data Sheet, 5 pages.
— Information disclosure statement, 1 page.
PTO-1449, 4 pages.

Applicant claims small entity status. See 37 CFR 1.27.

Basic Filing Fee			$95
Search Fee			$310
Examination Fee			$125
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Fee for Multiple Dependent claims			$0
Application size fee for each 50 pages over 100 No (10 +4)*.75) - 100)/50 = No0 x			$0
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The filing fee in the amount of $805 is being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply all charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 30160-0005001.

If this application is found to be incomplete, or if a telephone conference would otherwise be helpful, please call the undersigned at (212) 765-5070.

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VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER

RELATED APPLICATION(S)

[0001] The present application is a continuation-in-part of U.S. Application No. 13/157,821, filed on June 10, 2011, which in turn claims the benefit of priority of U.S. Provisional Patent Application No. 61/477,998, filed on April 21, 2011. The contents of the earlier applications are incorporated herein by reference.

BACKGROUND

[0002] Techniques are known to facilitate operating a display device remotely from a personal computing device, such as a mobile phone, in order to view a video file or other content on the display device. For example, U.S. Patent Application No. 13/157,821 describes a system in which a server system acts as a single interface that can be used to control any one of multiple media players (*i.e.*, computer software applications for playing video or other content) that may be needed to play different video or other files on a display device such as a television screen. As an example, the display device may receive from the server system a message, based on input from a mobile phone, that instructs the display device to access a content provider, load a specific media player, load specific content (e.g., a video) to be played on the display device, and play the content on the display device using the media player.

[0003] Recently, various types of display devices have become popular and their use has become widespread. For example, some applications can be run on a gaming console, a tablet computer, a television set, or a set-top box, where the display device serves as a platform for audio-visual media such as books, movies, music, games or web content. However, some of these display devices have somewhat limited processing power and, therefore, may not be sufficiently powerful to run a swappable media player such as described in the foregoing patent application. Thus, using the techniques described in the foregoing patent application to control the display of content on such display devices presents a challenge.

SUMMARY

[0004] The present disclosure describes techniques to facilitate controlling the content that is displayed on various display devices, using a personal computing device such as a mobile phone. The techniques make use of a display host that acts, in part, as a swappable media player so that a wide range of video or other content can be played on the display device regardless of the particular media player that may be needed to play the video or other file.

[0005] In one aspect, for example, a machine-implemented method of presenting content on a display device includes receiving, in a display host, a communication from a display device. The display host is operable to execute multiple instances of a browser each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content. The method includes opening a first session using a first instance of the swappable media player, and requesting assignment of a unique identifier for the first session from a switchboard server system. A unique identifier for the first session is received from the switchboard server system. The method includes displaying the unique identifier in the first session, and causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device.

[0006] The foregoing method can be used, for example, to establish a link between a particular instance of the swappable media player and a particular display device. The unique identifier displayed on the virtual client residing on the display device then can be entered into a computing device (e.g., a mobile phone) that is to be used to select and control the playing of content on the display device.

[0007] According to another aspect, the method includes receiving in the display host a message indicating that particular content is to be played in a first session using a specified media player. The specified media player can be retrieved and loaded, and the particular content can be played in the first session using the specified media player. The

method can include causing a presentation of the content to be mirrored onto the virtual client residing on the display device. In some implementations, the method includes receiving in the display host a second message indicating that particular second content is to be played in the first session using a specified second media player. The specified second media player can be retrieved and loaded, and the particular second content can be played in the first session using the specified second media player. The method can include causing a presentation of the second content to be mirrored onto the virtual client residing on the display device.

[0008] Systems for presenting content are described as well. For example, in some implementations, a system for presenting content includes a display device storing a virtual client. The system includes a display host operable to execute multiple instances of a browser each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content. The system also includes a switchboard server system. The display host is operable to perform operations including receiving from the switchboard server system a message indicating that a specified media player is to be used to play particular content using a first instance of a swappable media player, retrieving and loading the specified media player from a content provider using the first instance of the swappable media player, playing the particular content in a first session using the specified media player, and causing a presentation of the content to be mirrored onto the virtual client residing on the display device. In some implementations, the message indicating that a specified media player is to be used to play particular content using a first instance of a swappable media player includes a unique identifier for the first session. Also, in some implementations, the display host is further operable to incorporate a watermark into the content before the content is mirrored onto the virtual client, wherein the watermark includes the unique identifier.

[0009] Various implementations include one or more of the following advantages. For example, the techniques described here can be used even if the display device has somewhat limited processing power and would not be sufficiently powerful to run the

swappable media player. Furthermore, the techniques can facilitate centralized processing of the swappable media player for multiple display devices (e.g., television sets located in multiple guest rooms in a hotel).

[0010] Other aspects, features and advantages will be apparent from the following detailed description, the accompanying drawings, and the claims.

BRIEF DECSRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a block diagram illustrating an example of a system according to the invention.

[0012] FIG. 2 illustrates a method for establishing a session for playing content on a user-selected display device using a swappable media player.

[0013] FIG. 3 illustrates an example for playing user-selected content on a user-selected display device.

[0014] FIG. 4 illustrates another example for playing user-selected content on a user-selected display device.

DETAILED DESCRIPTION

[0015] As shown in FIG. 1, a system 10 synchronizes a connection between a control device 20 and a display device 23 to facilitate the playing of content on the display device 23. For example, a user of the first device 20 can select content and control the content displayed on the display device 23. For purposes of illustration, in the following discussion, it is assumed that first device 20 is a personal computing device such as a mobile phone that includes a display, an internal microprocessor or other processing circuitry, a keypad, keyboard, touchscreen, mouse, trackball, or other device to receive user selections and other input, and a transceiver to establish communications to the Internet 21. More generally, however, the first device 20 can be any type of handheld or other Internet-enabled personal computing device, including personal computers, e-books, kiosks, tablets, smart phones and media players. In some cases, input from the user can be received in forms other than tactile input (e.g., acoustic or speech). Examples of the display device 23 include a gaming console, tablet computer, set-top

box, television set, personal computer or laptop computer with a display screen. In some implementations, the display device 23 may have limited processing power. Although FIG. 1 shows only a single display device 23 coupled to the display host 22, there may be multiple display devices coupled to the display host 23 at the same time. Furthermore, the display devices may be of different types.

[0016] In the illustrated example, the mobile phone 20 is operable to display an application or web site that contains information and links to content providers 30 on a computer network such as the Internet 21. A display host 22, which may be implemented, for example, as a server system or other computing device (e.g., a personal home computer), is coupled to the Internet and is operable to link back to a switchboard server system 24 from which the display host 22 receives messages regarding the playing of specified content.

[0017] The display host 22 is operable to execute multiple sessions of a browser each of which operates as a swappable media player. Each session operates as a virtual display device that includes a unique instance 27 of the swappable media player and is assigned a unique synchronization code ("sync code"), which serves as an identifier for the session. Each session is associated with a specified display device such as the display device 23. The display device 23 may be connected to the display host, for example, through a wireless connection, a wired connection (e.g., a co-axial cable), or through the Internet 21 or other network.

[0018] The various instances 27 of the swappable media player run on the display host 22 are independent of one another. Thus, each instance 27 of the swappable media player can play content (e.g., a video) during a particular session that differs from the content being played by other instances 27. Furthermore, the different instances 27 of the swappable media player running on the display host 22 may use different media players (i.e., software applications to play the content) from one another depending on the particular content being played by each instance. In addition, as discussed in greater

detail below, each particular instance 27 of the swappable media player can retrieve the appropriate media player needed to play the specified content.

[0019] In the illustrated example, the display device 23 includes a thin, virtual client 25 that can display content (e.g., a video) being played by a specific instance 27 of the swappable media player on the display host 22. The virtual client 25 relies on the display host 22 to perform the data processing required for displaying the selected content. The display device 23 may be a dedicated thin client terminal or a computing device with thin client software that sends user input to the display host 22 and receives screen output in return. Although the virtual client 25 processes the user interface, it need not process data.

[0020] As explained in greater detail below, the virtual client 25 can have a unique identifier associated with it. In some cases, the unique identifier may be assigned when the software program is downloaded to the display device 23. When the display device 23 connects to the display host 22, the unique identifier associated with the virtual client 25 on the display device 23 is paired with a unique assigned sync code, which, in turn, is associated with a particular instance 27 of the swappable media player so that the appropriate session is paired with the correct virtual client and display device (e.g., virtual client 25 on display device 23).

[0021] The following paragraphs describe how a connection can be established between the mobile phone 20 and the display device 23 so that the mobile phone can be used to control the display and playing of content on the display device 23. As indicated by FIG. 2, when the display device 23 initially connects to the display host 22, the display device 23 sends the unique identifier associated with the virtual client 25 to the display host 22 (see 100 in FIG. 2). In the event there is no such unique identifier provided by the display device 23, the display host 22 automatically can assign a unique identifier to the display device 23. The display host 22 opens a session using a particular instance 27 of the swappable media player (see 102 in FIG. 2). The session is associated uniquely with the identifier for the virtual client 25/display device 23. The display host 22, which

stores (e.g., in a database) the one-to-one correspondence between the session and the display device 23, also requests a sync code from the switchboard server system 24 (see 104 in FIG. 2). The switchboard server system 24 assigns a unique sync code to be used by the display host 23 for the session (see 106 in FIG. 2), and stores the correspondence between the sync code and the display host session in a database for future reference. The switchboard server system 24 includes a sync code generator 29 to generate the sync codes and can use, for example, the display host's browser cookie as an identifier for the display host 23. The switchboard server system 24 then sends the assigned sync code to the display host 22 (see 108 in FIG. 2). Upon receiving the sync code assigned to the particular session, the display host 22 stores (e.g., in a database) the association between the sync code and the particular session, and displays an image of the sync code in the corresponding instance 27 of the swappable media player (see 110 in FIG. 2). The image displayed in the instance 27 is mirrored onto the virtual client 25 on the display device 23 using, for example, a virtual network connection (VMC) or other virtualization technology (see 112 in FIG. 2). The sync code may be displayed, for example, as text or as a QR code.

[0022] Once the sync code appears on the display device 23, the user of the mobile phone 20 can enter the sync code into the mobile phone, for example, manually (e.g., using a keyboard) or by scanning the displayed sync code into the mobile phone (see 114 in FIG. 2). The code can be scanned, for example, using optical scanning or RFID techniques. The mobile phone 20 then sends a message containing the sync code to the switchboard server system 24 (see 116 in FIG. 2), which associates the received sync code with the matching sync code already stored in its database (see 118 in FIG. 2). The switchboard server system 24 includes a look-up table 36 that, based on the sync code, stores the correspondence between the mobile phone 20 and the session of the swappable media player on the display host 22. Thus, once the sync code is entered into, or captured by, the mobile phone 20, it is sent from the mobile phone 20 to the switchboard server system 24, which stores the information in the look-up table 36 so as to establish a connection, through the switchboard server system 24, between the mobile phone 20 and the particular session of the swappable media player on the display device 23. As there is

a one-to-one correspondence between the sync code, the particular session on the display host 22 and the display device 23, the mobile phone 20 effectively can be paired with, and thus connected to, the virtual client 25 operating on the display device 23 by way of the switchboard server system 24 and the unique session of the swappable media player running on the display host 22.

[0023] Next, the switchboard server system 24 sends a message to the display host 22 indicating that the swappable media player on the display host 22 and the mobile device 20 are connected (see 120 in FIG. 2). The particular instance 27 of the swappable media player can display an indication (e.g., a message or other indicator) that it is connected to the mobile device 20 (see 122 in FIG. 2). This indication is mirrored onto the display device 23 (see 124 in FIG. 2), allowing the user of the mobile phone 20 to confirm that the phone can be used to control the playing of content on the display device 23, as explained below.

[0024] The following paragraphs describe how a user of the mobile phone 20 can select content and cause the content to be displayed on the display device 23. When a user makes a selection using the mobile phone 20 for particular content to be displayed on the display device 23, a message is sent through the Internet 21 to the switchboard server system 24. The message may, for example, identify particular content to be played and a media player needed to play the content, and also may contain the sync code. A corresponding message then is passed along to the display host 22, which acts on a transmission code contained within the signal and performs specified actions based on the transmission code. For example, in some scenarios, the message from the switchboard server system 24 instructs the particular instance 27 of the swappable media player on the display host 22 to access a content provider 30 through the Internet 21, load a specific media player, load the media player-specific content and play the content. The particular instance 27 of the swappable media player on the display host 22 plays the specified content using the session of the swappable media player associated with the display device 23. The contents of the session are mirrored automatically onto the display device 23 via the virtual client 25, thereby allowing the user of the mobile phone 20 to view the

content on the display device 23. The mobile phone 20 also can be used to issue playback commands (e.g., play, pause, fast-forward, rewind, stop, etc.) to control the session.

[0025] Although in some examples the content is a video to be played on the display 23, the system 10 can be used for other types of content as well. Thus, depending on the implementation, the content may include one or more of the following: video, audio, interactive video game, streaming media, multimedia, images, slides (e.g., a PowerPoint presentation) or other types of dynamic content.

[0026] FIG. 3 illustrates further details of the flow of information and signals according to some implementations. The mobile phone 20 is operable to display an application or web site that contains information and links to content providers 30 on the Internet 21. The user operates the mobile phone 20 so as to start the application or access the web site (block 200). In some implementations, a logo appears on the mobile phone's display. By selecting the logo, the user causes a menu to expand and present various options. The options can include, for example: (i) add new content to a playlist, (ii) play a listed item on a secondary device, (iii) play a listed item on the mobile phone 20. If the user selects to add new content to the playlist, the user is presented with a screen that allows him to enter user-defined search parameters or to select predefined search parameters to request video data. The search parameters are sent from the mobile phone 20 as part of a request for video data that satisfy the search parameters (block 202). The request is transmitted via the Internet 21 to the appropriate content provider web site. In response, the content provider 30 provides metadata (e.g., titles, links to the videos) for one or more video files that satisfy the search parameters. The metadata can be provided to the mobile phone 20, for example, in the form of an XML data file 204. Upon receiving the data file, the mobile phone 20 displays a list of one or more videos based on the information received from the content provider 30 (block 206).

[0027] If desired, the user can take one of several actions, including selecting one of the videos from the displayed list to be played or initiating a command with respect to a

video that already has been loaded to the display host 22 (blocks 208). The mobile phone 20 then formats and transmits a message to the switchboard server system 24 (block 210). The message from the mobile phone 20 contains a transmission code that includes data regarding the user information (e.g., user identification or account number), the location and name of the media player for the selected video, a playback command (e.g., play, pause, rewind, fast-forward, etc.), and the video file to be acted upon. The message also includes the sync code previously acquired from the display device 23.

[0028] The message from the mobile phone 20 is transmitted over the Internet or other network 21 and is received by the switchboard server system 24 (block 212). Based on information in the message from the mobile phone 20, the switchboard server system 24 can verify that the user has an account (block 214), and the contents of the message, as well as the date and time of receipt of the message, can be added to a personal computing device database 32 (block 216) which forms part of a switchboard 28 (see FIG. 1). In general, all messages from a particular user's personal computing device 20 can be stored in the database 32 corresponding to an account for the particular user. Thus, the database 32 stores a record of all messages received from a user's personal computing device 20, as well as the user's identification, an indication of the host display 22, an identification of the media player that is required for the selected video, and an identification of the selected video. The switchboard server system 24 also can perform a target verification (block 218), which can include checking whether a connection to the display host 22 already is established for the mobile phone 20. Signals sent from the mobile device 20 to its associated database 32 are copied to a database 34 associated with the session of the swappable media player on the display host 22 based on the sync code.

[0029] In the illustrated implementation, the playback control command in the message from the mobile phone 20 contains a JavaScript reference to control the media player needed to play the selected video. Various types of video players may use different JavaScript commands to control their respective playback. Therefore, in the illustrated implementation, a universal adapter 26 is provided to interpret and convert a standard or universal command (e.g., play, pause, etc.) into the specific command recognized by the

media player. Each time a signal is received from the mobile device 20, the API adapter 26 checks and identifies the specific media player that is being requested. Based on this information, the system loads the appropriate set of protocols or application programming interfaces (APIs) from its library and converts the incoming commands from the mobile device 20 into the correct JavaScript (or other programming) code used by the target device 22 to control the specific media player (block 220). The switchboard server system 24 then copies the converted version of the message to the database 34 associated with the display host 22, as indicated above in connection with block 222.

[0030] The universal adapter 26 can be implemented, for example, as a look-up table. For example, for a universal command "New Video," the universal adapter 26 provides the corresponding command for each of several specific media players (e.g., "yt_loadVideo" for YouTube). Similarly, for a universal command "Pause," the universal adapter 26 provides the corresponding command for each of several specific media players (e.g., "pauseVideo" for Ted.com). Other universal commands and the corresponding command(s) for one of more media players (i.e., software applications to play the content) also can be stored by the universal adapter 26.

[0031] The display host 22 periodically checks the entries in the database 34 to determine if there are any new messages for it (block 224). For example, in some implementations, the display host 22 polls the associated database 34 at some predetermined time interval (e.g., every half second). In some implementations, instead of the display host 22 periodically checking whether there are any messages for it in the database 34, the server system 24 can push the messages to the display host 22. In any event, the system is arranged so that the display host 22 receives the messages intended for it.

[0032] When the display host 22 receives a message from the switchboard server system 24 (block 226), the display host executes the message (block 228). In some cases, the media player required to play the video indicated in the message is not presently loaded in the display host 22. For example, the received command may be to "play" a particular video. If the media player needed to play the video is not already loaded in the display

host 22, the display host 22 requests and obtains a copy of the appropriate media player 40 as well as a copy of the video file 42 from a content provider 30, loads the media player and then plays the video in the particular session of the swappable media player indicated by the sync code (block 230). Likewise, if the appropriate media player already is loaded in the display device, but the particular video is not, then the display host 22 requests and obtains a copy of the video file 42 from the content provider 30 and proceeds to play the video in the particular session based on the sync code.

[0033] As the session of the swappable media player on the display host 22 plays the video, each frame is captured and transmitted to the display device 23 using for example, appropriate virtualization technology (e.g., a virtual network connection). Thus, the video playing in the particular session associated with the display device 23 is mirrored onto the virtual client 25 running on the display device 23 in substantially real time, thereby allowing the user to view the video on the display device 23.

[0034] Once the video is playing on the display device 22, the user of the mobile phone 20 can control the playing of the video by entering appropriate commands (e.g., pause, fast forward, rewind, stop, play, etc.) through the mobile phone. Each command is incorporated into a message that is transmitted to the switchboard server system 24, which copies the message into database entries associated with the particular display host 22 (i.e., after performing any conversion of the command by the API adapter 26). Once the message is retrieved by or sent to the display host 22, the display host proceeds to execute the command.

[0035] The user of the mobile phone 20 may subsequently select other content to be played on the display device 23. If a different media player is needed to play this other content, the particular instance 27 of the swappable media player that is associated with the sync code retrieves the appropriate media player from a content provider 30. Thus, the same session of the swappable media player on the display host 22 can be used to play the other content regardless of whether the same or a different media player is needed.

[0036] In some implementations it may be desirable to provide a form of digital rights security with respect to the content that is being provided to the display device 23. For example, as shown in FIG. 4, before providing the requested content to the display device 23, a watermarking module 50 in the display host 22 can provide a watermark that incorporates, for example, a time stamp, the sync code, and the unique identifier associated with the virtual client 25 and the display device 23. The watermark can be inserted, for example, into the content (e.g., the video) using known techniques in a manner that is detectable by software, but that is not discernable by the human eye. In some cases, the video signal that is transmitted to the virtual client 25 can be encrypted by the display host 22 and then decrypted on the client side.

[0037] As mentioned above, the system and methods described above also can be used with various types of content other than video. In that case, different types of user-initiated commands may be available to control playing or display of the content. For example, for interactive video games, the user-initiated commands may include control commands appropriate for the particular game.

[0038] Although in many scenarios there will be a one-to-one correspondence between a computing device 20 that controls the content on a display device 23, the techniques described here also can be incorporated into co-viewing situations, for example, where multiple computing devices (e.g., mobile phones) interact with a single display device 23, a single computing device 20 controls communications with multiple displays 23, or multiple computing devices 20 control communications with multiple displays 23.

[0039] For example, a single computing device 20 may be used to control multiple display devices 23 so that the same content is displayed on each of the display devices at the same time (e.g., multiple televisions sets in a bar). In that case, a different sync code may be associated with each of the display devices 23, with each display device 23 associated with a different session of the swappable media player on the display host 22. Each message from the computing device 20 may include a series of sync codes so that

all of the display devices are controlled using the same message from the computing device 20. In other implementations, each message from the computing device 20 may include a group identifier, which is associated at the switchboard server system 24 with multiple sync codes, each of which corresponds to a different session of the swappable media player on the display host 22.

[0040] The techniques described in this document can be applied in a wide range of contexts. For example, a hotel can have a central server that operates as the display host 22 and each television in the guest rooms can serve as a virtual client 25. The techniques also can be applied beyond a single location. For example, a cable operator can host the display host 22 and a set-top box in each subscriber's home can serve as a virtual client 25. In addition, a personal home computer can serve as the host display 22, with one or more display devices 23 connected to it.

[0041] Implementations of the subject matter and the operations described in this specification can include digital electronic circuitry, or in computer software, firmware, or hardware, including the structures disclosed in this specification and their structural equivalents, or in combinations of one or more of them. Implementations of the subject matter described in this specification can include one or more computer programs, i.e., one or more modules of computer program instructions, encoded on computer storage medium for execution by, or to control the operation of, data processing apparatus. Alternatively or in addition, the program instructions can be encoded on an artificially-generated propagated signal, e.g., a machine-generated electrical, optical, or electromagnetic signal that is generated to encode information for transmission to suitable receiver apparatus for execution by a data processing apparatus. A computer storage medium can be, or can be included in, a computer-readable storage device, a computer-readable storage substrate, a random or serial access memory array or device, or a combination of one or more of them. Moreover, while a computer storage medium is not a propagated signal, a computer storage medium can be a source or destination of computer program instructions encoded in an artificially-generated propagated signal.

The computer storage medium can also be, or be included in, one or more separate physical components or media (e.g., multiple CDs, disks, or other storage devices).

[0042] The operations described in this specification can include operations performed by a data processing apparatus on data stored on one or more computer-readable storage devices or received from other sources. The term "data processing apparatus" encompasses all kinds of apparatus, devices, and machines for processing data, including by way of example a programmable processor, a computer, a system on a chip, or multiple ones, or combinations, of the foregoing. The apparatus and execution environment can realize various different computing model infrastructures, such as web services, distributed computing and grid computing infrastructures.

[0043] A computer program (also known as a program, software, software application, script, or code) can be written in any form of programming language, including compiled or interpreted languages, declarative or procedural languages, and it can be deployed in any form, including as a stand-alone program or as a module, component, subroutine, object, or other unit suitable for use in a computing environment. A computer program may, but need not, correspond to a file in a file system. A program can be stored in a portion of a file that holds other programs or data (e.g., one or more scripts stored in a markup language document), in a single file dedicated to the program in question, or in multiple coordinated files (e.g., files that store one or more modules, sub-programs, or portions of code). A computer program can be deployed to be executed on one computer or on multiple computers that are located at one site or distributed across multiple sites and interconnected by a communication network.

[0044] Processors suitable for the execution of a computer program include, by way of example, both general and special purpose microprocessors, and any one or more processors of any kind of digital computer. Generally, a processor will receive instructions and data from a read-only memory or a random access memory or both. Elements of a computer include a processor for performing actions in accordance with instructions and one or more memory devices for storing instructions and data.

[0045] Generally, a computer will also include, or be operatively coupled to receive data from or transfer data to, or both, one or more mass storage devices for storing data, e.g., magnetic, magneto-optical disks, or optical disks. However, a computer need not have such devices. Moreover, a computer can be embedded in another device, e.g., a mobile telephone, a personal digital assistant (PDA), a mobile, audio or video player, a game console, a Global Positioning System (GPS) receiver, or a portable storage device (e.g., a universal serial bus (USB) flash drive), to name just a few. Devices suitable for storing computer program instructions and data include all forms of non-volatile memory, media and memory devices, including by way of example semiconductor memory devices, e.g., EPROM, EEPROM, and flash memory devices; magnetic disks, e.g., internal hard disks or removable disks; magneto-optical disks; and CD-ROM and DVD-ROM disks. The processor and the memory can be supplemented by, or incorporated in, special purpose logic circuitry.

[0046] Although this specification contains many specific implementation details, these should not be construed as limitations on the scope of any inventions or of what may be claimed, but rather as descriptions of features specific to particular implementations of particular inventions. Certain features that are described in this specification in the context of separate implementations can also be implemented in combination in a single implementation. Conversely, various features that are described in the context of a single implementation can also be implemented in multiple implementations separately or in any suitable subcombination. Moreover, although features may be described above as acting in certain combinations and even initially claimed as such, one or more features from a claimed combination can in some cases be excised from the combination, and the claimed combination may be directed to a subcombination or variation of a subcombination.

[0047] Similarly, while operations are depicted in the drawings in a particular order, this should not be understood as requiring that such operations be performed in the particular order shown or in sequential order, or that all illustrated operations be performed, to

achieve desirable results. In certain circumstances, multitasking and parallel processing may be advantageous. Moreover, the separation of various system components in the implementations described herein and the attachments hereto should not be understood as requiring such separation in all implementations, and it should be understood that the described program components and systems can generally be integrated together in a single software product or packaged into multiple software products.

[0048] Thus, although particular implementations have been described, other implementations are within the scope of the claims.

What is claimed is:

1. A machine-implemented method of presenting content on a display device, the method comprising:

receiving, in a display host, a communication from a display device, wherein the display host is operable to execute multiple instances of a browser each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content;

opening a first session using a first instance of the swappable media player;

requesting assignment of a unique identifier for the first session from a switchboard server system;

receiving a unique identifier for the first session from the switchboard server system;

displaying the unique identifier in the first session; and

causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device.

2. The method of claim 1 wherein the unique identifier comprises a QR code.

3. The method of claim 1 further including:

receiving in the display host a message indicating that particular content is to be played in the first session using a specified media player;

retrieving and loading the specified media player;

playing the particular content in the first session using the specified media player; and

causing a presentation of the content to be mirrored onto the virtual client residing on the display device.

4. The method of claim 3 further including:

receiving in the display host a second message indicating that particular second content is to be played in the first session using a specified second media player;

retrieving and loading the second media player;

playing the particular second content in the first session using the specified second media player; and

causing a presentation of the second content to be mirrored onto the virtual client residing on the display device.

5. The method of claim 1 wherein the content comprises video.

6. The method of claim 1 wherein the content comprises streaming media.

7. The method of claim 1 wherein the content comprises visual content.

8. The method of claim 1 further including contacting the switchboard server system to check whether there is a message for the first session, wherein the first session is identified to the switchboard session using the previously assigned unique identifier.

9. The method of claim 1 further including:

receiving, in the display host, a communication from a second display device;

opening a second session using a second instance of the swappable media player;

requesting from the switchboard server system assignment of a second unique identifier for the second session;

receiving a second unique identifier for the second session from the switchboard server system;

displaying the second unique identifier in the second session; and

causing the second unique identifier to be mirrored onto a virtual client residing on the second display device.

10. The method of claim 9 further including:

receiving in the display host a second message indicating that particular second content is to be played in the second session using a specified second media player;

retrieving and loading the second media player;

playing the particular second content in the second session using the specified second media player; and

causing a presentation of the second content to be mirrored onto the virtual client residing on the second display device.

11. The method of claim 10 wherein the first and second sessions at least partially overlap in time with one another.

12. The method of claim 3 wherein the display host retrieves the specified media player from a content provider via the Internet.

13. A system for presenting content comprising:

a display device storing a virtual client;

a display host operable to execute multiple instances of a browser each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content; and

a switchboard server system,

wherein the display host is operable to perform operations including:

receiving a communication from the display device;

opening a first session using a first instance of the swappable media player;

requesting assignment of a unique identifier for the first session from the switchboard server system;

receiving a unique identifier for the first session from the switchboard server system;

displaying the unique identifier in the first session; and

causing the image of the unique identifier to be mirrored onto the virtual client residing on the display device.

14. The system of claim 13 wherein the display host is further operable to perform operations including:

receiving a message from the switchboard server system indicating that particular content is to be played in the first session using a specified media player;

retrieving the second media player from a content provider and loading the second media player;

playing the particular content in the first session using the specified media player; and

causing a presentation of the content to be mirrored onto the virtual client residing on the display device.

15. The system of claim 14 wherein the display host is further operable to perform operations including:

receiving a second message from the switchboard server system indicating that particular second content is to be played in the first session using a specified second media player;

retrieving the second media player from a content provider and loading the second media player;

playing the particular second content in the first session using the specified second media player; and

causing a presentation of the second content to be mirrored onto the virtual client residing on the display device.

16. The system of claim 14 wherein the system includes a second display device storing a virtual client, wherein the display host is further operable to perform operations including:

receiving a communication from the second display device;

opening a second session using a second instance of the swappable media player;

requesting from the switchboard server system assignment of a second unique identifier for the second session;

receiving a second unique identifier for the second session from the switchboard server system;

displaying the second unique identifier in the second session;

causing the image of the second unique identifier to be mirrored onto the virtual client residing on the second display device.

receiving a second message from the switchboard server system indicating that particular second content is to be played in the second session using a specified second media player;

retrieving the second media player from a content provider and loading the second media player;

playing the particular second content in the second session using the specified second media player; and

causing a presentation of the second content to be mirrored onto the virtual client residing on the second display device.

17. A machine-implemented method of presenting content on a display device, the method comprising:

receiving in a display host a message indicating that a specified media player is to be used to play particular content using a first instance of a swappable media player, wherein the display host is operable to execute multiple instances of the swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content;

retrieving and loading the specified media player using the first instance of the swappable media player;

playing the particular content in a first session using the specified media player; and

causing a presentation of the content to be mirrored onto a virtual client residing on a display device associated with the first session.

18. The method of claim 17 including:

receiving in the display host a second message indicating that a specified second media player is to be used to play particular second content using the first instance of a swappable media player;

retrieving and loading the second media player using the first instance of the swappable media player;

playing the particular second content in the first session using the specified second media player; and

causing a presentation of the second content to be mirrored onto the virtual client residing on the display device.

19. The method of claim 17 wherein the message indicating that a specified media player is to be used to play particular content using a first instance of a swappable media player includes a unique identifier for the first session.

20. The method of claim 19 wherein causing a presentation of the content to be mirrored onto the virtual client includes incorporating a watermark into the content before it is mirrored onto the virtual client, wherein the watermark includes the unique identifier.

21. The method of claim 20 wherein the watermark also includes another identifier that is uniquely associated with the virtual client.

22. A system for presenting content comprising:

a display device storing a virtual client;

a display host operable to execute multiple instances of a browser each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content; and

a switchboard server system,

wherein the display host is operable to perform operations including:

receiving from the switchboard server system a message indicating that a specified media player is to be used to play particular content using a first instance of a swappable media player;

retrieving and loading the specified media player from a content provider using the first instance of the swappable media player;

playing the particular content in a first session using the specified media player; and

causing a presentation of the content to be mirrored onto the virtual client residing on the display device.

23. The system of claim 22 wherein the message indicating that a specified media player is to be used to play particular content using a first instance of a swappable media player includes a unique identifier for the first session.

24. The system of claim 23 the display host is further operable to incorporate a watermark into the content before the content is mirrored onto the virtual client, wherein the watermark includes the unique identifier.

25. The system of claim 24 wherein the watermark also includes another identifier that is uniquely associated with the virtual client.

ABSTRACT OF THE DISCLOSURE

A system for presenting content includes a display device storing a virtual client. A display host is operable to execute multiple instances of a browser each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content. The system also includes a switchboard server system. The display host is operable to perform operations including receiving from the switchboard server system a message indicating that a specified media player is to be used to play particular content using a first instance of a swappable media player, retrieving and loading the specified media player from a content provider using the first instance of the swappable media player, playing the particular content in a first session using the specified media player, and causing a presentation of the content to be mirrored onto the virtual client residing on the display device.

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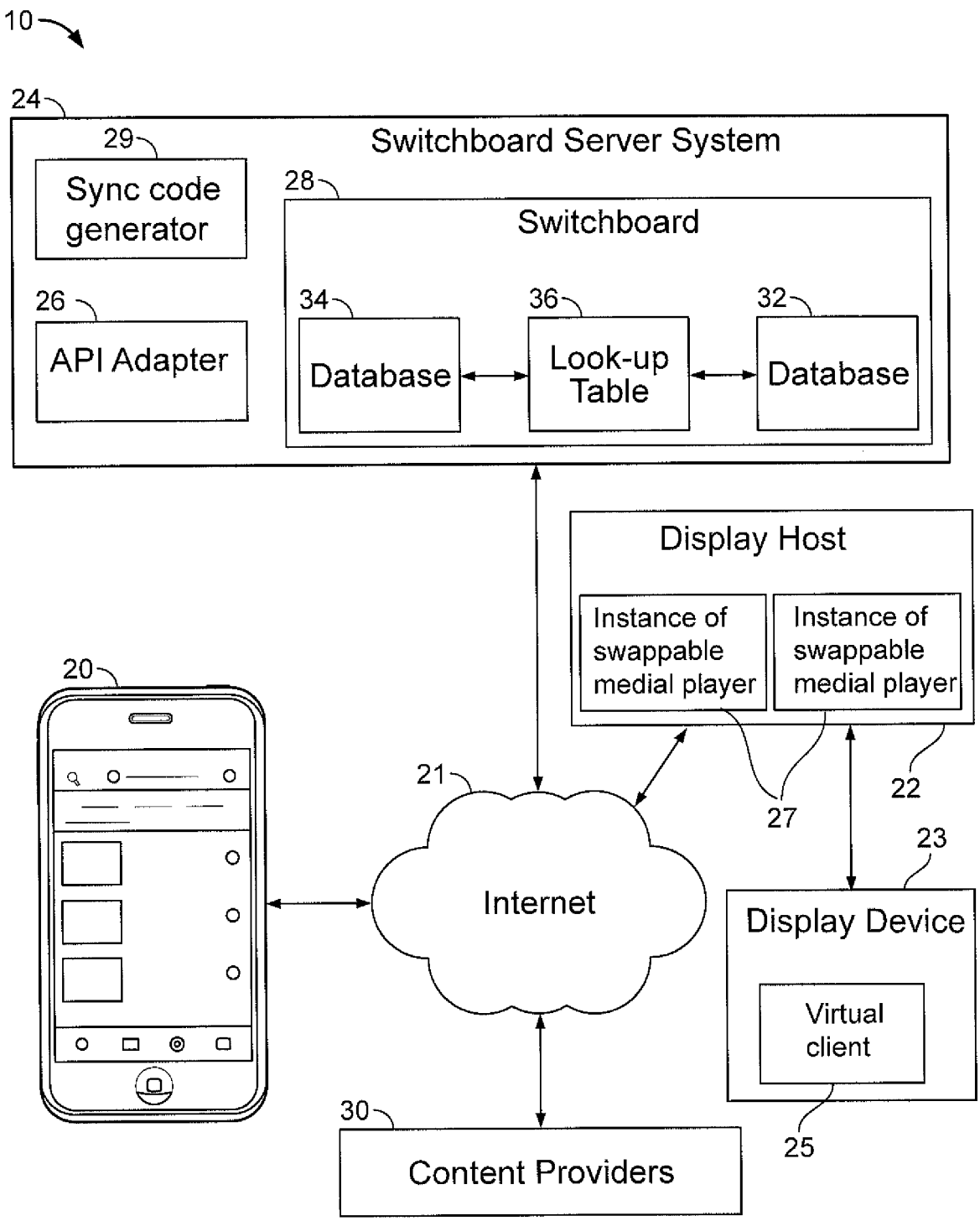

10
24
Switchboard Server System
29
Sync code generator
28
Switchboard
26
API Adapter
34
Database
36
Look-up Table
32
Database
Display Host
Instance of swappable medial player
Instance of swappable medial player
20
21
27
22
23
Internet
Display Device
Virtual client
25
30
Content Providers

FIG. 1

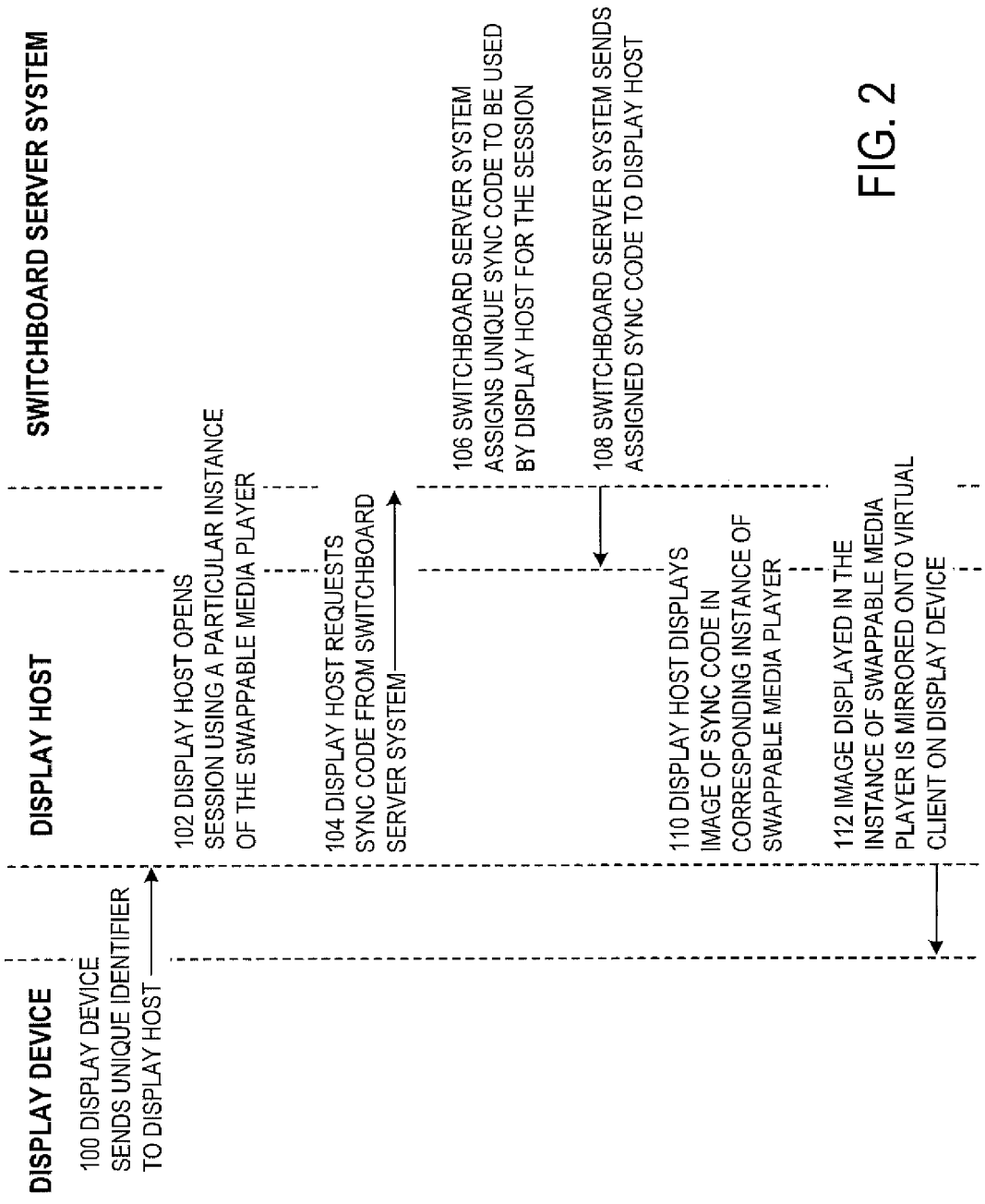

DISPLAY DEVICE
DISPLAY HOST
SWITCHBOARD SERVER SYSTEM
100 DISPLAY DEVICE SENDS UNIQUE IDENTIFIER TO DISPLAY HOST
102 DISPLAY HOST OPENS SESSION USING A PARTICULAR INSTANCE OF THE SWAPPABLE MEDIA PLAYER
104 DISPLAY HOST REQUESTS SYNC CODE FROM SWITCHBOARD SERVER SYSTEM
106 SWITCHBOARD SERVER SYSTEM ASSIGNS UNIQUE SYNC CODE TO BE USED BY DISPLAY HOST FOR THE SESSION
108 SWITCHBOARD SERVER SYSTEM SENDS ASSIGNED SYNC CODE TO DISPLAY HOST
110 DISPLAY HOST DISPLAYS IMAGE OF SYNC CODE IN CORRESPONDING INSTANCE OF SWAPPABLE MEDIA PLAYER
112 IMAGE DISPLAYED IN THE INSTANCE OF SWAPPABLE MEDIA PLAYER IS MIRRORED ONTO VIRTUAL CLIENT ON DISPLAY DEVICE

FIG. 2

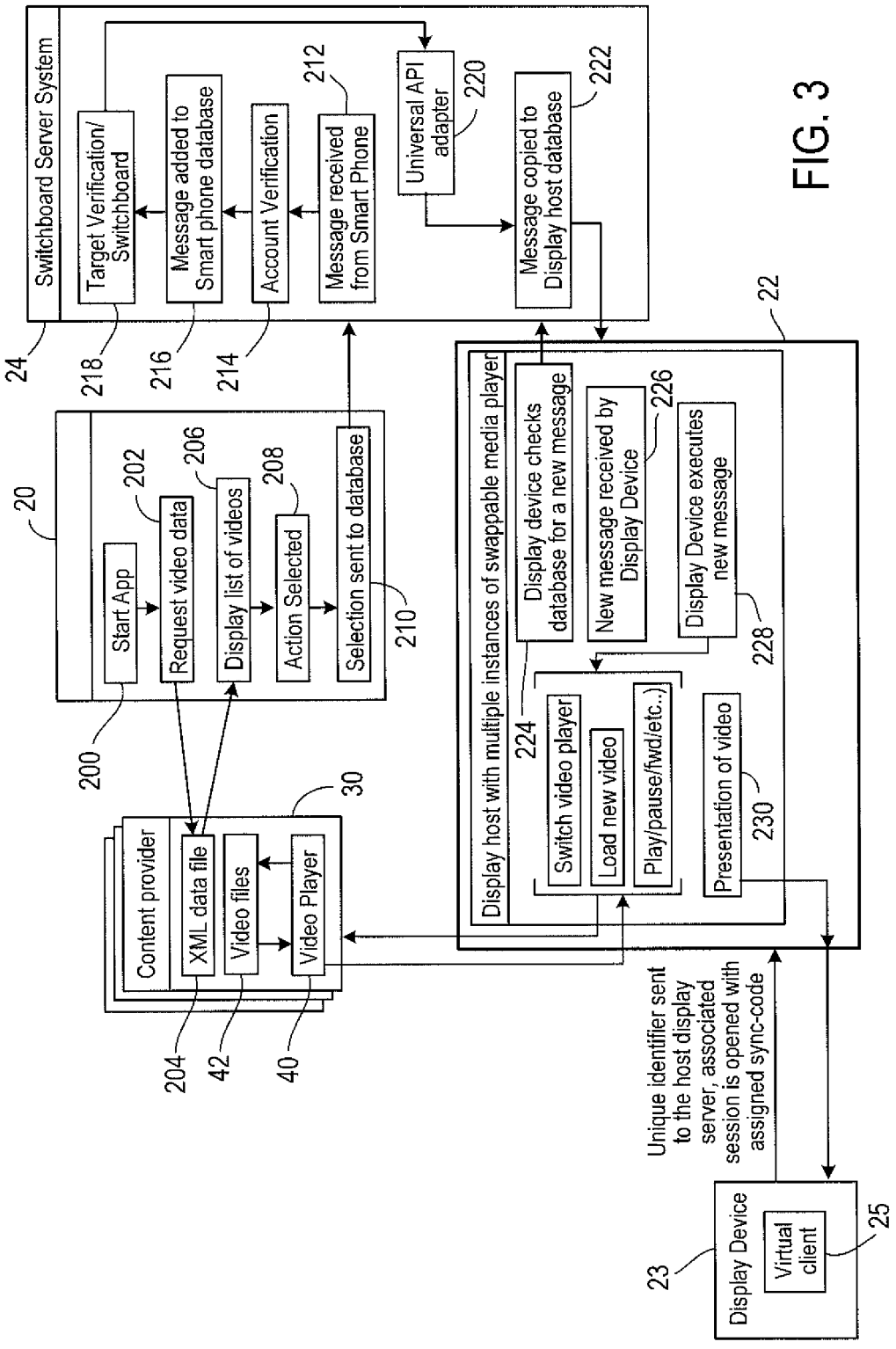

Switchboard Server System
Target Verification/ Switchboard
Message added to Smart phone database
Account Verification
Message received from Smart Phone
Universal API adapter
Message copied to Display host database
24
218
216
214
212
220
222
20
Start App
Request video data
Display list of videos
Action Selected
Selection sent to database
202
206
208
210
200
Content provider
XML data file
Video files
Video Player
30
204
42
40
22
Display host with multiple instances of swappable media player
Display device checks database for a new message
New message received by Display Device
Display Device executes new message
224
226
228
Switch video player
Load new video
Play/pause/fwd/etc..)
Presentation of video
230
Unique identifier sent to the host display server, associated session is opened with assigned sync-code
Display Device
Virtual client
23
25

FIG. 3

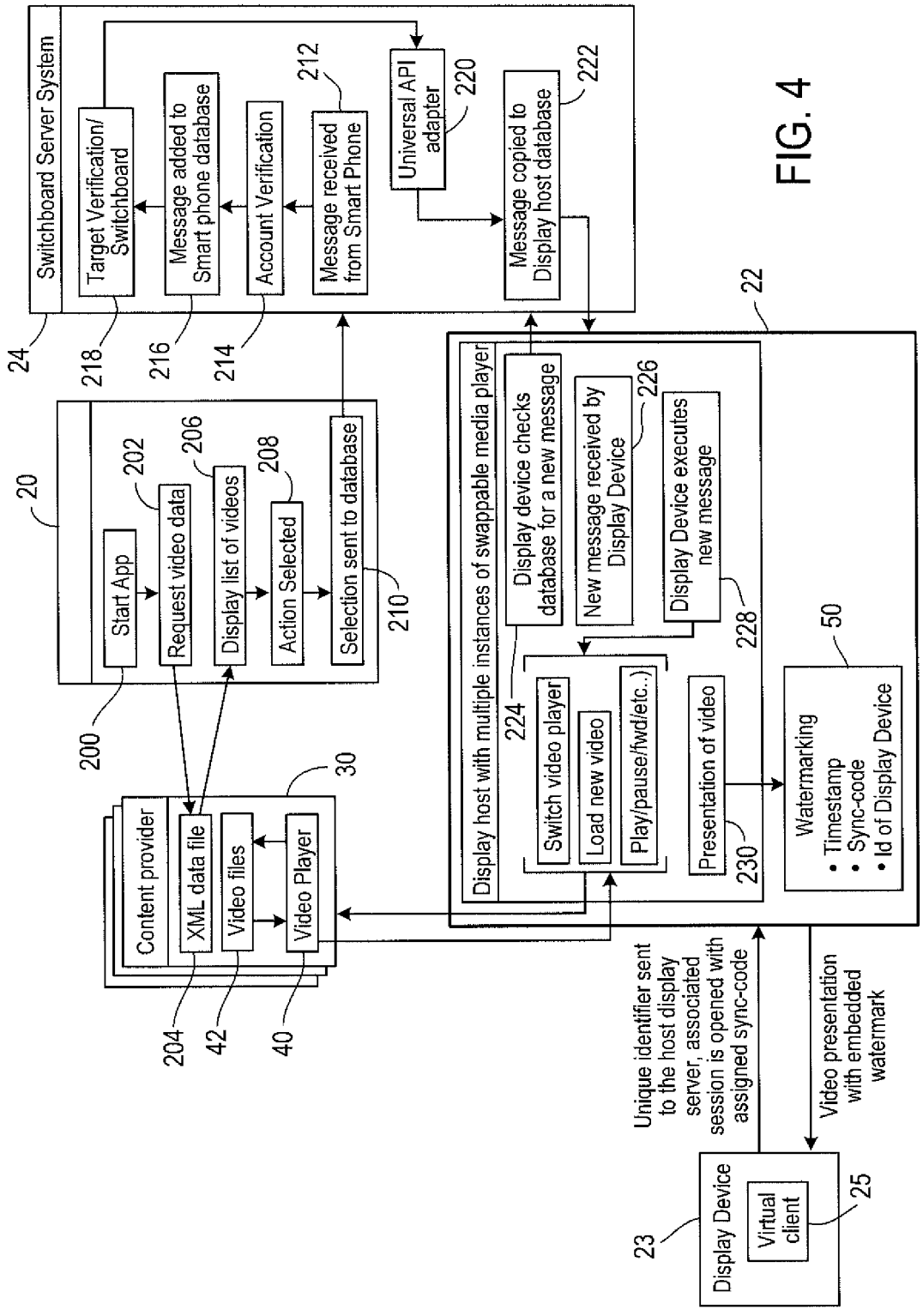

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210
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Content provider
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Video files
Video Player
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Display host with multiple instances of swappable media player
Display device checks database for a new message
New message received by Display Device
Display Device executes new message
224
226
228
Switch video player
Load new video
Play/pause/fwd/etc..)
Presentation of video
230
Watermarking
• Timestamp
• Sync-code
• Id of Display Device
50
Unique identifier sent to the host display server, associated session is opened with assigned sync-code
Video presentation with embedded watermark
Display Device
Virtual client
23
25

FIG. 4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : David Strober
Filed : June 25, 2012
Art Unit :
Examiner :

Title : VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the enclosed PTO-1449 form.

Under 35 USC §120, this application relies on the earlier filing date of application serial number 13/157,821, filed on June 10, 2011. All of the cited references were submitted to and/or cited by the Office in the prior application and, therefore, copies are not provided in this application.

This statement is being filed with the application. Please apply any necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: June 25, 2012

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Substitute Form PTO-1449 (Modified) U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 30160-0005001	Application No.
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	Applicant David Strober	
	Filing Date June 25, 2012	Group Art Unit

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Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
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	24	2005/0144305	06/2005	Fegan et al.			

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

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	Filing Date June 25, 2012	Group Art Unit

U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
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EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

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(37 CFR §1.98(b))	Filing Date June 25, 2012	Group Art Unit

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Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation Yes	Translation No
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	48	CN101577650	11/11/2009	China				
	49	CN101778198	07/14/2010	China				
	50	CN101815073	08/25/2010	China				
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	65	Webopedia computer dictionary, session cookie, printed on 11/19/11.
	66	Webopedia computer dictionary, web identifier, printed on 11/19/11.

Examiner Signature	Date Considered

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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	Filing Date June 25, 2012	Group Art Unit

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
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	71	U.S. Application No. 13/245,001, filed on September 26, 2011.

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form (PTO-1449)

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER
First Named Inventor/Applicant Name:	David Strober
Filer:	Samuel Borodach/Kim McKasty
Attorney Docket Number:	30160-0005001

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	95	95
Utility Search Fee	2111	1	310	310
Utility Examination Fee	2311	1	125	125
Pages:				
Claims:				
Claims in excess of 20	2202	5	30	150
Independent claims in excess of 3	2201	1	125	125
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**805**

Electronic Acknowledgement Receipt	
EFS ID:	13100007
Application Number:	13532546
International Application Number:	
Confirmation Number:	9012
Title of Invention:	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER
First Named Inventor/Applicant Name:	David Strober
Customer Number:	26211
Filer:	Samuel Borodach/Brenda Jurgens
Filer Authorized By:	Samuel Borodach
Attorney Docket Number:	30160-0005001
Receipt Date:	25-JUN-2012
Filing Date:	
Time Stamp:	18:28:53
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$805
RAM confirmation Number	5932
Deposit Account	061050
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Application Data Sheet	ads.pdf	1031576 f7d405251dee75107ab8ce19e11c01eb36260305	no	4
Warnings:					
Information:					
2	Transmittal of New Application	paptransmittal.pdf	89273 2a139d32d32d53e6a5b4c8be634c7d0ba7b275eb	no	2
Warnings:					
Information:					
3		appwfigs.pdf	910274 785cb8dbdc9a7ddb69ca74481cee98d12147bf20	yes	29

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Specification	1	17
	Claims	18	24
	Abstract	25	25
	Drawings-only black and white line drawings	26	29

Warnings:					
Information:					
4		idsw1449.pdf	197328 c52e68710023b427c638fbc4052c552c2f276bde	yes	5

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	1
	Information Disclosure Statement (IDS) Form (SB08)	2	5

Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	38418 eedbfe1c5a8a860acc88cd0248eb224d806c4a43	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	2266869	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/14 (11-08)
Approved for use through 09/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	30160-0005001
	Application Number	
Title of Invention	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1 [Remove]

Applicant Authority ◉ Inventor ○ Legal Representative under 35 U.S.C. 117 ○ Party of Interest under 35 U.S.C. 118

Prefix	Given Name	Middle Name	Family Name	Suffix
	David		Strober	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Rye	State/Province	NY	Country of Residence i	US

Citizenship under 37 CFR 1.41(b) i: US

Mailing Address of Applicant:

Address 1	6 Davis Avenue		
Address 2	#B22		
City	Rye	State/Province	NY
Postal Code	10580	Country i	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. [Add]

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	26211		
Email Address	apsi@fr.com	[Add Email]	[Remove Email]

Application Information:

Title of the Invention	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER		
Attorney Docket Number	30160-0005001	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	4	Suggested Figure for Publication (if any)	

PTO/SB/14 (11-08)
Approved for use through 09/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	30160-0005001
	Application Number	
Title of Invention	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER	

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S. C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	26211		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation in part of	13157821	2011-06-10
Prior Application Status	Expired		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
13157821	non provisional of	61477998	2011-04-21

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

Remove

Application Number	Country [i]	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			○ Yes ○ No

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

PTO/SB/14 (11-08)
Approved for use through 09/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	30160-0005001
	Application Number	
Title of Invention	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER	

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1 Remove

If the Assignee is an Organization check here. ☒			
Organization Name	Touchstream Technologies, Inc.		
Mailing Address Information:			
Address 1	8 Broadway		
Address 2			
City	Valhalla	**State/Province**	NY
Country [i]	US	Postal Code	10595
Phone Number		Fax Number	
Email Address			

Additional Assignee Data may be generated within this form by selecting the **Add** button. Add

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/Samuel Borodach/			Date (YYYY-MM-DD)	2012-06-25
First Name	Samuel	Last Name	Borodach	Registration Number	38388

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/532,546	06/25/2012	2447	805	30160-0005001	25	4

CONFIRMATION NO. 9012

26211
FISH & RICHARDSON P.C. (NY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

FILING RECEIPT

OC000000055240275

Date Mailed: 07/12/2012

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

David Strober, Rye, NY;

Assignment For Published Patent Application

TOUCHSTREAM TECHNOLOGIES, INC., Valhalla, NY

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CIP of 13/157,821 06/10/2011
which claims benefit of 61/477,998 04/21/2011

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)

If Required, Foreign Filing License Granted: 07/06/2012

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/532,546**

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****

Title

VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER

Preliminary Class

709

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/532,546

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	95		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	310		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	125		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	25 minus 20 =	* 5	x 30 =	150	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4 minus 3 =	* 1	x 125 =	125			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	805		TOTAL	

APPLICATION AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/532,546	06/25/2012	David Strober	30160-0005001

CONFIRMATION NO. 9012

26211
FISH & RICHARDSON P.C. (NY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

FORMALITIES LETTER

OC000000055240276

Date Mailed: 07/12/2012

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The oath or declaration is missing.
  A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
  Note: If a petition under 37 CFR 1.47 is being filed, an oath or declaration in compliance with 37 CFR 1.63 signed by all available joint inventors, or if no inventor is available by a party with sufficient proprietary interest, is required.

The application is informal since it does not comply with the regulations for the reason(s) indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- A replacement abstract not exceeding 150 words in length and commencing on a separate sheet in compliance with 37 CFR 1.72(b) and 37 CFR 1.121 is required.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- A surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of $**65** for a small entity in compliance with 37 CFR 1.27, must be submitted.

SUMMARY OF FEES DUE:

Total fee(s) required within **TWO MONTHS** from the date of this Notice is $**65** for a small entity
- $**65** Surcharge.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at http://www.uspto.gov/ebc.

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/squreshi/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

To: PATDOCTC@fr.com,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 26211

Jul 12, 2012 05:27:50 AM

Dear PAIR Customer:

FISH & RICHARDSON P.C. (NY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 26211 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:
The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
13532546	APP.FILE.REC	07/12/2012	30160-0005001
	NTC.MISS.PRT	07/12/2012	30160-0005001

To view your correspondence online or update your email addresses, please visit us anytime at https://sportal.uspto.gov/secure/myportal/privatepair.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER, the application of which:

[] is attached hereto.
[X] was filed on June 25, 2012 as Application Serial No. 13/532,546.
[] was described and claimed in PCT International Application No. _____ filed on _____ and as amended under PCT Article 19 on _____.

I hereby state that I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim the benefit under Title 35, United States Code, §119(e)(1) of any United States provisional application(s) listed below:

U.S. Serial No.	Filing Date	Status
61/477,998	April 21, 2011	

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose all information I know to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56(a) which became available between the filing date of the prior application and the national or PCT international filing date of this application:

U.S. Serial No.	Filing Date	Status
13/157,821	June 10, 2011	Pending

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

Country	Application No.	Filing Date	Priority Claimed
			[] Yes [] No
			[] Yes [] No

I hereby appoint all registered practitioners associated with **PTO Customer Number 26211** to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

Direct all telephone calls to SAMUEL BORODACH at telephone number (212) 765-5070.

Combined Declaration and Power of Attorney

Direct all correspondence to the following:

26211
PTO Customer Number

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Full Name of Inventor: DAVID STROBER

Inventor's Signature: _____ Date: 10/1/12

Residence Address: Rye, NY

Citizenship: U.S.

Post Office Address: 6 Davis Avenue B22
Rye, NY 10580

30703641.doc

ABSTRACT OF THE DISCLOSURE

A system for presenting content includes a display device storing a virtual client. A display host is operable to execute multiple instances of a browser each of which operates as a swappable media player that is operable to retrieve and load any of a plurality of different media players needed to play specified content. The display host is operable to perform operations including receiving from a switchboard server system a message indicating that a specified media player is to be used to play particular content using a first instance of a swappable media player, retrieving and loading the specified media player from a content provider using the first instance of the swappable media player, playing the particular content in a first session using the specified media player, and causing a presentation of the content to be mirrored onto the virtual client residing on the display device.

30723367.doc

Electronic Patent Application Fee Transmittal

Application Number:	13532546
Filing Date:	25-Jun-2012
Title of Invention:	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER
First Named Inventor/Applicant Name:	David Strober
Filer:	Samuel Borodach/Paula Romeo
Attorney Docket Number:	30160-0005001

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Late filing fee for oath or declaration	2051	1	65	65
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	2251	1	75	75
Miscellaneous:				
			Total in USD ($)	**140**

Electronic Acknowledgement Receipt	
EFS ID:	13974215
Application Number:	13532546
International Application Number:	
Confirmation Number:	9012
Title of Invention:	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER
First Named Inventor/Applicant Name:	David Strober
Customer Number:	26211
Filer:	Samuel Borodach/Paula Romeo
Filer Authorized By:	Samuel Borodach
Attorney Docket Number:	30160-0005001
Receipt Date:	12-OCT-2012
Filing Date:	25-JUN-2012
Time Stamp:	15:29:44
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$140
RAM confirmation Number	2126
Deposit Account	061050
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Extension of Time	301600005001extension.pdf	324553 6acc3e19f434c1e6ec0eb43302cd08284554 38a2	no	1
Warnings:					
Information:					
2		301600005001responsemissing parts.pdf	1697635 6d946a1f526455451652e4356aba923a127 74c0a	yes	5

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Applicant Response to Pre-Exam Formalities Notice	1	2
	Oath or Declaration filed	3	4
	Abstract	5	5

Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	32503 cb4c801aec4bb182067b704d36edc33ff58 a8152	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	2054691		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: David Strober	Art Unit	:
Serial No.	: 13/532,546	Examiner	:
Filed	: June 25, 2012	Conf. No.	: 9012
Title	: VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER		

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION FOR ONE-MONTH EXTENSION OF TIME UNDER 37 C.F.R. §1.136

Please extend the period for response to the action dated July 12, 2012, for one month to and including October 12, 2012.

The fees in the amount of $75 are being paid concurrently herewith. In addition, please apply any other necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: October 12, 2012

/Samuel Borodach/
Samuel Borodach
Reg. No. 38,388

Customer Number 26211
Fish & Richardson P.C.
Telephone: (212) 765-5070
Facsimile: (877) 769-7945

30723370.doc

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: David Strober	Art Unit	:
Serial No.	: 13/532,546	Examiner	:
Filed	: June 25, 2012	Conf. No.	: 9012

Title : VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER

MAIL STOP MISSING PARTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NOTICE TO FILE MISSING PARTS OF APPLICATION

In response to the Notice to File Missing Parts of Application under 37 CFR §1.53(b) mailed July 12, 2012 (copy enclosed), applicant claims small entity status (see 37 CFR §1.27) and submits herewith the following:

☒ Payment of the surcharge of $65 for late filing of the basic filing fee and/or declaration;

☒ A Combined Declaration and Power of Attorney in compliance with 37 CFR §1.63; and

☒ A replacement abstract of no more than 150 words.

The fees in the amount of $65 are being paid concurrently herewith. In addition, please apply any other necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number. It is understood that this perfects the application and no additional papers or filing fees are required.

Respectfully submitted,

Date: October 12, 2012

/Samuel Borodach/
Samuel Borodach
Reg. No. 38,388

Customer Number 26211
Fish & Richardson P.C.
Telephone: (212) 765-5070
Facsimile: (877) 769-7945
30723350.doc

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/532,546

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	98		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	310		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	125		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	25 minus 20 =	* 5	x 31 =	155	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4 minus 3 =	* 1	x 125 =	125			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	813		TOTAL	

APPLICATION AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/532,546	06/25/2012	2447	870	30160-0005001	25	4

CONFIRMATION NO. 9012

UPDATED FILING RECEIPT

26211
FISH & RICHARDSON P.C. (NY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

OC000000057193436

Date Mailed: 10/23/2012

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)
David Strober, Rye, NY;

Applicant(s)
David Strober, Rye, NY;

Assignment For Published Patent Application
TOUCHSTREAM TECHNOLOGIES, INC., Valhalla, NY

Power of Attorney: The patent practitioners associated with Customer Number 26211

Domestic Priority data as claimed by applicant
This application is a CIP of 13/157,821 06/10/2011
which claims benefit of 61/477,998 04/21/2011

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)

If Required, Foreign Filing License Granted: 07/06/2012

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/532,546**

Projected Publication Date: 01/31/2013

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****

Title

VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER

Preliminary Class

709

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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To: PATDOCTC@fr.com,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 26211

Oct 23, 2012 05:22:56 AM

Dear PAIR Customer:

FISH & RICHARDSON P.C. (NY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022
UNITED STATES

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Application	Document	Mailroom Date	Attorney Docket No.
13532546	APP.FILE.REC	10/23/2012	30160-0005001

To view your correspondence online or update your email addresses, please visit us anytime at https://sportal.uspto.gov/secure/myportal/privatepair.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

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PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/532,546	06/25/2012	David Strober	30160-0005001

CONFIRMATION NO. 9012

26211
FISH & RICHARDSON P.C. (NY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

PUBLICATION NOTICE

OC000000058987747

Title:VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER

Publication No.US-2013-0031478-A1
Publication Date:01/31/2013

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

To: PATDOCTC@fr.com,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 26211

Feb 01, 2013 05:30:50 AM

Dear PAIR Customer:

FISH & RICHARDSON P.C. (NY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022
UNITED STATES

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Application	Document	Mailroom Date	Attorney Docket No.
13532546	NTC.PUB	01/31/2013	30160-0005001

To view your correspondence online or update your email addresses, please visit us anytime at https://sportal.uspto.gov/secure/myportal/privatepair.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

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UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

Substitute Disclosure Form	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 30160-0005001	Application No. 13/532,546
Information Disclosure Statement by Applicant (Use several sheets if necessary)		Applicant David Strober	
(37 CFR §1.98(b))		Filing Date June 25, 2012	Group Art Unit

U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1	US 2010/0027974 A1	2010-02-04	Ansari			
	2	US 2005/0034151 A1	2005-02-10	Abramson			
	3	US 2007/0288715 A1	2007-12-13	Boswell et al.			
	4	US 2008/0077526 A1	2008-03-27	Arumugam			

Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation Yes	Translation No

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form

Electronic Acknowledgement Receipt	
EFS ID:	15739126
Application Number:	13532546
International Application Number:	
Confirmation Number:	9012
Title of Invention:	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER
First Named Inventor/Applicant Name:	David Strober
Customer Number:	26211
Filer:	Samuel Borodach/Maryann White
Filer Authorized By:	Samuel Borodach
Attorney Docket Number:	30160-0005001
Receipt Date:	09-MAY-2013
Filing Date:	25-JUN-2012
Time Stamp:	18:36:43
Application Type:	Utility under 35 USC 111(a)

Payment information:

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: David Strober	Art Unit	:
Serial No.	: 13/532,546	Examiner	:
Filed	: June 25, 2012	Conf. No.	: 9012
Title	: VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER		

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the enclosed PTO-1449 form. Copies of the listed U.S. patents and patent application publications will be provided on request.

This statement is being filed before the receipt of a first Office Action on the merits. Please apply any necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: May 9, 2013

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Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	30160-0005001	13/532,546
	Applicant: David Strober	
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U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1	2009/0172780	Jul 2, 2009	Sukeda et al.			
	2	2012/0059875	Mar 8, 2012	Clark			
	3	2011/0131607	Jun 2, 2011	Thomas et al.			
	4	2009/0108057	Apr 30, 2009	Mu et al.			

Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation Yes	Translation No
	5	2175607 A1	Apr 14, 2010	Europe				

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

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(54) Method for establishing a thin client session

(57) The invention concerns a method for establishing a Thin Client session between a Thin Client device (2) and a Thin Client Server (4) exchanging Handshaking and initialization messages during a session negotiation above a SIP-based framework, wherein said Thin Client device (2) and said Thin Client Server (4) exchange additional information representative of the Thin Client context (30,32) enabling the combination and adaptive transfer of multiple media streams in at least one remote application display during said thin client session.

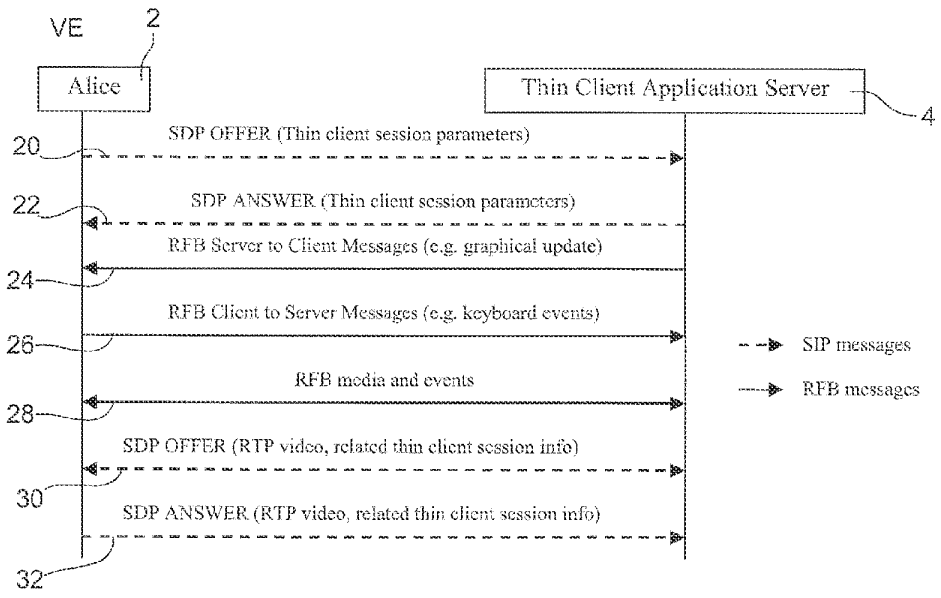


Fig 3

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Description

TECHNICAL DOMAIN

[0001] The invention pertains to telecommunication field and relates to a new session description to initiate a thin client system working above a SIP-based framework such as IMS.

[0002] More specifically, the invention concerns a method for improving the establishment of a Thin Client connection between a thin client device and a thin client server exchanging handshaking and initialization messages during a session negotiation above a Session Initiation Protocol (SIP)-based framework.

[0003] The invention concerns also a thin client device and thin client server adapted for implementing said method.

STATE OF PRIOR ART

[0004] The Session Description Protocol (SDP) [IETF RFC4566] is intended for describing multimedia sessions for the purposes of session announcement, session invitation, and other forms of multimedia session initiation. SDP is most commonly used for describing media streams that are transported over the Real-Time Transport Protocol (RTP) [IETF RFC3550], using the profiles for audio and video media defined in RTP Profile for Audio and Video Conferences with Minimal Control [IETF RFC3551]. Besides the MIME Type registration of RTP Payload Formats [IETF RFC3555] defines the RTP payload format for Audio and Video Conferences as MIME subtypes.

[0005] However, SDP can be used to describe other media profile than Audio and Video that can be transported over Real-time Transport Protocol (RTP). SDP is commonly carried in Session Initiation Protocol (SIP) [IETF RFC3261] messages in order to agree on a common media description among the endpoints. An Offer/Answer Model with Session Description Protocol (SDP) [IETF RFC3264] defines a framework by which two endpoints can exchange SDP media descriptions and come to an agreement as to which media streams should be used, along with the media related parameters.

[0006] In the typical case of a thin client session, it might be desirable to configure and establish media streams for remote desktop/application display as well as for control events over a packet or circuit switched bearer connection. Such session is usually achieved using thin client protocols such as Virtual Network Computing (VNC) based upon Remote Frame Buffer (RFB) Protocol or Remote Desktop Protocol (RDP), but also Independent Computing Architecture protocol (ICA), X11 protocol. Besides, pixels could even be streamed using Real-time Transport Protocol (RTP) and as such graphics primitives would be carried in RTP packets.

[0007] In the context of mobility, next generation network, and rich media application, it is important to note that Quality of Service (QoS), adaptivity, and authentication are key points and inspecting the media format is important as well for the resource reservation process and for the operator to control the radio bearer traffic as well as the IP flows (e.g. to apply appropriate resource allocation based on a given policy, user subscription, or service profile). Besides IP Multimedia Subsystem (IMS) - based on SIP and providing an overlay network above a core network - as defined by the Third Generation Partnership Project [3GPP TS 23.228] is also capable to interconnect with a Policy and Charging Control Architecture [3GPP TS 23.203] including the ability to authorize QoS resources.

[0008] Since applications range from simple text and/or graphic based application to audio and/or video based application that can suffer from network delays and high gigue ratio, a way to adapt to different types of traffic within a remote desktop control session is required.

[0009] From a Service aspect it is foreseen to combine a remote desktop access with other services such as phone call establishment or push-to-x services. By using SIP it becomes possible to extend traditional remote desktop control use cases.

[0010] From a QoS aspect it is also desirable to enable QoS control over the thin client media description. For instance Graphics and Events type of media can be allocated a predefined QoS profile, they could even be streamed over a packet or circuit switched bearer connection. Besides when a thin client device is moving, the access network environment may change so it might be desirable to re-allocate the appropriate quality settings (resource allocation, renegotiation of media parameters such as codecs, transport protocol, etc...).

[0011] From an authentication perspective, however, the well known thin client protocols use their own set of rules and mechanisms (i.e. a built-in negotiation) to authenticate and establish a connection between a thin client device and a thin client server.

[0012] The techniques of the prior art do not provide means to mix and adapt multimedia transfers such as audio/video with/to remote desktop control capabilities above a SIP framework.

[0013] The invention aims at adding remote desktop control to existing functionalities in order to negotiate the media within a SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer, ...) pertaining to a session of remote desktop control.

PRESENTATION OF THE INVENTION

[0014] The object of the invention is achieved by a method for establishing a thin client connection between a thin client device and a thin client server exchanging handshaking and initialization messages during a Session negotiation above a Session Initiation Protocol (SIP)-based framework.

[0015] According to the invention, said Thin Client device and said Thin Client Server exchange additional in-

formation representative of the Thin Client context to enable the combination and adaptive transfer of multiple media streams in at least one remote application display during said thin client session.

[0016] The additional information allows both multimedia transfers and remote desktop control capabilities and may consists of Thin Client information formatted in SDP (Session Description Protocol) offer/answer messages or XML-based offer/answer messages embedded in the body of SIP messages.

[0017] The remote desktop control capabilities comprise the function consisting of dynamically directing or redirecting graphical updates of at least one remote application from a first device onto a second device.

[0018] Said first device may be a mobile communication device and said second device may be a fixed communication device.

[0019] According to another aspect of the invention, said remote desktop control capabilities further comprise the function consisting of transferring uplink events, eventually on a separate radio bearer and/or separate IP connection than the one used for the downlink graphical updates. The radio bearer is a Layer 2 service used to transfer user data between User Equipment and radio access network as per 3GPP definition. A separate IP connection can be achieved by allocating different port number or through IP tunneling mechanisms without or with encryption (i.e. IPSec).

[0020] The remote desktop control capabilities further comprise function consisting of associating at least one audio/video stream to a session of remote desktop control (i.e. a thin client session).

[0021] In one embodiment of the invention, said additional information comprises remote display framebuffer coordinates and size corresponding to said audio/video streams associated to said thin client session. Said framebuffer coordinates and size enable to appropriately position the video rendering above the remote desktop display on the local screen of the device.

[0022] Moreover, said additional information allow sending a client request (FramebufferForgetRequest) instructing the server that a specific area on the framebuffer does not require update.

[0023] In another embodiment of the invention said additional information comprise window-id attribute and allow sending a client request (WindowUpdate) instructing a server that a graphical area identified by said window-id attribute has been resized, moved or both.

[0024] Thanks to the method according to the invention, it is possible to:

- allow the combination of services
- enable control of the display redirection of a remote application from a mobile device,
- enable Quality of Service as well as accurate session control
- enable the use a uniform negotiation to avoid a wide range of specific thin client authentication and media negotiation mechanisms.

[0025] Thanks to the invention, the negotiation steps of known protocols such as RFB or ITU T.120 (Data Protocol for multimedia conferencing) are partially or totally replaced by the SDP-based negotiation and new information is provided to allow mixing media traffic for a remote display connection. Negotiating such a thin client connection using the SDP and SIP framework provides flexibility in that the signaling and the control of the thin client session is distinguished from the screen update strategy applied by the previously cited well known thin client protocols. Advantageously the thin client session can benefits from session redirection feature and other well known SIP and SDP extensions.

[0026] In addition the thin client connection could be accurately tracked and controlled within the IP Multimedia Subsystem [3GPP TS 23.228] that is standardized by the Third Generation Partnership Project.

[0027] In some typical use cases, it might be desirable to send the uplinks user events such as the well known key and mouse events in another radio bearer and/or IP connection than the one in which are sent the graphical updates. By doing so Quality of Service can be applied and a strategy can be made as to regulate the responsiveness of the system, for instance by guaranteeing very high priority to the events bearer. Furthermore, in a mobility context, a mobile device might move from a wireless network area where a high bandwidth packet-switched bearer is available to another area where a Wireless Local Area Network (WLAN) connection with lower bandwidth is available. Therefore, the graphics media may suffer from delay and bandwidth variations. It is therefore desirable to renegotiate the session parameters and this can be done by using SIP and SDP offer/answer model and IMS mobility management procedures.

[0028] By using the proposed invention, it is possible to establish an uplink bearer to send user events and a downlink bearer to receive graphical updates. At the Thin Client device it is also possible to define alternative transport protocol to prepare the viewer to adapt to the viewer transmission mode (e.g. To switch from RFB/VNC over TCP protocol to RTP protocol) to enable some portion of screen display where a film is played and to be streamed using RTP while the background is just periodically updated using the RFB protocol. If a viewer does not support an alternative mechanism, it will just not be accepted during the negotiation phase.

[0029] The method according to the invention can be implemented with any other SIP and SDP extensions (RFC3108, RFC4975, draft-garcia-mmusic-sdp-cs-01,) without departing from the scope of present invention The method according to the invention is implemented by a thin client device and a thin client server comprising means for exchanging with said thin client server additional information representative of the Thin Client context to enable the combination and adaptive transfer of multiple media streams in at least one remote application

display during said thin client session, said additional information consisting of SDP (Session Description Protocol) offer/answer messages Or XML-based offer/answer messages embedded in the body of SIP messages.

[0030] Said thin client device may be a Mobile User Equipment comprising an interface to enable a user to register interest in media redirection in order to get notified upon reception of said media redirection, and to send a redirection answer.

[0031] Moreover, said Mobile User Equipment is adapted for establishing a separate IP connection for uplink events for triggering the allocation of separate radio bearer for transferring said uplink events on a separate radio bearer than the one used for downlink graphical updates, and for mapping the rendering of audio/video stream(s) to said remote display framebuffer on its screen. Said Mobile User Equipment comprises an interface to enable a user to register interest in media redirection in order to get notified upon reception of said media redirection, and to send a redirection answer.

[0032] The invention also concerns a Thin Client Server adapted for implementing the method according to the invention for establishing a Thin Client session with a Thin Client device, said Thin Client Server comprises means for exchanging with said Thin Client device additional information representative of the Thin Client context to enable the combination and adaptive transfer of multiple media streams in at least one remote application display during said thin client session.

[0033] The invention allows an extension of the media types defined in ongoing work [draft-garcia-mmusic-sdp-collaboration-00] and defines new thin client media types and attributes.

[0034] To do so, the invention proposes to define the Control-Event media type. The existing "Control" media type is used to specify an additional conference control channel for the session. We need to use a different media type to precise a control channel for user events such as pointer or key events.

[0035] Finally the invention provides a way to mix multimedia streams with Thin Client remote display streams. The "Grouping of Media Lines in SDP" [IETF RFC3388] provides means to group media streams to express how different media streams within a session relate to each other, more particularly for the purpose of Lip synchronization or Flow identification. It should be noted that the grouping mechanisms depends on the semantic of the "a=group" session-level attribute. So we provide a new semantic for the thin client ("TC") context.

[0036] The implementation will be illustrated based on RFB protocol.

BRIEF DESCRIPTION OF THE FIGURES

[0037] The forgoing summary, as well as the following detailed description, will be better understood when read in conjunction with the appended figures illustrating an exemplary embodiment of the invention in which:

- Figure 1 schematically illustrates an IMS-based architecture;
- Figure 2 illustrates a thin client viewer showing a remote desktop consisting of several areas that can dynamically be adapted;
- Figure 3 illustrates a flow chart describing the steps of the method according to the invention
- Figure 4 schematically illustrates a an example of application display redirection according to the invention;

DESCRIPTION OF A DETAILED EMBODIMENT OF THE INVENTION

[0038] The invention will be described by reference to figure 1 illustrating an IMS architectural framework defined by the third generation partnership project [3GPP TS 23.228] for delivering IP multimedia services to a mobile device. The architecture comprises mobile user equipment 2 acting as a thin client device, a thin client server 4, a IMS Core System 6, a Policy Decision Function module 8 (PDF), a 3GPP Packet Switch (PS) Core Network 10. The IMS Core System 6 mainly comprises a Call Session Control Functions (CSCF) including Proxy-CSCF (P-CSCF), Serving-CSCF (S-CSCF), and Interrogating-CSCF (I-CSCF). The CSCF provides session control for subscribers accessing services within the IM (IP Multimedia) Core System 6. In essence the CSCF is a SIP Server. It has responsibility for interacting with network databases such as the HSS for mobility and AAA (Access, Authorization and Accounting) Servers for security. These modules are required to process SIP signalling packets in the IMS.

[0039] IMS Application Servers execute services and interface with S-SCSF. Some interfaces are illustrated in figure 1, as defined in [3GPP 23.228]:

The ISC interface is used to exchange messages between CSCF and thin client server 4.

The Gm interface is used to exchange SIP-based information between UE 2 and CSCF.

The GQ interface is used to exchange information policy decision information between CSCF and Policy Decision Function (PDF).

The interface Cx is intended for the communication between CSCF and Home Subscription Server (HSS) and the interface Dx for finding the correct HSS in multi-HSS environment.

The interface Sh used by the thin client Server 4 for communicating information with the HSS or with SIP/OSA Service Capability Server (OSA/SCS).

The interface Go used to control and authorize the Quality of Service and exchange correlation information between IMS and the 3GPP Policy and Charging Control (PCC) Architecture [3GPP TS 23.203].

The interface Ut used for controlling the Application Server and is based on HTTP protocol.

[0040] When using the IMS SIP signaling protocol the Thin Client UE 2 can connect to the IMS Thin Client Application Server (TCAS) 4 as depicted in figure 1 by establishing a SIP session. During this process, the Thin Client UE 2 and the TCAS 4 can negotiate the QoS and media parameters. The UE 2 may also perform some configurations on this TCAS 4 through the Ut interface, for instance to configure the desktop environment. The pixels generated by the application are streamed to the UE 2 in an end-to-end manner via Ut* interface and video or audio media can be streamed to the UE 2 too.

[0041] The method according to the invention extends SDP to describe the thin client session, the associated media, and the remote control events. An alternative would be to provide said description using XML syntax as defined by the W3C Extensible Markup Language (XML) 1.0 (Fourth Edition).

[0042] More particularly, the method allows the association of at least one audio/video stream to a thin client connection negotiated using SIP signaling in such a way that audio and/or video IP flows can be added dynamically and adaptively to a SIP session of remote desktop control whose associated IP flows can be rendered through thin client protocol mechanisms like RFB.

[0043] The following description provides the syntax and semantics of the extensions required for providing a description of a Thin Client session in SDP.

[0044] According to SDP [IETF RFC4566], the connection data line in SDP has the following syntax:

c = <nettype> <addrtype> <connection-address>

[0045] Where <nettype> indicates the network type, <addrtype> indicates the address type, and the <connection-address> is the connection address, which is dependent on the address type.

[0046] Basically the SDP announcement consists of a session-level section followed by one or more media-level sections as described in SDP [IETF RFC2327]. Session-level information provides the default values so if the connection data line is present at the session-level it applies to the media-level section unless the connection data line is conveyed in a media description. Note that if the connection data line is present in all media, it is not required at the session level.

[0047] The media description starts with an "m=" line and continues to the next media description or end of the whole session description. The "m=" media line as defined in IETF RFC4566 is as follows

m=<media><port><transport><fmt list>

[0048] Where the <media> is the media type, <port> is transport port to which the media stream will be sent, <transport> is the transport protocol whose value is dependent on the "c=" fields, and <fmt list> represents media formats. For audio and video the media formats are normally media payload type as defined in the RTP Audio/Video Profile.

[0049] At the moment the media types are defined for audio, video, application, data and control.

[0050] Thin client media types.

[0051] We initially consider the Remote Frame Buffer (RFB) protocol that can be used to control the display updates and for which various encoding are available.

[0052] The media type can be specific to the thin client technology. The media types can be "application/rfb", "application/T120".

m=application <port> <transport> RFB.

[0053] We further focus on the Remote Frame Buffer protocol in this document.

[0054] Thin client control event media types.

[0055] In addition to the graphical updates of the remote display, it is also possible to establish a specific connection for uplink events. For this purpose, the media type "application/control-events" is defined and the media line is:

m = application <port> <transport> control-events.
RFB specific attributes.

[0056] The attribute version "v=" must be given and it refers to the RFB protocol version number.

a=v: <version_number>

[0057] Where the version_number can be "3.8" meaning that RFB protocol version 3.8 applies.

[0058] The client may specify a list of supported encoding types in priority order. The encoding type is indicated in the framebuffer update messages sent by the Thin Client Server. It can be requested by the client to the server in usual RFB specific "setEncoding" messages. The server may or may not use this indication and pixel data may always be sent in raw encoding if required.

[0059] The encoding scheme attributes is in the form:

a=encoding-scheme: <encoding scheme value>

[0060] Where the <encoding scheme value> can be "RAW", "COPYRECT", "RRE", "HEXTILE", "ZLRE", "CURSOR", "CORRE", "ZLIB", ...

[0061] The display number may also be specified. If it is not indicated, then a default port is allocated. Actually the RFB server default port number is usually equal to (5900 + display_number) where display_number usually range from 0 to 6 resulting in 6 possible display connections.

[0062] The display attribute is in the form:

a=dpy: <display_number>

[0063] In the case of RFB protocol, the following additional attributes are provided.

[0064] The client may indicate whether the session is shared or not. If not indicated, the session must not be shared.

a=shared

[0065] The server must indicate the framebuffer size:

a=framebuff-w: <the width value>
a=framebuff-h: <the height value>

[0066] The client may indicate the following attributes as a preference and the server must indicate those attributes.

- a=pixformat-bpp: <bit-per-pixel value>
- a=depth: <depth value>
- a=big-endian
- =true-color
- a=red-max: <red-max value>
- a=green-max: <green-max value>
- a=blue-max: <blue-max value>
- a=red-shift: <red-shift value>
- a=green-shift: <green-shift value>
- =blue-shift: <blue-shift value>

[0067] For the sake of interoperability, the client and server behavior regarding the understanding of those previous attributes is same as specified in RFB specification 3.8 except that the Handshaking messages and initialization messages are replaced by SDP offer/answer messages.

[0068] TC semantic.

[0069] A viewer application that receives a session description that contains "m" lines that are grouped together using the TC semantics MUST display and associate a remote desktop control protocol (e.g. RFB) with corresponding media streams like RTP audio/video streams.

a=group:TC

[0070] Then the media-level attribute "a=mid:" must be used in each media line that belongs to a group.

[0071] For appropriate rendering of the remote display, the media line(s) corresponding to RTP streams (e.g. for video transfer) indicate further display location that is relative to the remote display frame buffer coordinates and size. With this information the thin client device is aware of the location of where should be rendered the RTP video stream on the remote desktop framebuffer. The client can therefore adapt the framebuffer update strategy. Particularier in the case of RFB where framebuffer updates are client-driven, the polling intervals can be adjusted as well as which portion of the remote desktop display should be updated.

a=area-x: <x position value>
a=area-y: <y position value>
a=area-w: <width value>
a=area-h: <height value>
It may also indicate the win-id attribute
a=wind-id: <window identifier>

[0072] Such win-id must be unique within a user session for remote desktop control. Use of this id is further explained in the next section.

[0073] RFB protocol extensions for window specific management on the framebuffer

[0074] RFB graphical update strategy is a client-driven screen update. In RFB specification 3.8, the client can request the update of portion of the whole screen to save bandwidth.

[0075] By introduction of the combination of video traffic in addition to framebuffer updates, the client can receive and map a video onto a dedicated portion of the screen.

[0076] For instance on a limited screen device such as a mobile phone, the client may decide to resize the video buffer to fit the whole mobile device screen. In such a case the client stops refreshing the framebuffer used for the RFB framebuffer update messages. We will call this specific framebuffer "desktop framebuffer" (desktop FB).

[0077] In another foreseen use case, the client receives the graphical update of a media player opened in a dedicated window. Then the client may freely move the video on top of the remote desktop framebuffer locally on its device, and the player may be shown or hidden upon user request. The problem in this situation is that the window movement might need to be indicated to the server for appropriate rendering and screen display management, more particularly if the desktop is shared among multiple users. For instance a first user may control the desktop while other participants may only see the resulting actions of said first user.

[0078] In practice the RTP video stream will be received and handled on a separate framebuffer. By introducing the ability to associate a video media to remote desktop capabilities, and by adding the win-id information, the client is able to freely handle the video media rendering on its screen (performing a rotation, switch to fullscreen mode, etc...) while still being associated to the same user session. The Win-id does not necessarily refer to a window but can also refer to a graphical area though in practice it might be easier to implement it using a window, more particularly if said window is likely to be resized or moved. Two new client requests are then defined:

The FramebufferForgetRequest (message-type, window-id, x-position, y-position, width, height) that tells the server that a specific area on the framebuffer does not require update. This is likely to happen if this area is refreshed by another media stream (e.g. H263 encoded video transported over RTP).

The WindowUpdate (message-type, window-id, x-position, y-position, width, height) that tells the serv-

er that a received media stream corresponding to a window (or graphical area) opened on the server has been resized, moved, or both.

Those client requests must not be used if no window-id exists, i.e. if no independent media stream corresponding to a window is received.

[0079] This also require the server to send the attribute "a=win-id" to indicate whether the media stream received matches a window on the server. If not, the win-id attribute is set to zero and if the attribute is not present the client must not correlate the media stream to a window.

[0080] When the media stream does not relate to any windows on the remote server, the client must not resize or move the media on the framebuffer so the WindowUpdate must not be used. However, in a poll model (or client driven framebuffer update) the client may use the FramebufferForgetRequest message in order to inform the server not to update the area specified in the request. However, in a push model, this may not be required as the server should already know that this area is updated using another protocol and encoding.

[0081] When the media stream relates to a window on the remote server, the above client requests (FramebufferForgetRequest and WindowUpdate) are used to update the position of the window on the remote server. The window-id information in the FramebufferForgetRequest enables the client to modify the area indication for which the server will not send any framebuffer updates.

[0082] Figure 2 illustrates a thin client viewer rendering a remote application display (remote desktop) consisting of several areas that can be dynamically adapted. The Area A is the background of the remote desktop that is graphically updated based on RFB protocol. The other areas are dependant upon the area A such as the area B is illustrated.

[0083] The area B is the area of the screen located at (x,y) position relative to area A (X, Y Base coordinates). It is also characterized by it width (w) and height (h) dimensions. The graphical output is streamed over Real Time Protocol (RTP) and encoded for instance using H263 codec.

[0084] Any user interaction on the area B can therefore be associated to the remote desktop (background) and pointer events from Area B can be sent to the remote server as if they were performed on Area

A. This can be used when the area B is locally resized or moved on the thin client device' screen without necessarily triggering window resizing and movement at the server.

[0085] Figure 3 illustrates a thin client connection establishment between a UE 2 acting as thin client device and a remote desktop PC acting as a thin client server 4.

[0086] The UE 2 connects through an IP access network for communicating with the remote desktop PC 4 and initiates a SDP Offer/Answer containing thin client parameters including Graphics encoding scheme, the transport settings (RFB (remote framebuffer), RDP (Remote Desktop Protocol), ICA (Independent Computing Architecture protocol), or pixels/RTP (Real-time Transport Protocol), IP Addresses and port number and radio bearer settings (Packet switched or Circuit Switched connection).

[0087] At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.

[0088] Upon reception of said SDP offer, the Desktop 4 determines that the UE 2 wishes to establish a thin client connection using RFB protocol, determines that RFB protocol and proposed attributes are acceptable based on the environment where the UE 2 is located and, at step 22, sends back a SDP Answer Message indicating the RFB and attributes are selected.

[0089] The UE 2 and the Desktop 4 agree the direction for the transfer of graphical updates and events. In addition, they identify that the thin client connection pertains to the ongoing session between them.

[0090] After the thin client connection parameters are agreed on both side, the Desktop 4 sends to the UE 2, at step 24, the graphical updates message while said UE 2 sends, at step 26, uplink keys and pointer events to the Desktop 4.

[0091] The Desktop 4 may refuse a connection and can thereby set the port number corresponding to the Graphic or Event Stream to zero, as specified in IETF RFC3264.

[0092] If some thin client parameters are unknown from the Desktop 4, the later silently ignores such parameters, as specified in IETF RFC4566.

[0093] At step 28, the UE 2 and the Desktop 4 exchange RFB media and events.

[0094] At step 30, the user opens a media player to view a video and the Desktop 4 sends a second SDP Offer that the UE 2 may or may not accept. Actually the Desktop 4 wishes to send the video, for example, over RTP and a renegotiation is triggered with the new SDP Offer including the video parameters information. Since the video output is generated by the desktop media player application, the thin client session identifier and the graphical position information is given so that the UE 2 can display the video stream at the right position. Therefore the video stream is combined to the ongoing thin client session.

[0095] At step 32, The UE 2 acknowledges the Offer and sends back an Answer. The desktop 4 adapts the display updates so that the area where the video is streamed is not updated via the thin client protocol.

[0096] Figure 4 illustrates an use of the method according to the invention in application display redirection.

[0097] This situation may occur, for example, when a user decides to redirect a video that he receives on mobile UE 2 to a TV 40 SIP-connected at a server, for in-

stance at the set-top-box or any other back-end SIP server, and reachable via its public address.

[0098] In this case, at step 42, the UE 2 connects to the remote desktop 4 through an IP access network for communicating with the remote desktop PC 4. This also relates to steps 20 22, 24, 26, and 28 in figure 3.

[0099] The UE 2 interacts with the desktop by sending key and mouse events. At one moment in time the user opens a media player and decides to play the video.

[0100] At step 44 the desktop 4 sends a SDP Offer/Answer to enable streaming the video. This decision is based on a local policy and intelligence as well as on local server interface implementation. In a first embodiment this implies applications hosted on the server to request specific media transfer means to a thin client server module (we call this application aware media transfer adaptation). In a second embodiment this implies the thin client server module to autonomously select the most appropriate transfer means.

[0101] Upon reception of this request, the UE 2 sends back, at step 46, an answer to accept or refuse this video stream. In this typical example, the UE 2 supports the redirection feature. The user selects the redirection option and chooses to redirect the video to the TV 40 via the UE 2 User Interface. It is assumed that the mobile phone knows her TV SIP public address or IP address. This means that the thin client device provides a user interface for notifying the user whether to accept the media flow or direct it to another equipment. The Answer message contains the address of the TV and the ID of the application for which the redirection is requested to redirect e.g. the web browser display.

[0102] In this case the redirection refers to the display redirection of an application (this can be a web browser, an instant messaging application, a video,).

[0103] The Desktop 4 receives the message, interprets the message and prepares to redirect the media to the TV 40. No screen updates corresponding to the area where the video output is located is sent to the UE 2. This requires the Answer message to include an indication as to whether the output stream still is streamed to the mobile device or not.

[0104] The media negotiation follows with the TV 40 through SIP if SIP is supported. It may be possible that the desktop 4 negotiates the video transfer via other means.

[0105] At step 48, the desktop 4 sends the SDP offer to the TV 40.

[0106] At step 50 the SDP Offer is accepted by the TV which sends back a SDP Answer.

[0107] At step 52, the UE 2 is notified that the TV 40 accepted the redirection.

[0108] Finally, at step 54, the video is displayed on the TV screen 40. The user may continue interacting with the remote desktop 4 using remote desktop control means.

[0109] In the above example the TV 40 is preferably SIP-connected at a server, for instance at the set-top-box or any other back-end SIP server, and that it is reachable via its public address.

Claims

1. Method for establishing a Thin Client session between a Thin Client device (2) and a Thin Client Server (4) exchanging Handshaking and initialization messages during a session negotiation above a SIP-based framework, **characterized in that** said Thin Client device (2) and said Thin Client Server (4) exchange additional information representative of the Thin Client context enabling the combination and adaptive transfer of multiple media streams in at least one remote application display during said thin client session.

2. Method according to claim 1 wherein said additional information consists of Thin Client information formatted in SDP (Session Description Protocol) offer/answer messages.

3. Method according to claim 1 wherein said additional information consists of Thin Client information formatted in XML-based offer/answer messages embedded in the body of SIP messages.

4. Method according to claim 2 or claim 3 wherein said additional information comprises both multimedia transfers and remote desktop control capabilities.

5. Method according to claim 4 wherein said remote desktop control capabilities further comprises dynamically directing or redirecting graphical updates of a remote application from a first device onto a second device.

6. Method according to claim 5 wherein said first device is a mobile communication device and said second device is a fixed communication device.

7. Method according to claim 6 comprising, transferring uplink events on a separate radio bearer than the one used for the downlink graphical updates.

8. Method according to claim 7 comprising transferring uplink events on a separate IP connection that the one used for the downlink graphical updates.

9. Method according to claim 1 comprising, associating at least one audio/video stream to the thin client session.

10. Method according to claim 8 wherein said additional information comprises remote display framebuffer coordinates and size corresponding to said audio/video streams associated to said thin client session.

11. Method according to claim 9 wherein said additional information allows sending a client request (FramebufferForgetRequest) instructing the server that a specific area on the framebuffer does not require update.

12. Method according to claim 11 wherein said additional information comprises window-id attribute.

13. Method according to claim 12 wherein said additional information allow sending a client request (WindowUpdate) instructing a server that a graphical area identified by said window-id attribute has been resized, moved or both.

14. A thin client device (2) adapted for implementing the method according to claim 1 for establishing a Thin Client session with a Thin Client Server (4), **characterized by** means for exchanging with said Thin Client Server (4) additional information representative of the Thin Client context enabling the combination and adaptive transfer of multiple media streams in at least one remote application display during said thin client session, said additional information consisting of SDP (Session Description Protocol) offer/answer messages Or XML-based offer/answer messages embedded in the body of SIP messages.

15. A thin client device (2) according to claim 14 consisting of a Mobile User Equipment comprising an interface to enable a user to register interest in media redirection in order to get notified upon reception of said media redirection, and to send a redirection answer.

16. A thin client device (2) according to claim 14 adapted for establishing a separate IP connection for uplink events, for triggering the allocation of separate radio bearer for transferring said uplink events on a separate radio bearer than the one used for downlink graphical updates, and for mapping the rendering of audio/video stream(s) to said remote display framebuffer on its screen.

17. A Thin Client Server (4) adapted for implementing the method according to claim 1 for establishing a Thin Client session with a Thin Client device (2), **characterized by** means for exchanging with said Thin Client device additional information representative of the Thin Client context enabling the combination and adaptive transfer of multiple media streams in at least one remote application display during said thin client session.

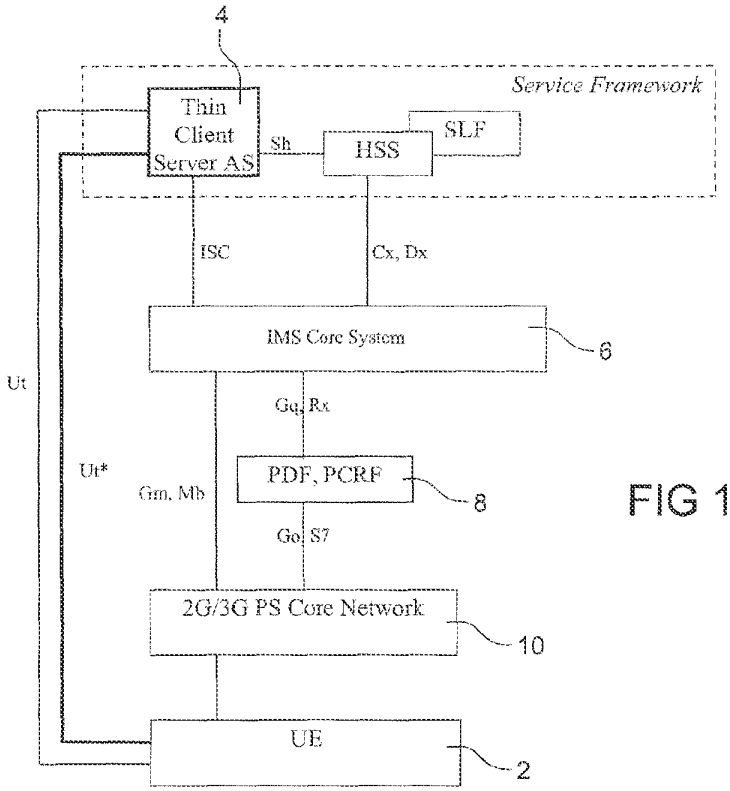

4
Service Framework
Thin Client Server AS
Sh
HSS
SLF
ISC
Cx, Dx
IMS Core System
6
Ut
Gq, Rx
Ut*
Gm, Mb
PDF, PCRF
8
Go, S7
2G/3G PS Core Network
10
UE
2

FIG 1

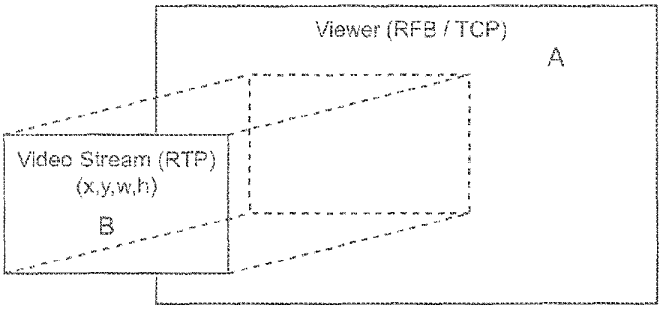

Viewer (RFB / TCP)
A
Video Stream (RTP)
(x,y,w,h)
B

Fig 2

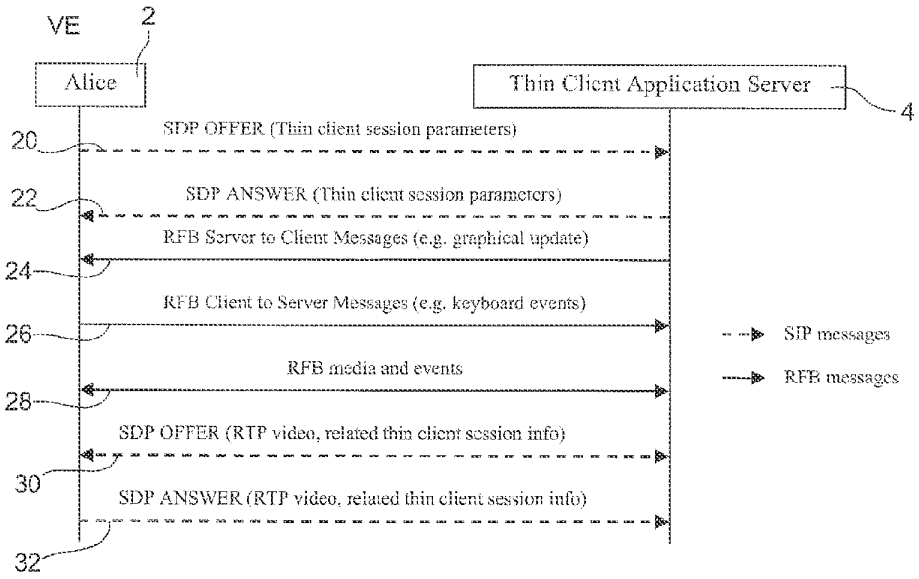

VE
2
Alice
Thin Client Application Server
4
SDP OFFER (Thin client session parameters)
20
SDP ANSWER (Thin client session parameters)
22
RFB Server to Client Messages (e.g. graphical update)
24
RFB Client to Server Messages (e.g. keyboard events)
26
RFB media and events
28
SDP OFFER (RTP video, related thin client session info)
30
SDP ANSWER (RTP video, related thin client session info)
32
SIP messages
RFB messages

Fig 3

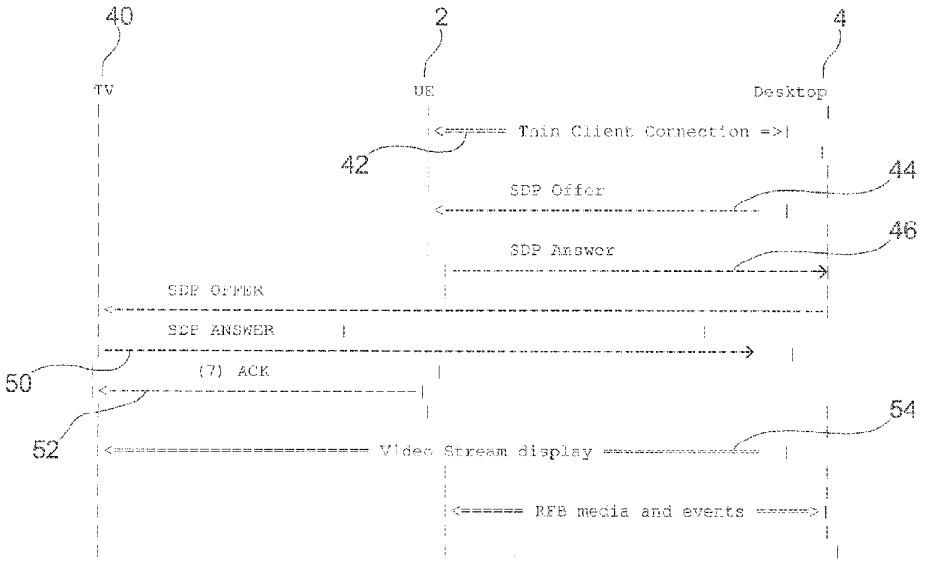

40
TV
2
UE
4
Desktop
<======= Thin Client Connection =>|
42
SDP Offer
44
SDP Answer
46
SDP OFFER
SDP ANSWER
(7) ACK
50
52
<========== Video Stream display ==========
54
<====== RFB media and events ======>

FIG 4

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 08 16 6122

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	LENNOX H SCHULZRINNE J NIEH R BARRATO COLUMBIA U J: "Protocols for Application and Desktop Sharing; draft-lennox-avt-app-sharing-00.txt" IETF STANDARD-WORKING-DRAFT, INTERNET ENGINEERING TASK FORCE, IETF, CH, 1 December 2004 (2004-12-01), pages 1-22, XP015039313 ISSN: 0000-0004 * page 3 - page 9 * * page 16 - page 18 * -----	1-17	INV. H04L29/06
X,D	GARCIA-MARTIN NOKIA SIEMENS NETWORKS J OTT HELSINKI UNIVERSITY OF TECHNOLOGY M: "Session Description Protocol (SDP) Extensions and Conventions for Collaboration Applications; draft-garcia-mmusic-sdp-collaboration-00.txt" IETF STANDARD-WORKING-DRAFT, INTERNET ENGINEERING TASK FORCE, IETF, CH, 18 February 2008 (2008-02-18), pages 1-22, XP015052905 ISSN: 0000-0004 * page 3 - page 14 * -----	1-9,14, 15,17	TECHNICAL FIELDS SEARCHED (IPC) H04L
X	US 2007/058637 A1 (LO TUN HAN FELIX [CN]) 15 March 2007 (2007-03-15) * figures 16,17,19 * * paragraph [0076] - paragraph [0086] * ----- -/--	1-6,14, 15,17	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	24 March 2009	Jurca, Alexandru

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

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EUROPEAN SEARCH REPORT

Application Number
EP 08 16 6122

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	OTT TZI J: "SDP Attributes for T.120 Data Conferencing; draft-ott-mmusic-sdp-t120 00.txt" IETF STANDARD-WORKING-DRAFT, INTERNET ENGINEERING TASK FORCE, IETF, CH, 12 July 2004 (2004-07-12), pages 1-7, XP015033580 ISSN: 0000-0004 * page 2 - page 5 *	1-6,14, 15,17	
X	BARTON J J ET AL: "Dialing for Displays: Session Initiation Protocol for Opportunistic Augmentation" PERVASIVE COMPUTING AND COMMUNICATIONS, 2006. PERCOM 2006. FOURTH ANNU AL IEEE INTERNATIONAL CONFERENCE ON PISA, ITALY 13-17 MARCH 2006, PISCATAWAY, NJ, USA,IEEE, 13 March 2006 (2006-03-13), pages 1-6, XP010910642 ISBN: 978-0-7695-2518-1 * page 1 - page 4 *	1-6,14, 15,17	
			TECHNICAL FIELDS SEARCHED (IPC)

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	24 March 2009	Jurca, Alexandru

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 08 16 6122

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

24-03-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007058637 A1	15-03-2007	WO 2007031021 A1	22-03-2007
		CN 101107830 A	16-01-2008

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

Electronic Acknowledgement Receipt	
EFS ID:	16555512
Application Number:	13532546
International Application Number:	
Confirmation Number:	9012
Title of Invention:	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER
First Named Inventor/Applicant Name:	David Strober
Customer Number:	26211
Filer:	Samuel Borodach/Maryann White
Filer Authorized By:	Samuel Borodach
Attorney Docket Number:	30160-0005001
Receipt Date:	09-AUG-2013
Filing Date:	25-JUN-2012
Time Stamp:	19:50:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		30160-0005001IDS.pdf	159018 9eff189c4f177f03025a6699962014320fda269d	yes	2

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	1
	Information Disclosure Statement (IDS) Form (SB08)	2	2

Warnings:					
Information:					
2	Foreign Reference	EP2175607.pdf	674050 a4645f2ecf02c662a28d22f14b0b039d443ea642	no	14
Warnings:					
Information:					
		Total Files Size (in bytes):	833068		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: David Strober	Art Unit	:
Serial No.	: 13/532,546	Examiner	:
Filed	: June 25, 2012	Conf. No.	: 9012
Title	: VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER		

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the enclosed PTO-SB-08 or Disclosure Form. A copy of the listed foreign patent document is enclosed; copies of any listed U.S. patents and patent application publications will be provided on request.

This statement is being filed before the receipt of a first Office Action on the merits. Please apply any necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: August 9, 2013

/Samuel Borodach/
Samuel Borodach
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Facsimile: (877) 769-7945

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Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/532,546	06/25/2012	David Strober	30160-0005001	9012

26211 7590 11/07/2014

FISH & RICHARDSON P.C. (NY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER	
HOPE, DARRIN	

ART UNIT	PAPER NUMBER
2173	

NOTIFICATION DATE	DELIVERY MODE
11/07/2014	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No. 13/532,546	Applicant(s) STROBER, DAVID	
	Examiner DARRIN HOPE	Art Unit 2173	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 June 2012*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-25* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-25* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *25 June 2012* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date *06/25/2012;05/09/2013;08/09/2013*.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

DETAILED ACTION

1. The present application is being examined under the pre-AIA first to invent provisions. This Office Action is responsive to the communications filed on 25 June 2012. Claims 1-25 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 1, 3-11, and 13-25 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Fok Ah Chuen et al. (US 2012/0102209 A1) in view of Malik (US 2007/0155506 A1).

3. **Per claim 1**,Chuen discloses a machine-implemented method of presenting content on a display device (Abstract), the method comprising:

- receiving, in a display host (e.g., Thin Client Application Server 4), a communication from a display device (e.g., Thin Client Device 2; paragraphs [0131], "*The UE 2 connects through an IP access network for communicating with the remote desktop PC 4 and initiates a SDP Offer/Answer containing thin client parameters including Graphics encoding scheme, the transport settings (RFB (remote framebuffer), RDP (Remote Desktop Protocol), ICA (Independent Computing Architecture protocol), or pixels/RTP (Real-time Transport Protocol), IP Addresses and port number and radio bearer settings (Packet switched or Circuit Switched connection).* "), wherein the display host is operable to execute multiple instances of a browser (e.g., thin client viewer as shown in Fig 2; paragraph [0022]) each of which operates as a swappable media player(paragraph [00127], "*FIG. 2 illustrates a thin client viewer rendering a remote application display (remote desktop) consisting of several areas that can be dynamically adapted. The Area A is the background of the remote desktop that is graphically updated based on RFB protocol. The other areas are dependant upon the area A such as the area B is illustrated.* "), wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content (Abstract; paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to negotiate the media within a*

SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer, . . .) pertaining to a session of remote desktop control. "; paragraphs [0019], [0026], [0046], [0050]);

- opening a first session using a first instance of the swappable media player (paragraphs [0007, [0012], [0016], [0018]; paragraph [0133], "*Upon reception of said SDP offer, the Desktop 4 determines that the UE 2 wishes to establish a thin client connection using RFB protocol, determines that RFB protocol and proposed attributes are acceptable based on the environment where the UE 2 is located and, at step 22, sends back a SDP Answer Message indicating the RFB and attributes are selected.* "); but does not expressly disclose:
- requesting assignment of a unique identifier for the first session from a switchboard server system;
- receiving a unique identifier for the first session from the switchboard server system ;
- displaying the unique identifier in the first session;
- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device .

4. Malik discloses:

- requesting assignment of a unique identifier for the first session from a switchboard server system (Abstract, "...*A game server, in response to a user request, provides a unique identifier associated with an instance of the interactive game...";* paragraph [0015])*;*

- receiving a unique identifier (e.g., unique identifier 115 as shown in Fig. 2) for the first session from the switchboard server system (paragraph [0005], "*The first controller is used to establish a communication session with the game server to communicate a request to start a game. In response, the game server communicates a unique identifier. The game server then registers one or more wireless communication devices that communicate the unique identifier. ...*"; paragraph [0006]; paragraph [0007]; paragraph [0015]; paragraphs [0021-0022]; paragraphs [0027], [0029-0030]; paragraph [0035], "*As indicated by the encircled number "4," game server 110 in turn initiates a game instance 112, which includes unique identifier 115. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140... .* ") ;
- displaying the unique identifier in the first session (paragraph [0035], "*...As noted by the encircled number "5," the host and local players can observe unique identifier 115 in the video information presented in display 134 and/or hear a message that includes the unique identifier...* ");
- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device (paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

5. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Malik unique identifier in Chuen's thin client-server device to

improve the device with reasonable expectation that this would result in a thin client-server device that could make it easier to register the connection of one or more deplay devices to a display host. This method for improving the thin client-server device of Chuen was within the ordinary ability of one of ordinary skill in the art based on the teachings of Malik.

6. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen and Malik to obtain the invention as specified in claim 1.

7. **Per claim 3**, Chuen and Malik disclose the method of claim further including:

- receiving in the display host a message indicating that particular content is to be played in the first session using a specified media player (Chuen, e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- retrieving and loading the specified media player (Chuen, e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);
- playing the particular content in the first session using the specified media player (Chuen, paragraph [0139] and
- causing a presentation of the content to be mirrored onto the virtual client residing on the display device(Chuen, paragraphs [0141-0142]; Fig. 4 illustrate establishing a connection so that content displayed on client device 2 can be redirected for display an a television 40.;Malik, Fig. 2 illustrates causing a

presentation of the content to be mirrored onto the virtual client residing on the display device, i.e, game content 220).

8. **Per claim 4,** Chuen and Malik disclose the method of claim 3 further including:

- receiving in the display host a second message indicating that particular second content is to be played in the first session using a specified second media player (Chuen, paragraph [0147], "*The Desktop 4 receives the message, interprets the message and prepares to redirect the media to the TV 40. No screen updates corresponding to the area where the video output is located is sent to the UE 2. This requires the Answer message to include an indication as to whether the output stream still is streamed to the mobile device or not.* ");
- retrieving and loading the second media player (Chuen, paragraphs [0149-0152]);
- playing the particular second content in the first session using the specified second media player(Chuen, paragraph [0153]); and
- causing a presentation of the second content to be mirrored onto the virtual client residing on the display device(Chuen, Fig. 4 illustrates causing a presentation of the second content to be mirrored onto the virtual client residing on the display device where content from one device is redirected for display on another device.).

9. **Per claim 5**, Chuen and Malik disclose the method of claim 1 wherein the content comprises video (Chuen, paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to*

negotiate the media within a SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer, . . .) pertaining to a session of remote desktop control."; paragraph [0019]; Malik, paragraph [0005]*).*

10. **Per claim 6**, Chuen and Malik disclose the method of claim 1 wherein the content comprises streaming media (Chuen, paragraphs [0015], [0017], [0018], [0026], [0032]; Malik, See claim 12).

11. **Per claim 7**, Chuen and Malik disclose the method of claim 1 wherein the content comprises visual content (Chuen, paragraphs [0015], [0017], [0018], [0026], [0032]; Malik, See claim 1).

12. **Per claim 8**, Chuen and Malik disclose the method of claim 1 further including contacting the switchboard server system to check whether there is a message for the first session, wherein the first session is identified to the switchboard session using the previously assigned unique identifier (Chuen, paragraph [0034]).

13. **Per claim 9**, Chuen and Malik disclose the method of claim 1 further including:

- receiving, in the display host, a communication from a second display device (Malik, paragraph [0033]);
- opening a second session using a second instance of the swappable media player (Malik, paragraph [0034]);
- requesting from the switchboard server system assignment of a second unique identifier for the second session Malik, Abstract, "...*A game server, in response to a user request, provides a unique identifier associated with an instance of the interactive game...";* paragraph [0015]);

- receiving a second unique identifier for the second session from the switchboard server system(Malik,paragraph [0005], "*The first controller is used to establish a communication session with the game server to communicate a request to start a game. In response, the game server communicates a unique identifier. The game server then registers one or more wireless communication devices that communicate the unique identifier.* ..."; paragraph [0006]; paragraph [0007]; paragraph [0015]; paragraphs [0021-0022]; paragraphs [0027], [0029-0030]; paragraph [0035], "*As indicated by the encircled number "4," game server 110 in turn initiates a game instance 112, which includes unique identifier 115. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140... .* ") ;
- displaying the second unique identifier in the second session (Malik, paragraph [0035], "...*As noted by the encircled number "5," the host and local players can observe unique identifier 115 in the video information presented in display 134 and/or hear a message that includes the unique identifier...* "); and
- causing the second unique identifier to be mirrored onto a virtual client residing on the second display device (Malik, paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

14. **Per claim 10**, Chuen and Malik disclose the method of claim 9 further including:

- receiving in the display host a second message indicating that particular content is to be played in the first session using a specified media player (Chuen, e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- retrieving and loading the specified second media player (Chuen, e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);
- playing the particular content in the first session using the specified media player (Chuen, paragraph [0139]); and
- causing a presentation of the second content to be mirrored onto the virtual client residing on the second display device (Chuen, paragraphs [0141-0142]; Fig. 4 illustrate establishing a connection so that content displayed on client device 2 can be redirected for display an a television 40.;Malik, Fig. 2 illustrates causing a presentation of the content to be mirrored onto the virtual client residing on the display device, i.e, game content 220).

15. **Per claim 11**, Chuen and Malik disclose the method of claim 10 wherein the first and second sessions at least partially overlap in time with one another(Malik, paragraph [0027]; Fig. 2 illustrate wherein the first and second sessions at least partially overlap in time with one another since all the players are forward the unique identifier to play a multiplayer game instance.).

16. **Per claim 13**.Chuen discloses a system for presenting content comprising:

- a display device storing a virtual client (e.g., thin client device 2; paragraph [0018]);
- a display host (e.g., thin client application server 4) operable to execute multiple instances of a browser (e.g., thin client viewer as shown in Fig 2; paragraph [0022]) each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content (Abstract; paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to negotiate the media within a SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer, . . .) pertaining to a session of remote desktop control.* "; paragraphs [0019], [0026], [0046], [0050]); and
- a switchboard server system(e.g., thin client application server 4), wherein the display host is operable to perform operations including:
- receiving a communication from the display device(e.g., step 20);
- receiving, in a display host (e.g., Thin Client Application Server 4), a communication from a display device (e.g., Thin Client Device 2; paragraphs [0131], "*The UE 2 connects through an IP access network for communicating with the remote desktop PC 4 and initiates a SDP Offer/Answer containing thin client parameters including Graphics encoding scheme, the transport settings (RFB (remote framebuffer), RDP (Remote Desktop Protocol), ICA (Independent Computing Architecture protocol), or pixels/RTP (Real-time Transport Protocol),*

IP Addresses and port number and radio bearer settings (Packet switched or Circuit Switched connection). "), wherein the display host is operable to execute multiple instances of a browser (e.g., thin client viewer as shown in Fig 2; paragraph [0022]) each of which operates as a swappable media player(paragraph [00127], "*FIG. 2 illustrates a thin client viewer rendering a remote application display (remote desktop) consisting of several areas that can be dynamically adapted. The Area A is the background of the remote desktop that is graphically updated based on RFB protocol. The other areas are dependant upon the area A such as the area B is illustrated. ")*, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content (Abstract; paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to negotiate the media within a SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer, . . .) pertaining to a session of remote desktop control.* "; paragraphs [0019], [0026], [0046], [0050]);

- opening a first session using a first instance of the swappable media player (paragraphs [0007, [0012], [0016], [0018]; paragraph [0133], "*Upon reception of said SDP offer, the Desktop 4 determines that the UE 2 wishes to establish a thin client connection using RFB protocol, determines that RFB protocol and proposed attributes are acceptable based on the environment where the UE 2 is*

located and, at step 22, sends back a SDP Answer Message indicating the RFB and attributes are selected. "); but does not expressly disclose:

- requesting assignment of a unique identifier for the first session from a switchboard server system;
- receiving a unique identifier for the first session from the switchboard server system ;
- displaying the unique identifier in the first session;
- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device .

17. Malik discloses:

- requesting assignment of a unique identifier for the first session from a switchboard server system (Abstract, "...*A game server, in response to a user request, provides a unique identifier associated with an instance of the interactive game...";* paragraph [0015])*;*
- receiving a unique identifier (e.g., unique identifier 115 as shown in Fig. 2) for the first session from the switchboard server system (paragraph [0005], "*The first controller is used to establish a communication session with the game server to communicate a request to start a game. In response, the game server communicates a unique identifier. The game server then registers one or more wireless communication devices that communicate the unique identifier.* ..."; paragraph [0006]; paragraph [0007]; paragraph [0015]; paragraphs [0021-0022]; paragraphs [0027], [0029-0030]; paragraph [0035], "*As indicated by the encircled*

number "4," game server 110 in turn initiates a game instance 112, which includes unique identifier 115. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140... . ") ;

- displaying the unique identifier in the first session (paragraph [0035], "...*As noted by the encircled number "5," the host and local players can observe unique identifier 115 in the video information presented in display 134 and/or hear a message that includes the unique identifier...* ");
- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device (paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

18. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Malik unique identifier in Chuen's thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could make it easier to register the connection of one or more deplay devices to a display host. This method for improving the thin client-server device of Chuen was within the ordinary ability of one of ordinary skill in the art based on the teachings of Malik.

19. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen and Malik to obtain the invention as specified in claim 1.

20. **Per claim 14**, Chuen and Malik disclose the system of claim 13 wherein the display host is further operable to perform operations including:

- receiving a message from the switchboard server system indicating that particular content is to be played in the first session using a specified media player(Chuen, e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- retrieving the second media player from a content provider and loading the second media player(Chuen, e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);
- playing the particular content in the first session using the specified media player(Chuen, paragraph [0139]); and
- causing a presentation of the content to be mirrored onto the virtual client residing on the display device (Chuen, paragraphs [0141-0142]; Fig. 4 illustrate establishing a connection so that content displayed on client device 2 can be redirected for display an a television 40.;Malik, Fig. 2 illustrates causing a presentation of the content to be mirrored onto the virtual client residing on the display device, i.e, game content 220).

21. **Per claim 15**, Chuen and Malik disclose the system of claim 14 wherein the display host is further operable to perform operations including:

- receiving a second message from the switchboard server system indicating that particular second content is to be played in the first session using a specified second media player(Malik, paragraph [0033]);
- retrieving the second media player from a content provider and loading the second media player(Malik, paragraph [0034]);
- playing the particular second content in the first session using the specified second media player (Chuen, paragraph [0139]); and
- causing a presentation of the second content to be mirrored onto the virtual client residing on the display device(Chuen, paragraphs [0141-0142]; Fig. 4 illustrate establishing a connection so that content displayed on client device 2 can be redirected for display an a television 40.;Malik, Fig. 2 illustrates causing a presentation of the content to be mirrored onto the virtual client residing on the display device, i.e, game content 220).

22. Per claim 16, Chuen and Malik disclose the system of claim 14 wherein the system includes a second display device storing a virtual client, wherein the display host is further operable to perform operations including:

- receiving a communication from the second display device(Malik, paragraph [0033]);
- opening a second session using a second instance of the swappable media player(Malik, paragraph [0034]);
- requesting from the switchboard server system assignment of a second unique identifier for the second session; receiving a second unique identifier for the

second session from the switchboard server system; displaying the second unique identifier in the second session(Abstract, "...*A game server, in response to a user request, provides a unique identifier associated with an instance of the interactive game...";* paragraph [0015])*;*

- causing the image of the second unique identifier to be mirrored onto the virtual client residing on the second display device (paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170);
- receiving a second message from the switchboard server system indicating that particular second content is to be played in the second session using a specified second media player(Chuen, e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- retrieving the second media player from a content provider and loading the second media player(Chuen, e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);
- playing the particular second content in the second session using the specified second media player(Chuen, paragraph [0139]); and
- causing a presentation of the second content to be mirrored onto the virtual client residing on the second display device(Malik, paragraph [0036]; Fig. 2

illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

23. Per claim 17, Chuen discloses a machine-implemented method of presenting content on a display device, the method comprising:

- receiving in a display host a message indicating that a specified media player is to be used to play particular content using a first instance of a swappable media player, wherein the display host is operable to execute multiple instances of the swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content (e.g., Step 20; paragraph [0132]);
- retrieving and loading the specified media player using the first instance of the swappable media player; (e.g., Step 22; paragraph [0133]);
- playing the particular content in a first session using the specified media player(e.g., step 30; paragraph [0139]); but does not expressly disclose:
- causing a presentation of the content to be mirrored onto a virtual client residing on a display device associated with the first session(paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

24. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Malik unique identifier in Chuen's thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could make it easier to register the connection of one or more deplay

devices to a display host. This method for improving the thin client-server device of Chuen was within the ordinary ability of one of ordinary skill in the art based on the teachings of Malik.

25. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen and Malik to obtain the invention as specified in claim 17.

26. **Per claim 18**. Chuen and Malik disclose the method of claim 17 including:

- receiving in the display host a second message indicating that a specified second media player is to be used to play particular second content using the first instance of a swappable media player (Chuen, e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- retrieving and loading the second media player using the first instance of the swappable media player(Chuen, e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);
- playing the particular second content in the first session using the specified second media player(Chuen, paragraph [0139]); and
- causing a presentation of the second content to be mirrored onto the virtual client residing on the display device (Chuen, paragraphs [0141-0142]; Fig. 4 illustrate establishing a connection so that content displayed on client device 2 can be redirected for display an a television 40.; Malik, Fig. 2 illustrates causing a

presentation of the content to be mirrored onto the virtual client residing on the display device, i.e., game content 220).

27. **Per claim 19**, Chuen and Malik disclose the method of claim 17 wherein the message indicating that a specified media player is to be used to play particular content using a first instance of a swappable media player includes a unique identifier for the first session (Malik, paragraph [0035]).

28. **Per claim 20**, Chuen and Malik disclose the method of claim 19 wherein causing a presentation of the content to be mirrored onto the virtual client includes incorporating a watermark into the content before it is mirrored onto the virtual client, wherein the watermark includes the unique identifier (Malik, paragraphs [0035-0036]).

29. **Per claim 21**, Chuen and Malik disclose the method of claim 20 wherein the watermark also includes another identifier that is uniquely associated with the virtual client (Chuen, paragraph [0114]).

30. **Per claim 22**, Chuen discloses a system for presenting content (Abstract) comprising:

- a display device storing a virtual client (e.g., thin client device 2; paragraph [0018]);
- a display host (e.g., thin client application server 4) operable to execute multiple instances of a browser (e.g., thin client viewer as shown in Fig 2; paragraph [0022]) each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content (Abstract;

paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to negotiate the media within a SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer, . . .) pertaining to a session of remote desktop control.* "; paragraphs [0019], [0026], [0046], [0050]); and

- a switchboard server system(e.g., thin client application server 4), wherein the display host is operable to perform operations including:
- receiving from the switchboard server system a message indicating that a specified media player is to be used to play particular content using a first instance of a swappable media player(e.g., step 20);
- retrieving and loading the specified media player using the first instance of the swappable media player; (e.g., Step 22; paragraph [0133]);
- playing the particular content in a first session using the specified media player(e.g., step 30; paragraph [0139]); but does not expressly disclose:
- causing a presentation of the content to be mirrored onto a virtual client residing on a display device associated with the first session(paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

31. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Malik unique identifier in Chuen's thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could make it easier to register the connection of one or more deplay

devices to a display host. This method for improving the thin client-server device of Chuen was within the ordinary ability of one of ordinary skill in the art based on the teachings of Malik.

32. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen and Malik to obtain the invention as specified in claim 22.

33. **Per claim 23**, Chuen and Malik disclose the system of claim 22 wherein the message indicating that a specified media player is to be used to play particular content using a first instance of a swappable media player includes a unique identifier for the first session(Malik, paragraph [0035]).

34. **Per claim 24**, Chuen and Malik disclose the system of claim 23 the display host is further operable to incorporate a watermark into the content before the content is mirrored onto the virtual client (Chuen, Fig. 4 illustrates causing a presentation of the second content to be mirrored onto the virtual client residing on the display device where content from one device is redirected for display on another device.), wherein the watermark includes the unique identifier (Chuen, paragraph [0114]).

35. **Per claim 25**, Chuen and Malik disclose the system of claim 24 wherein the watermark also includes another identifier that is uniquely associated with the virtual client(Chuen, paragraph [0114])..

36. Claims 2 and 12 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Fok Ah Chuen et al. (US 2012/0102209 A1) in view of Malik (US

2007/0155506 A1), and further in view of Sukeda et al. (Hereinafter, Sukeda, US 2009/0172780 A1).

37. **Per claim 2**, Chuen and Malik disclose the method of claim 1 but do not expressly disclose wherein the unique identifier comprises a QR code.

38. Sukeda discloses wherein the unique identifier comprises a QR code (Sukeda, paragraphs [0052], [0066], [0070], [0077]).

39. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Sukeda QR code in the Chuen-Malik the thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could display a QR code as part of an invitation to remote users to establish a session (See Malik paragraph [0035]).

40. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen and Malik to obtain the invention as specified in claim 1.

41. **Per claim 12**, Chuen and Malik disclose the method of claim 1 but do not expressly disclose method of claim 3 wherein the display host retrieves the specified media player from a content provider via the Internet.

42. Sukeda discloses wherein the display host retrieves the specified media player from a content provider via the Internet (Abstract; paragraph [0013]).

43. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Sukeda QR code in the Chuen-Malik the thin client-server device to improve the device with reasonable expectation that this would result in a thin

client-server device that could display a QR code as part of an invitation to remote users to establish a session (See Malik paragraph [0035]).

44. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen and Malik to obtain the invention as specified in claim 12.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARRIN HOPE whose telephone number is (571)270-5079. The examiner can normally be reached on M-TH - 7-4:30, F - 7-3:30, Alt. Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kieu D. Vu can be reached on (571)272-4057. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DARRIN HOPE/
Examiner, Art Unit 2173

/TADEESE HAILU/
Primary Examiner, Art Unit 2173

Notice of References Cited	Application/Control No. 13/532,546	Applicant(s)/Patent Under Reexamination STROBER, DAVID	
	Examiner DARRIN HOPE	Art Unit 2173	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2007/0155506	07-2007	Malik, Dale	463/042
*	B	US-2012/0102209	04-2012	Fok Ah Chuen et al.	709/228
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
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	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Substitute Disclosure Form	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 30160-0005001	Application No. 13/532,546
Information Disclosure Statement by Applicant (Use several sheets if necessary)		Applicant David Strober	
(37 CFR §1.98(b))		Filing Date June 25, 2012	Group Art Unit

U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1	2009/0172780	Jul 2, 2009	Sukeda et al.			
	2	2012/0059875	Mar 8, 2012	Clark			
	3	2011/0131607	Jun 2, 2011	Thomas et al.			
	4	2009/0108057	Apr 30, 2009	Mu et al.			

Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation Yes	Translation No
	5	2175607 A1	Apr 14, 2010	Europe				

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document

Examiner Signature	/Darrin Hope/	Date Considered	/D.H./ 11/03/2014

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute Disclosure Form

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.H./

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13532546	STROBER, DAVID
	Examiner	**Art Unit**
	DARRIN HOPE	2173

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	11/03/2014								
	1	✓								
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Sheet 1 of 4

Substitute Form PTO-1449 (Modified) U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 30160-0005001	Application No.
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	Applicant David Strober	
	Filing Date June 25, 2012	Group Art Unit

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Examiner Signature /Darrin Hope/	Date Considered /D.H./ 11/03/2014

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute Disclosure Form (PTO-1449)

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.H./

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Examiner Signature	Date Considered
/Darrin Hope/	/D.H./ 11/03/2014

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Sheet 3 of 4

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	Filing Date June 25, 2012	Group Art Unit

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Examiner Signature /Darrin Hope/	Date Considered /D.H./ 11/03/2014

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Sheet 4 of 4

Substitute Form PTO-1449 (Modified) U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 30160-0005001	Application No.
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	Applicant David Strober	
	Filing Date June 25, 2012	Group Art Unit

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Examiner Initial	Desig. ID	Document
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Examiner Signature /Darrin Hope/	Date Considered /D.H./ 11/03/2014
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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13532546	STROBER, DAVID
	Examiner	Art Unit
	DARRIN HOPE	2173

CPC- SEARCHED		
Symbol	Date	Examiner
G06F3/01	11/3/2014	DH

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
715/716		11/3/2014	DH

SEARCH NOTES		
Search Notes	Date	Examiner

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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CONFIRMATION NO. 9012

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
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APPLICANTS

INVENTORS

David Strober, Rye, NY;

**** CONTINUING DATA ***************************

This application is a CIP of 13/157,821 06/10/2011
which claims benefit of 61/477,998 04/21/2011

**** FOREIGN APPLICATIONS ***************************

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07/06/2012

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /DARRIN HOPE/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		NY	4	25	4

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UNITED STATES

TITLE

VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER

FILING FEE RECEIVED	FEES: Authority has been given in Paper	☐ All Fees
870	No._____ to charge/credit DEPOSIT ACCOUNT	☐ 1.16 Fees (Filing)
	No._____ for following:	☐ 1.17 Fees (Processing Ext. of time)
		☐ 1.18 Fees (Issue)
		☐ Other _____
		☐ Credit

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Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	30160-0005001	13/532,546
	Applicant: David Strober	
	Filing Date: June 25, 2012	Group Art Unit

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Other Documents (include Author, Title, Date, and Place of Publication)

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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L4	52	L2 and L3	US-PGPUB; USPAT	OR	OFF	2014/11/03 14:09
L5	199	("20120272148" "20130124759" "20120272147" "8356251" "8595342" "20090275403" "20100138744" "20120158511" "8621352" "8266246" "8631407" "20080301189" "20080256378" "20120084653" "20090106357" "8504917" "20120222064" "20020161797" "20130290419" "20050022127" "20100121693" "20070294621" "20120317485" "20100115119" "20120030726" "20120089912" "20090133067" "20130238993" "8060407" "20100281508" "20100118200" "7716376" "20030061305" "8046672" "20110125712" "20130086609" "20070166683" "8352371" "8622839" "20080270903" "20090307092" "20060015911" "20130238995" "7890599" "20060173974" "8517829" "7824268" "20070239611" "20040268400" "8244707" "20020129089" "20060026162" "8229796" "20080181575" "7849160" "20100287580" "7739596" "20120271688" "20120324552" "8219911" "20030137531" "8589368" "8199718" "20130086607" "20130238757" "20070239546" "20120198444" "20050091107" "20130232420" "8055781" "7962548" "8028064" "8285404" "20120215646" "8556715" "7975310" "20040225564" "20090204639" "8588824" "8379668" "20080249986" "20020065925" "8000581" "20130203490" "20120310783" "8301596" "20120239510" "20030233349" "8020099" "7665115" "8162753"	US-PGPUB; USPAT	OR	OFF	2014/11/03 14:11

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S7	13	S6 and QR near2 code$1	US-PGPUB; USPAT	OR	OFF	2014/01/28 06:38
S8	996	S6 and (not strober).inv.	US-PGPUB; USPAT	OR	OFF	2014/01/28 06:40
S9	996	S6 and (not strober).inv. and (not touchstream).as.	US-PGPUB; USPAT	OR	OFF	2014/01/28 06:41
S10	1	("20100125644").PN.	US-PGPUB; USPAT	OR	OFF	2014/01/28 06:46
S11	5	S6 and (not strober).inv. and (not touchstream).as. and (virtual near2 browser)	US-PGPUB; USPAT	OR	OFF	2014/01/28 06:51
S12	17	S6 and (not strober).inv. and (not touchstream).as. and (virtual near2	US-PGPUB;	OR	OFF	2014/01/28 06:52

		client)	USPAT			
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S14	145	(sling near2 media).as.	US-PGPUB; USPAT	OR	OFF	2014/01/28 06:57
S15	59	S6 and (not strober).inv. and (not touchstream).as. and HDMI	US-PGPUB; USPAT	OR	OFF	2014/01/28 07:00
S16	2	S6 and (not strober).inv. and (not touchstream).as. and HDMI and hulu	US-PGPUB; USPAT	OR	OFF	2014/01/28 07:03
S17	28	S6 and (not strober).inv. and (not touchstream).as. and hulu	US-PGPUB; USPAT	OR	OFF	2014/01/28 07:05
S18	10	S6 and (not strober).inv. and (not touchstream).as. and smart near2 tv	US-PGPUB; USPAT	OR	OFF	2014/01/28 07:06
S19	16	S6 and smart near2 (tv or television)	US-PGPUB; USPAT	OR	OFF	2014/01/28 07:43
S20	307	"715".clas. and smart near2 (tv or television)	US-PGPUB; USPAT	OR	OFF	2014/01/28 07:44
S21	1	"20140013239"	US-PGPUB; USPAT	OR	OFF	2014/01/28 07:46
S22	11	("20040044723" | "20080281919" | "20080305813" | "20090265163" | "20110083111" | "20110142016" | "7188181" | "7620667" | "7751347" | "7844297" | "8112490").PN.	US-PGPUB; USPAT	OR	OFF	2014/01/28 07:48
S23	270	S6 and (not strober).inv. and (not touchstream).as. and (retriev$3 with media with player$1)	US-PGPUB; USPAT	OR	OFF	2014/01/28 08:23
S24	3	S6 and (not strober).inv. and (not touchstream).as. and (retriev$3 with media with player$1) and (browser with instances)	US-PGPUB; USPAT	OR	OFF	2014/01/28 08:23
S25	3	S6 and (not strober).inv. and (not touchstream).as. and (retriev$3 with media with player$1) and (browser with instances)	US-PGPUB; USPAT	OR	OFF	2014/01/28 08:26
S26	3	S6 and (not strober).inv. and (not touchstream).as. and (retriev$3 with media with player$1) and (browser with instances)	US-PGPUB; USPAT	OR	OFF	2014/01/28 08:26
S27	3	S6 and (retriev$3 with media with player$1) and (browser with instances)	US-PGPUB; USPAT	OR	OFF	2014/01/28 08:26
S28	3	S6 and (media with player$1) same (browser with instances)	US-PGPUB; USPAT	OR	OFF	2014/01/28 08:27
S29	1	swap$7 same (media with player$1) same (browser with instances)	US-PGPUB; USPAT	OR	OFF	2014/01/28 08:29

S30	1	(swap$7 or exchang$7) same (media with player$1) same (browser with instances)	US-PGPUB; USPAT	OR	OFF	2014/01/28 08:29
S31	2	(swap$7 or exchang$7 or replace$7) same (media with player$1) same (browser with instances)	US-PGPUB; USPAT	OR	OFF	2014/01/28 08:30
S32	2	(swap$7 or exchang$7 or replace$7) same (media same player$1) same (browser with instances)	US-PGPUB; USPAT	OR	OFF	2014/01/28 08:46
S33	1	"20090117890"	US-PGPUB; USPAT	OR	OFF	2014/01/28 08:55
S34	1	"20060064351"	US-PGPUB; USPAT	OR	OFF	2014/01/28 08:56
S35	3	"6813630"	US-PGPUB; USPAT	OR	OFF	2014/01/28 08:57
S36	37	"7426537"	US-PGPUB; USPAT	OR	OFF	2014/01/28 09:06
S37	52	("20020120666" | "20030193520" | "20070202923" | "20080008439" | "20080028037" | "20100205628" | "7424718" | "20050034151" | "20090108057" | "20030004804" | "20060083194" | "20110231265" | "7769827" | "20050144305" | "20060098624" | "20060101098" | "20070094408" | "20080267369" | "20110030020" | "20110060998" | "7058356" | "20090172780" | "20020133518" | "20080126943" | "20100137028" | "20110138354" | "20110214148" | "20110296465" | "7330875" | "20100027974" | "20110131607" | "20030023488" | "20030028565" | "20100281042" | "20110090898" | "20110107227" | "20020198778" | "20060203758" | "20080270881" | "20090228919" | "0783505" | "20070288715" | "20030018885" | "20040088728" | "20080155600" | "20100265939" | "20110231566" | "7440972" | "20030005000" | "7849485" | "20080077526" | "20120059875").PN.	US-PGPUB; USPAT	OR	OFF	2014/01/28 09:37
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S41	1	("20050246624").PN. and DHCP with client	US-PGPUB; USPAT	OR	OFF	2014/01/28 10:53
S42	1	("20050246624").PN. and DHCP with ip	US-	OR	OFF	2014/01/28

		near2 address	PGPUB; USPAT			10:54
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S44	0	("20050246624").PN. and DHCP with identif$7	US-PGPUB; USPAT	OR	OFF	2014/01/28 11:06
S45	1	("20050246624").PN. and logical	US-PGPUB; USPAT	OR	OFF	2014/01/28 11:06
S46	0	("20050246624").PN. and session with ip	US-PGPUB; USPAT	OR	OFF	2014/01/28 11:07
S47	1	("20050246624").PN. and session	US-PGPUB; USPAT	OR	OFF	2014/01/28 11:07
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S57	8	S56 and sync$9 near2 code$1	US-PGPUB; USPAT	OR	OFF	2014/01/28 11:48
S58	0	S56 and sync$9 near2 code$1 same QR	US-PGPUB; USPAT	OR	OFF	2014/01/28 11:52
S59	0	S56 and sync$9 same code$1 same QR	US-PGPUB; USPAT	OR	OFF	2014/01/28 11:52
S60	0	S56 and sync$9 and code$1 same QR	US-PGPUB; USPAT	OR	OFF	2014/01/28 11:53
S61	9	S56 and code$1 same QR	US-PGPUB; USPAT	OR	OFF	2014/01/28 11:53
S62	0	S56 and vmc and (code$1 same QR)	US-PGPUB; USPAT	OR	OFF	2014/01/28 11:58
S63	0	S56 and vmc	US-PGPUB; USPAT	OR	OFF	2014/01/28 11:58
S64	9	S56 and virtualization	US-PGPUB; USPAT	OR	OFF	2014/01/28 11:58
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S81	1000	S76 or S77 or S78 or S79 or S80	US-PGPUB; USPAT	OR	OFF	2014/02/18 07:31
S82	86	S81 and virtual near5 (client or "user interface")	US-PGPUB; USPAT	OR	OFF	2014/02/18 07:33
S83	0	S81 and "virtual client"	US-PGPUB; USPAT	OR	OFF	2014/02/18 07:37
S84	39	S81 and SIP	US-PGPUB; USPAT	OR	OFF	2014/02/18 07:38
S85	2	S81 and vnc	US-PGPUB; USPAT	OR	OFF	2014/02/18 07:45
S86	9	("virtual client").ti.	US-PGPUB; USPAT	OR	OFF	2014/02/18 07:45
S87	62	("virtual client") and set$1top	US-PGPUB; USPAT	OR	OFF	2014/02/18 07:47
S88	0	("virtual client") and set$1top and "TV 40"	US-PGPUB; USPAT	OR	OFF	2014/02/18 07:49
S89	0	virtual near2 client and set$1top and "TV 40"	US-PGPUB; USPAT	OR	OFF	2014/02/18 07:50
S90	6	virtual and set$1top and "TV 40"	US-PGPUB; USPAT	OR	OFF	2014/02/18 07:50
S91	40	S81 and "thin client"	US-PGPUB; USPAT	OR	OFF	2014/02/18 07:51
S92	29	S81 and "thin client" and session	US-PGPUB; USPAT	OR	OFF	2014/02/18 08:03
S93	29	S81 and "thin client" and session$1	US-PGPUB;	OR	OFF	2014/02/18 08:03

			USPAT			
S94	4	S81 and "thin client" same stor$3 same display same device	US-PGPUB; USPAT	OR	OFF	2014/02/18 08:13
S95	0	S81 and "virtual client" same stor$3 same display same device	US-PGPUB; USPAT	OR	OFF	2014/02/18 08:14
S96	8	"virtual client" same stor$3 same display same device	US-PGPUB; USPAT	OR	OFF	2014/02/18 08:14
S97	5	"virtual client" same stor$3 same "display device"	US-PGPUB; USPAT	OR	OFF	2014/02/18 08:16
S98	1	"virtual client" same resid$3 same "display device"	US-PGPUB; USPAT	OR	OFF	2014/02/18 08:16
S99	1	"20120102209"	US-PGPUB; USPAT	OR	OFF	2014/02/18 08:17
S100	57	(virtual near3 user near3 interface).ti.	US-PGPUB; USPAT	OR	OFF	2014/02/18 08:18
S101	4	(virtual near3 user near3 interface).ti. and set$1top	US-PGPUB; USPAT	OR	OFF	2014/02/18 08:19
S102	1	("20110179106").pn. and "212"	US-PGPUB; USPAT	OR	OFF	2014/02/18 08:22
S103	1	("20110179106").pn. and "210"	US-PGPUB; USPAT	OR	OFF	2014/02/18 08:23
S104	1	("20110179106").pn. and "VNC server"	US-PGPUB; USPAT	OR	OFF	2014/02/18 08:44
S105	1	("20110179106").pn. and "208"	US-PGPUB; USPAT	OR	OFF	2014/02/18 08:54
S106	1	("20110179106").pn. and flash	US-PGPUB; USPAT	OR	OFF	2014/02/18 09:00
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S114	0	S112 and sip and thin near2 client	US-PGPUB; USPAT	OR	OFF	2014/05/08 09:56
S115	40	S112 and thin near2 client	US-PGPUB; USPAT	OR	OFF	2014/05/08 09:56
S116	1	S112 and thin near2 client and mirror	US-PGPUB; USPAT	OR	OFF	2014/05/08 10:03

S117	2	S112 and thin near2 client and mirror$3	US-PGPUB; USPAT	OR	OFF	2014/05/08 10:03
S118	1	"20110179106"	US-PGPUB; USPAT	OR	OFF	2014/05/08 10:07
S119	1	"20110179106 " and "VNC server"	US-PGPUB; USPAT	OR	OFF	2014/05/08 10:43
S120	1	"20110179106 " and "virtual UI server"	US-PGPUB; USPAT	OR	OFF	2014/05/08 10:51
S121	0	"20110179106 " and "virtual UI server" with receiv$3	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:39
S122	1	"20110179106 " and "virtual UI server" same receiv$3	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:39
S123	1	"20110179106 " and "virtual UI server"	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:40
S124	121	thin near2 client with stb	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:44
S125	0	thin near2 client with sUI	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:45
S126	167	thin near2 client with UI	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:45
S127	1	stb same thin near2 client with UI	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:46
S128	14	("20120011557" | "20120246689" | "20090252176" | "20100198979" | "20110286721" | "20080134258" | "20100325672" | "20110055864" | "20120028567" | "20060007960" | "20110202945" | "6543053" | "20110061086" | "20050129233").PN.	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:48
S129	1	stb same thin near2 client same UI	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:50
S130	0	settop same thin near2 client same UI	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:51
S131	1	set$1top same thin near2 client same UI	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:51
S132	4	("20080101466" | "20090178063" | "20100333150" | "20120192234").PN.	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:53
S133	10	thin near2 client with UI and mirror$3	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:55
S134	199	("20120272148" "20130124759" "20120272147" "8356251" "8595342" "20090275403" "20100138744"	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:57

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S142	85	S141 and swap$9	US-PGPUB; USPAT	OR	OFF	2014/05/08 13:59
S143	5	S141 and dynamic$7 with load$3 with media with player$1	US-PGPUB; USPAT	OR	OFF	2014/05/08 14:02
S144	8	S141 and dynamic$7 with load$3 with player$1	US-PGPUB; USPAT	OR	OFF	2014/05/08 14:06
S145	0	S141 and "QR code"	US-PGPUB; USPAT	OR	OFF	2014/05/08 14:07
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S173	32	S171 and television and "715".clas.	US-PGPUB; USPAT	OR	OFF	2014/05/18 13:39
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Cc: PAIR_eOfficeAction@uspto.gov
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Nov 07, 2014 05:30:08 AM

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Application	Document	Mailroom Date	Attorney Docket No.
13532546	CTNF	11/07/2014	30160-0005001
	892	11/07/2014	30160-0005001
	1449	11/07/2014	30160-0005001
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UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor	:	David Strober	Art Unit	:	2173
Serial No.	:	13/532,546	Examiner	:	Hope, Darrin
Filed	:	June 25, 2012	Conf. No.	:	9012
Title	:	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER			

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT IN REPLY TO OFFICE ACTION OF NOVEMBER 7, 2014

Please amend the above-identified application as follows:

Amendments to the claims.

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A machine-implemented method of presenting content on a display device, the method comprising:

receiving, in a display host, a communication from a display device, wherein the display host is operable to execute multiple instances of a browser each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content;

in response to receiving the communication from the display device, opening a first session using a first instance of the swappable media player;

requesting assignment of a unique identifier for the first session from a switchboard server system;

receiving a unique identifier for the first session from the switchboard server system;

displaying the unique identifier in the first session; ~~and~~

causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device;

receiving in the display host a first message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the first message is sent by the switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier;

in response to receiving the first message, retrieving and loading, by the display host, the specified media player using the first instance of the swappable media player;

playing the particular content in the first session using the specified media player;

causing a presentation of the particular content to be mirrored onto the virtual client residing on the display device;

receiving in the display host a second message from the switchboard server system instructing that a particular play control command be executed with respect to the particular content being played in the first session, wherein the second message is sent by the switchboard server system to the display host in response to another message originating in the handheld Internet-enabled personal computing device and containing the unique identifier; and

executing, by the display host, the particular play control command with respect to the particular content being played in the first session that is mirrored onto the virtual client residing on the display device.

2. (Original) The method of claim 1 wherein the unique identifier comprises a QR code.

3. (Canceled)

4. (Currently amended) The method of claim 1 [[3]] further including:

receiving in the display host a ~~second~~ third message from the switchboard server system ~~indicating~~ instructing that particular second content is to be played in the first session using a specified second media player;

in response to the third message, retrieving and loading the second media player;

playing the particular second content in the first session using the specified second media player; and

causing a presentation of the second content to be mirrored onto the virtual client residing on the display device.

5. (Original) The method of claim 1 wherein the content comprises video.

6. (Original) The method of claim 1 wherein the content comprises streaming media.

7. (Original) The method of claim 1 wherein the content comprises visual content.

8. (Original) The method of claim 1 further including contacting the switchboard server system to check whether there is a message for the first session, wherein the first session is identified to the switchboard session using the previously assigned unique identifier.

9. (Original) The method of claim 1 further including:

receiving, in the display host, a communication from a second display device;

opening a second session using a second instance of the swappable media player;

requesting from the switchboard server system assignment of a second unique identifier for the second session;

receiving a second unique identifier for the second session from the switchboard server system;

displaying the second unique identifier in the second session; and

causing the second unique identifier to be mirrored onto a virtual client residing on the second display device.

10. (Currently amended) The method of claim 9 further including:

receiving in the display host a ~~second~~ third message indicating that particular second content is to be played in the second session using a specified second media player;

in response to the third message, retrieving and loading the second media player;

playing the particular second content in the second session using the specified second media player; and

causing a presentation of the second content to be mirrored onto the virtual client residing on the second display device.

11. (Original) The method of claim 10 wherein the first and second sessions at least partially overlap in time with one another.

12. (Original) The method of claim 3 wherein the display host retrieves the specified media player from a content provider via the Internet.

13. (Currently amended) A system for presenting content comprising:

~~a display device storing a virtual client;~~

a display host operable to execute multiple instances of a browser each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content; and

a switchboard server system,

wherein the display host is operable to perform operations including:

receiving a communication from ~~the~~ a display device storing a virtual client;

in response to receiving the communication, opening a first session using a first instance of the swappable media player;

~~requesting assignment of a unique identifier for the first session from the switchboard server system;~~

receiving a unique identifier for the first session from the switchboard server system;

displaying the unique identifier in the first session; ~~and~~

causing the image of the unique identifier to be mirrored onto the virtual client residing on the display device

receiving a first message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the first message is sent by the switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier;

in response to receiving the first message, retrieving and the specified media player using the first instance of the swappable media player;

playing the particular content in the first session using the specified media player;

causing a presentation of the particular content to be mirrored onto the virtual client residing on the display device;

receiving a second message from the switchboard server system instructing that a particular play control command be executed with respect to the particular content being played in the first session, wherein the second message is sent by the switchboard server system to the display host in response to another message originating in the handheld Internet-enabled personal computing device and containing the unique identifier; and

executing the particular play control command with respect to the particular content being played in the first session that is mirrored onto the virtual client residing on the display device.

14. (Canceled)

15. (Currently amended) The system of claim 13 [[14]] wherein the display host is further operable to perform operations including:

receiving a ~~second~~ third message from the switchboard server system indicating that particular second content is to be played in the first session using a specified second media player;

in response to receiving the third message, retrieving the second media player from a content provider and loading the second media player;

playing the particular second content in the first session using the specified second media player; and

causing a presentation of the second content to be mirrored onto the virtual client residing on the display device.

16. (Currently amended) The system of claim 13 [[14]] wherein the system includes a second display device storing a virtual client, wherein the display host is further operable to perform operations including:

receiving a communication from the second display device;

in response to receiving the communication from the second display device, opening a second session using a second instance of the swappable media player;

requesting from the switchboard server system assignment of a second unique identifier for the second session;

receiving a second unique identifier for the second session from the switchboard server system;

displaying the second unique identifier in the second session;

causing the image of the second unique identifier to be mirrored onto the virtual client residing on the second display device.

receiving a ~~second~~ fourth message from the switchboard server system indicating that particular second content is to be played in the second session using a specified second media player;

retrieving the second media player from a content provider and loading the second media player;

playing the particular second content in the second session using the specified second media player; and

causing a presentation of the second content to be mirrored onto the virtual client residing on the second display device.

17 - 25. (Canceled)

REMARKS

Claims 1-2, 4-13 and 15-16 are presented for further examination.

Claims 3, 14 and 17-25 are canceled without prejudice.

No new matter is introduced by the amendments, which are supported by the specification as originally filed.

The present application describes, among other things, a method of presenting content on a display device. The method can include, in some implementations, various steps performed by a display host (*e.g.*, 22 in FIG. 1), some of which are in response to communications from a display device (*e.g.*, 23 in FIG. 1) and some of which are in response to messages sent by a switchboard server system (*e.g.*, 24 FIG. 1) in response to a message originating in a handheld Internet-enabled personal computing device (*e.g.*, 20 in FIG. 1). The method can facilitate using the personal computing device to control content that is presented on the display device. Various messages regarding what content to play, what media player (*i.e.*, computer software application) to use, and/or what play control commands to execute, are transmitted from the personal computing device to the switchboard system (*e.g.*, by way of a network such as the Internet), which then forwards a corresponding message to the virtual display host for execution.

The virtual display host is operable "to execute multiple instances of a browser each of which operates as a *swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content*." The presentation of particular content being played in a particular session then can be mirrored onto the virtual client residing on the display device.

An advantage, in some implementations, of providing a swappable media player (*i.e.*, that can retrieve and load any of a plurality of different media players needed to play specified content) in the virtual display host is that the techniques can be used even if the display device has somewhat limited processing power and would not be sufficiently powerful to run the swappable media player (par. [0009] of the Specification). Further, the techniques can, in some

cases, facilitate centralized processing of the swappable media player for multiple display devices (*Id.*) Also, providing the switchboard server system as well as the display host can allow additional functionality to be provided by the switchboard server system (*see, e.g.*, pars. [0029] – [0030] of the Specification).

As recited, for example, in claim 1, a display host receives a communication *from a display device* and, in response, opens a first session is opened using a first instance of a swappable media player. A unique identifier for the first session is received the switchboard server system, the unique identifier is displayed in the first session, and the display of the unique identifier is mirrored onto a virtual client residing on the display device.

Also according to claim 1, a first message is received, in the display host, *from the switchboard server system* instructing that particular content be played in the first session using a specified one of the media players. The first message is sent by the switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier. In response to receiving the first message, the display host retrieves and loads the specified media player using the first instance of the swappable media player, and plays the particular content in the first session using the specified media player. A presentation of the particular content is mirrored onto the virtual client residing on the display device.

Further, according to claim 1, a second message is received, in the display host, *from the switchboard server system* instructing that a particular play control command be executed with respect to the particular content being played in the first session. The second message is sent by the switchboard server system to the display host in response to another message originating in the handheld Internet-enabled personal computing device and containing the unique identifier. The display host then executes the particular play control command with respect to the particular content being played in the first session that is mirrored onto the virtual client residing on the display device.

Rejections under 35 USC §103(a) (pre-AIA)

The Office rejected the claims as follows:

(1) Claims 1, 3-11 and 13-25 were rejected as unpatentable over Chuen (US 2012/0102209) in view of Malik (US 2007/0155506).

(2) Claims 2 and 12 were rejected as unpatentable over Chuen in view of Malik and further in view of Sukeda (US 2009/0172780).

Applicant respectfully requests reconsideration.

Chuen, for example, describes a method for establishing a thin client session that allows, for example, a user to redirect video received in a mobile device 2 to a TV 40 by interacting with a thin client server (desktop) 4. Also, as described by Chuen, a user interaction on an Area B of a screen can be associated to a remote desktop, and pointer events from Area B can be sent to a remote server as if they were performed on an Area A (pars. [0127] – [0129]).

Malik describes a game server 110 that initiates an instance 112 of a game. The instance includes a unique identifier 115 which is transmitted from the server 110 to a display 134 associated with a set top box 140. The potential players can observe the unique identifier 115 in video information presented in the display 134 and then can communicate user name and device information, along with the unique identifier, back to the game server. Those players and their wireless devices are then associated with the game instance.

Neither Chuen nor Malik, however, teaches or suggests a display host operable to execute multiple instances of a browser "each of which operates as a swappable media player, wherein *each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players* needed to play specified content."

Furthermore, neither Chuen nor Malik, taken alone or in combination, teach or suggest the particular features now recited in the method of claim 2. In particular, those references fail to

teach a display host that performs each of the following, together with the other associated features recited in claim 1:

- "*in response to receiving the communication* from the display device, opening a first session using a first instance of the swappable media player," "requesting assignment of a unique identifier for the first session from a switchboard server system," "receiving a unique identifier for the first session from the switchboard server system," "displaying the unique identifier in the first session," and "causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device."
- "receiving in the display host a first message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the first message is sent by the switchboard server system to the display host *in response to a message originating in a handheld Internet-enabled personal computing device* and containing the unique identifier," and "*in response* to receiving the first message, retrieving and loading" "the specified media player using the first instance of the swappable media player," "playing the particular content in the first session using the specified media player," and "causing a presentation of the particular content to be mirrored onto the virtual client residing on the display device."
- "receiving in the display host a second message from the switchboard server system instructing that a particular play control command be executed with respect to the particular content being played in the first session, wherein the second message is sent by the switchboard server system to the display host *in response to another message originating in the handheld Internet-enabled personal computing device* and containing the unique identifier," and "executing" "the particular play control command with respect to the

particular content being played in the first session that is mirrored onto the virtual client residing on the display device."

Further, as already noted, claim 1 recites that the method includes "receiving in the display host a second message from the switchboard server system *instructing that a particular play control command be executed with respect to the particular content being played in the first session*" that previously was opened "*using the first instance of the swappable media player*." Thus, the play control command is directed to the swappable media player, not to a desktop itself.

Sukeda fails to cure the deficiencies of the combination of Chuen nor Malik.

At least for the foregoing reasons, the rejections of claim 1 and its dependent claims should be withdrawn and the claims should be allowed.

Claim 13 and its dependent claims also should be allowed for at least similar reasons.

Conclusion

It is believed that all rejections of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

In view of the preceding arguments and amendments, the claims are believed to be in condition for allowance.

Applicant also respectfully requests consideration of any Information Disclosure Statements filed in this application which have not yet been considered by the Examiner.

Any fees for extensions of time are being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: April 7, 2015

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30863960.doc

Electronic Patent Application Fee Transmittal

Application Number:	13532546
Filing Date:	25-Jun-2012
Title of Invention:	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER
First Named Inventor/Applicant Name:	David Strober
Filer:	Samuel Borodach/Maryann White
Attorney Docket Number:	30160-0005001

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 2 months with $0 paid	2252	1	300	300
Miscellaneous:				
			Total in USD ($)	**300**

Electronic Acknowledgement Receipt	
EFS ID:	21994974
Application Number:	13532546
International Application Number:	
Confirmation Number:	9012
Title of Invention:	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER
First Named Inventor/Applicant Name:	David Strober
Customer Number:	26211
Filer:	Samuel Borodach/Maryann White
Filer Authorized By:	Samuel Borodach
Attorney Docket Number:	30160-0005001
Receipt Date:	07-APR-2015
Filing Date:	25-JUN-2012
Time Stamp:	16:37:57
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$300
RAM confirmation Number	3143
Deposit Account	061050
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	
Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		30160-0005001Response.pdf	128081 c0ed74055c0091ef1040fe2ad17e277a984c43fa	yes	13

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	7
Applicant Arguments/Remarks Made in an Amendment	8	13

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30836 06acdc135263b61abdccff00c31c98254f13ce3c	no	2

Warnings:

Information:

Total Files Size (in bytes):	158917

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/532,546	Filing Date 06/25/2012	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	04/07/2015	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 14	Minus	** 25	= 0	X $40 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	***4	= 0	X $210 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/CRYSTAL QUEEN/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/532,546	06/25/2012	David Strober	30160-0005001	9012

26211 7590 07/30/2015
FISH & RICHARDSON P.C. (NY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER	
HOPE, DARRIN	

ART UNIT	PAPER NUMBER
2173	

NOTIFICATION DATE	DELIVERY MODE
07/30/2015	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No. 13/532,546	Applicant(s) STROBER, DAVID	
	Examiner DARRIN HOPE	Art Unit 2173	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7 April 2015*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1,2,4-13,15 and 16* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1,2,4-13,15 and 16* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *25 June 2012* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

DETAILED ACTION

1. The present application is being examined under the pre-AIA first to invent provisions. This Office Action is responsive to the communications filed on 7 April 2015. Claims 1-2, 4-13, and 15-16 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 1, 4-11, and 13, 15, and 16 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Fok Ah Chuen et al. (US 2012/0102209 A1) in view of Malik (US 2007/015506 A1).

3. **Per claim 1**,Chuen discloses a machine-implemented method of presenting content on a display device (Abstract), the method comprising:

- receiving, in a display host (e.g., Thin Client Application Server 4), a communication (e.g., Step 20 as shown in Fig. 3 'SDP OFFER(THIN CLIENT SESSION PARAMETERS') from a display device (e.g., Thin Client Device 2; paragraphs [0131], "*The UE 2 connects through an IP access network for communicating with the remote desktop PC 4 and initiates a SDP Offer/Answer containing thin client parameters including Graphics encoding scheme, the transport settings (RFB (remote framebuffer), RDP (Remote Desktop Protocol), ICA (Independent Computing Architecture protocol), or pixels/RTP (Real-time Transport Protocol), IP Addresses and port number and radio bearer settings (Packet switched or Circuit Switched connection).* "; paragraph [0132], "*At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment."*), wherein the display host is operable to execute multiple instances of a browser (e.g., thin client viewer as shown in Fig 2; paragraph [0022]) each of which operates as a swappable media player(paragraph [00127], "*FIG. 2 illustrates a thin client viewer rendering a remote application display (remote desktop) consisting of several areas that can be dynamically adapted. The Area A is the background of the remote desktop that is graphically updated based on RFB protocol. The other areas are dependant upon the area A such as the area B is illustrated.* ")*,* wherein each

instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content (Abstract; paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to negotiate the media within a SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer, . . .) pertaining to a session of remote desktop control.* "; paragraphs [0019], [0026], [0046], [0050]);

- receiving in the display host a first message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the first message is sent by the switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier(e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- in response to receiving the first message, retrieving and loading, by the display host, the specified media player using the first instance of the swappable media player(e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);
- playing the particular content in the first session using the specified media player(paragraph [0153);

- causing a presentation of the particular content to be mirrored onto the virtual client residing on the display device(Fig. 4 illustrates causing a presentation of the second content to be mirrored onto the virtual client residing on the display device where content from one device is redirected for display on another device.).
- receiving in the display host a second message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the second message is sent by the switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier(e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- executing, by the display host, the particular play control command with respect to the particular content being played in the first session that is mirrored onto the virtual client residing on the display device(Chuen, paragraph [0147], "*The Desktop 4 receives the message, interprets the message and prepares to redirect the media to the TV 40. No screen updates corresponding to the area where the video output is located is sent to the UE 2. This requires the Answer message to include an indication as to whether the output stream still is streamed to the mobile device or not.* ").

4. Chuen does not expressly disclose:

- requesting assignment of a unique identifier for the first session from a switchboard server system;
- receiving a unique identifier for the first session from the switchboard server system ; and
- displaying the unique identifier in the first session;
- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device .

5. Malik discloses:

- requesting assignment of a unique identifier for the first session from a switchboard server system(Abstract, "*...A game server, in response to a user request, provides a unique identifier associated with an instance of the interactive game...* "; paragraph [0005], "*...The first controller is used to establish a communication session with the game server to communicate a request to start a game. In response, the game server communicates a unique identifier....* ");
- receiving a unique identifier for the first session from the switchboard server system (e.g., Step 420 'PROVIDE A UNIQUE IDENTIFIER' as shown in Fig. 4'; paragraph [0005], "*The first controller is used to establish a communication session with the game server to communicate a request to start a game. In response, the game server communicates a unique identifier. The game server then registers one or more wireless communication devices that communicate the unique identifier.* ..."; paragraph [0006]; paragraph [0007]; paragraph [0015];

paragraphs [0021-0022]; paragraphs [0027], [0029-0030]; paragraph [0035], "*As indicated by the encircled number "4," game server 110 in turn initiates a game instance 112, which includes unique identifier 115. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140... .* "; Examiner's Note: The Examiner reasonably and broadly interprets the game server to be a switchboard server.);

- displaying the unique identifier in the first session (paragraph [0035], "...*As noted by the encircled number "5," the host and local players can observe unique identifier 115 in the video information presented in display 134 and/or hear a message that includes the unique identifier...* "); and
- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device (paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

6. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Malik unique identifier in Chuen's thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could make it easier to register the connection of one or more deplay devices to a display host. This method for improving the thin client-server device of Chuen was within the ordinary ability of one of ordinary skill in the art based on the teachings of Malik.

7. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen and Malik to obtain the invention as specified in claim 1.

8. **Per claim 4,** Chuen and Malik disclose the method of claim 3 further including:

- receiving in the display host a third message from the switchboard server system instructing that particular second content is to be played in the first session using a specified second media player (Chuen, paragraph [0147], "*The Desktop 4 receives the message, interprets the message and prepares to redirect the media to the TV 40. No screen updates corresponding to the area where the video output is located is sent to the UE 2. This requires the Answer message to include an indication as to whether the output stream still is streamed to the mobile device or not.* ");
- in response to the third message, retrieving and loading the second media player (Chuen, paragraphs [0149-0152]);
- playing the particular second content in the first session using the specified second media player(Chuen, paragraph [0153]); and
- causing a presentation of the second content to be mirrored onto the virtual client residing on the display device(Chuen, Fig. 4 illustrates causing a presentation of the second content to be mirrored onto the virtual client residing on the display device where content from one device is redirected for display on another device.).

9. **Per claim 5**, Chuen and Malik disclose the method of claim 1 wherein the content comprises video (Chuen, paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to negotiate the media within a SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer, . . .) pertaining to a session of remote desktop control.";* paragraph [0019]; Malik, paragraph [0005]*).*

10. **Per claim 6**, Chuen and Malik disclose the method of claim 1 wherein the content comprises streaming media (Chuen, paragraphs [0015], [0017], [0018], [0026], [0032]; Malik, See claim 12).

11. **Per claim 7**, Chuen and Malik disclose the method of claim 1 wherein the content comprises visual content (Chuen, paragraphs [0015], [0017], [0018], [0026], [0032]; Malik, See claim 1).

12. **Per claim 8**, Chuen and Malik disclose the method of claim 1 further including contacting the switchboard server system to check whether there is a message for the first session, wherein the first session is identified to the switchboard session using the previously assigned unique identifier (Chuen, paragraph [0034]).

13. **Per claim 9**, Chuen and Malik disclose the method of claim 1 further including:

- receiving, in the display host, a communication from a second display device (Malik, paragraph [0033]);
- opening a second session using a second instance of the swappable media player (Malik, paragraph [0034]);

- requesting from the switchboard server system assignment of a second unique identifier for the second session Malik, Abstract, "...*A game server, in response to a user request, provides a unique identifier associated with an instance of the interactive game...";* paragraph [0015]);
- receiving a second unique identifier for the second session from the switchboard server system(Malik,paragraph [0005], "*The first controller is used to establish a communication session with the game server to communicate a request to start a game. In response, the game server communicates a unique identifier. The game server then registers one or more wireless communication devices that communicate the unique identifier.* ..."; paragraph [0006]; paragraph [0007]; paragraph [0015]; paragraphs [0021-0022]; paragraphs [0027], [0029-0030]; paragraph [0035], "*As indicated by the encircled number "4," game server 110 in turn initiates a game instance 112, which includes unique identifier 115. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140...* . ") ;
- displaying the second unique identifier in the second session (Malik, paragraph [0035], "...*As noted by the encircled number "5," the host and local players can observe unique identifier 115 in the video information presented in display 134 and/or hear a message that includes the unique identifier...* "); and
- causing the second unique identifier to be mirrored onto a virtual client residing on the second display device (Malik, paragraph [0036]; Fig. 2 illustrates

displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

14. **Per claim 10**, Chuen and Malik disclose the method of claim 9 further including:

- receiving in the display host a third message indicating that particular content is to be played in the first session using a specified media player (Chuen, e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- in response to the third message, retrieving and loading the specified second media player (Chuen, e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);
- playing the particular content in the first session using the specified media player (Chuen, paragraph [0139]); and
- causing a presentation of the second content to be mirrored onto the virtual client residing on the second display device (Chuen, paragraphs [0141-0142]; Fig. 4 illustrate establishing a connection so that content displayed on client device 2 can be redirected for display an a television 40.;Malik, Fig. 2 illustrates causing a presentation of the content to be mirrored onto the virtual client residing on the display device, i.e., game content 220).

15. **Per claim 11**, Chuen and Malik disclose the method of claim 10 wherein the first and second sessions at least partially overlap in time with one another(Malik, paragraph [0027]; Fig. 2 illustrate wherein the first and second sessions at least partially overlap in

time with one another since all the players are forward the unique identifier to play a multiplayer game instance.).

16. **Per claim 13**.Chuen discloses a system for presenting content comprising:

- a display host (e.g., thin client application server 4) operable to execute multiple instances of a browser (e.g., thin client viewer as shown in Fig 2; paragraph [0022]) each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content (Abstract; paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to negotiate the media within a SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer, . . .) pertaining to a session of remote desktop control.* "; paragraphs [0019], [0026], [0046], [0050]); and
- a switchboard server system(e.g., thin client application server 4), wherein the display host is operable to perform operations including:
- receiving a communication from a display device(e.g., step 20) storing a virtual client (e.g., thin client device 2; paragraph [0018]);
- receiving, in a display host (e.g., Thin Client Application Server 4), a communication from a display device (e.g., Thin Client Device 2; paragraphs [0131], "*The UE 2 connects through an IP access network for communicating with the remote desktop PC 4 and initiates a SDP Offer/Answer containing thin client parameters including Graphics encoding scheme, the transport settings*

(RFB (remote framebuffer), RDP (Remote Desktop Protocol), ICA (Independent Computing Architecture protocol), or pixels/RTP (Real-time Transport Protocol), IP Addresses and port number and radio bearer settings (Packet switched or Circuit Switched connection). "), wherein the display host is operable to execute multiple instances of a browser (e.g., thin client viewer as shown in Fig 2; paragraph [0022]) each of which operates as a swappable media player(paragraph [00127], "*FIG. 2 illustrates a thin client viewer rendering a remote application display (remote desktop) consisting of several areas that can be dynamically adapted. The Area A is the background of the remote desktop that is graphically updated based on RFB protocol. The other areas are dependant upon the area A such as the area B is illustrated. ")*, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content (Abstract; paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to negotiate the media within a SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer, . . .) pertaining to a session of remote desktop control.* "; paragraphs [0019], [0026], [0046], [0050]);

- opening a first session using a first instance of the swappable media player (paragraphs [0007, [0012], [0016], [0018]; paragraph [0133], "*Upon reception of said SDP offer, the Desktop 4 determines that the UE 2 wishes to establish a thin client connection using RFB protocol, determines that RFB protocol and*

proposed attributes are acceptable based on the environment where the UE 2 is located and, at step 22, sends back a SDP Answer Message indicating the RFB and attributes are selected. ");

- receiving in the display host a first message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the first message is sent by the switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier(e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- in response to receiving the first message, retrieving and loading, by the display host, the specified media player using the first instance of the swappable media player(e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);
- playing the particular content in the first session using the specified media player(paragraph [0153);
- causing a presentation of the particular content to be mirrored onto the virtual client residing on the display device(Fig. 4 illustrates causing a presentation of the second content to be mirrored onto the virtual client residing on the display device where content from one device is redirected for display on another device.).

- receiving in the display host a second message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the second message is sent by the switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier(e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- executing, by the display host, the particular play control command with respect to the particular content being played in the first session that is mirrored onto the virtual client residing on the display device(Chuen, paragraph [0147], "*The Desktop 4 receives the message, interprets the message and prepares to redirect the media to the TV 40. No screen updates corresponding to the area where the video output is located is sent to the UE 2. This requires the Answer message to include an indication as to whether the output stream still is streamed to the mobile device or not.* "); but does not expressly disclose:
- receiving a unique identifier for the first session from the switchboard server system ;
- displaying the unique identifier in the first session;
- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device .

17. Malik discloses:

- requesting assignment of a unique identifier for the first session from a switchboard server system (Abstract, "...*A game server, in response to a user request, provides a unique identifier associated with an instance of the interactive game...";* paragraph [0015])*;*
- receiving a unique identifier (e.g., unique identifier 115 as shown in Fig. 2) for the first session from the switchboard server system (paragraph [0005], "*The first controller is used to establish a communication session with the game server to communicate a request to start a game. In response, the game server communicates a unique identifier. The game server then registers one or more wireless communication devices that communicate the unique identifier.* ..."; paragraph [0006]; paragraph [0007]; paragraph [0015]; paragraphs [0021-0022]; paragraphs [0027], [0029-0030]; paragraph [0035], "*As indicated by the encircled number "4," game server 110 in turn initiates a game instance 112, which includes unique identifier 115. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140... .* ") ;
- displaying the unique identifier in the first session (paragraph [0035], "...*As noted by the encircled number "5," the host and local players can observe unique identifier 115 in the video information presented in display 134 and/or hear a message that includes the unique identifier...* ");

- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device (paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

18. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Malik unique identifier in Chuen's thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could make it easier to register the connection of one or more deplay devices to a display host. This method for improving the thin client-server device of Chuen was within the ordinary ability of one of ordinary skill in the art based on the teachings of Malik.

19. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen and Malik to obtain the invention as specified in claim 1.

20. **Per claim 15**, Chuen and Malik disclose the system of claim 14 wherein the display host is further operable to perform operations including:

- receiving a second message from the switchboard server system indicating that particular second content is to be played in the first session using a specified second media player(Malik, paragraph [0033]);
- retrieving the second media player from a content provider and loading the second media player(Malik, paragraph [0034]);

- playing the particular second content in the first session using the specified second media player (Chuen, paragraph [0139]); and
- causing a presentation of the second content to be mirrored onto the virtual client residing on the display device(Chuen, paragraphs [0141-0142]; Fig. 4 illustrate establishing a connection so that content displayed on client device 2 can be redirected for display an a television 40.;Malik, Fig. 2 illustrates causing a presentation of the content to be mirrored onto the virtual client residing on the display device, i.e, game content 220).

21. Per claim 16, Chuen and Malik disclose the system of claim 13 wherein the system includes a second display device storing a virtual client, wherein the display host is further operable to perform operations including:

- receiving a communication from the second display device(Malik, paragraph [0033]);
- in response to receiving the communication from the second display device,opening a second session using a second instance of the swappable media player(Malik, paragraph [0034]);
- requesting from the switchboard server system assignment of a second unique identifier for the second session; receiving a second unique identifier for the second session from the switchboard server system; displaying the second unique identifier in the second session(Abstract, "...*A game server, in response to a user request, provides a unique identifier associated with an instance of the interactive game...";* paragraph [0015])*;*

- causing the image of the second unique identifier to be mirrored onto the virtual client residing on the second display device (paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170);
- receiving a fourth message from the switchboard server system indicating that particular second content is to be played in the second session using a specified second media player(Chuen, e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- retrieving the second media player from a content provider and loading the second media player(Chuen, e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);
- playing the particular second content in the second session using the specified second media player(Chuen, paragraph [0139]); and
- causing a presentation of the second content to be mirrored onto the virtual client residing on the second display device(Malik, paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

22. Claims 2 and 12 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Fok Ah Chuen et al. (US 2012/0102209 A1) in view of Malik (US

2007/0155506 A1), and further in view of Sukeda et al. (Hereinafter, Sukeda, US 2009/0172780 A1).

23. **Per claim 2**, Chuen and Malik disclose the method of claim 1 but do not expressly disclose wherein the unique identifier comprises a QR code.

24. Sukeda discloses wherein the unique identifier comprises a QR code (Sukeda, paragraphs [0052], [0066], [0070], [0077]).

25. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Sukeda QR code in the Chuen-Malik the thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could display a QR code as part of an invitation to remote users to establish a session (See Malik paragraph [0035]).

26. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen and Malik to obtain the invention as specified in claim 1.

27. **Per claim 12**, Chuen and Malik disclose the method of claim 1 but do not expressly disclose method of claim 3 wherein the display host retrieves the specified media player from a content provider via the Internet.

28. Sukeda discloses wherein the display host retrieves the specified media player from a content provider via the Internet (Abstract; paragraph [0013]).

29. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Sukeda QR code in the Chuen-Malik the thin client-server device to improve the device with reasonable expectation that this would result in a thin

client-server device that could display a QR code as part of an invitation to remote users to establish a session (See Malik paragraph [0035]).

30. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen and Malik to obtain the invention as specified in claim 12.

Response to Arguments

31. Applicant's arguments filed 7 April 2015 have been fully considered but they are not persuasive.

32. On page 10, the Applicant argues that “neither Chuen nor Malik, however, teaches or suggests a display host operable to execute multiple instances of a browser "each of which operates as a swappable media player, wherein each instance of the swappable media player is" operable to retrieve and load any of a plurality of different media players needed to play specified content."

33. The Examiner disagrees since Chuen teaches and suggests a display host operable to execute multiple instances of a browser "each of which operates as a swappable media player, wherein each instance of the swappable media player is" operable to retrieve and load any of a plurality of different media players needed to play specified content" (See paragraphs [0011], [0014], [0050], and [0131]).

34. Furthermore, the Applicant argues that “neither Chuen nor Malik, taken alone or in combination, teach or suggest the particular features now recited in the method of claim 2. “

35. The Examiner disagrees since neither Chuen nor Malik were relied upon to disclose claim 2. Sukeda discloses wherein the unique identifier comprises a QR code (Sukeda, paragraphs [0052], [0066], [0070], [0077]).

36. Finally, the Applicant argues that neither Chuen nor Malik disclose the amended claim 1.

37. The Examiner disagrees as described in the above rejection. Therefore, the Examiner maintains the rejection of Claims 1-2, 4-13, and 15-16.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARRIN HOPE whose telephone number is (571)270-5079. The examiner can normally be reached on M-TH - 7-4:30, F - 7-3:30, Alt. Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kieu D. Vu can be reached on (571)272-4057. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DARRIN HOPE/
Examiner, Art Unit 2173

/TADEESE HAILU/
Primary Examiner, Art Unit 2173

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13532546	STROBER, DAVID
	Examiner	**Art Unit**
	DARRIN HOPE	2173

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	11/03/2014	07/25/2015							
	1	✓	✓							
	2	✓	✓							
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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13532546	STROBER, DAVID
	Examiner	Art Unit
	DARRIN HOPE	2173

CPC- SEARCHED		
Symbol	Date	Examiner
G06F3/01	11/3/2014	DH

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
715/716		11/3/2014	DH

SEARCH NOTES		
Search Notes	Date	Examiner
EAST	7/25/2015	DH

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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S16	235	(((display or gaming or tablet or personal or laptop))near2 (device or apparatus or terminal or console or computer)) or television) same (send$3 or transmi$9) same "unique identifier" same (host or stb or PC	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:02
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S19	0	S14 and "unique code" and "QR code"	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:09
S20	9	S14 and "QR code"	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:09
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S25	2	S14 and television same "unique identifier"	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:12
S26	410	S14 and "unique identifier"	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:14
S27	2	S14 and "unique identifier" same television	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:14
S28	47	S14 and "unique identifier" same display	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:15

S29	7	S14 and "unique identifier" same display same host	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:15
S30	0	S14 and humpelmann	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:16
S31	0	S14 and humpelman	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:16
S32	42	S14 and hump$9	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:16
S33	2	S14 and hump$9.inv.	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:17
S34	167	S14 and "thin client"	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:17
S35	3	S14 and "thin client" same identifier	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:18
S36	0	S14 and "thin client" same identifier same television	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:19
S37	9	S14 and identifier same television same unique	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:19
S38	9	S14 and QR	US-PGPUB; USPAT	OR	OFF	2015/07/24 07:20
S39	25	S14 and google.as.	US-PGPUB; USPAT	OR	OFF	2015/07/24 08:02
S40	0	S14 and hromecast	US-PGPUB; USPAT	OR	OFF	2015/07/24 08:05
S41	37	chromecast	US-PGPUB; USPAT	OR	OFF	2015/07/24 08:05
S42	12	chromecast and "unique identifier"	US-PGPUB; USPAT	OR	OFF	2015/07/24 08:07
S43	41	S1 and "unique identifier"	US-PGPUB; USPAT	OR	OFF	2015/07/24 08:07
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S62	2500	S49 S50 S51 S52 S53 S54 S55 S56 S57 S58 S59 S60 S61	US-PGPUB; USPAT	OR	OFF	2015/07/25 13:44
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S64	18	S62 and play near2 tv	US-PGPUB; USPAT	OR	OFF	2015/07/25 13:46
S65	43	S62 and callback	US-PGPUB; USPAT	OR	OFF	2015/07/25 13:52
S66	1	("20070155506").pn.	US-PGPUB; USPAT	OR	OFF	2015/07/25 13:59
S67	1	("20070155506").pn. and "160"	US-PGPUB; USPAT	OR	OFF	2015/07/25 14:00
S68	1	("20070155506").pn. and "220"	US-PGPUB; USPAT	OR	OFF	2015/07/25 14:04
S69	1	("20090172780 ").pn. and display with switching	US-PGPUB; USPAT	OR	OFF	2015/07/25 15:14

7/25/2015 5:44:22 PM
C:\Users\dhope\Documents\EAST\Workspaces\13532546amd.wsp

To: PATDOCTC@fr.com,,
From: PAIR_eOfficeAction@uspto.gov
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Subject: Private PAIR Correspondence Notification for Customer Number 26211

Jul 30, 2015 05:44:47 AM

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Application	Document	Mailroom Date	Attorney Docket No.
13532546	CTFR	07/30/2015	30160-0005001

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Request for Continued Examination (RCE) Transmittal

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	13/532,546
Filing Date	June 25, 2012
First Named Inventor	David Strober
Art Unit	
Examiner Name	
Attorney Docket Number	30160-0005001

This is a Request for Continued Examination (RCE) under 37 CFR 1 .114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. Submission required under 37 CFR 1.114 Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

   a. ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

      i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

      ii. ☐ Other _____

   b. ☒ Enclosed

      i. ☒ Amendment/Reply

      ii. ☐ Affidavit(s)/ Declaration(s)

      iii. ☐ Information Disclosure Statement (IDS)

      iv. ☐ Other _____

2. Miscellaneous

   Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a

   a. ☐ period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

   b. ☐ Other _____

3. Fees The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.
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      i. ☒ RCE fee required under 37 CFR 1.17(e)

      ii ☒ Extension of time fee (37 CFR 1.136 and 1.17)

      iii ☒ Other any deficiencies

   b. ☐ Check in the amount of $ _____ enclosed

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature	/Richard Wong/	Date	January 28, 2016
Name (Print/Type)	Richard Wong	Registration No.	73,259

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

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This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor	:	David Strober	Art Unit	:	2173
Serial No.	:	13/532,546	Examiner	:	Darrin Hope
Filed	:	June 25, 2012	Conf. No.	:	9012

Title : VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER

MAIL STOP RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT IN REPLY TO ACTION OF JULY 30, 2015

Please consider the following reply.

Amendments to the claims

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A machine-implemented method of presenting content on a display device, the method comprising:

receiving, in a display host, a communication from a display device, wherein the display host is operable to execute multiple instances of a browser each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content;

in response to receiving the communication from the display device, opening a first session using a first instance of the swappable media player;

requesting assignment of a unique identifier for the first session from a switchboard server system;

receiving a unique identifier for the first session from the switchboard server system;

displaying the unique identifier in the first session;

causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device;

receiving in the display host a first message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the first message is sent by the switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier;

in response to receiving the first message, retrieving and loading, by the display host, the specified media player using the first instance of the swappable media player;

playing the particular content in the first session using the specified media player;

causing a presentation of the particular content to be mirrored onto the virtual client residing on the display device;

receiving in the display host a second message from the switchboard server system instructing that a particular play control command be executed with respect to the particular content being played in the first session, wherein the second message is sent by the switchboard server system to the display host in response to another message originating in the handheld Internet-enabled personal computing device and containing the unique identifier; and

executing, by the display host, the particular play control command with respect to the particular content being played in the first session that is mirrored onto the virtual client residing on the display device,

the method including converting the particular play control command contained in the second message into a corresponding code to control playing of the content on the particular media player.

2. (Original) The method of claim 1 wherein the unique identifier comprises a QR code.

3. (Canceled)

4. (Previously Presented) The method of claim 1 further including:

receiving in the display host a third message from the switchboard server system instructing that particular second content is to be played in the first session using a specified second media player;

in response to the third message, retrieving and loading the second media player;

playing the particular second content in the first session using the specified second media player; and

causing a presentation of the second content to be mirrored onto the virtual client residing on the display device.

5. (Original) The method of claim 1 wherein the content comprises video.

6. (Original) The method of claim 1 wherein the content comprises streaming media.

7. (Original) The method of claim 1 wherein the content comprises visual content.

8. (Original) The method of claim 1 further including contacting the switchboard server system to check whether there is a message for the first session, wherein the first session is identified to the switchboard session using the previously assigned unique identifier.

9. (Currently Amended) The method of claim 1 further including:

receiving, in the display host, a communication from a second display device;

opening a second session using a second instance of the swappable media player while the first instance of the swappable media player is open;

requesting from the switchboard server system assignment of a second unique identifier for the second session;

receiving a second unique identifier for the second session from the switchboard server system;

displaying the second unique identifier in the second session; and

causing the second unique identifier to be mirrored onto a virtual client residing on the second display device.

10. (Previously Presented) The method of claim 9 further including:

receiving in the display host a third message indicating that particular second content is to be played in the second session using a specified second media player;

in response to the third message, retrieving and loading the second media player;

playing the particular second content in the second session using the specified second media player; and

causing a presentation of the second content to be mirrored onto the virtual client residing on the second display device.

11. (Original) The method of claim 10 wherein the first and second sessions at least partially overlap in time with one another.

12. (Original) The method of claim 3 wherein the display host retrieves the specified media player from a content provider via the Internet.

13. (Currently Amended) A system for presenting content comprising:

a display host operable to execute multiple instances of a browser each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content; and

a switchboard server system,

wherein the display host is operable to perform operations including:

receiving a communication from a display device storing a virtual client;

in response to receiving the communication, opening a first session using a first instance of the swappable media player;

receiving a unique identifier for the first session from the switchboard server system;

displaying the unique identifier in the first session;

causing the image of the unique identifier to be mirrored onto the virtual client residing on the display device

receiving a first message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the first message is sent by the switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier;

in response to receiving the first message, retrieving and the specified media player using the first instance of the swappable media player;

playing the particular content in the first session using the specified media player;

causing a presentation of the particular content to be mirrored onto the virtual client residing on the display device;

receiving a second message from the switchboard server system instructing that a particular play control command be executed with respect to the particular content being played in the first session, wherein the second message is sent by the switchboard server system to the display host in response to another message originating in the handheld Internet-enabled personal computing device and containing the unique identifier; and

executing the particular play control command with respect to the particular content being played in the first session that is mirrored onto the virtual client residing on the display device,

operations including converting the particular play control command contained in the second message into a corresponding code to control playing of the content on the particular media player.

14. (Canceled)

15. (Previously Presented) The system of claim 13 wherein the display host is further operable to perform operations including:

receiving a third message from the switchboard server system indicating that particular second content is to be played in the first session using a specified second media player;

in response to receiving the third message, retrieving the second media player from a content provider and loading the second media player;

playing the particular second content in the first session using the specified second media player; and

causing a presentation of the second content to be mirrored onto the virtual client residing on the display device.

16. (Previously Presented) The system of claim 13 wherein the system includes a second display device storing a virtual client, wherein the display host is further operable to perform operations including:

receiving a communication from the second display device;

in response to receiving the communication from the second display device, opening a second session using a second instance of the swappable media player;

requesting from the switchboard server system assignment of a second unique identifier for the second session;

receiving a second unique identifier for the second session from the switchboard server system;

displaying the second unique identifier in the second session;

causing the image of the second unique identifier to be mirrored onto the virtual client residing on the second display device.

receiving a fourth message from the switchboard server system indicating that particular second content is to be played in the second session using a specified second media player;

retrieving the second media player from a content provider and loading the second media player;

playing the particular second content in the second session using the specified second media player; and

causing a presentation of the second content to be mirrored onto the virtual client residing on the second display device.

17 - 25. (Canceled)

26. (New) The method of claim 1, wherein converting the particular play control command into the corresponding code comprises selecting the corresponding code from among a plurality of specific codes, each of which represents a corresponding playback control command for a respective media player.

27. (New) The method of claim 1, wherein converting the particular play control command into the corresponding code comprises:

determining an identity of the specific media player;

loading an appropriate set of protocols or application programming interfaces from a library based on the identity of the specific media player; and

converting the command into the corresponding code based on the set of protocols or application programming interfaces.

28. (New) A machine-implemented method of presenting content on a display device, the method comprising:

receiving, in a display host, a communication from a display device, wherein the display host is operable to execute multiple instances of a browser each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content;

in response to receiving the communication from the display device, opening a first session using a first instance of the swappable media player;

requesting assignment of a unique identifier for the first session from a switchboard server system;

receiving a unique identifier for the first session from the switchboard server system;

displaying the unique identifier in the first session;

causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device;

receiving, in the switchboard server system, a first message originating in a handheld Internet-enabled personal computing device distinct from the display host and the switchboard server system, wherein the first message comprises the unique identifier and a first command instructing that particular content be played in the first session using a specified one of the media players,

converting the first command into a corresponding first code to control playing of the particular content on the specified media player;

receiving in the display host the first code and information corresponding to the unique identifier from the switchboard server system;

in response to receiving the first code and the unique identifier, retrieving and loading, by the display host, the specified media player using the first instance of the swappable media player;

playing the particular content in the first session using the specified media player;

causing a presentation of the particular content to be mirrored onto the virtual client residing on the display device;

receiving, in the switchboard server system, a second message originating in the handheld Internet-enabled personal computing device, wherein the second message comprises the unique identifier and a second command instructing that a particular play control command be executed with respect to the particular content being played in the first session,

converting the second command into a corresponding second code to control playing of the particular content on the specified media player;

receiving in the display host a the second code and information corresponding to the unique identifier from the switchboard server system; and

executing, by the display host, the particular play control command with respect to the particular content being played in the first session that is mirrored onto the virtual client residing on the display device.

REMARKS

Claims 1-2, 4-13, 15-16, and 26-28 are presented for further examination.

Claim Rejections – 35 USC § 103

Claims 1, 4-11, 13, and 15-16 were rejected under pre-AIA 35 U.S.C. § 103(a) as allegedly being unpatentable over Fok Ah Chuen et al. (US 2012/0102209 A1) (hereinafter "Fok Ah Chuen") in view of Malik (US 2007/0155506 A1) (hereinafter "Malik").

Claims 2 and 12 were rejected under pre-AIA 35 U.S.C. § 103(a) as allegedly being unpatentable over Fok Ah Chuen in view of Malik, and further in view of Sukeda et al. (US 2009/0172780 A1) (hereinafter "Sukeda").

Reconsideration is respectfully in view of the foregoing amendments and the following remarks.

Claim 1 has been amended to recite "the method including converting the particular play control command contained in the second message into a corresponding code to control playing of the content on the particular media player." Support for the amendments can be found, for example, in par. [0029] of the specification as originally filed. No new matter has been added.

Fok Ah Chuen, Malik, and Sukeda do not disclose or suggest such a feature, either alone or in any combination. Fok Ah Chuen discloses a "method for establishing a Thin Client session between a Thin Client device … and a Thin Client server" (*see* Abstract). Malik discloses implementations that "enable an interactive game" (*see* Abstract). Sukeda discloses implementations "for displaying various contents such as moving images, still images, and texts" (*see* Abstract). However, none of these references discloses or suggests converting commands at all, much less converting a play control command into a corresponding code to control playing of content on a particular media player. As such, Fok Ah Chuen, Malik, and Sukeda do not disclose or suggest "the method including converting the particular play control command contained in the second message into a corresponding code to control playing of the content on the particular media player," as recited in the amended claim.

Therefore, in view of the foregoing amendments and remarks, the rejection of claim 1 should be withdrawn and the claim allowed. Claims 2 and 4-12 depend either directly or indirectly from claim 1, and for at least the same reasons, the rejection of claims 2 and 4-12 also should be withdrawn and the claims allowed.

Claim 13 has been amended to recite similar limitations as claim 1, and for at least the same reasons as discussed above, the rejection of claim 13 also should be withdrawn and the claim allowed. Claims 15 and 16 depend from claim 13 and for at least the same reasons, the rejection of claims 15 and 16 also should be withdrawn and the claims allowed.

Claim 9 depends from claim 1, and should be allowed for at least the same reasons as discussed above. Claim 9 has also been amended to recite:

> 9. The method of claim 1 further including:
>
> receiving, in the display host, a communication from a second display device;
>
> opening a second session using a second instance of the swappable media player <u>while the first instance of the swappable media player is open</u>;
>
> requesting from the switchboard server system assignment of a second unique identifier for the second session;
>
> receiving a second unique identifier for the second session from the switchboard server system;
>
> displaying the second unique identifier in the second session; and
>
> causing the second unique identifier to be mirrored onto a virtual client residing on the second display device.

That is, a <u>*second*</u> session is opened using a <u>*second*</u> instance of a swappable media player <u>*while the first instance of the swappable media player is open*</u>, and a <u>*second*</u> unique identifier is

displayed in the *second* session. Support for the amendments can be found, for example, in par. [0017] of the specification as originally filed. No new matter has been added.

In the present Office Action, the Office contends that Malik teaches the features of previously presented claim 9. However, Malik does not disclose or suggest that a *second* session is opened using a *second* instance of a swappable media player *while the first instance of the swappable media player is open*, and that a *second* unique identifier is displayed in the *second* session. Indeed, Malik merely discloses that a system that "provides a unique identifier associated with an instance of the interactive game" (*see* par. [0015]). However, Malik does not disclose or suggest opening multiple instances of the "interactive game" simultaneously and mirroring a different unique identifier on each of the instances. Therefore, Malik does not disclose or suggest each of the features of amended claim 9.

Therefore, for at least this additional reason, claim 9 should be allowed.

New Claims

Newly presented claims 26 and 27 depend from claim 1, and should be allowable at least for the reasons discussed above. Furthermore, these claims recite additional language that renders them independently patentable. Support for the features recited in these claims can be found, for example, in par. [0029] of the specification as originally filed.

Newly presented claim 28 recites similar subject matter as claim 1, and also should be allowable at least for the reasons discussed above. For example, claim 28 recites "receiving … a first message … compris[ing] the unique identifier and a first command instructing that particular content be played in the first session using a specified one of the media players," and "converting the first command into a corresponding first code to control playing of the particular content on the specified media player." Claim 28 also recites "receiving … a second message … compris[ing] the unique identifier and a second command instructing that a particular play control command be executed with respect to the particular content being played in the first session," and "converting the second command into a corresponding second code to control playing of the particular content on the specified media player." Support for the features recited in claim 28 can be found, for example, in par. [0029] of the specification as originally filed.

Conclusion

The Applicant submits that all of the claims are in condition for allowance and request entry of the proposed amendments and confirmation of allowance by the Examiner. It is believed that all of the pending issues have been addressed. However, the absence of a reply to a specific rejection, issue, or comment does not signify applicants' agreement. In addition, because the arguments made above may not be exhaustive, there may be additional reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Further, the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

The fee for a three-month extension of time is being paid with this reply on the Electronic Filing System. Apply those fees and any other necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: January 28, 2016

/Richard Wong/
Richard Wong
Reg. No. 73,259

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30901138.doc

Electronic Patent Application Fee Transmittal

Application Number:	13532546
Filing Date:	25-Jun-2012
Title of Invention:	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER
First Named Inventor/Applicant Name:	David Strober
Filer:	Richard Wong/Maryann White
Attorney Docket Number:	30160-0005001

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 3 months with $0 paid	2253	1	700	700
Miscellaneous:				
Request for Continued Examination	2801	1	600	600
		Total in USD ($)		**1300**

Electronic Acknowledgement Receipt	
EFS ID:	24759290
Application Number:	13532546
International Application Number:	
Confirmation Number:	9012
Title of Invention:	VIRTUALIZED HOSTING AND DISPLAYING OF CONTENT USING A SWAPPABLE MEDIA PLAYER
First Named Inventor/Applicant Name:	David Strober
Customer Number:	26211
Filer:	Richard Wong/Maryann White
Filer Authorized By:	Richard Wong
Attorney Docket Number:	30160-0005001
Receipt Date:	28-JAN-2016
Filing Date:	25-JUN-2012
Time Stamp:	20:06:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1300
RAM confirmation Number	8492
Deposit Account	061050
Authorized User	FISH & RICHARDSON P C
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	30160-0005001RCE.pdf	141618 b41ce77d0eb814c990a9643b05f8f50c935ce798	no	1
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
2		30160-0005001Response.pdf	107557 7cf033389c891daff26553658dd83679268c77c3	yes	13

Multipart Description/PDF files in .zip description

Document Description	Start	End
Amendment Submitted/Entered with Filing of CPA/RCE	1	1
Claims	2	9
Applicant Arguments/Remarks Made in an Amendment	10	13

Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	32888 f5c380a30ab7e09e21a7cd1becd7fb6f776aa793	no	2
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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/532,546	Filing Date 06/25/2012	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	01/28/2016	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 17	Minus	** 25	= 0	X $40 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	***4	= 0	X $210 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	**0**

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/LAVINIA JOHNSON/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/532,546	06/25/2012	David Strober	30160-0005001	9012

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EXAMINER	
HOPE, DARRIN	

ART UNIT	PAPER NUMBER
2173	

NOTIFICATION DATE	DELIVERY MODE
07/15/2016	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No. 13/532,546	Applicant(s) STROBER, DAVID	
	Examiner DARRIN HOPE	Art Unit 2173	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01/28/2016*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1,2,4-13,15,16 and 26-28* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1,2,4-13,15,16 and 26-28* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *25 June 2012* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

DETAILED ACTION

1. The present application is being examined under the pre-AIA first to invent provisions. This Office Action is responsive to the communications filed on 28 January 2016. Claims 1-2, 4-13, 15-16, and 26-28 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 1, 4-8, 13, 15, 16, 26, 27, and 28 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Fok Ah Chuen et al. (US 2012/0102209 A1) in view of Malik (US 2007/0155506 A1), and further in view of Mahajan et al. (Hereinafter, Mahajan, US 2009/0248802 A1).

3. **Per claim 1**,Chuen discloses a machine-implemented method of presenting content on a display device (Abstract), the method comprising:

- receiving, in a display host (e.g., Thin Client Application Server 4), a communication (e.g., Step 20 as shown in Fig. 3 'SDP OFFER(THIN CLIENT SESSION PARAMETERS') from a display device (e.g., Thin Client Device 2; paragraphs [0131], "*The UE 2 connects through an IP access network for communicating with the remote desktop PC 4 and initiates a SDP Offer/Answer containing thin client parameters including Graphics encoding scheme, the transport settings (RFB (remote framebuffer), RDP (Remote Desktop Protocol), ICA (Independent Computing Architecture protocol), or pixels/RTP (Real-time Transport Protocol), IP Addresses and port number and radio bearer settings (Packet switched or Circuit Switched connection).* "; paragraph [0132], "*At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment."*), wherein the display host is operable to execute multiple instances of a browser (Abstract; e.g., thin client viewer as shown in Fig 2; paragraph [0018]; paragraph [0022]; paragraph [0046]) each of which operates as a swappable media player(paragraph [00127], "*FIG. 2 illustrates a thin client viewer rendering a remote application display (remote desktop) consisting of several areas that can be dynamically adapted. The Area A is the background of the remote desktop that is graphically updated based on RFB protocol. The other areas are dependent upon the area A such as the area B is illustrated.* "),

wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content (Abstract; paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to negotiate the media within a SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer,… ;* paragraph [0074]; paragraph [0082]*) pertaining to a session of remote desktop control.* "; paragraphs [0019], [0026], [0046], [0050]);

- receiving in the display host a first message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the first message is sent by the switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier(e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- in response to receiving the first message, retrieving and loading, by the display host, the specified media player using the first instance of the swappable media player(e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);
- playing the particular content in the first session using the specified media player(paragraph [0153]);

- causing a presentation of the particular content to be mirrored onto the virtual client residing on the display device(Fig. 4 illustrates causing a presentation of the second content to be mirrored onto the virtual client residing on the display device where content from one device is redirected for display on another device.).
- receiving in the display host a second message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the second message is sent by the switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier(e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- executing, by the display host, the particular play control command with respect to the particular content being played in the first session that is mirrored onto the virtual client residing on the display device(Chuen, paragraph [0147], "*The Desktop 4 receives the message, interprets the message and prepares to redirect the media to the TV 40. No screen updates corresponding to the area where the video output is located is sent to the UE 2. This requires the Answer message to include an indication as to whether the output stream still is streamed to the mobile device or not.* ").

4. Chuen does not expressly disclose:

- requesting assignment of a unique identifier for the first session from a switchboard server system;
- receiving a unique identifier for the first session from the switchboard server system ;
- displaying the unique identifier in the first session;
- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device; and
- the method including converting the particular play control command contained in the second message into a corresponding code to control playing of the content on the particular media player.

5. Malik discloses:

- requesting assignment of a unique identifier for the first session from a switchboard server system(Abstract, "…*A game server, in response to a user request, provides a unique identifier associated with an instance of the interactive game…* "; paragraph [0005], "*…The first controller is used to establish a communication session with the game server to communicate a request to start a game. In response, the game server communicates a unique identifier….* ");
- receiving a unique identifier for the first session from the switchboard server system (e.g., Step 420 'PROVIDE A UNIQUE IDENTIFIER' as shown in Fig. 4'; paragraph [0005], "*The first controller is used to establish a communication session with the game server to communicate a request to start a game. In*

response, the game server communicates a unique identifier. The game server then registers one or more wireless communication devices that communicate the unique identifier. …"; paragraph [0006]; paragraph [0007]; paragraph [0015]; paragraphs [0021-0022]; paragraphs [0027], [0029-0030]; paragraph [0035], "*As indicated by the encircled number "4," game server 110 in turn initiates a game instance 112, which includes unique identifier 115. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140… .* "; Examiner's Note: The Examiner reasonably and broadly interprets the game server to be a switchboard server.);

- displaying the unique identifier in the first session (paragraph [0035], "…*As noted by the encircled number "5," the host and local players can observe unique identifier 115 in the video information presented in display 134 and/or hear a message that includes the unique identifier…* "); and
- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device (paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

6. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Malik unique identifier in Chuen's thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could make it easier to register the connection of one or more display

devices to a display host. This method for improving the thin client-server device of Chuen was within the ordinary ability of one of ordinary skill in the art based on the teachings of Malik.

7. Mahajan discloses the method including converting the particular play control command contained in the second message into a corresponding code to control playing of the content on the particular media player (e.g., method 500 as shown in Fig. 5; paragraph [0014]; paragraph [0034]; paragraph [0037] paragraph [0050]; paragraphs [0059-0063]).

8. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan system and method for managing multimedia operations in remote sessions in the Chuen-Malik thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could make it easier to manage multimedia operations in remote sessions. This method for improving the thin client-server device of Chuen and Malik was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

9.

10. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen, Malik, and Mahajan to obtain the invention as specified in claim 1.

11. **Per claim 4,** Chuen, Malik, and Mahajan disclose the method of claim 3 further including:

- receiving in the display host a third message from the switchboard server system instructing that particular second content is to be played in the first session using a specified second media player (Chuen, paragraph [0147], "*The Desktop 4 receives the message, interprets the message and prepares to redirect the media to the TV 40. No screen updates corresponding to the area where the video output is located is sent to the UE 2. This requires the Answer message to include an indication as to whether the output stream still is streamed to the mobile device or not.* ");
- in response to the third message, retrieving and loading the second media player (Chuen, paragraphs [0149-0152]);
- playing the particular second content in the first session using the specified second media player(Chuen, paragraph [0153]); and
- causing a presentation of the second content to be mirrored onto the virtual client residing on the display device(Chuen, Fig. 4 illustrates causing a presentation of the second content to be mirrored onto the virtual client residing on the display device where content from one device is redirected for display on another device.).

12. **Per claim 5**, Chuen, Malik, and Mahajan disclose the method of claim 1 wherein the content comprises video (Chuen, paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to negotiate the media within a SIP session and allow adaptive media transfer (i.e. video*

transfer, audio transfer, . . .) pertaining to a session of remote desktop control.";

paragraph [0019]; Malik, paragraph [0005]*).*

13. **Per claim 6**, Chuen, Malik, and Mahajan disclose the method of claim 1 wherein the content comprises streaming media (Chuen, paragraphs [0015], [0017], [0018], [0026], [0032]; Malik, See claim 12).

14. **Per claim 7**, Chuen, Malik, and Mahajan disclose the method of claim 1 wherein the content comprises visual content (Chuen, paragraphs [0015], [0017], [0018], [0026], [0032]; Malik, See claim 1).

15. **Per claim 8**, Chuen, Malik, and Mahajan disclose the method of claim 1 further including contacting the switchboard server system to check whether there is a message for the first session, wherein the first session is identified to the switchboard session using the previously assigned unique identifier (Chuen, paragraph [0034]).

- playing the particular content in the first session using the specified media player (Chuen, paragraph [0139]); and
- causing a presentation of the second content to be mirrored onto the virtual client residing on the second display device (Chuen, paragraphs [0141-0142]; Fig. 4 illustrate establishing a connection so that content displayed on client device 2 can be redirected for display an a television 40.;Malik, Fig. 2 illustrates causing a presentation of the content to be mirrored onto the virtual client residing on the display device, i.e., game content 220).

16. **Per claim 13**.Chuen discloses a system for presenting content comprising:

- a display host (e.g., thin client application server 4) operable to execute multiple instances of a browser (e.g., thin client viewer as shown in Fig 2; paragraph [0022]) each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content (Abstract; paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to negotiate the media within a SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer, . . .) pertaining to a session of remote desktop control.* "; paragraphs [0019], [0026], [0046], [0050]); and
- a switchboard server system(e.g., thin client application server 4), wherein the display host is operable to perform operations including:
- receiving a communication from a display device(e.g., step 20) storing a virtual client (e.g., thin client device 2; paragraph [0018]);
- receiving, in a display host (e.g., Thin Client Application Server 4), a communication from a display device (e.g., Thin Client Device 2; paragraphs [0131], "*The UE 2 connects through an IP access network for communicating with the remote desktop PC 4 and initiates a SDP Offer/Answer containing thin client parameters including Graphics encoding scheme, the transport settings (RFB (remote framebuffer), RDP (Remote Desktop Protocol), ICA (Independent Computing Architecture protocol), or pixels/RTP (Real-time Transport Protocol), IP Addresses and port number and radio bearer settings (Packet switched or*

Circuit Switched connection). "), wherein the display host is operable to execute multiple instances of a browser (e.g., thin client viewer as shown in Fig 2; paragraph [0022]) each of which operates as a swappable media player(paragraph [00127], "*FIG. 2 illustrates a thin client viewer rendering a remote application display (remote desktop) consisting of several areas that can be dynamically adapted. The Area A is the background of the remote desktop that is graphically updated based on RFB protocol. The other areas are dependant upon the area A such as the area B is illustrated. ")*, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content (Abstract; paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to negotiate the media within a SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer, . . .) pertaining to a session of remote desktop control.* "; paragraphs [0019], [0026], [0046], [0050]);

- opening a first session using a first instance of the swappable media player (paragraphs [0007, [0012], [0016], [0018]; paragraph [0133], "*Upon reception of said SDP offer, the Desktop 4 determines that the UE 2 wishes to establish a thin client connection using RFB protocol, determines that RFB protocol and proposed attributes are acceptable based on the environment where the UE 2 is located and, at step 22, sends back a SDP Answer Message indicating the RFB and attributes are selected.* ");

- receiving in the display host a first message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the first message is sent by the switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier(e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- in response to receiving the first message, retrieving and loading, by the display host, the specified media player using the first instance of the swappable media player(e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);
- playing the particular content in the first session using the specified media player(paragraph [0153);
- causing a presentation of the particular content to be mirrored onto the virtual client residing on the display device(Fig. 4 illustrates causing a presentation of the second content to be mirrored onto the virtual client residing on the display device where content from one device is redirected for display on another device.).
- receiving in the display host a second message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the second message is sent by the

switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier(e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);

- executing, by the display host, the particular play control command with respect to the particular content being played in the first session that is mirrored onto the virtual client residing on the display device(Chuen, paragraph [0147], "*The Desktop 4 receives the message, interprets the message and prepares to redirect the media to the TV 40. No screen updates corresponding to the area where the video output is located is sent to the UE 2. This requires the Answer message to include an indication as to whether the output stream still is streamed to the mobile device or not.* "); but does not expressly disclose:
- receiving a unique identifier for the first session from the switchboard server system ;
- displaying the unique identifier in the first session;
- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device,
- converting the first command into a corresponding first code to control playing of the particular content on the specified media player;

- operations including converting the particular play control command contained in the second message into a corresponding code to control playing of the content on the particular media player.

17. Malik discloses:

- requesting assignment of a unique identifier for the first session from a switchboard server system (Abstract, "...*A game server, in response to a user request, provides a unique identifier associated with an instance of the interactive game...";* paragraph [0015])*;*
- receiving a unique identifier (e.g., unique identifier 115 as shown in Fig. 2) for the first session from the switchboard server system (paragraph [0005], "*The first controller is used to establish a communication session with the game server to communicate a request to start a game. In response, the game server communicates a unique identifier. The game server then registers one or more wireless communication devices that communicate the unique identifier. ...*"; paragraph [0006]; paragraph [0007]; paragraph [0015]; paragraphs [0021-0022]; paragraphs [0027], [0029-0030]; paragraph [0035], "*As indicated by the encircled number "4," game server 110 in turn initiates a game instance 112, which includes unique identifier 115. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140... .* ") ;
- displaying the unique identifier in the first session (paragraph [0035], "...*As noted by the encircled number "5," the host and local players can observe unique*

identifier 115 in the video information presented in display 134 and/or hear a message that includes the unique identifier... ");

- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device (paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

18. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Malik unique identifier in Chuen's thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could make it easier to register the connection of one or more display devices to a display host. This method for improving the thin client-server device of Chuen was within the ordinary ability of one of ordinary skill in the art based on the teachings of Malik.

19. Mahajan discloses operations including converting the particular play control command contained in the second message into a corresponding code to control playing of the content on the particular media player (e.g., method 500 as shown in Fig. 5; paragraph [0014]; paragraph [0034]; paragraph [0037] paragraph [0050]; paragraphs [0059-0063]).

20. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan system and method for managing multimedia operations in remote sessions in the Chuen-Malik thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server

device that could make it easier to manage multimedia operations in remote sessions. This method for improving the thin client-server device of Chuen and Malik was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

21.

22. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen, Malik, and Mahajan to obtain the invention as specified in claim 13.

23. **Per claim 15**, Chuen, Malik, and Mahajan disclose the system of claim 14 wherein the display host is further operable to perform operations including:

- receiving a second message from the switchboard server system indicating that particular second content is to be played in the first session using a specified second media player(Malik, paragraph [0033]);
- retrieving the second media player from a content provider and loading the second media player(Malik, paragraph [0034]);
- playing the particular second content in the first session using the specified second media player (Chuen, paragraph [0139]); and
- causing a presentation of the second content to be mirrored onto the virtual client residing on the display device(Chuen, paragraphs [0141-0142]; Fig. 4 illustrate establishing a connection so that content displayed on client device 2 can be redirected for display an a television 40.;Malik, Fig. 2 illustrates causing a presentation of the content to be mirrored onto the virtual client residing on the display device, i.e, game content 220).

24. Per claim 16, Chuen, Malik, and Mahajan disclose the system of claim 13 wherein the system includes a second display device storing a virtual client, wherein the display host is further operable to perform operations including:

- receiving a communication from the second display device(Malik, paragraph [0033]);
- in response to receiving the communication from the second display device,opening a second session using a second instance of the swappable media player(Malik, paragraph [0034]);
- requesting from the switchboard server system assignment of a second unique identifier for the second session; receiving a second unique identifier for the second session from the switchboard server system; displaying the second unique identifier in the second session(Abstract, "...*A game server, in response to a user request, provides a unique identifier associated with an instance of the interactive game...";* paragraph [0015])*;*
- causing the image of the second unique identifier to be mirrored onto the virtual client residing on the second display device (paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170);
- receiving a fourth message from the switchboard server system indicating that particular second content is to be played in the second session using a specified second media player(Chuen, e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising*

Thin client session attributes and further parameters required for the appropriate SIP session establishment.);

- retrieving the second media player from a content provider and loading the second media player(Chuen, e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);
- playing the particular second content in the second session using the specified second media player(Chuen, paragraph [0139]); and
- causing a presentation of the second content to be mirrored onto the virtual client residing on the second display device(Malik, paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

25. **Per claim 26**, Chuen, Malik, and Mahajan disclose the method of claim 1, wherein converting the particular play control command into the corresponding code comprises selecting the corresponding code from among a plurality of specific codes, each of which represents a corresponding playback control command for a respective media player (Mahajan, paragraph [0014] "… *The client can convert the generic commands into commands that are specific to a platform supported by the client. The client's platform can then process the commands to achieve the desired effect (i.e., play, pause, stop, etc.) on the client device.* ").

26. **Per claim 27**, Chuen, Malik, and Mahajan disclose the method of claim 1, wherein converting the particular play control command into the corresponding code comprises:

- determining an identity of the specific media player (Mahajan, paragraph [0014]; paragraph [0036]);
- loading an appropriate set of protocols or application programming interfaces from a library based on the identity of the specific media player(Mahajan, paragraph [0037]); and
- converting the command into the corresponding code based on the set of protocols or application programming interfaces(Mahajan, paragraphs [0038-0041]).

27. **Per claim 28,** Chuen discloses a machine-implemented method of presenting content on a display device (Abstract), the method comprising:

- receiving, in a display host (e.g., Thin Client Application Server 4), a communication (e.g., Step 20 as shown in Fig. 3 'SDP OFFER(THIN CLIENT SESSION PARAMETERS') from a display device (e.g., Thin Client Device 2; paragraphs [0131], "*The UE 2 connects through an IP access network for communicating with the remote desktop PC 4 and initiates a SDP Offer/Answer containing thin client parameters including Graphics encoding scheme, the transport settings (RFB (remote framebuffer), RDP (Remote Desktop Protocol), ICA (Independent Computing Architecture protocol), or pixels/RTP (Real-time Transport Protocol), IP Addresses and port number and radio bearer settings (Packet switched or Circuit Switched connection).* "; paragraph [0132], "*At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client*

session attributes and further parameters required for the appropriate SIP session establishment."), wherein the display host is operable to execute multiple instances of a browser (Abstract; e.g., thin client viewer as shown in Fig 2; paragraph [0018]; paragraph [0022]; paragraph [0046]) each of which operates as a swappable media player(paragraph [00127], "*FIG. 2 illustrates a thin client viewer rendering a remote application display (remote desktop) consisting of several areas that can be dynamically adapted. The Area A is the background of the remote desktop that is graphically updated based on RFB protocol. The other areas are dependent upon the area A such as the area B is illustrated. "),* wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content (Abstract; paragraph [0014], "*An exemplary object of the present invention is to add remote desktop control to existing functionalities in order to negotiate the media within a SIP session and allow adaptive media transfer (i.e. video transfer, audio transfer,… ;* paragraph [0074]; paragraph [0082]*) pertaining to a session of remote desktop control.* "; paragraphs [0019], [0026], [0046], [0050]);

- in response to receiving the communication from the display device, opening a first session using a first instance of the swappable media player (e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);
- playing the particular content in the first session using the specified media player(paragraph [0153]);

- receiving, in the switchboard server system, a second message originating in the handheld Internet-enabled personal computing device, wherein the second message comprises the unique identifier and a second command instructing that a particular play control command be executed with respect to the particular content being played in the first session (e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);
- causing a presentation of the particular content to be mirrored onto the virtual client residing on the display device(Fig. 4 illustrates causing a presentation of the second content to be mirrored onto the virtual client residing on the display device where content from one device is redirected for display on another device.).
- receiving in the display host a second message from the switchboard server system instructing that particular content be played in the first session using a specified one of the media players, wherein the second message is sent by the switchboard server system to the display host in response to a message originating in a handheld Internet-enabled personal computing device and containing the unique identifier(e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);

- executing, by the display host, the particular play control command with respect to the particular content being played in the first session that is mirrored onto the virtual client residing on the display device(Chuen, paragraph [0147], "*The Desktop 4 receives the message, interprets the message and prepares to redirect the media to the TV 40. No screen updates corresponding to the area where the video output is located is sent to the UE 2. This requires the Answer message to include an indication as to whether the output stream still is streamed to the mobile device or not.* ").

28. Chuen does not expressly disclose:

- requesting assignment of a unique identifier for the first session from a switchboard server system;
- receiving a unique identifier for the first session from the switchboard server system ;
- displaying the unique identifier in the first session;
- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device;
- converting the first command into a corresponding first code to control playing of the particular content on the specified media player; and
- converting the second command into a corresponding second code to control playing of the particular content on the specified media player.

Malik discloses:

- requesting ass ignment of a unique identifier for the first session from a switchboard server system(Abstract, "…*A game server, in response to a user request, provides a unique identifier associated with an instance of the interactive game…* "; paragraph [0005], "*…The first controller is used to establish a communication session with the game server to communicate a request to start a game. In response, the game server communicates a unique identifier….* ");
- receiving a unique identifier for the first session from the switchboard server system (e.g., Step 420 'PROVIDE A UNIQUE IDENTIFIER' as shown in Fig. 4'; paragraph [0005], "*The first controller is used to establish a communication session with the game server to communicate a request to start a game. In response, the game server communicates a unique identifier. The game server then registers one or more wireless communication devices that communicate the unique identifier.* …"; paragraph [0006]; paragraph [0007]; paragraph [0015]; paragraphs [0021-0022]; paragraphs [0027], [0029-0030]; paragraph [0035], "*As indicated by the encircled number "4," game server 110 in turn initiates a game instance 112, which includes unique identifier 115. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140… .* "; Examiner's Note: The Examiner reasonably and broadly interprets the game server to be a switchboard server.);
- displaying the unique identifier in the first session (paragraph [0035], "…*As noted by the encircled number "5," the host and local players can observe unique*

identifier 115 in the video information presented in display 134 and/or hear a message that includes the unique identifier… "); and

- causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device (paragraph [0036]; Fig. 2 illustrates displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

29. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Malik unique identifier in Chuen's thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could make it easier to register the connection of one or more display devices to a display host. This method for improving the thin client-server device of Chuen was within the ordinary ability of one of ordinary skill in the art based on the teachings of Malik.

30. Mahajan discloses:

- converting the first command into a corresponding first code to control playing of the particular content on the specified media player(e.g., method 500 as shown in Fig. 5; paragraph [0014]; paragraph [0034]; paragraph [0037] paragraph [0050]; paragraphs [0059-0063]); and
- converting the second command into a corresponding second code to control playing of the particular content on the specified media player(e.g., method 500 as shown in Fig. 5; paragraph [0014]; paragraph [0034]; paragraph [0037] paragraph [0050]; paragraphs [0059-0063]).

31. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Mahajan system and method for managing multimedia operations in remote sessions in the Chuen-Malik thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could make it easier to manage multimedia operations in remote sessions. This method for improving the thin client-server device of Chuen and Malik was within the ordinary ability of one of ordinary skill in the art based on the teachings of Mahajan.

32.

33. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen, Malik, and Mahajan to obtain the invention as specified in claim 28.

34. **Per claim 28**, Chuen discloses a machine-implemented method of presenting content on a display device (Abstract)the method comprising:

receiving, in a display host, a communication from a display device, wherein the display host is operable to execute multiple instances of a browser each of which operates as a swappable media player, wherein each instance of the swappable media player is operable to retrieve and load any of a plurality of different media players needed to play specified content;

in response to receiving the communication from the display device, opening a first session using a first instance of the swappable media player;

requesting assignment of a unique identifier for the first session from a switchboard server system;

receiving a unique identifier for the first session from the switchboard server system;

displaying the unique identifier in the first session;

causing the display of the unique identifier to be mirrored onto a virtual client residing on the display device;

receiving, in the switchboard server system, a first message originating in a handheld Internet-enabled personal computing device distinct from the display host and the switchboard server system, wherein the first message comprises the unique identifier and a first command instructing that particular content be played in the first session using a specified one of the media players,

converting the first command into a corresponding first code to control playing of the particular content on the specified media player;

receiving in the display host the first code and information corresponding to the unique identifier from the switchboard server system;

in response to receiving the first code and the unique identifier, retrieving and loading, by the display host, the specified media player using the first instance of the swappable media player;

playing the particular content in the first session using the specified media player;

causing a presentation of the particular content to be mirrored onto the virtual client residing on the display device;

receiving, in the switchboard server system, a second message originating in the handheld Internet-enabled personal computing device, wherein the second message comprises the unique identifier and a second command instructing that a particular play

control command be executed with respect to the particular content being played in the first session,

converting the second command into a corresponding second code to control playing of the particular content on the specified media player;

receiving in the display host a the second code and information corresponding to the unique identifier from the switchboard server system; and

executing, by the display host, the particular play control command with respect to the particular content being played in the first session that is mirrored onto the virtual client residing on the display device.

35.

36.

37. Claims 2 and 12 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Fok Ah Chuen et al. (US 2012/0102209 A1) in view of Malik (US 2007/0155506 A1), Mahajan et al. (Hereinafter, Mahajan, US 2009/0248802 A1), and further in view of Sukeda et al. (Hereinafter, Sukeda, US 2009/0172780 A1).

38. Per claim 2, Chuen, Malik, and Mahajan disclose the method of claim 1 but do not expressly disclose wherein the unique identifier comprises a QR code.

39. Sukeda discloses wherein the unique identifier comprises a QR code (Sukeda, paragraphs [0052], [0066], [0070], [0077]).

40. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Sukeda QR code in the Chuen, Malik, and Mahajan thin client-server device to improve the device with reasonable expectation that this would result in

a thin client-server device that could display a QR code as part of an invitation to remote users to establish a session (See Malik paragraph [0035]).

41. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen, Malik, Mahajan, and Sukeda to obtain the invention as specified in claim 2.

42. **Per claim 12**, Chuen, Malik, and Mahajan disclose the method of claim 1 but do not expressly disclose method of claim 3 wherein the display host retrieves the specified media player from a content provider via the Internet.

43. Sukeda discloses wherein the display host retrieves the specified media player from a content provider via the Internet (Abstract; paragraph [0013]).

44. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Sukeda QR code in the Chuen, Malik, and Mahajan thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could display a QR code as part of an invitation to remote users to establish a session (See Malik paragraph [0035]).

45. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen, Malik, Mahajan, and Sukeda to obtain the invention as specified in claim 12.

46. Claims 9, 10, 11 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Fok Ah Chuen et al. (US 2012/0102209 A1) in view of Malik (US 2007/0155506 A1), Mahajan et al. (Hereinafter, Mahajan, US 2009/0248802 A1), and further in view of Hu et al. (Hereinafter, Hu, US 8,402,494 B1).

47. **Per claim 9**, Chuen, Malik, and Mahajan disclose the method of claim 1 further including:

- receiving, in the display host, a communication from a second display device (Malik, paragraph [0033]);
- requesting from the switchboard server system assignment of a second unique identifier for the second session Malik, Abstract, "...*A game server, in response to a user request, provides a unique identifier associated with an instance of the interactive game...";* paragraph [0015]);
- receiving a second unique identifier for the second session from the switchboard server system(Malik, paragraph [0005], "*The first controller is used to establish a communication session with the game server to communicate a request to start a game. In response, the game server communicates a unique identifier. The game server then registers one or more wireless communication devices that communicate the unique identifier.* ..."; paragraph [0006]; paragraph [0007]; paragraph [0015]; paragraphs [0021-0022]; paragraphs [0027], [0029-0030]; paragraph [0035], "*As indicated by the encircled number "4," game server 110 in turn initiates a game instance 112, which includes unique identifier 115. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140. Unique identifier 115 is transmitted from game server 110 to display 134 via set top box 140... .* ") ; and
- causing the second unique identifier to be mirrored onto a virtual client residing on the second display device (Malik, paragraph [0036]; Fig. 2 illustrates

displaying unique identifier 115 on display 130. The unique identifier is forwarded to remote display devices, e.g., 160, 162, and 170).

48. Chuen, Malik, and Mahajan do not expressly disclose opening a second session using a second instance of the swappable media player.

49. Hu discloses opening a second session using a second instance of the swappable media player (Fig. 2; column 5, lines 4-50).

50. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the Hu content switching in the Chuen, Malik, and Mahajan thin client-server device to improve the device with reasonable expectation that this would result in a thin client-server device that could allow for seamless switching of content.

51. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Chuen, Malik, Mahajan, and Hu to obtain the invention as specified in claim 9.

52. **Per claim 10**, Chuen, Malik, Mahajan, and Hu disclose the method of claim 9 further including:

- receiving in the display host a third message indicating that particular content is to be played in the first session using a specified media player (Chuen, e.g., Step 20 as shown in Fig. 2; paragraphs [0132], *At step 20, the UE 2 transmits to the Desktop 4 the SDP offer comprising Thin client session attributes and further parameters required for the appropriate SIP session establishment.*);

- in response to the third message, retrieving and loading the specified second media player (Chuen, e.g., Steps 22-28 as shown in Fig. 3; paragraph [0133-0138]);

53. **Per claim 11**, Chuen, Malik, Mahajan, and Hu disclose the method of claim 10 wherein the first and second sessions at least partially overlap in time with one another (Malik, paragraph [0027]; Fig. 2 illustrate wherein the first and second sessions at least partially overlap in time with one another since all the players are forward the unique identifier to play a multiplayer game instance.).

Response to Arguments

54. Applicant's arguments filed 28 January 2016 have been fully considered but they are not persuasive.

55. On pages 10-11, the Applicant argues that Fok Ah Chuen, Malik, and Sukeda do not disclose or suggest "the method including converting the particular play control command contained in the second message into a corresponding code to control playing of the content on the particular media player."

56. The Examiner disagrees since Fok Ah Chuen, Malik, and Sukeda were not relied upon to disclose or suggest "the method including converting the particular play control command contained in the second message into a corresponding code to control playing of the content on the particular media player." Mahajan discloses operations including converting the particular play control command contained in the second message into a corresponding code to control playing of the content on the particular

media player (e.g., method 500 as shown in Fig. 5; paragraph [0014]; paragraph [0034]; paragraph [0037] paragraph [0050]; paragraphs [0059-0063]).

57. Therefore, the rejection of claim 1 cannot be withdrawn and the claim cannot be allowed in view of the new rejection of claim 1. Claims 2 and 4-12 depend either directly or indirectly from claim 1, and for at least the same reasons, the rejection of claims 2 and 4-12 also cannot be withdrawn and the claims cannot be allowed.

58. Claim 13 has been amended to recite similar limitations as claim 1, and for at least the same reasons as discussed above, the rejection of claim 13 also cannot be withdrawn and the claim cannot be allowed. Claims 15 and 16 depend from claim 13 and for at least the same reasons, the rejection of claims 15 and 16 also cannot withdrawn and the claims cannot allowed.

59. Furthermore, the Applicant argues, with respect to claim 9, that “Malik does not disclose or suggest that a second session is opened using a second instance of a swappable media player while the first instance of the swappable media laver is open, and that a second unique identifier is displayed in the second session.

60. The Examiner disagrees since Fok Ah Chuen, Malik, and Sukeda were not relied upon to disclose or suggest that a second session is opened using a second instance of a swappable media player while the first instance of the swappable media laver is open, and that a second unique identifier is displayed in the second session.

61. Therefore, the Examiner maintains the rejections.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARRIN HOPE whose telephone number is (571)270-5079. The examiner can normally be reached on M-TH - 7-4:30, F - 7-3:30, Alt. Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kieu D. Vu can be reached on (571)272-4057. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DARRIN HOPE/
Examiner, Art Unit 2173

/TADEESE HAILU/

Primary Examiner, Art Unit 2173

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	Examiner DARRIN HOPE	Art Unit 2173	Page 1 of 1

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*	B	US-2009/0248802 A1	10-2009	Mahajan; Rajneesh	G06F9/4445	709/204
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	D	US-				
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NON-PATENT DOCUMENTS

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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13532546	STROBER, DAVID
	Examiner	**Art Unit**
	DARRIN HOPE	2173

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	11/03/2014	07/25/2015	07/08/2016						
	1	✓	✓	✓						
	2	✓	✓	✓						
	3	✓	-	-						
	4	✓	✓	✓						
	5	✓	✓	✓						
	6	✓	✓	✓						
	7	✓	✓	✓						
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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