EXHIBIT 26

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Performed by: EDWIN

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Assignee:	EDWIN A HERNANDEZ-MONDRAGON
Title:	Method, system, and apparatus for multimedia content delivery to cable TV and satellite operators
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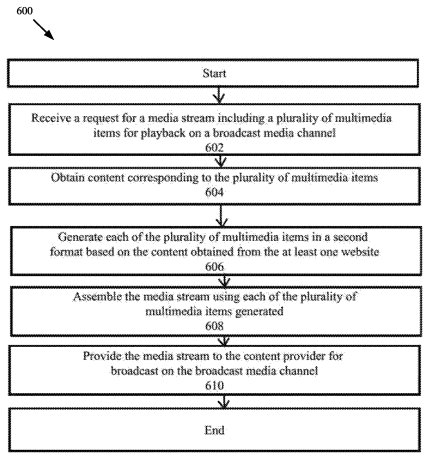


Abstract: Systems, methods, and computer-readable media for delivering multimedia content from the cloud to cable operators are disclosed. A device located at the cable headend or implemented in the cloud can receive a request for at least one media stream for playback on a broadcast media channel. Content corresponding to a plurality of multimedia files in the media stream can be obtained from the internet or a cloud based service. The content can be used to generate the multimedia files in a format that is compatible with the cable operator. The multimedia files can be used to assemble the at least one media stream which can be provided to the cable operator for broadcast on the broadcast media channel.

Claims:

1	A computer implemented method, comprising:	

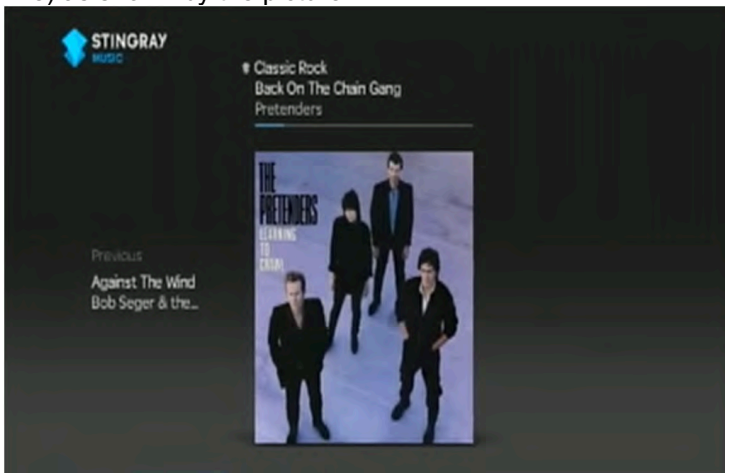
	[a] creating a plurality of multimedia assets at a caching unit, for each one of the plurality of multimedia assets:	Stingray's "ubimetaserver" component as shown at EGLA-TRELLO-000521 show errors at "Cache" as follows: *[ERROR] Cache - internal error: expected to get a state from key [/song/L 2129124/showCoverORgenericCover/size_103_574.jpg]* *[ERROR] Cache - internal error: expected to get a state from key [/song/L 1835012/showCoverORgenericCover/size_103_574.jpg]*t Therefore, a plurality of media assets are stored in the server. Additionally, the SAM-cache is used to store playlist that at EGLA-TRELLO-000526 states that: *When servers are pointed to* ***Sam-Cache (sam-cacheyo3wi0hee8phaequ. stingraydigital.com),*** *some playlists do not download (at times, all playlists fail to download). There are no errors on the logs given that the GalaxieClient is able to Sync with SAM however no playlist XML files are seen as downloading on the logs.* (emphasis added). The primary server also contains as part of /data directory, several subdirectories that store multimedia sets at a caching unit, as shown at EGLA-TRELLO-000483. As shown, the directory /data with folders "largecache" and "oschache" and "video_realtime" *cd /opt/GalaxieAudioEngine/conf/Aster/* */usr/java/jdk1.6.0_29/bin/native2ascii service.properties service.properties2* *(might have to change java version in the path)* *mv service.properties2 service.properties* *cd /data* *mv largecache largecache_bck6* *mv oscache oscache_bck6* *mv video_realtime video_realtime_bck6* *mkdir largecache* *mkdir oscache* *mkdir video_realtime* *chmod 777 largecache* *chmod 777 oscache* *chmod 777video_realtime* *service audioengine start* The caching proxy is defined by the Software/Config entry at EGLA-TRELLO-000535, as "Caching Proxy UbiMetaServer"

		Supporter les Update de Software/Config pour Caching Proxy UbiMetaServer *Still pic (peut être juste la config) GalaxieClient* *** autres (avec un path absolu)*

	[b] determining that there is sufficient storage space for the multimedia asset at the caching unit;	At EGLA-TRELLO-000466, the ubiquicast checks if a maximum track is used, in this error MaxExpected is 720 *Wed Apr 4 23:48:01 2012: /data/playlists/GX121_NT/20120405.xml: NORMAL ERROR - Application tried populate a trackList with more tracks than the maximum expected daily tracks. MaxExpected: 720* A check to validate the maximum expected daily track translates to sufficient storage, hence 720 is the maximum value configured by this server. Additionally, and as shown at EGLA-TRELLO-000496 shows how the limit of open files is set and raised by the system as well as the number of maximum connections. The number open files are needed to ensure sufficient space is used to store multimedia assets for all the channels in use. For example at EGLA-TRELLO-000415 the following error is thrown if too many open files are found by the MediaGenerator which is part of GalaxieStillPicGenerator. *015-10-08 11:21:26,942 ERROR [MediaGenerator] - High level exception: Too many open files* The GalaxieStillPicGenerator checks if too many files are opened and then deletes the file if that's the case, to save space.(EGLA-TRELLO-000632) • Generating a tar file at /data/video_realtime/0161735.tar • The Logo file needs to be loaded via HTTP • The Ads URL needs to be loaded via HTTP • If too many open files are opened then an error is thrown and a deletion is next. *2015-10-08 11:21:26,941 INFO [GalaxieStillPicGenerator] - Generating new /data/video_realtime//0161735.tar* *2015-10-08 11:21:26,941 ERROR [MediaGenerator] - Could not read Logo file* *2015-10-08 11:21:26,942 ERROR [MediaGenerator] - Could not read Ads URL Too many open files* *2015-10-08 11:21:26,942 ERROR [MediaGenerator] - High level exception: Too many open files* *2015-10-08 11:21:26,943 ERROR [GalaxieStillPicGenerator] - Could not generate fallback for /data/video_realtime//0161735.tar, deleting output file*

		{quote}
	[c] generating a channel identifier for the multimedia asset;	At EGLA-TRELLO-000521 an identifier is used, for example "ID" values of 1123, 1372, 0435, 1341 can be observed at this list that is part of the SQSMetaPush. As shown below: *[PLAYING] <Entry Event="12" Type="Playing" Category="020" Id="1123" Title="Veinte anos" Artist="Buena Vista* *[NEXT] <Entry Event="13" Type="Not Played" Category="M17" Id="1372" Title="Eres Mi Cancion" Artist="Rubén* *[PLAYING] <Entry Event="12" Type="Playing" Category="042" Id="0435" Title="Love of a Lifetime" Artist="Fireh* *[NEXT] <Entry Event="13" Type="Not Played" Category="042" Id="1341" Title="No Mistakes" Artist="Patty Smy*

	[d] retrieving from a cloud service a plurality of media files to be included in the multimedia asset including a media identifier for each one of the media files;	The media files are pushed or retrieved from the cloud, including the media identifier and stored in a local database as shown: • EGLA-TRELLO-000526 shows that "Some playlists do no download at time…. " this Is using the server with domain name sam-cache-vo3wi0hee8phaequ.stingraydigital.com • EGLA-TRELLO-000548 show that the local database in the server include download_time as fields in the dabe sotre for each of the /data/final/…. Assets. In this case the query executed was "*select * from mediafile_metadata where uri like "%/data/final/188/1882328%"* that is a media file that is due to the error called "INVALID_TRACK_ERROR" using the FLAC_STREAM_DECODER where FLAC is a multimedia encoding type. • At EGLA-TRELLO-000548 the notes show that to solve the error: "*I removed the asset and prompted a re-download. Will need to restart the audioengine"* • At EGLA-TRELLO-000613 show that "There are no assets missing so the GCT is downloading just fine…. " • At EGLA-TRELLO-000494 shows that "INFO | jvm 1 | 2018/08/04 17:34:31 | 2018-08-04 17:34:31,514 ERROR [MediaFileDownloader] – Failed to download media file : /data/video_linear/AV_30_MP2_12M/amb2117908.m2v" In fact, the evidence shows that "com.stingray.galaxieclient.download.mediafile.MediaFileDownloadStrategy.downloadFile *com.stingray.galaxieclient.download.mediafile.MediaFileDownloadStrategy.downloadFile(MediaFileDownloadStrategy.java:156)* *INFO | jvm 1 | 2018/08/04 17:34:31 | at com.stingray.galaxieclient.download.mediafile.MediaFileDownloader.sync(MediaFileDownloader.java:95)* *INFO | jvm 1 | 2018/08/04 17:34:31 | at com.stingray.galaxieclient.download.SyncTask.run(SyncTask.java:42)* *INFO | jvm 1 | 2018/08/04 17:34:31 | at java.util.concurrent.Executors$RunnableAdapter.call(Executors.java:471)* *INFO | jvm 1 | 2018/08/04 17:34:31 | at java.util.concurrent.FutureTask.run(* • At EGLA-TRELLO-000550 shows that "*Source for asset ID 2013033 downloaded from Hilversum 1 UbiquICAST and confirmed faulty."*

	[e] for each one of the media files, creating a custom hypertext transfer markup language (HTML) user interface that includes video;	The user interface is made in reference to: • MC-EGLA-000033 shows the "Stingray Music Method transmits a data packet (e.g. an HTML or XML File) as shown by the picture.  • As shown at EGLA-TRELLO-000569, the assets used are *Apr 20, 2018 http://covers.galaxie.ca/song/G:27… covers.galax… 200 107.20.193.169* *Apr 18, 2018 http://covers.galaxie.ca/song/G:4… covers.galax… 200 107.20.193.169* *Apr 18, 2018 http://covers.galaxie.ca/song/G:4… covers.galax… 200 107.20.193.169* *Apr 18, 2018 http://covers.galaxie.ca/song/G:4… covers.galax… 200 107.20.193.169* *Mar 28, 2018 http://www.galaxie.ca/galaxie/pla… www.galaxie… 200 107.20.197.28* • One of the covers is tracked by the Valut as shown at EGLA-TRELLO-000571 for the link at: http://covers.galaxie.ca/song/G:435275/001/showCoverORgener... That requires a browser or an HTML site to handle the screen. (See also EGLA-TRELLO-000572 to EGLA-TRELLO-000583). • The servers used to retrieve Playlists, songs, mediafile.galaxie.ca for example use standard HTTP responses for instance at EGLA-TRELLO-000582 show HTTP Responses as 200, 403, and other that are standard HTTP Responses that are understood by a web-browser, including Cookies, and other standard HTTP headers that only a compatible web-browser understands. (See RFC7231, RFC2616, RFC1945, and many others as depicted by IETF.org). • See also EGLA-TRELLO-0000625 as shown the log file says: "Received successful response: 200, AWS Request ID: 4dd…." This is an HTTP Response understood by a web browser. • The Header shows when retrieving from AmazonS3 as the header at EGLA-TRELLO-000573. The headers used are shown: *HTTP/1.1 200 OK Content Type: image/jpeg Content Length: 8153 Connection: keep alive Date: Mon 19 Apr 2021 02:07:34 GMT Last*

		Modified: Mon 17 Jul 2017 21:23:21 GMT ETag: 85f04eacfc807e81a94707fef26f9e24 Accept Ranges: bytes Server: AmazonS3 X Cache: Hit from cloudfront Via: 1.1 030fe0607711293dda988e571617a9f3.cloudfront.net CloudFront X Amz Cf Pop: HIO50 C1 X Amz Cf Id: pq 854CgXkG3wDKQ6O0yZKlDLgVh4esO3CUd2hh4pE9RQuLT1swaA== • The album covers are checked as shown at EGLA-TRELLO-000566 were the log says "*Entel2|No album image | 36 & 48 |musicMux2|Fri 2018-08-31 13:31:31 EDT|||Log files to check||*
	[f] encoding each of the media files and encapsulating them together using an MPEG transport stream format;	• The media files are encoded into an MPEG multimedia format, as shown at EGLA-TRELLO-000645, it shows "both mpeg2 and H264 servers" • MPEG2VIDEO is depicted at EGLA-TRELLO-000648, where MPEG2Video is used as part of an MPEG transport stream.
	[g] storing each one of the multimedia assets at the caching unit;	As shown at EGLA-TRELLO-000515 the GalaxieStillPicGenerator saves the files generated at /data/video_realtime/* directory, for instance : "G*alaxieStillPicGenerator] - Could not generate fallback for /data/video_realtime//0161735.tar, deleting output file* As shown at EGLA-TRELLO-000483, the directory video_realtime is created to store the generated files, as part of the caching directory /data/* The files are also loaded from the /data/videdo_realtime/ as the video folder at EGLA-TRELLO-000484 shows how the error in reference to "/data/video_realtime/205/2059052.tar" with type TTA or "Type Tittle Artist": *2016-01-28 16:23:04: [INFO] [MC0083] Loading from video folder "/data/video_realtime/205/2059052.tar" with type TTA* *2016-01-28 16:23:04: [INFO] [MC0083] 170 seconds of videos needed, adding 17 videos of 10 seconds.* *2016-01-28 16:23:06: [WARN] EncoderProxy ran out of data!* *2016-01-28 16:23:06: [WARN] EncoderProxy ran out of data* The TTA Files are shown at EGLA-TRELLO-0000002 and consist of the entry : *<Entry Event="15" **Type**="Not Played" Category="209" Id="1941" **Title**="All My Friends" **Artist**="Snakehips fe (emphasis added)*

	[h] receiving a request at the caching unit for one of the multimedia assets from a broadcasting unit; and	Upon retrieving a playlist at EGLA-TRELLO-0000001 shows the playlist file is an XML file under Filename "GX45_NT.xm;" *<Playlist DeviceId="maxtrax1" FileName="GX45_NT.xml" Now="Fri May 13 19 51 48 2016">* as shown below in the ticket description, includes the Title if it was played or not, and Title, Type, and Artist. The caching unit will receive the request and then play via the Multicast IP address assigned, e.g. EGLA-TRELLO-0000055 *As output he requires a MPTS. Multicast IP address: 239.51.100.4:1234* Other include EGLA-TRELLO-0000081 at: *Multicast IP, Source and Port* *[SB] source 172.17.143.243/29 destination:port 239.19.23.4:5000* EGLA-TRELLO-000605 *{color:#1f497d}The current Multicast IP on the primary is 239.100.159.72 UDP 5000this should be changed to 239.100.159.71 UDP 5000.{color* EGLA-TRELLO-000606 *The Multicast IP can stay: 232.0.30.10:1010* *• The Source IP to use now is: 10.15.244.198* Additionally, at MC-EGLA-00042 show that *(e.g., the Stingray UbiquiCAST broadcast system, including the UbiquiCAST music content origin server).* The Ubiquicast server is the origin server where the generated multimedia assets are broadcasted to the Cable TV operator using a multicast address. In fact, the "Primary Server Not Broadcasting" is tracked as an error, at EGLA-TRELLO-0000629 as shown the file had an error and stop broadcasting, from the /data/* or cache local directory: *2016-02-19 20:17:51: [INPUT_ERROR] /data/final/029/0290383: INVALID_TRACK ERROR - [029] Invalid file detected by FileDecrypter. {code}*

	[i] responsive to receiving the request, the caching unit providing the multimedia asset to the broadcasting unit in the MPEG transport stream format.	Via AmazonSQS[1] (SQSMEtadataPush) at EGLA-TRELLO-0000001, the system receives and sends requests to the queue. The captures of the MPEG Transport Streams or files with extension ".ts" as shown at EGLA-TRELLO-000514. As shown at EGLA-TRELLO-000514, the captured files with AC-3 format is used to encode media files are stored in the .ts format. - AC3_192k_100ch_OSE2_144k**.ts** - AC3_192k_100ch_OSE2_100k**.ts** **The use of SPTS amd MPTS** is derived from the MPEG Transport Stream as shown at EGLA-TRELLO-000454 *La liste des programmes par SPTS et multicast est jointe. Vous pouvez utiliser la configuration de Vidéotron2 et changer l'adresse IP.* At EGLA-TRELLO-000458: *SPTS - 50 Music channels + iConcerts HD (MP4 @ 5Mbps)* *SPTS: 239.1.8.101:8101 till 239.1.8.151:8151* *Source IPs per server:* *172.19.249.98/ 255.255.255.0/ GW 172.19.249.1* *172.19.249.99/ 255.255.255.0/ GW 172.19.249.1* *AC3 - Dolby audio encoding for both* At EGLA-TRELLo-000460 the multicast addresses used for MPEG TS are shown (Although, the configuration appears to indicate OSE1, not OSE2 or OSEII) *Server multicast interface IP address (1) – 172.17.30.54/29* *Server multicast interface IP address (2) – 172.17.30.53/29 (provided for future prod)*

[1] https://docs.aws.amazon.com/AWSJavaSDK/latest/javadoc/com/amazonaws/services/sqs/AmazonSQS.html

2	The method of claim 1, wherein receiving the requests for the multimedia assets comprising receiving the requests over a REST API, Or:	See the cover REST API: At EGLA-TRELLO-000494 the log indicates that the MediaDownloader created an error due to an UnknownHostExpection for the *INFO | jvm 1 | 2018/08/04 17:34:31 | 2018-08-04 17:34:31,514 ERROR [MediaFileDownloader] - Failed to download media file : /data/video_linear/AV_30_MP2_12M/amb2117908.m2v* *INFO | jvm 1 | 2018/08/04 17:34:31 | java.io.IOException: com.stingray.sam.common.util.operation.OperationException: java.net.UnknownHostException: filestreaming-service.mtl.stingray.com: Name or service not known* Additionally the log shows: *INFO | jvm 1 | 2018/08/04 17:34:31 | at com.stingray.galaxieclient.download.mediafile.MediaFileDownloadStrategy.downloadFile(MediaFileDownloadStrategy.java:156)* *INFO | jvm 1 | 2018/08/04 17:34:31 | at com.stingray.galaxieclient.download.mediafile.MediaFileDownloader.sync(MediaFileDownloader.java:95)* *INFO | jvm 1 | 2018/08/04 17:34:31 | at com.stingray.galaxieclient.download.SyncTask.run(SyncTask.java:42)* REST APIS are used to retrieve covers that is tracked by the Vault as shown at EGLA-TRELLO-000571 for the link at: http://covers.galaxie.ca/song/G:435275/001/showCoverORgener... That requires a browser or an HTML site to handle the screen. (See also EGLA-TRELLO-000572 to EGLA-TRELLO-000583). In some cases, these requests are done locally, for example at the server with httpd shown at EGLA-TRELLO-000469 shows the httpd configuration for "Apache" a common webserver[2]
	[a] wherein retrieving the plurality of media files is performed using a REST API.	The mediaDownload is a via a REST API, as REST APIs are used to connect to different servers as shown at See also EGLA-TRELLO-000572 to EGLA-TRELLO-000583. These servers may include mediafile.galaxie.ca, filestreaming-service.mtl.stingray.com

[2] https://httpd.apache.org/docs/2.4/configuring.html

3	The method of claim 1, wherein creating the custom HTML user interface for each media file is performed using Javascript.	The Galaxie Player or WebPlayer shares the resources for both Ubiquicast and Mobile Applications, hence the HTML page user interface that provide the HTTP-compatible responses (see Claim 1[e]) where the responses from the server indicate the use of HTML.
4	The method of claim 1, wherein encoding each of the media files include encoding each of the media files at a specified bit rate.	At EGLA-TRELLO-0000465 shows encoding at 192 Kbps. *Create a 20 minute recording of an OSE2 lineup (192 kbps - Dolby) to show up localized content* The EGLA-TRELLO-000475 shows encoding of ACr at 96Kbps and 128Kbps stereo, as shown: *Single program transport streams (SPTS) ok;* *Audio Codec should be AC3 96 o 128 Kbps, Stereo. ok;* *PMT table should be present. ok;* Other sources EGLA_TRELLO-000476 (shopw audio MPEG at 160Kbps), EGLA-TRELLO-000055 at 128Kbps AAC,
5	The method of claim 1, wherein encoding each of the media files include encoding each of the media files using a H.264 encoder.	EGLA-TRELLO-000654 sow the audio+OSE H.265 + data, indicating the use of H.264 and EGLA-TRELLO-000654 show the use of H.264 encoder. EGLA-TRELLO-0000385 use the Mpeg2 and H264 servers, hence supporting H.264 encoder
6	The method of claim 1, wherein the custom HTML user interfaces are configured to be rendered using a Webkit browser.	If a webkit browser is not used, a compatible HTML browser is use by Ubiquicast to render the screens that includes "Ads URL" As shown at EGLA-TRELLO-000470, the webPlayer deployment checklist shares the same elements as used by the Ubiquicast server. • Includes Provide ID, Operator ID • Skin, logo, log link • CSS and Google Analytics that includes javascript. As shown at EGLA-TRELLO-000496, the directory is created "20) create location /data/stillpic/background add background pngs (for OSE2 Only)"
7	The method of claim 1, wherein the video for the custom HTML interfaces includes video taken from the media file.	Ambience, iConcertsHD, Classica HD, and others were programmed as part of the UbiquiCAST device. At this moment there is no evidence on trello.com, but it is plausible.

8	The method of claim 1, wherein encoding the media file is performed using an AC-3 file format for audio content in the media file.	As shown at EGLA-TRELLO-000514, the AC-3 format is used to encode media files *- AC3_192k_100ch_OSE2_144k.ts* *- AC3_192k_100ch_OSE2_100k.ts* *T=* As shown at EGLA-TRELLO-000458, and the SPTS use the AC3 "Dolby audio encoding" *SPTS - 50 Music channels + iConcerts HD (MP4 @ 5Mbps)* *SPTS: 239.1.8.101:8101 till 239.1.8.151:8151* *Source IPs per server:* *172.19.249.98/ 255.255.255.0/ GW 172.19.249.1* *172.19.249.99/ 255.255.255.0/ GW 172.19.249.1* *AC3 - Dolby audio encoding for both*
9	The method of claim 1, wherein the custom HTML user interfaces are configured so that multiple custom HTML user interfaces of the multimedia asset can be retrieved using a web rendering engine.	At this moment there is no evidence on trello.com, but it is plausible.
10	A computer-implemented method comprising:	

	[a] virtualizing a system including a virtualized caching server, wherein the virtualized caching server performs:	The server is virtualized, as sam-cache is a virtual server if stored on amazon. *When servers are pointed to Sam-Cache (sam-cacheyo3wi0hee8phaequ. stingraydigital.com),....* See also Claim 1[a] for "largechache" and /data directory. The Galaxie Framework runs in a Java Virtual Machine, by using the libjvm.so library that is part of the Java Virtual Machine (JVM). as shown by EGLA-TRELLO-000488 hence the caching server *2016-02-04 08:52:00: [ERROR] bin/GalaxieAudioEngine [0x4bf249]* *2016-02-04 08:52:00: [ERROR] stack trace:* *2016-02-04 08:52:00: [ERROR] /usr/lib64/libGalaxieFramework.so : SignalTranslator<SegmentationFault>::SingletonTranslator::SignalHandler(int)+0x25* *2016-02-04 08:52:00: [ERROR] /usr/java/latest/jre/lib/amd64/server/libjvm.so [0x2b042e739f59]* *2016-02-04 08:52:00: [ERROR] /usr/java* At MC-EGLA-000337 Dr. Shamos, Expert for Stingay testified that such storage was a virtual machine (emphasis added): *Within an exhibit to Dr. Shamos' expert report, Dr. Shamos stated that "[t]he StillPic Generator and the Audio engine are the same piece of software. Thus one does not transmit to the other and the* ***StillPic Generator virtual machine*** *cannot act as 'receiving system' for the Audio Engine." (Dkt. No. 188-5 at 12 (using ECF page number).)*
	[b] receiving from a content provider, a request for at least one media stream for playback on a broadcast media channel, wherein the at least one media stream includes a plurality of multimedia items of different types;	The content provider, e.g. is AccessCommunicaiton1, as Playlist Device ID states at EGLA-TRELLO-0000070. The Playlist for the content to playback includes GXMC0176_NT.xml and different Identifiers for the plurality of multimedia items, in thi case. "Babalikan Mo Rin Ako" and "Haband May Buhay" with Ids=197 and 3375 for the playist in use.

	[c] obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format;	The content from the multimedia items includes retrieving, multimedia from the cache, as the image cover for the album, in this case from EGLA-TRELLO-0000070, as shown at *[ERROR] Cache - internal error: expected to get a state from key [/song/L 2129124/showCoverORgenericCover/size_103_574.jpg]* *[ERROR] Cache - internal error: expected to get a state from key [/song/L 1835012/showCoverORgenericCover/size_103_574.jpg]* *2016-05*. These covers are received from the website http://covers.galaxie.ca/song/G:24275/001/ShowCoverOrGeneric.... As shown at EGLA-TRELLO-0000571 (See also other urls such as EGLA-TRELLO-000656n and EGLA-TRELLO-000657 that shows that the initial access to galaxie.ca was May 29th, 2014).. Similarly, the multimedia items e.g. music is also downloaded using the MediaDownloader. For example as album cover are located at http://mediafile.galaxie.ca/data/000/050/200/000050200610 Other media assets are located at http://covers.galaxie.ca/song/G:49964/001/showCoverORgenericCover/size_20_574.jpg but are not accessible providing an error message and depicted at EGLA-TRELLO-000658. As shown at EGLA-TRELLO-000548, and assets are downloaded and its "download_time" is recorded, as the log file reports: *mysql> select * from mediafile_metadata where uri like "%/data/final/188/1882328%";* +-------+----------+----------+----------+----------+----------+----------+----------+ ----+ *| id | uri | asset_id | role_code | format | product | public_key | storage | download_time |*

		+-------+----------+----------+----------+----------+----------+----------+----------+---------- ----+ | 58526 | /data/final/188/1882328 | 1261691 | GX_FLAC_CORRECTED_48KHZ_CRYPT | FLAC_CRYPT | GALAXIE | 20189162 | FILE_SYSTEM | NULL | +-------+----------+----------+----------+----------+----------+----------+----------+---------- ----+ The download of assets occurs from file-streaming-service.mtl.stingray.com (emphasis added), as shown below from EGLA-TRELLO-000494, as shown the file /data/video_linear/AV_30_MP2_12M/amb2117908.m2v is downloaded to what appears to be the Ambience channel *INFO | jvm 1 | 2018/08/04 17:34:31 | 2018-08-04 17:34:31,513 ERROR [MediaFileDownloadStrategy] - Exception occured after 20101 milliseconds.* *INFO | jvm 1 | 2018/08/04 17:34:31 | 2018-08-04 17:34:31,514 ERROR [MediaFileDownloader] - Failed to download media file : /data/video_linear/AV_30_MP2_12M/amb2117908.m2v* *INFO | jvm 1 | 2018/08/04 17:34:31 | **java.io.IOException: com.stingray.sam.common.util.operation.OperationException: java.net.UnknownHostException: filestreaming-service.mtl.stingray.com: Name or service not known*** *INFO | jvm 1 | 2018/08/04 17:34:31 | at com.stingray.galaxieclient.download.mediafile.MediaFileDownloadStrategy.downloadFile(MediaFileDownloadStrategy.java:156)* *INFO | jvm 1 | 2018/08/04 17:34:31 | at com.stingray.galaxieclient.download.mediafile.MediaFileDownloader.sync(MediaFileDownloader.java:95)* *INFO | jvm 1 | 2018/08/04 17:34:31 | at com.stingray.galaxieclient.download.SyncTask.run(SyncTask.java:42)* The server when connected via https returns that there is maintenance as shown at EGLA-TRELLO-0000659

	[d] rendering a web page by a browser using the content;	See Claim 1[e] shows that HTML page exists and hence it is rendered by the UbiquiCAST server. The MC-EGLA-000619 further indicates that "*The Stingray Music Method transmits the data packet (e.g., the HTML or XML document) to a system (e.g., a device running the Stingray music app) including a video image generator, wherein the video image generator is configured to generate a video image (e.g., a video image including the song title "Back on the Chain Gang," the artist name "Pretenders," and the associated cover art image) using the video image specification and the system is configured to provide the generated video image (e.g., the video image including the song title "Back on the Chain Gang," the artist name "Pretenders," and the associated cover art image) to a device that is operable to display the video image to a user of the device.*" Therfore a webpage is rendered, and as discussed in Claim 1[e] and 10[c] the responses of all assets correspondto the HTTP protocol, hence a webpage is assembled and rendered.

	[e] generating a temporal sequence of screen captures of the rendered web page, where each screen capture defines all the content of the web page at a given time, and at least two adjacent screen captures illustrate a dynamic change of at least a portion of the content over time;	The GalaxieStillPic Generator use the html content: Ads URL, Logo, Cover Page, and in collaboration with the AudioEngine, creates the multimedia asset to generate the output. As shown, each asset, playing and next ("not played), or played ar eshown at EGLA-TRELLO-000521 *[PLAYING] <Entry Event="12" Type="Playing" Category="020" Id="1123" Title="Veinte anos" Artist="Buena Vista* *[NEXT] <Entry Event="13" Type="Not Played" Category="M17" Id="1372" Title="Eres Mi Cancion" Artist="Rubén* Each of the screens are different as Id=113 and 1372 will show different Still Pictures generated from the HTML specification and HTTP Assets. Hence for each of the screen different media assets are generated and rendered, and two or more adjacent screen captures illustrate a dynamic change. *<Entry Event="10" Type="Played" Category="208" Id="2009" Title="Here for You" Artist="Kygo feat. Ella He* *<Entry Event="11" Type="Played" Category="209" Id="1377" Title="Sorry" Artist="Justin Bieber" Album="Pur* *<Entry Event="12" Type="Playing" Category="204" Id="5537" Title="This Could Be Love " Artist="Borgeous &* *<Entry Event="13" Type="Not Played" Category="212" Id="9127" Title="Only 1" Artist="The Aston Shuffle fe* The GalaxieStillPicGenerator, generates a temporal sequence of screens the, as shown in this error message, the GalaxieStillPicGenerator was (EGLA-TRELLO-000632) • Generating a .file at /data/video_realtime/0161735.tar • The Logo file needs to be loaded via HTTP • The Ads URL needs to be loaded via HTTP • If too many open files are opened then an error is thrown and a deletion is next. *2015-10-08 11:21:26,941 INFO [GalaxieStillPicGenerator] - Generating new /data/video_realtime//0161735.tar* *2015-10-08 11:21:26,941 ERROR [MediaGenerator] - Could not read Logo file* *2015-10-08 11:21:26,942 ERROR [MediaGenerator] - Could not read Ads URL Too many open files* *2015-10-08 11:21:26,942 ERROR [MediaGenerator] - High level exception: Too many open files* *2015-10-08 11:21:26,943 ERROR [GalaxieStillPicGenerator] - Could not generate fallback for /data/video_realtime//0161735.tar, deleting output file {quote}*

	[f] assembling the at least one media stream using the temporal sequence of screen captures; and	The temporal sequence of screen is demonstrated by GOP, and 10FPS (Frames per second) as shown EGLA-TRELLO-000568. *Glasfaser agreed to do 10 fps to open the GOP and allow for more refrence frames on their streams.* *Tests have been done on the back up server, which will need to be moved to the primary.* *Will need to confirm that date with the client.* *Settings to copy:* ***StillPic*** ***service.properties***
	[g] providing the at least one media stream to the content provider for broadcast on the broadcast media channel.	See 1[i] as the generated media assets are broadcasted to the media channel, in the cases shown at 1[i] are the multicast addresses and SPTS/MPTS modes, depending on the cable provider. And at the encoding format the provider needs.
11	The method of claim 10, wherein the obtaining comprises:	
	retrieving, for each of the plurality of multimedia items, at least one audio file corresponding to an audio component of the multimedia item and a plurality of screen captures corresponding to a video component of the multimedia item.	The audio file is used, e.g. AC-3, AAC, FLAC, or other formats at shown at Claim 1[g] the FLAC file or other audio files are then retrieved that correspond to the screen captures. At EGLA-TRELLO-000612 the log tracks that a particular son, with title and artist is played and that the proper audio is associated to that screen. *<Entry Event="11" Type="Played" Category="209" Id="1377" Title="Sorry" Artist="Justin Bieber" Album="Pur* *<Entry Event="12" Type="Playing" Category="204" Id="5537" Title="This Could Be Love " Artist="Borgeous &* *<Entry Event="13" Type="Not Played" Category="212" Id="9127" Title="Only 1" Artist="The Aston Shuffle fe* *<* The customers such as Bell request's use 720p and AC 2.0 at 384Kbps, with MPEG4 compression as shown at EGLA-TRELLO0-000642.
12	The method of claim 11, wherein the generating comprises:	

	combining the plurality of screen captures and the at least one audio file to create each of the plurality of multimedia items.	The audio component AC3 for example needs to be +3dB as shown at EGLA-TRELLO-000643,hence each audio file is combined or multiplexed with the screen capture video at a certain GOP. EGLA-TRELLO-000568 The Ubiquicast use FFMPEG as one the strategy to assemble all the stillpics as shown at EGLA-TRELLO-000644. *Upgrade Ubi to 4.3.3. and add :* *{code:java}* *generation.stillPicStrategyClassName=com.stingray.galaxie.stillpic.impl.StillPic DrawerFFmpegStrategy{code}* *To service.properties file* The use of the class *com.stingray.galaxie.stillpic.impl.StillPicDrawerFFmpegStrategy* plus the installation of FFMPEG are indicators that Ubiquicast 4.3.3 was used to include FFMPEG and GOP (see EGLA-TRELLO-000568) At EGLA-TRELLO-000631, the installation steps include ffmpeg, libarchive, libzen, and others. As the ticket reads "*Install ffmpeg, libarchive, libzen, etc.*" As other dependencies, at EGLA-TRELLO-000540, and its is updated as shown: *device_software_id = 124 ensure that all standard config params are specified dependencies:* *yum install SDL libavcodec.so.56 that comes with ffmpeg 2.7.2* ** Validate GalaxieClient functionality after update* The server list shows bell, maxtrax, talkltak, anvia, videotron, and many others.
13	The method of claim 12, further comprising:	
	[a] the virtualized caching server detecting a change at the at least one webpage corresponding to at least one of the plurality of multimedia items;	The detection occurs when switching from one song to the next, as the page then switches the "Next" being played to be the "Playing" and updates the "Next" song to play. See 10[e]

	[b] in response to detecting the change, retrieving a new plurality of screen captures from the at least one webpage for the at least one of the plurality of multimedia items; and	This occurs in the UbiquiCast by two ways: • As the playlist changes, all the assets can be regenerated using the GalaxieStillPicGenerator, • As the next song is set and the cache does not have the contents, GalaxieStillPicGenerator will generate the new assets for new songs. See claims 10[e], 10[c] and Claim 1[e].
	[c] reassembling the at least one of the plurality of multimedia items using the new plurality of screen captures to yield an updated multimedia item.	GalaxieStillPicGenerator reassembles the multimedia and generates new assets. See Claim 10[e].
14	The method of claim 11, wherein the retrieving of the plurality of screen captures comprises obtaining the plurality of screen captures from a playback of a video on the at least one webpage.	Plausible but no evidence on trello.com
15	The method of claim 14, wherein the combining of the plurality of screen captures comprises metadata corresponding to at least one of a song title, an artist, and a music genre.	N/A.,
16	The method of claim 10, further comprising:	
	the virtualized caching server identifying the at least one webpage based on a channel identifier associated with the broadcast media channel.	As shown at EGLA-TRELLO-0000069 is shown as, whre the channel identifier is defined: *[PLAYING] <Entry Event="12" Type="Playing" Category="020" Id="1123" Title="Veinte anos" Artist="Buena Vista* *[NEXT] <Entry Event="13" Type="Not Played" Category="M17" Id="1372" Title="Eres Mi Cancion" Artist="Rubén* An associated playlist is pushed to SQS (Amazon) via /data/metadata/GXMC0176_NT.xml as the playlist for the channel assigned. *Pushing file to SQS: /data/metadata/GXMC0176_NT.xml* *<Playlist DeviceId="accesscommunication1" FileName="GXMC0176_NT.xml" Now="Fri May 20 07 24 34 2016" TimezoneId="America/Regina">*
17	The method of claim 10, further comprising:	

	the virtualized server querying the content provider to determine the second format, wherein the second format corresponds to a Moving Picture Experts Group (MPEG) format.	See MPTS and SPTS at claim 1[i] and Claim 3.
18	The method of claim 10, wherein the content provider is a cable television operator or a satellite television operator.	See Claim 12 and EGLA-TRELLO-0000517 with a list of cable operators.
19	The method of claim 10, wherein providing the at least one media stream to the content provider comprises streaming the at least one media stream to an MPEG multiplexer associated with the content provider.	An MVPD or a Cablle/Satellite Operator uses a a multiplexer to "mix" all the channels that content providers sell to consumers. E.g. ESPN, FOX, 50 Music Channels, etc[3]. The Device Proposal does not permit MVPDs to offer their services consistent with the content licenses and retransmission consent requirements under which they acquire distribution rights. For example, using native architectures or apps, MVPDs may assure that programming is kept in the right neighborhood, such as a news channel placed in a news "neighborhood" or a premium service kept adjacent to its multiplex channels. They may assure that search returns do not place a programmer next to an X-rated offering. Under the Device Proposal, the MVPD cannot fulfill these requirements. The Device Proposal now acknowledges this lack of protection, but declines to advance a proposal that respects these licensing conditions. Instead, the proposal now suggests that all aspects of the numbering, grouping and presentation of channels be defined by FCC regulation rather than marketplace arrangements that reflect copyright license conditions, retransmission agreements, local laws and expectations, and an MVPD's own decisions about how to present services—decisions that are protected by the First Amendment.
20	The method of claim 10, further comprising:	

[3] FCC Record: A Comprehensive Compilation of Decisions, Reports, Public Notices, and Other Documents of the Federal Communications Commission of the United States. (2015). United States: Federal Communications Commission.

	the virtualized caching server provisioning, on at least one server, at least one virtual machine for performing the receiving, obtaining, generating, assembling, and providing.	At least sam-cache-* would be storing playlists and other resources used for storage, as these virtualized servers are provided by Amazon Web Services (EGLA-TRELLO-0000481). The server is located at 143.224.220.150 ping sam-cache-yo3wi0hee8phaequ.stingraydigital.com PING sam-cache-yo3wi0hee8phaequ.stingraydigital.com/ (143.244.220.150): 56 data bytes The name servers are: ns-1392.awsdns-46.org ns-1924.awsdns-48.co.uk ns-196.awsdns-24.com ns-513.awsdns-00.net The other source that is cache is located at 192.48.220.115 PING file-streaming-service.mtl.stingray.com (192.48.220.115) The name servers are: ns-1124.awsdns-12.org ns-1899.awsdns-45.co.uk ns-422.awsdns-52.com ns-658.awsdns-18.net See EGLA-TRELLO-0000661 and EGLA-TRELLO-0000660. The AWSDNS is Amazon Web Services DNS as shown at EGLA-TRELLO-000662 that demonstrates the use of AWSDNS or Amazon Web Services, where those servers are located and are virtualized cloud-based platforms. The Amazon Elastic Cloud (EC2) is the most popular cloud-based platform from Amazon https://aws.amazon.com/ec2/ Additionally, Dr. Shamos, Stingray's expert testified that "At MC-EGLA-000337 Dr. Shamos, Expert for Stingay testified that such storage was a virtual machine (emphasis added): *Within an exhibit to Dr. Shamos' expert report, Dr. Shamos stated that "[t]he StillPic Generator and the Audio engine are the same piece of software. Thus one does not transmit to the other and the* ***StillPic Generator virtual machine*** *cannot act as 'receiving system' for the Audio*

		Engine." (Dkt. No. 188-5 at 12 (using ECF page number).)"
21	The method of claim 10, wherein virtualizing the system is performed using one of Docker, Xenserver, or a virtual machine.	The use of the technology for virtual machines for Amazon is EC2, VmWare or Docker.
22	The method of claim 10, wherein virtualizing the system includes virtualizing the system to include at least one virtualized multicasting server that perform the providing the at least one media stream to the content provider.	At MC-EGLA-000337 Dr. Shamos, Expert for Stingay testified that such storage was a virtual machine (emphasis added): *Within an exhibit to Dr. Shamos' expert report, Dr. Shamos stated that "[t]he StillPic Generator and the Audio engine are the same piece of software. Thus one does not transmit to the other and the* ***StillPic Generator virtual machine*** *cannot act as 'receiving system' for the Audio Engine." (Dkt. No. 188-5 at 12 (using ECF page number).)* The ubiquicast is used for primary and backup to multicast, hence if the StillPic Generator is a virtual machine, the multicasting unit should be another Virtual Machine.
23	The method of claim 10, wherein virtualizing the system is performed for one channel, wherein the virtualized caching server is operable for one channel, wherein virtualizing the system is repeated for each one of a plurality of other channels.	Not evidence found on trello.com
24	The method of claim 10, wherein receiving the request is performed using a JSON API.	By DOE, all requests made with AmazonSQS are JSON however JSON object format is unknown. Amazon documents that AWS JSON Procols for AmazonSQS are utilized[4] See EGLA-TRELLO-0000663
25	A computer-implemented method comprising:	
	[a] receiving, from a content provider, a request for at least one media stream for playback on a broadcast media channel, wherein the at least one media stream includes a plurality of multimedia items of different types;	See Claim 10[b]

[4] https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-json-faqs.html

	[b] obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format, performed over a first TCP-IP socket of a caching unit;	The content of us first retrieved from playlist server or sam-cache-.. at EGLA-TRELLO-000526 "S*am-Cache (sam-cacheyo3wi0hee8phaequ. stingraydigital.com), some playlists do not download (at times, all playlists fail to download)."* Then, the plurality of multimedia items is exchanged via AmazonSQS that operates over TCP/IP asynchronous calls. Amazon SQS states[5]: **Second TCP/IP socket:** Amazon SQS works on a massive scale, processing billions of messages per day. You can scale the amount of traffic you send to Amazon SQS up or down without any configuration. Amazon SQS also provides extremely high message durability, giving you and your stakeholders added confidence. This is depicted at EGLA-TRELLO-000543 where the it says: "*Please make sure that the galaxie client on the following server is pushing on SQS {color:#000000}upctelemach1, dcg1, Tigo-ES, yes1, Bodeli1, hot1, dery1, cablemas-chetumel1{color} Please double check the timezone and galaxieclient on: {color:#000000 }northwestel1{color} if possible, please coordonnate a fallback on the primary server, for the follwing servers(back is currently configure in the DB):"* at EGLA-TRELLO-0000556 it says that "*We need to raise the number of next song visible the XML metadata files that the Ubi are pushing to SQS.{color "* At EGLA-TRELLO-000563 the SQSMetadataPush fails to synchon the metadata in XML format *Push failed for /data/metadata/GX31_NT.xml : com.amazonaws.AmazonClientException: Unable to execute HTTP request: Connect to 10.23.3.1:8081 timed out* At EGLA-TRELLO-000588 the SQSMetadataPush operates pushin tht eplaylist to the SQS queue, as shown: *2016-05-20 07 24 30,837 INFO [SQSMetadataPush] - [014] Push success*

		2016-05-20 07 24 30,925 INFO [SQSMetadataPush] - [189] Pushing file to SQS: /data/metadata/GX189_NT.xml <Playlist DeviceId="accesscommunication1" FileName="GX189_NT.xml" Now="Fri May 20 07 24 30 2016" TimezoneId="America/Regina"> At EGLA-TRELLO-000609 shows that Pushing a file to SQS is done as follows: *2016-05-13 19 51 48,699 INFO [SQSMetadataPush] - Pushing file to SQS!* *2016-05-13 19 51 48,700 INFO [request] - Sending Request: POST https://queue.amazonaws.com //008306160229/GalaxieMetadataPushQueue Parameters: (MessageBody: <feff><?xml version="1.0" encoding="utf-8"?>* *<Playlist DeviceId="maxtrax1" FileName="GX45_NT.xml" Now="Fri May 13 19 51 48 2016">* The Playlist with entries used with different events, are shown at: *<Entry Event="00" Type="Played" Category="200" Id="7054" Title="Stingray ID.045.Eclectic Electronic.v1.w* *<Entry Event="01" Type="Played" Category="211" Id="2467" Title="Calm Down" Artist="Katy B, Four Tet &amp* *<Entry Event="02" Type="Played" Category="201" Id="7825" Title="Blind Heart" Artist="Cazzette & Terr* *<Entry Event="03" Type="Played" Category="212" Id="9133" Title="Lies" Artist="Jane XØ" Album="" Composer* *<Entry Event="04" Type="Played" Category="211" Id="7174" Title="You're Good but I'm Better" Ar* *<Entry…..* Therefore, the SQS system is a TCP/IP and provides the content in at lease one first format, corresponding to a plurality of multimedia items (e.g. id 7054, 2467, 7825, 9133, 7174, etc…) See also EGLA-TRELLO-000525 *2016-05-13 19:51:48,699 INFO [SQSMetadataPush] - Pushing file to SQS!* *2016-05-13 19:51:48,700 INFO [request] - Sending Request: POST https://queue.amazonaws.com //008306160229/GalaxieMetadataPushQueue Parameters: (MessageBody: <feff><?xml version="1.0" encoding="utf-8"?>* *<Playlist DeviceId="maxtrax1" FileName="GX45_NT.xml" Now="Fri May 13 19:51:48 2016">*
	rendering a web page by a browser using the content;	See Claim 10[c]

[5] https://aws.amazon.com/sqs/faqs/

	generating a temporal sequence of screen captures of the rendered web page, where each screen capture defines all the content of the web page at a given time, and at least two adjacent screen captures illustrate a dynamic change of at least a portion of the content over time;	See Claim 10[d]
	assembling the at least one media stream using the temporal sequence of screen captures;	See Claim 10[e]
	providing the at least one media stream to the content provider for broadcast on the broadcast media channel; and	See Claim 10[f]

	providing, at a second TCP/IP socket of the caching unit, a status of the obtaining, generating, and assembling.	The content of us first retrieved from playlist server or sam-cache-.. at EGLA-TRELLO-000526 "S*am-Cache (sam-cacheyo3wi0hee8phaequ. stingraydigital.com), some playlists do not download (at times, all playlists fail to download)."* Then, the plurality of multimedia items is exchanged via AmazonSQS that operates over TCP/IP asynchronous calls. Amazon SQS states[6]: **Second TCP/IP socket:** Amazon SQS works on a massive scale, processing billions of messages per day. You can scale the amount of traffic you send to Amazon SQS up or down without any configuration. Amazon SQS also provides extremely high message durability, giving you and your stakeholders added confidence. This is depicted at EGLA-TRELLO-000543 where the it says: "*Please make sure that the galaxie client on the following server is pushing on SQS {color:#000000}upctelemach1, dcg1, Tigo-ES, yes1, Bodeli1, hot1, dery1, cablemas-chetumel1{color} Please double check the timezone and galaxieclient on: {color:#000000 }northwestel1{color} if possible, please coordonnate a fallback on the primary server, for the follwing servers(back is currently configure in the DB):"* at EGLA-TRELLO-0000556 it says that "*We need to raise the number of next song visible the XML metadata files that the Ubi are pushing to SQS.{color "* At EGLA-TRELLO-000563 the SQSMetadataPush fails to synchon the metadata in XML format *Push failed for /data/metadata/GX31_NT.xml : com.amazonaws.AmazonClientException: Unable to execute HTTP request: Connect to 10.23.3.1:8081 timed out* At EGLA-TRELLO-000588 the SQSMetadataPush operates pushin tht eplaylist to the SQS queue, as shown: *2016-05-20 07 24 30,837 INFO [SQSMetadataPush] - [014] Push success*

		2016-05-20 07 24 30,925 INFO [SQSMetadataPush] - [189] Pushing file to SQS: /data/metadata/GX189_NT.xml <Playlist DeviceId="accesscommunication1" FileName="GX189_NT.xml" Now="Fri May 20 07 24 30 2016" TimezoneId="America/Regina"> At EGLA-TRELLO-000609 shows that Pushing a file to SQS is done as follows: *2016-05-13 19 51 48,699 INFO [SQSMetadataPush] - Pushing file to SQS!* *2016-05-13 19 51 48,700 INFO [request] - Sending Request: POST https://queue.amazonaws.com //008306160229/GalaxieMetadataPushQueue Parameters: (MessageBody: <feff><?xml version="1.0" encoding="utf-8"?>* *<Playlist DeviceId="maxtrax1" FileName="GX45_NT.xml" Now="Fri May 13 19 51 48 2016">* The Playlist with entries used with different events, are shown at: *<Entry Event="00" Type="Played" Category="200" Id="7054" Title="Stingray ID.045.Eclectic Electronic.v1.w* *<Entry Event="01" Type="Played" Category="211" Id="2467" Title="Calm Down" Artist="Katy B, Four Tet &amp* *<Entry Event="02" Type="Played" Category="201" Id="7825" Title="Blind Heart" Artist="Cazzette & Terr* *<Entry Event="03" Type="Played" Category="212" Id="9133" Title="Lies" Artist="Jane XØ" Album="" Composer* *<Entry Event="04" Type="Played" Category="211" Id="7174" Title="You're Good but I'm Better" Ar* *<Entry…..* Therefore, the SQS system is a TCP/IP and provides the content in at lease one first format, corresponding to a plurality of multimedia items (e.g. id 7054, 2467, 7825, 9133, 7174, etc…) See also EGLA-TRELLO-000525 *2016-05-13 19:51:48,699 INFO [SQSMetadataPush] - Pushing file to SQS!* *2016-05-13 19:51:48,700 INFO [request] - Sending Request: POST https://queue.amazonaws.com //008306160229/GalaxieMetadataPushQueue Parameters: (MessageBody: <feff><?xml version="1.0" encoding="utf-8"?>* *<Playlist DeviceId="maxtrax1" FileName="GX45_NT.xml" Now="Fri May 13 19:51:48 2016">*
26	A computer-implemented method comprising:	
	[a] at a caching unit:	Sam-Cache unit as well as Ubiquicast's /data directory See Claim 1[a]

[6] https://aws.amazon.com/sqs/faqs/

	[b] receiving, from a content provider, a request for at least one media stream for playback on a broadcast media channel, wherein the at least one media stream includes a plurality of multimedia items of different types;	See Claim 10[b]
	[c] obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format;	See Claim 10[c]
	[d] rendering a web page by a browser using the content;	See Claim 10[d]
	[e] generating a temporal sequence of screen captures of the rendered web page, where each screen capture defines all the content of the web page at a given time, and at least two adjacent screen captures illustrate a dynamic change of at least a portion of the content over time;	See Claim 10[e]
	[f] assembling the at least one media stream using the temporal sequence of screen captures;	See Claim 10[f]
	[g] at a multicast unit that is operable connected to the caching unit:	The multicasting component part of the UbiquiCAST is operatable connected to the caching unit as the multicasting of MPTS and SPTS are described.
	[h] providing the at least one media stream to the content provider for broadcast on the broadcast media channel;	The Ubiquicast provides one or many streams to the cable operator as SPTS or MPTS, see EGLA-TRELLO-0000458. *SPTS - 50 Music channels + iConcerts HD (MP4 @ 5Mbps)* *SPTS: 239.1.8.101:8101 till 239.1.8.151:8151*

	[i] recording the media stream from the caching unit to produce a recorded media stream; and	See EGLA-TRELLO-0000590, states that: "*Create a 20 minute recording of an OSE2 lineup (192 kbps - Dolby) to show up localized content.*" See EGLA-TRELLO-000636 states that: "*The team is trying to get a licence to broadcast F4K in Korea. To do so, we need to supply a 24 hours recording (00:00-24:00).*"
	[j] upon a fault being detected at the caching unit, providing at least a portion of the recorded media stream to the content provider.	Under the Doctrine of the Equivalence (DOE). The recorded content corresponds to the backup system Cache information, however a POSITA will know that a Transport Stream that was recorded (as shown Claim 26[i]) can broadcast and replace the contents from the primary server upon failure The primary and Backup servers are EGLA-TRELLO-0000458 show: *Management IPs:* *Primary* *GB1: 10.200.138.20* *Drac: 10.200.138.10* *Backup* *GB1: 10.200.138.21* *Drac: 10.200.138.11*