

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NETSKOPE, INC.,

Petitioner,

v.

FORTINET, INC.,

Patent Owner.

PTAB Case No. IPR2023-00458

Patent No. 9,280,678 B2

PETITIONER'S DEMONSTRATIVES FOR ORAL ARGUMENT

Netskope, Inc. v. Fortinet, Inc.

IPR2023-00458

Patent 9,280,678 B2

Claims 1–3, 6, 8–17, and 21–27

Petitioner Netskope's Demonstratives

Oral Hearing
June 21, 2024

Grounds of Invalidity

Ground	Basis	References	Challenged Claims
1-3	§103	Cidon + Shikfa + Herrmann	1–3, 8–14, 16, 17, 21–27
		+ Fellenstein	6
		+ Hirai	15
4-5	§103	Auradkar + Chiueh + Chambers	1–3, 8–17, 21–27
		+ Inoue	6

Overview

1. Background
2. Claim construction – namespace
3. Claim construction – “creating” and “configuring” namespaces
4. Claim construction – “policy”
5. The Cidon + Shikfa + Herrmann grounds
6. The Auradkar + Chiueh + Chambers grounds

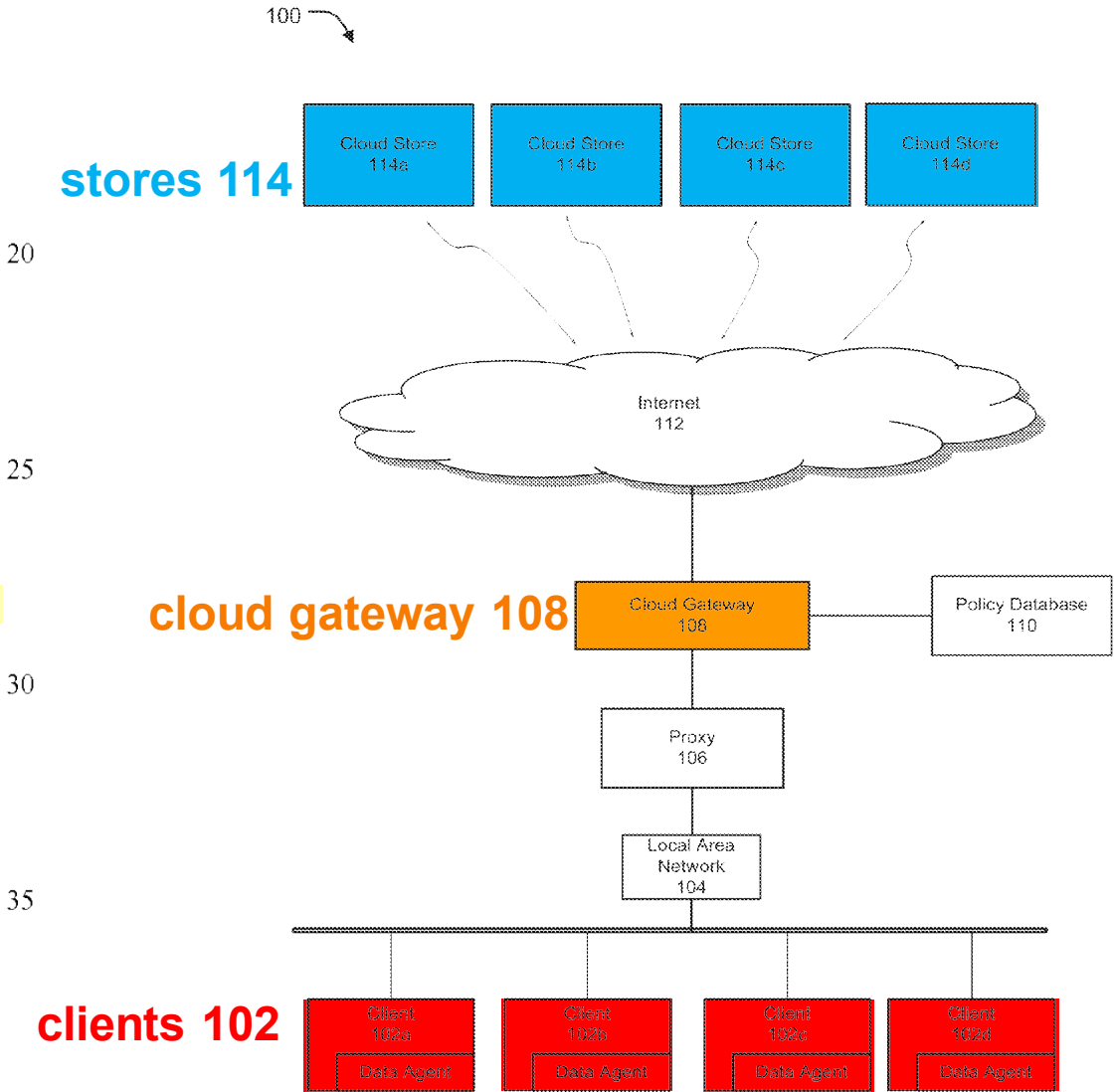
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Background: the '678 Patent

DETAILED DESCRIPTION

Systems and methods for a policy-based framework for secure cloud storage distribution and aggregation are described. Methods and systems are also provided for implementing a policy based framework for encrypting, storing, accessing, querying and managing data across one or more cloud platforms. According to one embodiment, a searchable encryption gateway framework provides assignment of a policy from a group of policies stored in a policy database to one or more users such that the policy not only defines the manner in which the users can access and process content stored on the cloud, but can also configure the mode in which the data is encrypted, stored, searched, and accessed to ensure secure and vendor independent cloud management. Embodi-



Background: the '678 Patent

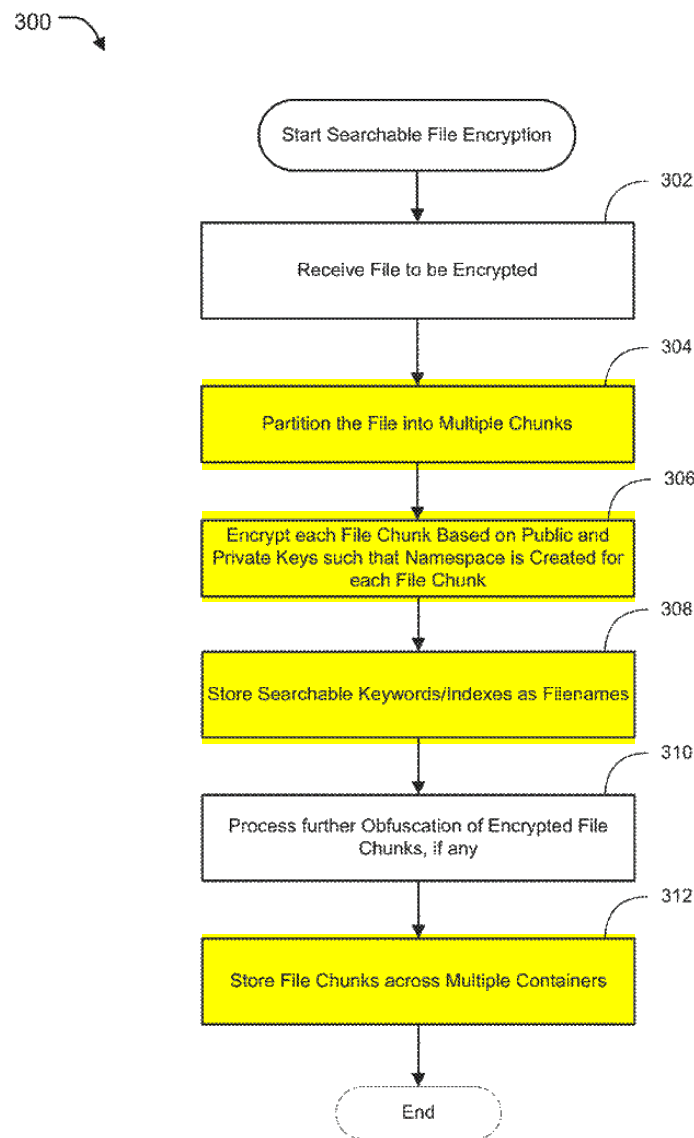


FIG. 3A illustrates an exemplary flow diagram for generating searchable encrypted files in accordance with an embodiment of the present invention.

Background: Claim 1

1. A method comprising:
 - assigning to one or more users, by a gateway device, a policy for managing access to and processing a file to be stored on one or more cloud platforms, wherein the policy defines access rights of the one or more users;
 - encrypting, by the gateway device, using cryptographic key information defined by the policy, content of the file to produce a searchable encrypted file by:
 - dividing the file into a plurality of chunks;
 - creating namespaces for one or more of the plurality of chunks; and
 - configuring the namespaces of the one or more chunks such that content of the file is encrypted in a manner that makes it searchable;
 - storing, by the gateway device, the searchable encrypted file on the one or more cloud platforms based on the policy; and
 - managing access to the searchable encrypted file by the one or more users based on the policy.

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Claim Construction – Namespace

- The '678 patent does not describe what namespaces are.

such as other directories, folders and/or files. Examples of storage containers include, but are not limited to, directories, directory structures, web directories, folders, smart folders, files and namespaces of same.

'678 Patent, 6:44-47

ated and processed locally and/or by the gateway 204. As can be seen in FIG. 2, one or more containers (e.g., directories, folders, files and their associated namespaces) of cloud service providers 206 can store metadata and/or content associated with searchable encrypted files, which can be accessed by one or more users. based on the assigned policies. Access

'678 Patent, 10:11-16

group of users 202. In one embodiment, a policy not only defines the manner in which files can be uploaded, stored, downloaded, searched, and/or processed in the context of one or more cloud platforms, but also includes any other configurable aspect of the mode in which the user 202 accesses data stored or to be stored in the namespaces, directories, folders, files or other storage containers of one or more cloud platforms. The selected policy can further be used to configure

'678 Patent, 9:19-26

Does the '678 patent describe what a namespace is?

A. I think by example, but it doesn't explicitly set out a definition that I recall.

Reply, 1; Lee, ¶101

Black Tr. (Ex. 1025) 39:17-20

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE 9

Claim Construction – Namespace

“Namespace” can have different forms, for example:

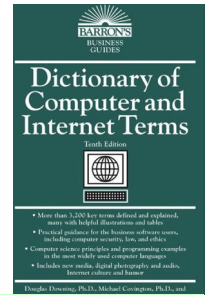
- Can be hierarchical (Ex. 1020 – Adya *et al.*),
- Can include domains (Ex. 1021 – Mika *et al.*), or
- Can be a flat, e.g., single number chosen uniformly at random (EX. 1023 – Balakrishnan *et al.*):

indirection. From Semantic-Free Referencing (SFR) [59], we borrow the idea that the service identifier namespace be *flat* (meaning that the identifiers are unstructured and not overloaded with any semantics about the object being named, *e.g.*, a flat identifier might be a number chosen uniformly at random from $[0, 2^{128} - 1]$), and from HIP and UIP again, we borrow the idea that the endpoint identifiers be flat. Our proposal thus requires a name resolution infrastruc-

Ex. 1023, p. 344

Claim Construction – Namespace

According to the Dictionary of Computer and Internet Terms:



namespace

1. the set of names available for naming things such as files, variables in a program, or computers in a network. If two parts of a program have different namespaces, the same name can be used in both places for different purposes without conflict. *See also* LOCAL VARIABLE.
2. in C#, a section of a program that has its own namespace (definition 1).

Claim Construction – Namespace

Petitioner:

- A “set of names available for naming things” such as files or segments.
Pet., 96; Reply, 1; Lee, ¶¶217.
- Namespace’s main function is to uniquely identify objects by their names within the context of the namespace.
Reply, 1; Lee, ¶¶42; Ex. 2004, Lee Tr. 39:6-40:1.

Patent Owner:

- A set of names available within a particular context (??).

POR, 18; Black, ¶¶66-67.

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5. The Cidon + Shikfa + Herrmann grounds
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Claim Construction – “Creating/Configuring” Namespaces

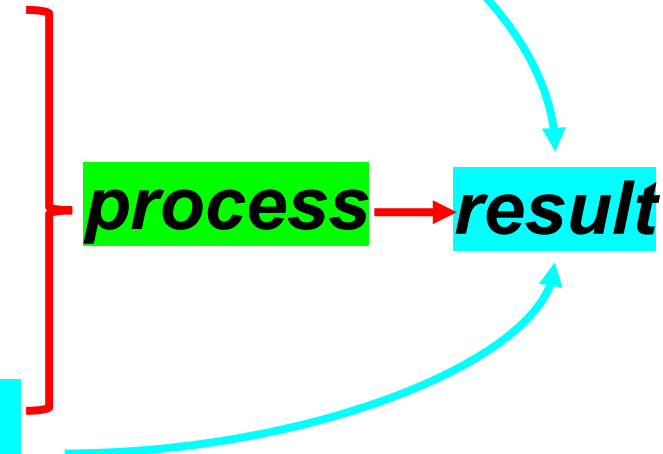
Creating/configuring namespaces is part of producing searchable encrypted file.

Claim 1 :

encrypting . . . content of the file to produce a searchable encrypted file by:

dividing the file into a plurality of chunks;
creating namespaces for one or more of the plurality of chunks; and

configuring the namespaces of the one or more chunks such that content of the file is encrypted in a manner that makes it searchable.



Claim Construction – Creating/Configuring namespaces

Petitioner:

- Creating and configuring the namespaces are performed as part of producing a searchable encrypted file.

11 I mean, that's not -- the claim language doesn't
12 explicitly, you know, the ordering of -- of these elements
13 with respect to encrypting the content. But it's very
14 clear from a POSITA -- a Person of Ordinary Skill in the
15 Art -- point of views, encrypting content of the file is
16 independent of these three elements, meaning dividing the
17 file into chunks, creating namespaces, configuring
18 namespaces. Yeah.
19 BY MR. LU:
20 Q Okay. Putting -- putting aside if there's any
21 particular order, which I would agree I don't think there
22 is, you would agree that to produce a searchable encrypted
23 file, this claim requires encrypting content of the file,
24 dividing the file into a plurality of chunks, creating
25 namespaces for the chunks, and configuring the namespaces

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Ex. 2005, Lee Tr., 18:11-25

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1. Background
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- 4. Claim construction – “policy”**
5. The Cidon + Shikfa + Herrmann grounds
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Claim 1- Policy

1. A method comprising:
assigning to one or more users, by a gateway device, a policy for managing access to and processing a file to be stored on one or more cloud platforms, wherein the policy defines access rights of the one or more users;
encrypting, by the gateway device, using cryptographic key information defined by the policy, content of the file to produce a searchable encrypted file by:
dividing the file into a plurality of chunks;
creating namespaces for one or more of the plurality of chunks; and
configuring the namespaces of the one or more chunks such that content of the file is encrypted in a manner that makes it searchable;
storing, by the gateway device, the searchable encrypted file on the one or more cloud platforms based on the policy; and
managing access to the searchable encrypted file by the one or more users based on the policy.

Claim Construction – “Policy”

“As a general rule, the words ‘a’ or ‘an’ in a patent claim carry the meaning of ‘one or more.’” *TiVo, Inc. v. EchoStar Commc’ns Corp.*, 516 F.3d 1290, 1303 (Fed. Cir 2008).

“The exceptions to this rule are ***extremely limited***: a patentee must evince a ***clear intent*** to limit ‘a’ or ‘an’ to ‘one.’” *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008).

Claim Construction – “Policy”

another user is not. User-assigned policy can further include key management **sub-policies** across cloud providers and local devices such that no vendor lock-in is required and a user is given the flexibility to transfer content across varied cloud providers and perform other desired functions that otherwise require vendor specific Application Programming Interfaces (APIs). According to one embodiment, a selected

’678 Patent, 9:40-46

be searched. So at least ideally, your policy would

have distinct sections indicating each of these pieces

of information.

Black Tr., 12:1-3

Reply, 5

Cidon’s policy specified **access** and **sharing** permissions, **copy** control, and encryption, which suggests the policy was user-specific. *Id.*, ¶¶207-213; Lee Suppl., ¶13.

Reply, 16

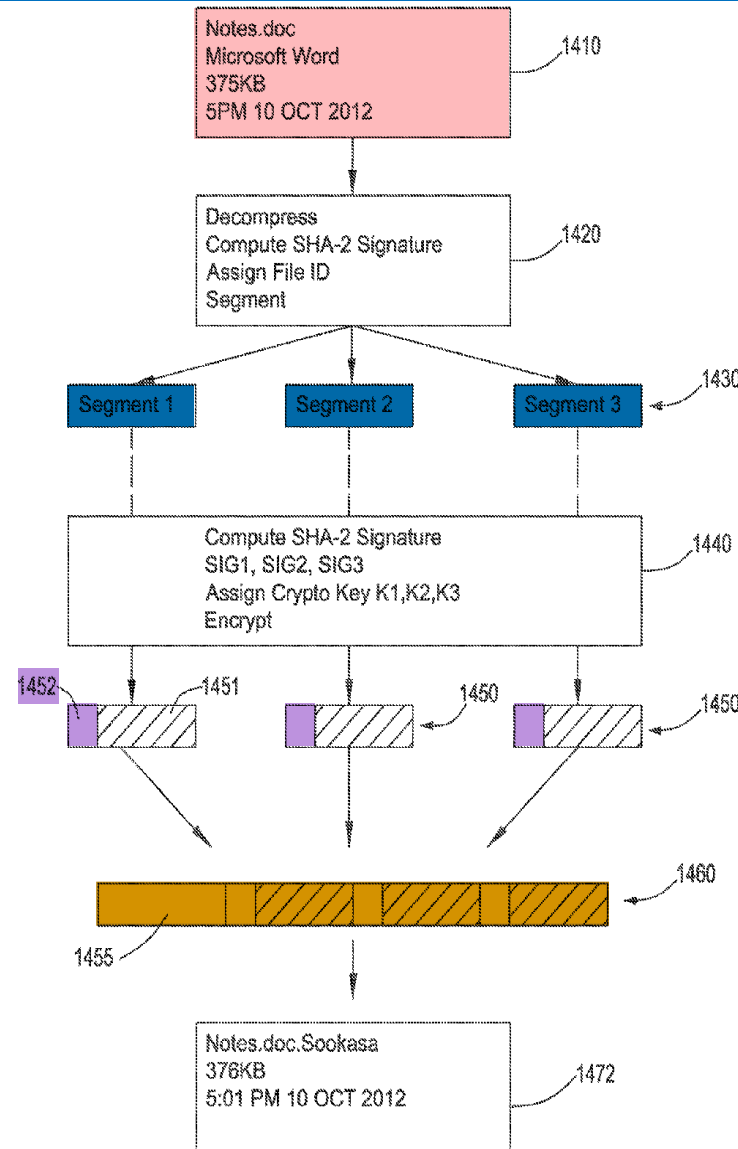
Auradkar’s enterprise access policy defined access rights, **encryption**, storage, and managing access.

Reply, 32;
Pet. 81-83;
Auradkar, ¶¶117-119

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Cidon + Shikfa + Herrmann Grounds - Namespaces



**Divide into segments
(Cidon)**

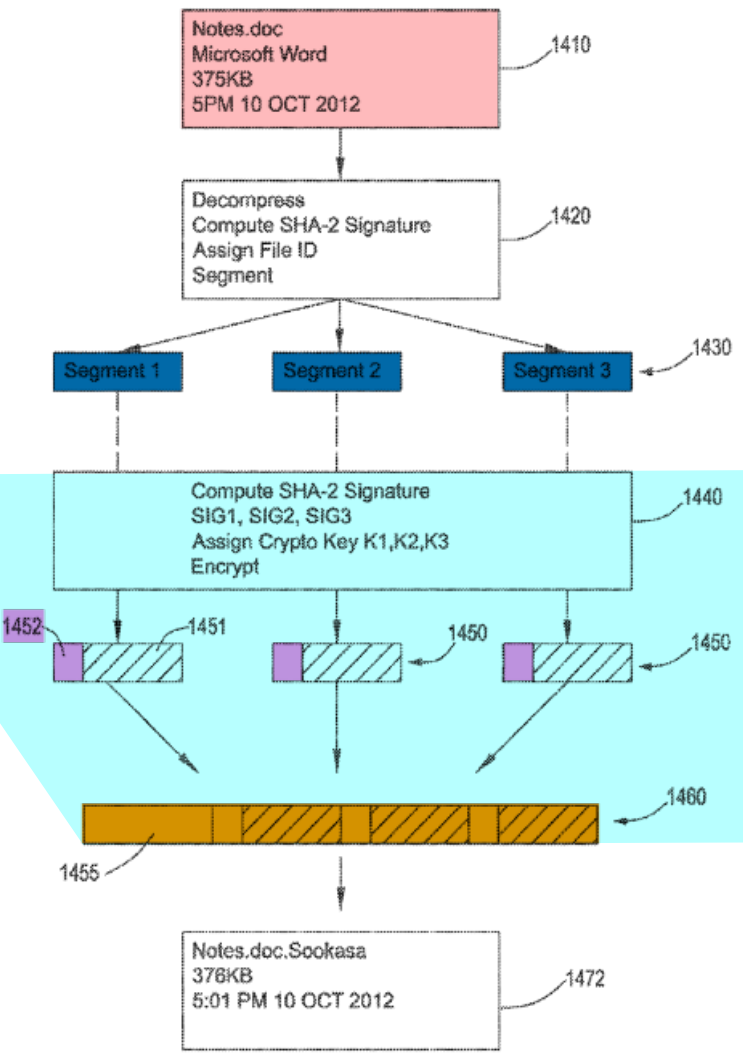
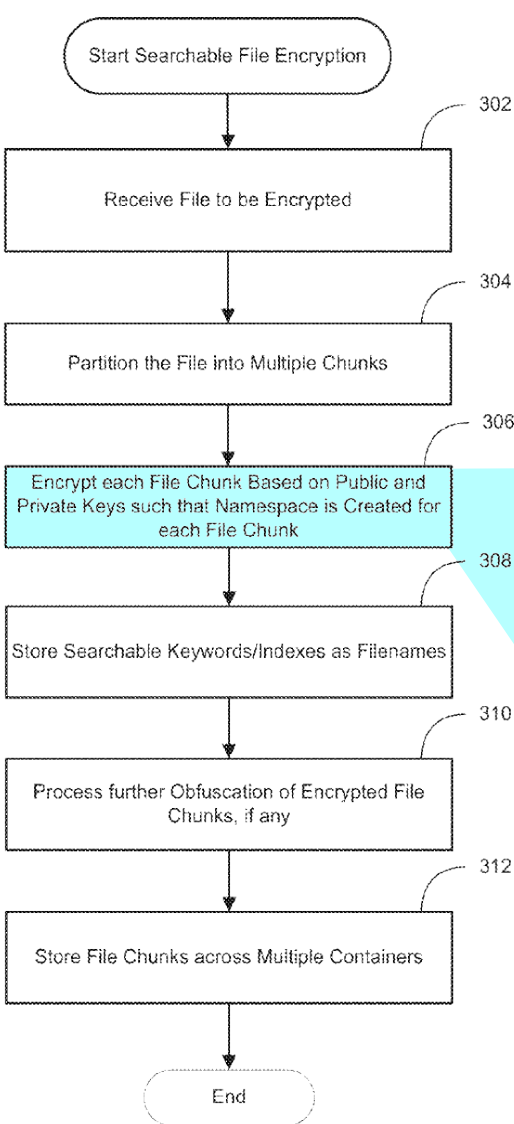
**Encrypt, create and configure namespace
(Cidon) (Cidon) (+Shikfa)**

**Produce searchable encrypted file
(Cidon + Shikfa)**

Cidon, FIG. 13 (Annotated)

Cidon + Shikfa + Herrmann Grounds – Encryption

However, even under PO's proposed construction, Cidon's creating and assigning identifiers were part of the encryption process. Notably, Cidon's using the SHA-2 algorithm to produce hashes that resulted in creating namespaces were carried out as part of the encryption process. Lee Suppl., ¶11. Cidon's operations align closely with the '678 patent. Compare '678 Patent, FIG. 3A with Cidon, FIG. 13.



Cidon, FIG. 13(Annotated)

Cidon + Shikfa + Herrmann Grounds – Configuring Namespace

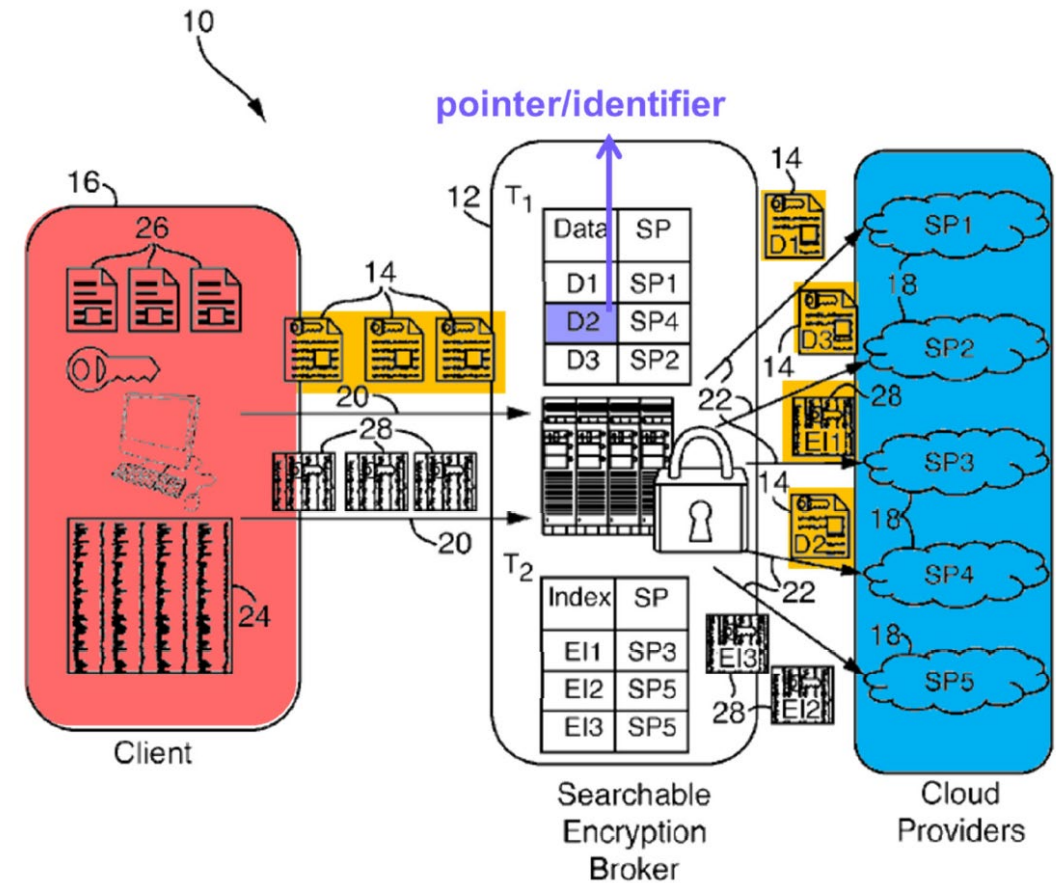
con·fig·ure \kən-'fi-gyər\ *vb* -ured; -ur-
ing : to set up for operation esp. in a par-
ticular way

M-W Dictionary (Ex. 1027)

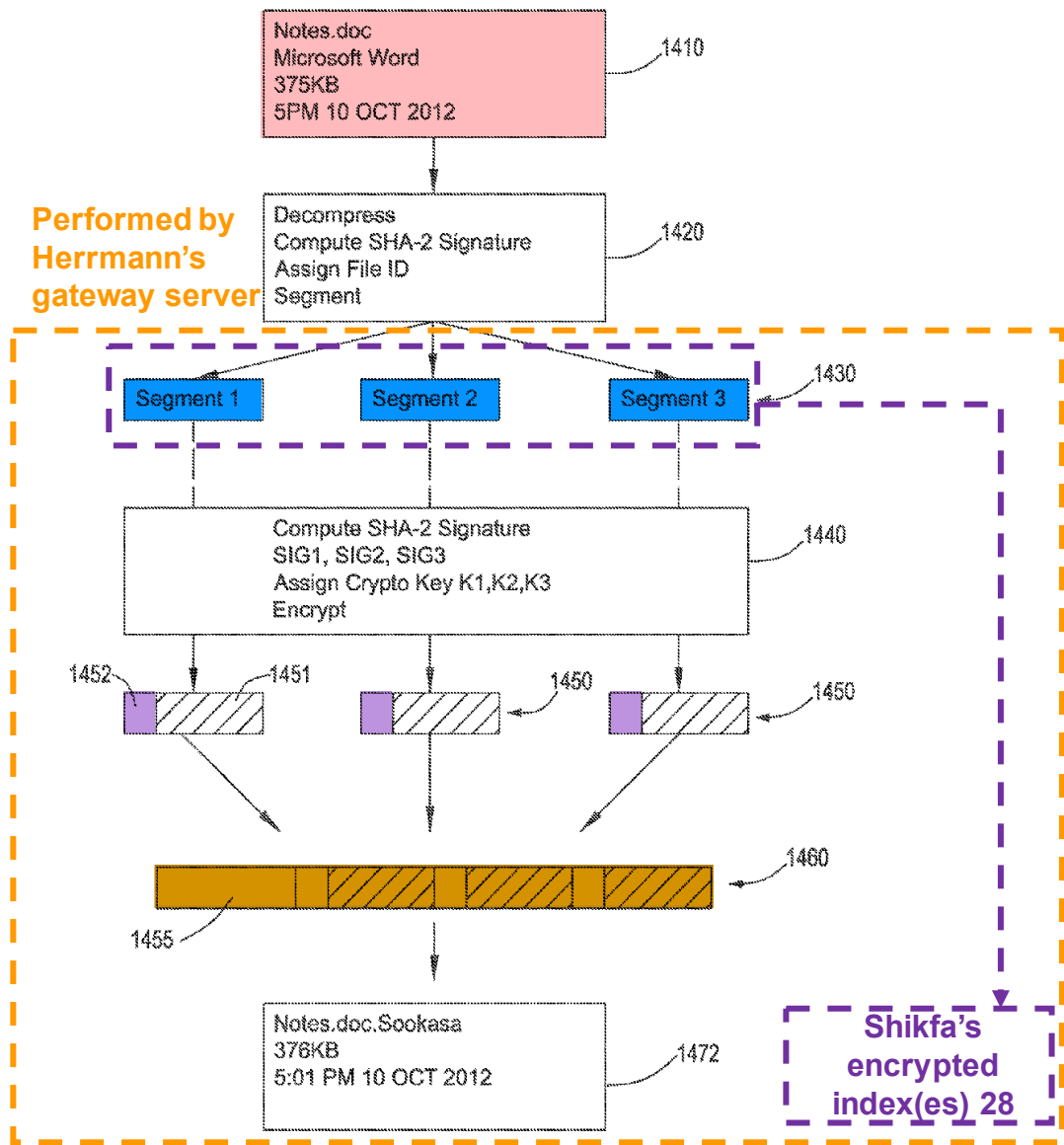
Cidon + Shikfa + Herrmann Grounds – Configuring Namespace

While Cidon taught encrypting file content to produce a searchable encrypted file (*see supra* VIII.A.2.d) and producing segment identifiers, it did not explicitly disclose configuring the segment identifiers (namespaces) so the file content was encrypted in a searchable manner. Shikfa, however, taught this limitation by describing pointers/identifiers configured to allow search and retrieval of encrypted file segments. (Lee, ¶¶99-107.)

“Each index 24 include[d] one or more keywords for the encrypted documents 14 and **pointers** to the encrypted documents 14 containing the keywords.” (*Id.*, ¶29.) Indexes 24 were then encrypted using a searchable encryption algorithm to produce encrypted indexes 28. (*Id.*) Shikfa, alternatively referred to those “**pointers**” as “**identifiers**” (e.g., D1, D2, D3 in FIG. 2). For



Cidon + Shikfa + Herrmann Grounds – Motivations

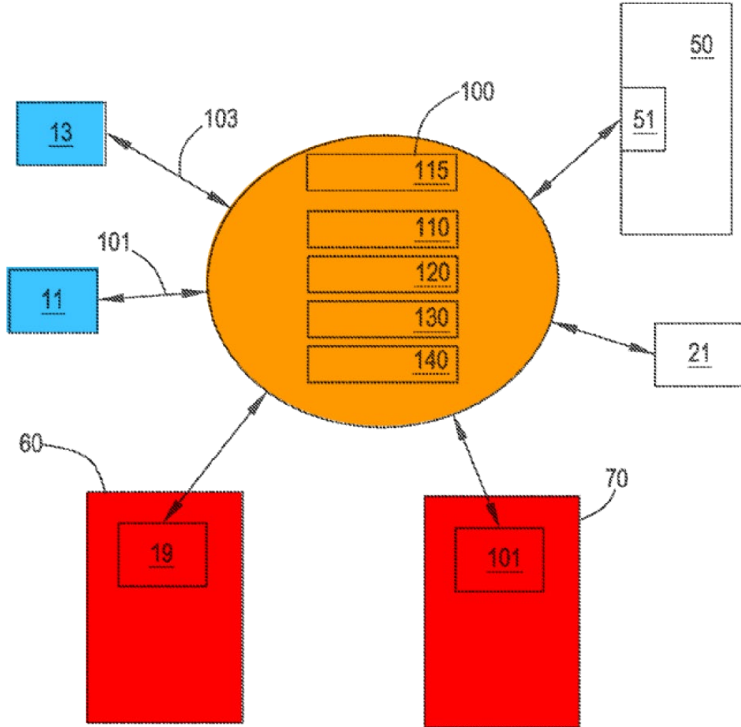


Cidon + Shikfa + Herrmann Grounds – No Teaching-Away

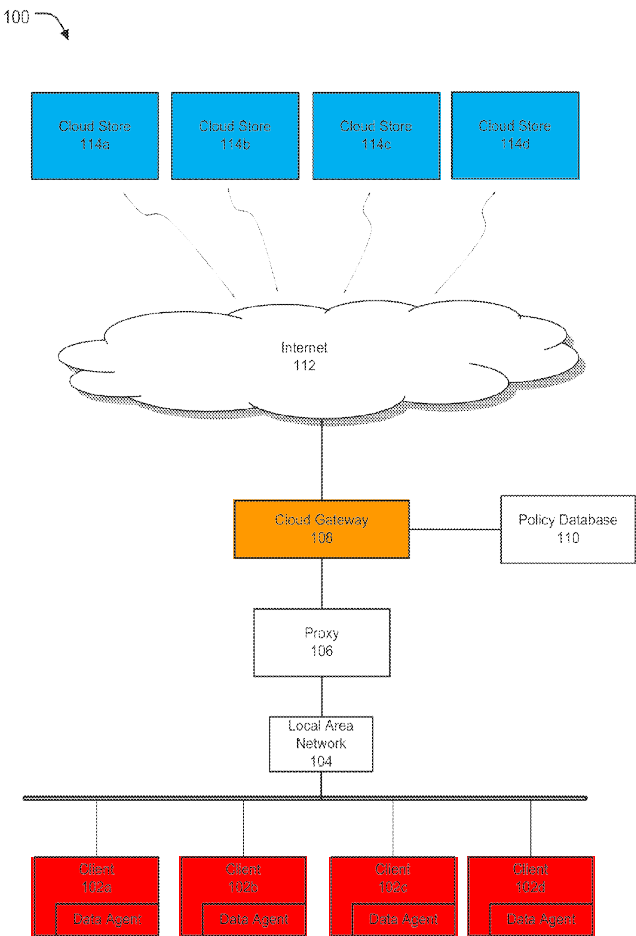
- Shikfa’s client-side encryption did not preclude incorporating a gateway with a similar encryption functionality in the Cidon-Herrmann combination.
- Shikfa did not teach away the gateway-side encryption because it does not “criticize, discredit, or otherwise discourage investigation into’ the claimed invention.” *Meiresonne v. Google, Inc.*, 849 F.3d 1379, 1382 (Fed. Cir. 2017) (citation omitted).

Cidon + Shikfa + Herrmann Grounds – “policy for managing access to and processing a file to be stored on cloud platforms”

Cidon’s policy was assigned to a “**user**.”



Cidon, FIG. 2 (Annotated)



'678 Patent, Fig. 1 (Annotated)

Cidon + Shikfa + Herrmann Grounds – Claims 11/25

- Storing a file “across two or more cloud platforms”

upload and process files. Once the mediation process with the desired set of cloud providers is complete, the gateway can be configured to upload each file, whether in chunks or not and whether encrypted or not, onto one or more containers. Con-

'678 Patent, 16:55-58

also on the rise. On similar lines, instead of storing data within a single cloud, it may also be desired by users to store data across multiple cloud platforms to ensure more security, redundancy, and reduction in potential threat of data compromise.

'678 Patent, 1:47-51

➔ Cidon’s “archiving and backup to other storage services” and “file synchronization between services” mirror the file storing process “across multiple cloud platforms” in the '678 patent. Cidon, ¶174.

Cidon + Shikfa + Herrmann Grounds – Claims 14/27

- Policy defines “one or more authorized locations to which the file may be stored”

➔ “Cidon disclosed storing a modified file to a new location to prevent a user from directly accessing the location where the original file was stored” and a “POSITA would have found it obvious that the file locations would be part of Cidon’s security policy that could also define (and manage) such location information.”

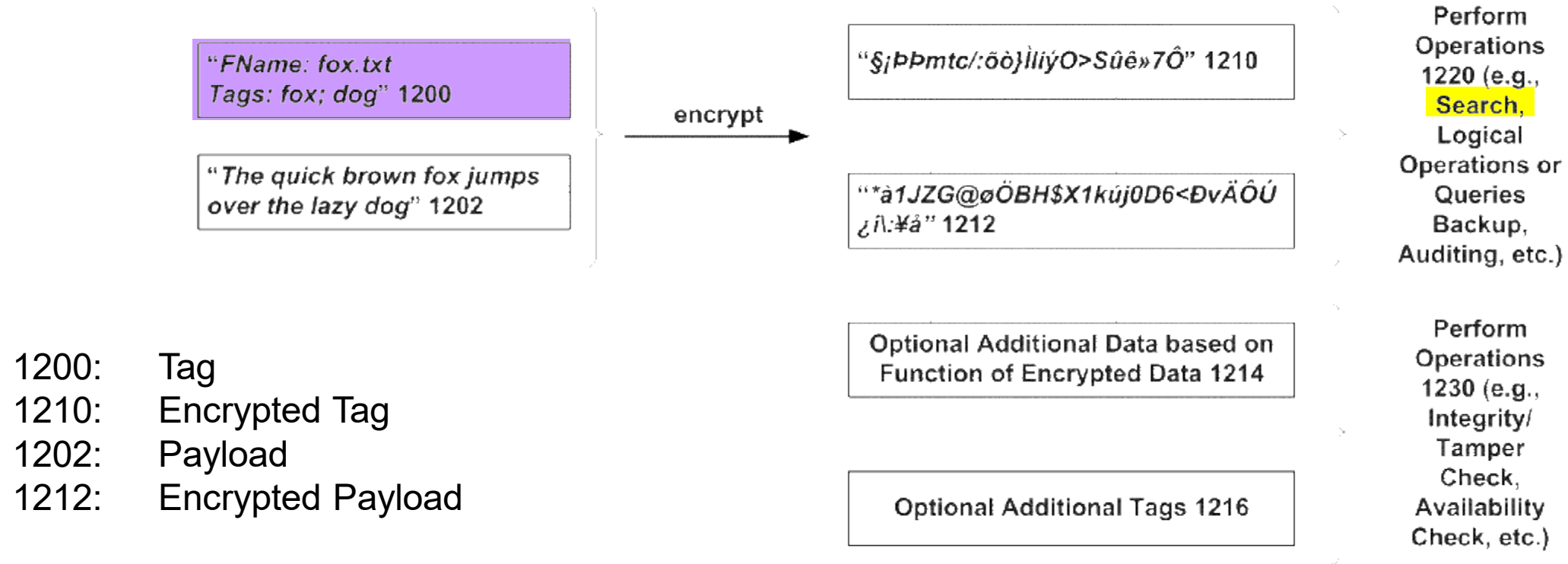
To this end, when encrypting and storing a file (e.g., a modified file), Cidon’s system would obtain the authorized location for storing the encrypted modified file from the policy, and store the encrypted modified file there. Doing so would have “prevented [the user] from directly accessing” other unauthorized storages, such as the location where the original file was stored, thereby improving data security. (*Id.*, ¶367, Lee, ¶152.)

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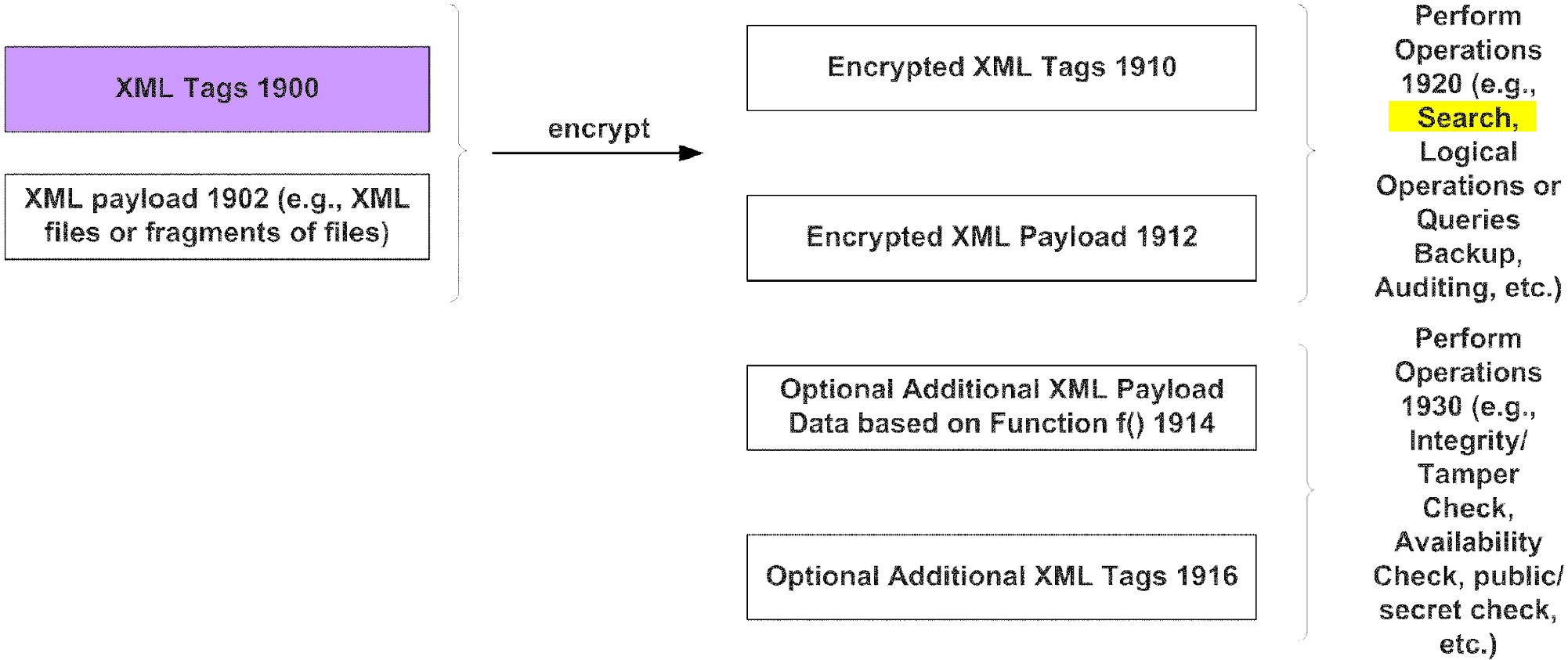
Auradkar + Chiueh + Chambers Grounds - Namespaces

Example



Auradkar, FIG. 12 (Annotated)

Auradkar + Chiueh + Chambers Grounds - Namespaces



Auradkar, **FIG. 19 (Annotated)**

Auradkar + Chiueh + Chambers Grounds - Namespaces

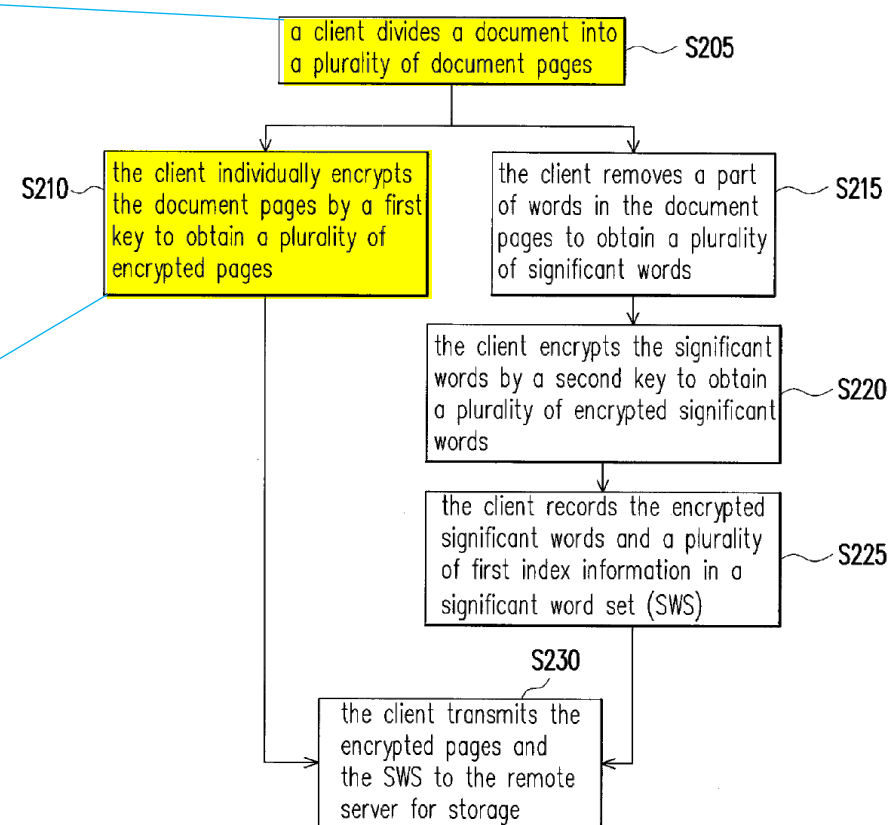
Chiueh allowed search of individual encrypted pages using a unique ID (filename + page offset) mapped to the encrypted keyword

age, the client 110 performs the steps shown in FIG. 2. In step S205, the client 110 divides each of the documents into a plurality of document pages. For example, the client 110 breaks a document into a plurality of pages, and each of the pages has a size of 128 KB. Then, in step S210, the client 110 individually encrypts the document pages by a first key CPS-KEY to obtain a plurality of encrypted pages. The encrypted pages are respectively assigned with a unique identification (ID). In the present embodiment, the client 110 individually

Chiueh, ¶20

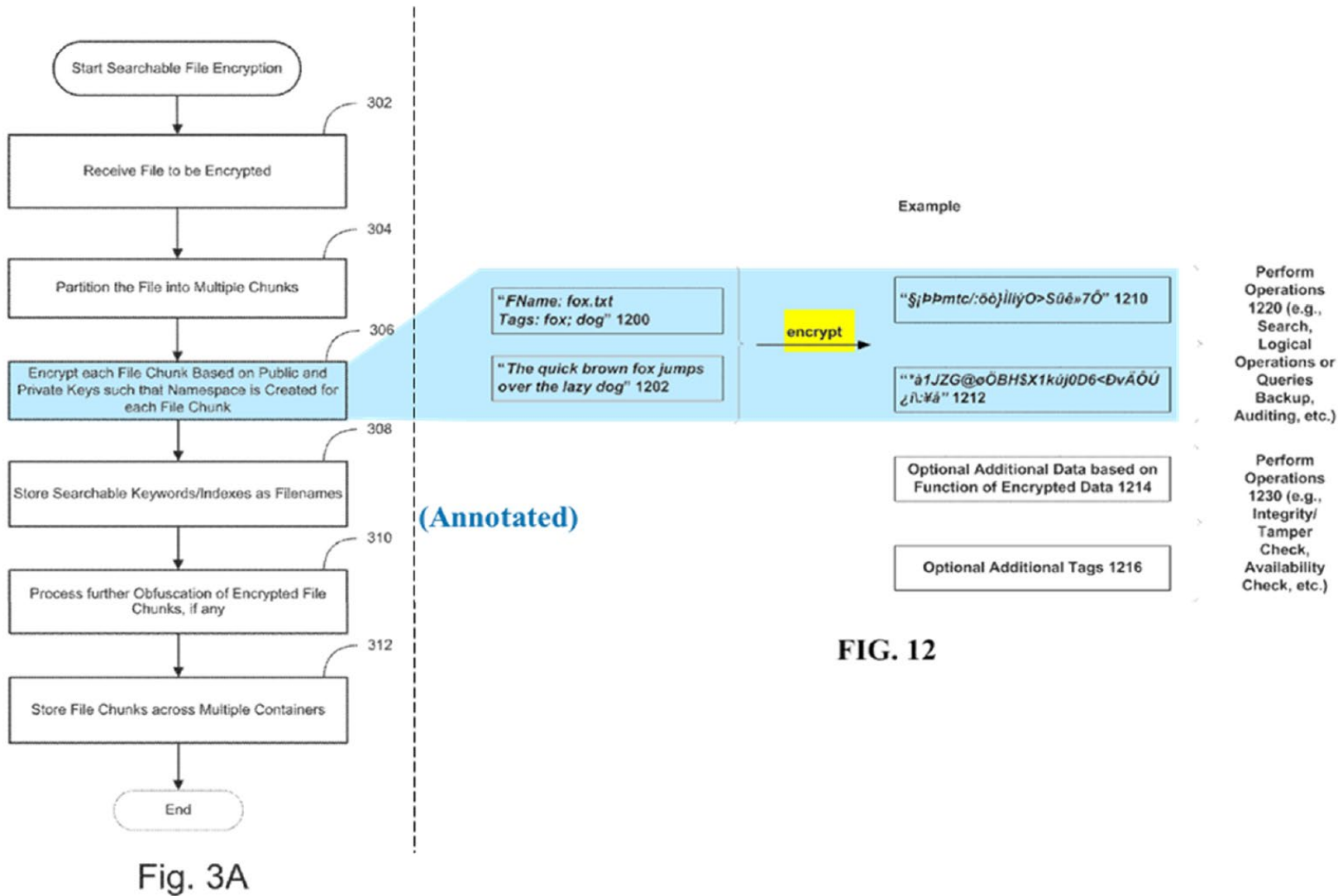
the remote server 120. Each of the encrypted words in the GSI is mapped to a corresponding document ID, where the document ID indicates an encrypted page where a given word can be found. The document ID is combination of a file name and a page offset in the document, and the file name and the page offset are combined and encrypted. The GSI is implemented

Chiueh, ¶40



Chiueh, FIG. 2 (Annotated)

Auradkar + Chiueh + Chambers Grounds - Encryption



Auradkar + Chiueh + Chambers Grounds - Encryption

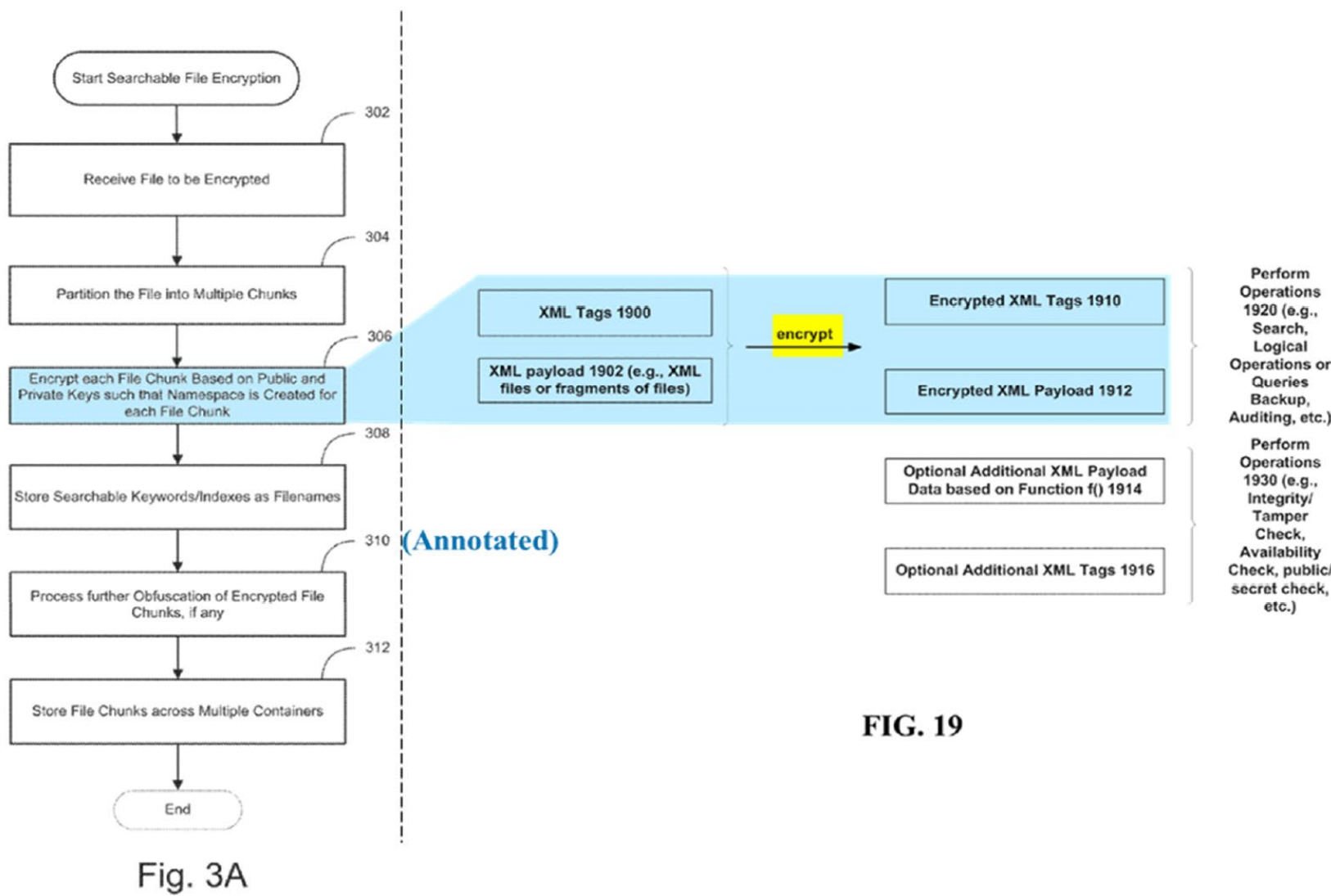


FIG. 19

'678 Patent, FIG. 3A

Auradkar, FIG. 19.

Auradkar + Chiueh + Chambers Grounds – Configuring Namespace

con·fig·ure \kən-'fi-gyər\ *vb* -ured; -ur-ing : to set up for operation esp. in a particular way

M-W Dictionary (Ex. 1027)

Chiueh's mapping of keywords to document IDs constituted "configuring the namespaces" because Chiueh created an index (a significant word set (SWS)) that mapped encrypted keywords to corresponding document ID(s) of the encrypted pages, so that the content of the encrypted pages could be searched using those keywords.

Auradkar + Chiueh + Chambers Grounds - Motivations

- “[T]he modification is to Auradkar, not Chiueh, *and*, a skilled artisan could weigh pros and cons and determine that the enhancement to Auradkar’s system would outweigh any perceived problems with using Chiueh’s document ID outside a client when Auradkar already uses similar XML tags to search XML fragments.” Inst. Dec., 44.
- Chiueh’s searchable encryption mechanism is not limited by encryption location.
- In the Auradkar-Chambers combination, the gateway is controlled by the data-protecting entity.

Auradkar + Chiueh + Chambers Grounds - a policy for “processing of a file to be uploaded on a cloud”

A. Right. I think access rights are explicitly in the policy. And then process, you know, maybe it -- that could be almost anything. But, sure, it does say the

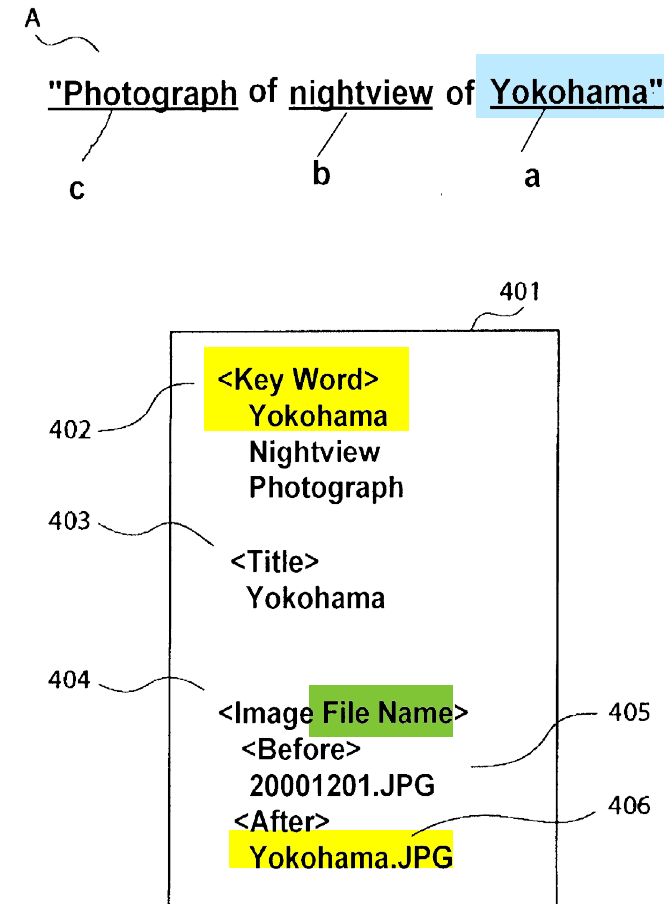
Black Tr., 10:8-10

- Auradkar’s enterprise access policy defined access rights, **encryption**, storage, and managing access.

Auradkar + Chiueh + Chambers Grounds – Claim 6

Inoue, Fig. 4 (Annotated)

Petitioner's combination incorporates Inoue's functionality of assigning a **keyword** (file content) extracted from **file content** (e.g., Auradkar's keywords 1510) into the Auradkar-Chiueh-Chambers system to produce **filenames** that also included a **keyword**.



Namespaces - Flat vs. Hierarchical Structure

5 Q. So your namespace can be as simple as a
6 number; is that right?
7 A. If you want to, yeah, sure. Why not?
8 Q. So I do want to. Let's say I do want
9 to have a namespace that is defined as a number
10 within a range from 0 to 2 to the 128 minus 1.
11 Are you with me?
12 A. Yes.
13 Q. The string ABCD would not fall within
14 that namespace that I've defined; right?
15 A. If you define --
16 ATTORNEY YUAN: Objection to form.
17 THE WITNESS: Again, if you define your
18 names to be -- can only be numbers then, of
19 course, the string ABCD would not be allowed by
20 your -- by your schema or whatever you want to
21 call it, yeah.
22 BY ATTORNEY LU:
23 Q. Okay. And then also, moving on:
24 "As another example, a namespace
25 can provide the scope or the context of

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1 identifiers, e.g., variables, functions,
2 et cetera, in a program such that an
3 identifier is referred to by its unique
4 short, local name within the namespace
5 and by its unique fully qualified name
6 (e.g., that includes the name of the
7 scope) from outside the namespace."
8 Could you explain what you mean in that
9 sentence.
10 A. So what I mean here is that really the
11 namespace does have a scope of the objects that
12 it's identifying. Meaning that the namespace's
13 own scope -- for example, if this namespace is for
14 files within that directory, then each file within
15 that directory can have a very short name. Can be
16 just -- let's say very short string.
17 But then each file within that
18 subdirectory can also be identified by a full,
19 qualified name, a long name, meaning that includes
20 the name of the directory, which -- and the parent
21 directory, which is outside the scope of the
22 directory and so on and so forth. So, for
23 example, you can say /home/Wenke/documents.
24 I would say, let's say document is the
25 namespace. Every file within the -- within the

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1 directory.
2 Now -- yeah. And then the fully
3 qualified name, meaning the
4 /home/Wenke/documents/Foo, of course, will be
5 different from /home/Wei/documents/Foo, because
6 fully qualified all the way from, you know, the
7 root directory. That's what we're talking about
8 here.
.
.
.
1 name is unique; is that right?
2 A. Yeah, local name within the space --
3 meaning that the -- every identifier is -- when
4 you talk about namespace, talk about essentially a
5 scope of what are these objects.
6 And then -- and then the purpose of
7 namespace, as I said at the beginning of 42, is
8 that every object within the context of the
9 namespace can be unique -- identified uniquely by
10 its name.
11 So that's exactly what the example here
12 I try to provide is that, you know, let's say the
13 document -- we say, hey, the document is
14 namespace. Then we just basically know that every
15 file within this document namespace, which is the
16 directory, every file within this directory would
17 be uniquely identified by its name within this

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Namespaces – Domain names

organizing and managing data and resources introduced decades ago. For example, in 2002 Adya described a file storage system using a hierarchical directory namespace. (Ex. 1020.) Similarly, Mika tabulated the most commonly used URL namespaces (below), illustrating that a URL namespace can have different sections, such as a domain (e.g., www.facebook.com) and a subdirectory (e.g., 2008). (Ex. 1021.)

Namespace	URLs
ogp.me/ns#	493,443,016
www.facebook.com/2008/	150,246,016
www.w3.org/1999/02/22-rdf-syntax-ns#	26,402,165
rdflib.org/data-vocabulary.org/#	19,413,470
purl.org/dc/terms/	16,424,800
https://www.facebook.com/2008/	7,472,815
mixi-platform.com/ns#	6,323,861
ogp.me/ns/fb#	4,636,260
creativecommons.org/ns#	4,622,272
www.w3.org/2006/vcard/ns#	4,205,037
http://	3,881,321
http://www.facebook.com/	3,126,045
http://www.w3.org/2000/01/rdf-schema#	3,042,839
http://developers.facebook.com/schema/	2,720,567
http://search.yahoo.com/searchmonkey/commerce/	2,664,743
http://purl.org/dc/elements/1.1/	2,642,796
http://opengraphprotocol.org/schema/	2,293,024
http://search.yahoo.com/searchmonkey/media/	2,095,577
http://oexchange.org/spec/0.8/rel/	2,034,467
http://xmlns.com/foaf/0.1/	1,837,749

Table 5: Top namespaces in RDFa as measured by the number of URLs

Namespaces - Flat vs. Hierarchical Structure

Our principles, naming framework, and architecture rely heavily on existing proposals. From Nimrod [7] and the Host Identification Protocol (HIP) proposal [32, 33, 35], we borrow the idea of decoupling the transport and networking layers to address mobility and multi-homing. From the Unmanaged Internet Protocol (UIP) proposal [14], we borrow the idea of using this same decoupling to address problems that result from private addressing realms, such as those created by NATs. From the Internet Indirection Infrastructure (i3) [53], we borrow the idea of source-directed indirection. From Semantic-Free Referencing (SFR) [59], we borrow the idea that the service identifier namespace be *flat* (meaning that the identifiers are unstructured and not overloaded with any semantics about the object being named, *e.g.*, a flat identifier might be a number chosen uniformly at random from $[0, 2^{128} - 1]$), and from HIP and UIP again, we borrow the idea that the endpoint identifiers be flat. Our proposal thus requires a name resolution infrastruc-

Ex. 1023, 344; Pet., 11
Ex. 2005, Lee Tr., 29:16-25

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5      A      I mean, I said -- I mean, that the identifiers
6 are unstructured and not overloaded with any semantics
7 about object being named. So, basically, they give
8 example of flat identifier might be a number chosen
9 uniformly at random from 0 to 2 to the 128th minus 1.
10 And -- yeah. So basically, an ID is number. An ID does
11 not have a -- does not give you any insight into the
12 content. That's what it meant for that.
13      Q      So -- so why would a random number between 0 and
14 2 to the 128th minus 1 be unstructured and not overloaded
15 with semantics?
16      A      Okay. Just imagine if you just secured a
17 number -- I mean, I'm sure there's some -- something about
18 where they got it -- you know, which day he got it, just
19 the meaning of it. So imagine that's not, it's just very
20 similar to that. Just give you a number. Memorize it.
21 We can search you, you know, with the number. Does the
22 number mean anything? No.
23      Again, like I said -- social security may not be
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Ex. 2005, Lee Tr., 30:5-23

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17      THE WITNESS: So that's one example. I mean,
18 again, depending on the context. But I think in this
19 paper, talking about "flat" means that -- unstructured and
20 not overloaded with any semantics of the object being
21 named. So it means that by looking at this flat -- flat
22 identifier, you don't know -- yes, that still means that
23 each object has it's own -- has it's unique identifier.
24 But looking at it -- looking at the identifier itself does
25 not tell you anything about the object. That's what they
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Ex. 2005, Lee Tr., 31:17-25

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8      They borrowed the -- borrowed the idea that
9 service identifier namespaces be flat, meaning -- they
10 actually explain the meaning of that, meaning that the
11 identifiers are unstructured and not overloaded with
12 semantics about the object being named, e.g., an
13 unidentified -- e.g., a flat identifier might a number
14 chosen uniformly at random from 0 to 2, 128 minus 1 and so
15 on.
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Ex. 2005, Lee Tr., 36:8-15

Namespaces – Creation (Dr. Black)

Transcript of John Black, Jr., Ph.D. (IPR2023-00458)
Conducted on April 3, 2024

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1 point me in Figure 2 where you think that namespaces
2 are created?
3 A. I don't think Figure 2 depicts the creation. I think
4 it's showing that cloud service providers can hold
5 information. It's the narrative that talks about
6 creation of a container could, for example, be a
7 namespace. That was in the passage I read.
8 Q. Okay. So let me go back to column 10, line 11.
9 As can be seen in Figure 2, one or more
10 containers, e.g., directories, folders, files, and
11 their associated file names of cloud service providers
12 can store metadata and/or content associated with
13 searchable encrypted files which can be accessed...
14 and so on.
15 So, Dr. Black, I don't see anything about
16 how those are created. All I see here is that it
17 has -- Figure 2 shows one or more containers such as
18 directories, folders, files, and their associated file
19 names that can store metadata and content.
20 So there's nothing in here that I can see
21 that says, this is how you would create a namespace;
22 is that fair?

Conducted on April 3, 2024

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1 MR. LU: Objection. Argumentative.
2 A. I mean, it's fair that it doesn't say, here's how you
3 create a namespace or here's how a cloud provider
4 creates a container. That is something that's
5 probably left up to the cloud provider themselves.
6 They decide on the implementation of their container
7 system.
8 So as part of creating a namespace, you're
9 going -- at least in some embodiments, you're going
10 to go out into the cloud provider and say, create
11 this storage bucket, this storage area, this
12 container, and that's part of what it means to create
13 a namespace in the sense that the patent's doing it.
14 BY MR. TEHRANCHI:
15 Q. So who creates -- which entity creates the namespace?
16 Is it the storage -- the cloud storage or is it the
17 gateway? Is it the user?
18 MR. LU: Objection. Vague.
19 A. I think in this example it's -- the policy is part of
20 what's creating it, what is stated in the policy,
21 because that influences the namespace; therefore, the
22 human author of the policy is part of that story.

Conducted on April 3, 2024

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1 And then when the action is taken to
2 actually go out and, you know, place file chunks and
3 put them on the file containers, that means that the
4 cloud provider is also now implicated in this story as
5 one of the participants in creating the namespace.
6 So I would say that there are a few actors
7 here; you know, the person or persons who wrote the
8 policy file, the policy file itself, and then any of
9 the computers between where the gateway is and the
10 cloud -- various cloud providers that allocate space
11 on their disk drives.
12 All of those are part of the creation
13 story.

- (1) 768 patent does not explicitly describe how namespaces are created.
- (2) It is left to the cloud provider
- (3) In some embodiments, namespaces are created cooperatively by persons writing the policy, the policy file itself, and the computer between gateways and cloud provider

Ex. 1025, Black Tr., 42:1-44:13;
Reply, 6, 21.

Configuring Namespaces: Claims 1 and 6:

1. A method comprising:

assigning to one or more users, by a gateway device, a policy for managing access to and processing a file to be stored on one or more cloud platforms, wherein the policy defines access rights of the one or more users;

encrypting, by the gateway device, using cryptographic key information defined by the policy, content of the file to produce a searchable encrypted file by:

dividing the file into a plurality of chunks;

creating namespaces for one or more of the plurality of chunks; and

configuring the namespaces of the one or more chunks such that content of the file is encrypted in a manner that makes it searchable;

storing, by the gateway device, the searchable encrypted file on the one or more cloud platforms based on the policy; and

managing access to the searchable encrypted file by the one or more users based on the policy.

6. The method of claim 1, wherein the step of configuring the namespaces comprises storing content of the file as file-names.

Claim 1 – managing processing of a file

1. A method comprising:

assigning to one or more users, by a gateway device, a policy for managing access to and processing a file to be stored on one or more cloud platforms, wherein the policy defines access rights of the one or more users;

'678 Patent, 19:57-61

[0222] b. The user continues to access the files through the device applications provided by the web storage vendor (e.g. Dropbox, Box, Sugarsync and iCloud apps). However in such a case it is not possible to guarantee that files will be uploaded to the storage service in an encrypted form. In this case, the management server monitors the encrypted folders and encrypts unencrypted files as they show up in special directories. FIG. 4 illustrates method 300 for processing a file according to an embodiment of the invention. Method 300 may include fetching (310) a status of “secured” folders—folders that include files that should be encrypted; checking (320) if there is a non-encrypted file in a secured folder—if so checking (330) if the file remained unchanged for a predetermined period (Y minutes), if so—processing the file (340) by fetching the file, extracting a file signature, extracting a DNA sequence of the file to be used as a file identifier, encrypting the file to provide an encrypted file, saving the encrypted file as a new type of file and deleting the file (non-encrypted file).

Cidon, ¶222

policies dictated file encryption before cloud upload. Cidon described encrypting specific files as per policy and its server managing these encrypted files’ cloud upload. Pet., 25; Cidon ¶¶224, 227, 57, 221. A POSITA would have understood that these *encrypted* files had been *processed* before they were uploaded based on encryption policies. Indeed, Dr. Black testified about this claim limitation that “process[ing]...could be almost anything.” Black Tr., 10:9-10. Cidon also disclosed another example where its server encrypted previously unencrypted files for cloud storage, which further shows that encryption and subsequent upload actions fall under the “processing” limitation. Pet., 25, 30; Cidon, ¶¶222, 227.

Reply, 17

[0057] Additional embodiments of the invention include a system arranged to execute any or all of the methods described above, including any stages—and any combinations of same. For example, the system may include a management server that may be arranged to retrieve the file from a storage service; segmenting the file into multiple file segments; calculate a file segment signature for each of the multiple file segments to provide multiple file segment signatures; encrypt each of the multiple file segments to provide multiple encrypted file segments by using encryption keys that may be in response to the multiple file segment signatures; wherein the multiple encrypted file segments form an encrypted file; and send the multiple encrypted file segments to the storage service.

Cidon, ¶57

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true copy of the foregoing PETITIONER'S DEMONSTRATIVES FOR ORAL ARGUMENT was served in its entirety this 18th day of June, 2024 by electronic mail on the Patent Owner via its attorneys of record:

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