Google, Inc. v. Visual Real Estate, Inc.

IPR2014-01338, IPR2014-01339 (USP 7,389,181)
IPR2014-01340 (USP 7,929,800)
IPR2014-01341 (USP 8,078,396)

PATENT OWNER DEMONSTRATIVES

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Ideation Law

VISUAL REAL ESTATE EXHIBIT 2011
Google Inc. v. Visual Real Estate, Inc.
IPR2014-01341

VRE DX 1

Summary of Institution Grounds (IPR 2014-01338)

- **Institution Ground 1**: Claims 1, 3-5, 7, and 9 as allegedly anticipated under 35 U.S.C. §§102(a) or 102(e) by Yoichi (corresponds to Ground 1 in the Corrected Petition); and
- **Institution Ground 2**: Claims 6, 10, and 11 as allegedly unpatentable under 35 U.S.C. § 103(a) over Yoichi and Di Bernardo (corresponds to Ground 4 in the Corrected Petition); and
- **Institution Ground 3**: Claim 8 as allegedly unpatentable under 35 U.S.C. § 103(a) over Yoichi and Lachinski (corresponds to Ground 4 in the Corrected Petition).[2]

IPR 2014-01338, Paper No. 22 at 3-4.

VRE DX 2

Summary of Institution Grounds (IPR 2014-01338)

- **Institution Ground 1**: Claims 1, 3-5, 7, and 9 as allegedly anticipated under 35 U.S.C. §§102(a) or 102(e) by Yoichi (corresponds to Ground 1 in the Corrected Petition); and
- **Institution Ground 2**: Claims 6, 10, and 11 as allegedly unpatentable under 35 U.S.C. § 103(a) over Yoichi and Di Bernardo (corresponds to Ground 4 in the Corrected Petition); and
- **Institution Ground 3**: Claim 8 as allegedly unpatentable under 35 U.S.C. § 103(a) over Yoichi and Lachinski (corresponds to Ground 4 in the Corrected Petition).[2]

Significantly, all three Grounds rely upon Yoichi, the primary reference, alleging anticipation of each and every element of Claim 1. To the extent that Yoichi does not explicitly or implicitly disclose each and every element of Claim 1, Judgment should be entered in favor of VRE on all grounds.

IPR 2014-01338, Paper No. 22 at 3-4.

VRE DX 3

Summary of Institution Grounds (IPR 2014-01339)

Institution Ground 1: Claims 1, 3-7, and 9-11 as allegedly anticipated under 35 U.S.C. §102(b) by Di Bernardo (corresponds to Ground 1 in the Corrected Petition);

Institution Ground 2: Claims 1, 3-7 and 9-11 as allegedly unpatentable under 35 U.S.C. § 103(a) over Di Bernardo and Kawabe (corresponds to Ground 4 in the Corrected Petition); and

Institution Ground 3: Claim 8 as allegedly unpatentable under 35 U.S.C. § 103(a) over Di Bernardo and Lachinski (corresponds to Ground 5 in the Corrected Petition).[2]

IPR 2014-01339, Paper No. 22 at 3-4.

VRE DX 4

Summary of Institution Grounds (IPR 2014-01339)

Institution Ground 1: Claims 1, 3-7, and 9-11 as allegedly anticipated under 35 U.S.C. §102(b) by Di Bernardo (corresponds to Ground 1 in the Corrected Petition);

Institution Ground 2: Claims 1, 3-7 and 9-11 as allegedly unpatentable under 35 U.S.C. § 103(a) over Di Bernardo and Kawabe (corresponds to Ground 4 in the Corrected Petition); and

Institution Ground 3: Claim 8 as allegedly unpatentable under 35 U.S.C. § 103(a) over Di Bernardo and Lachinski (corresponds to Ground 5 in the Corrected Petition).[2]

Significantly, all three Grounds rely upon Di Bernardo, the primary reference, which allegedly anticipates each and every element of Claim 1. To the extent Di Bernardo does not explicitly or implicitly disclose each and every element of Claim 1, Judgment should be entered in favor of VRE on all grounds.

IPR 2014-01339, Paper No. 22 at 3-4.

Independent Claim 1 of USP 7,389,181

VRE DX 5

[1.P] 1. A system including a video and data server farm comprising:

[1.1] at least one video storage server that stores video image files containing video drive-by data that corresponds to a geographic location;

[1.2] a database server that processes a data query received from a user over a communications network that corresponds to a geographic location of interest; and

[1.3] an image processing server;

[1.4a] wherein the database server identifies video image files stored in the video storage server that correspond to the geographic location of interest contained in the data query, and transfers the video image

[1.4b] files over a pre-processing network to the image processing server; and

[1.5a] wherein the image processing server converts the video drive-by data

[1.5b] to post processed video data corresponding to a desired image format, and transfers the post processed video data via post-processing network to the communications network in response to the query.

IPR 2014-01338, Paper No. 22 at 22.

Independent Claim 1 of USP 7,389,181

VRE DX 6

[1.P] 1. A system including a video and data server farm comprising:

[1.1] at least one video storage server that stores video image files containing video drive-by data that corresponds to a geographic location;

[1.2] a database server that processes a data query received from a user over a communications network that corresponds to a geographic location of interest; and

[1.3] an image processing server;

[1.4] wherein the database server identifies video image files stored in the video storage server that correspond to the geographic location of interest contained in the data query, and transfers the video image files over a pre-processing network to the image processing server; and

[1.5] wherein the image processing server converts the video drive-by data to post processed video data corresponding to a desired image format, and transfers the post processed video data via post-processing network to the communications network in response to the query.

IPR 2014-01339, Paper No. 22 at 19.

"a video and data server farm"

VRE DX 7

Per 181 Specification

In a preferred embodiment, a system is provided that includes a video and data server farm. The video and data server farm includes at least one video storage server that stores video image files containing video drive-by data that corresponds to a geographic location, a database server that processes a data query received from a user over the Internet that corresponds to a geographic location of interest, and an image server. In operation, the database server identifies

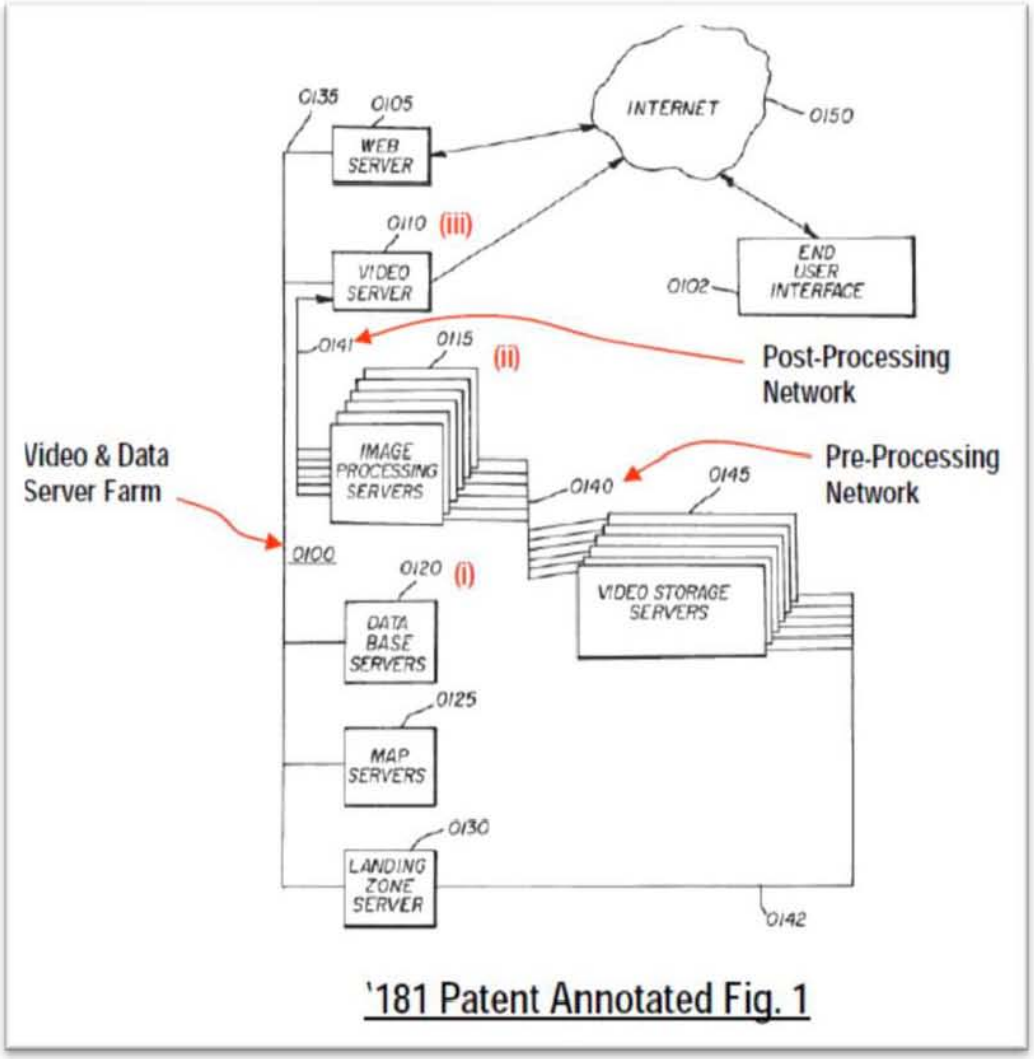
Google 1002, 2:64-3:2.

Relied upon in
IPR 2014-01338, Paper No. 22 at 24.
IPR 2014-01339, Paper No. 22 at 21.

"a video and data server farm"

VRE DX 8

FIG. 1 of 181 Patent



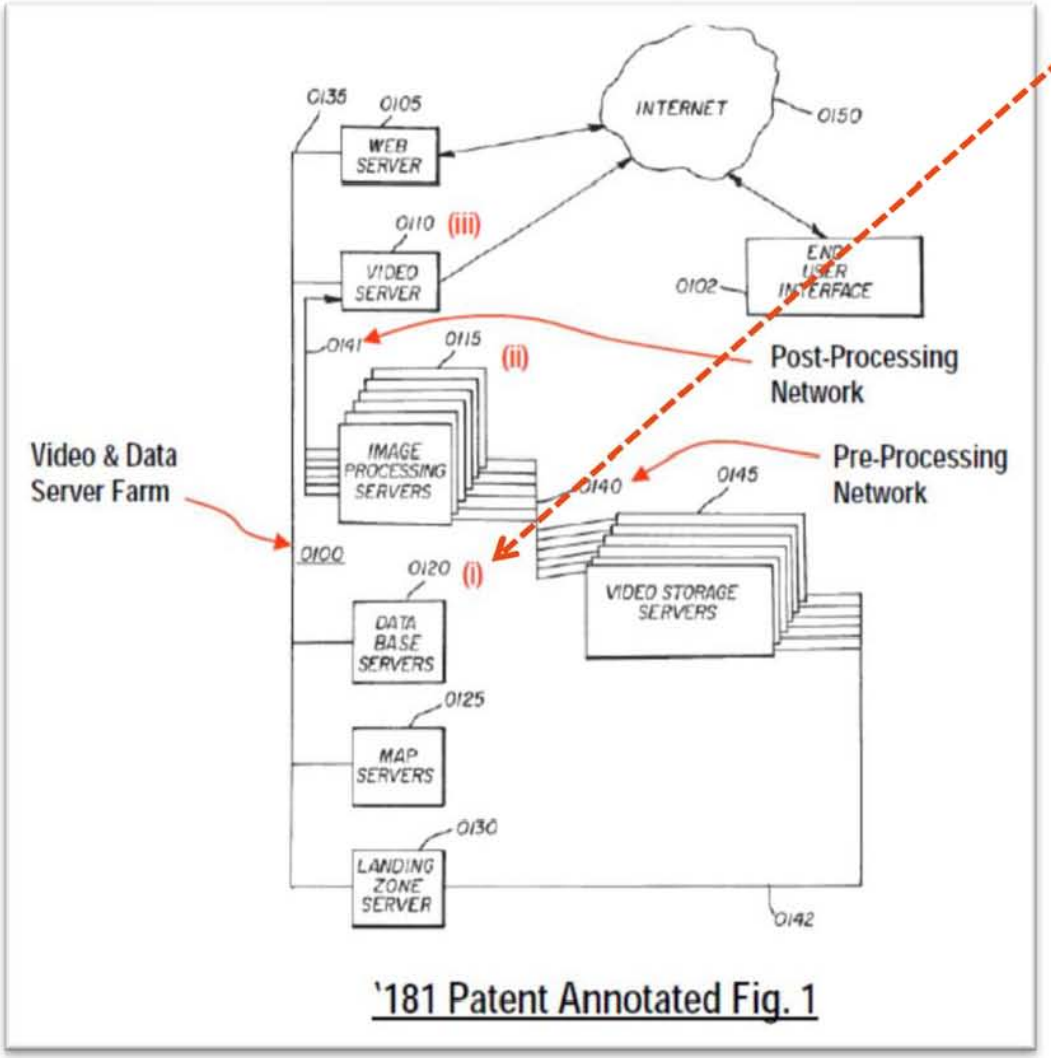
'181 Patent Annotated Fig. 1

IPR 2014-01338, Paper No. 22 at 23;
IPR 2014-01339, Paper No. 22 at 20.

"a video and data server farm"

VRE DX 9

FIG. 1 of 181 Patent



'181 Patent Annotated Fig. 1

(i) The database server **0120** identifies the appropriate video image files corresponding to the location of interest from the video storage servers **0145** for transfer over a pre-processing network **0140** to image processing servers **0115**. The image

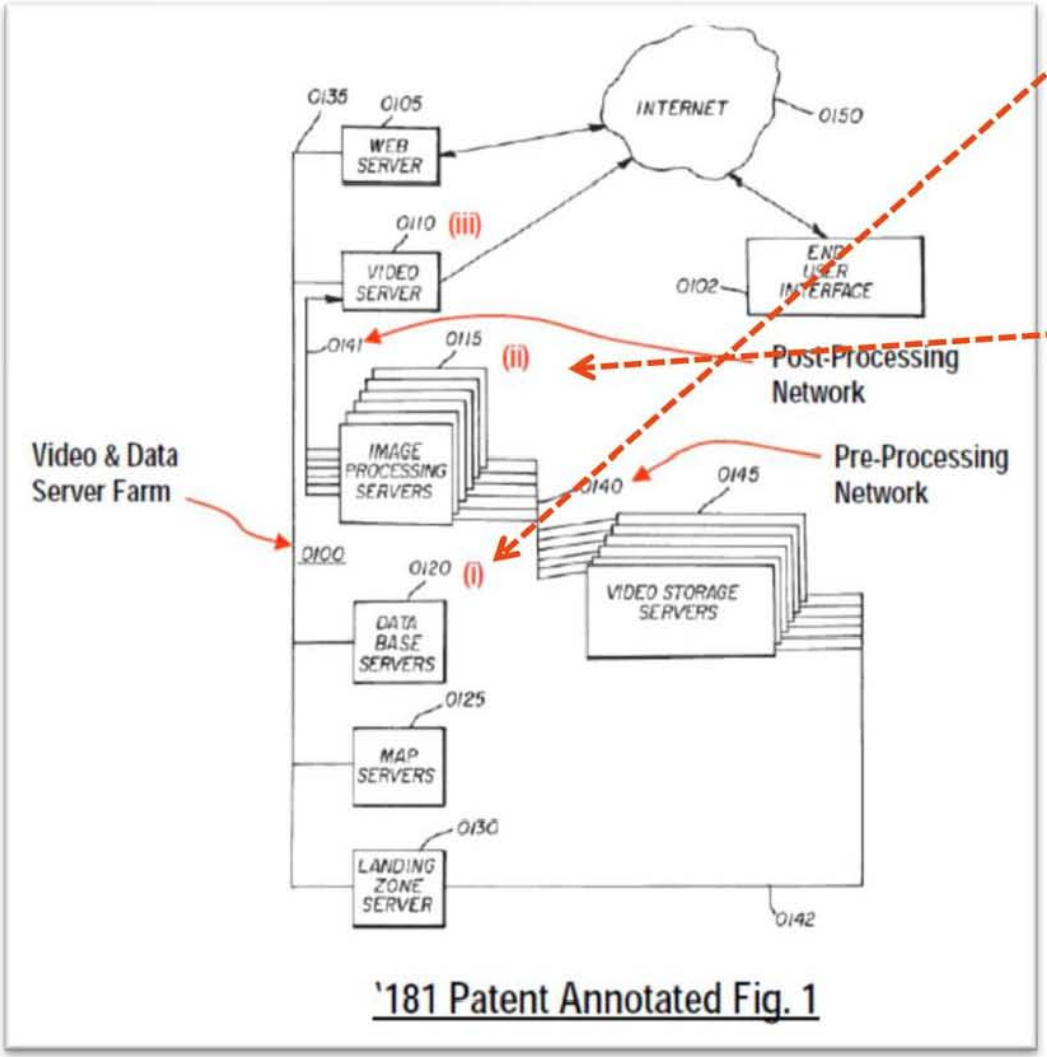
Google 1002, 6:49-52

IPR 2014-01338, Paper No. 22 at 23.
IPR 2014-01339, Paper No. 22 at 20.

"a video and data server farm"

VRE DX 10

FIG. 1 of 181 Patent



'181 Patent Annotated Fig. 1

(i) The database server **0120** identifies the appropriate video image files corresponding to the location of interest from the video storage servers **0145** for transfer over a pre-processing network **0140** to image processing servers **0115**. The image

Google 1002, 6:49-52

(ii) network **0140** to image processing servers **0115**. The image processing servers **0115** convert the original video drive-by data to one of many potential new image formats (depending on the particular application) which constitute Post Processed Video Data (PPVD). The PPVD is then transferred to

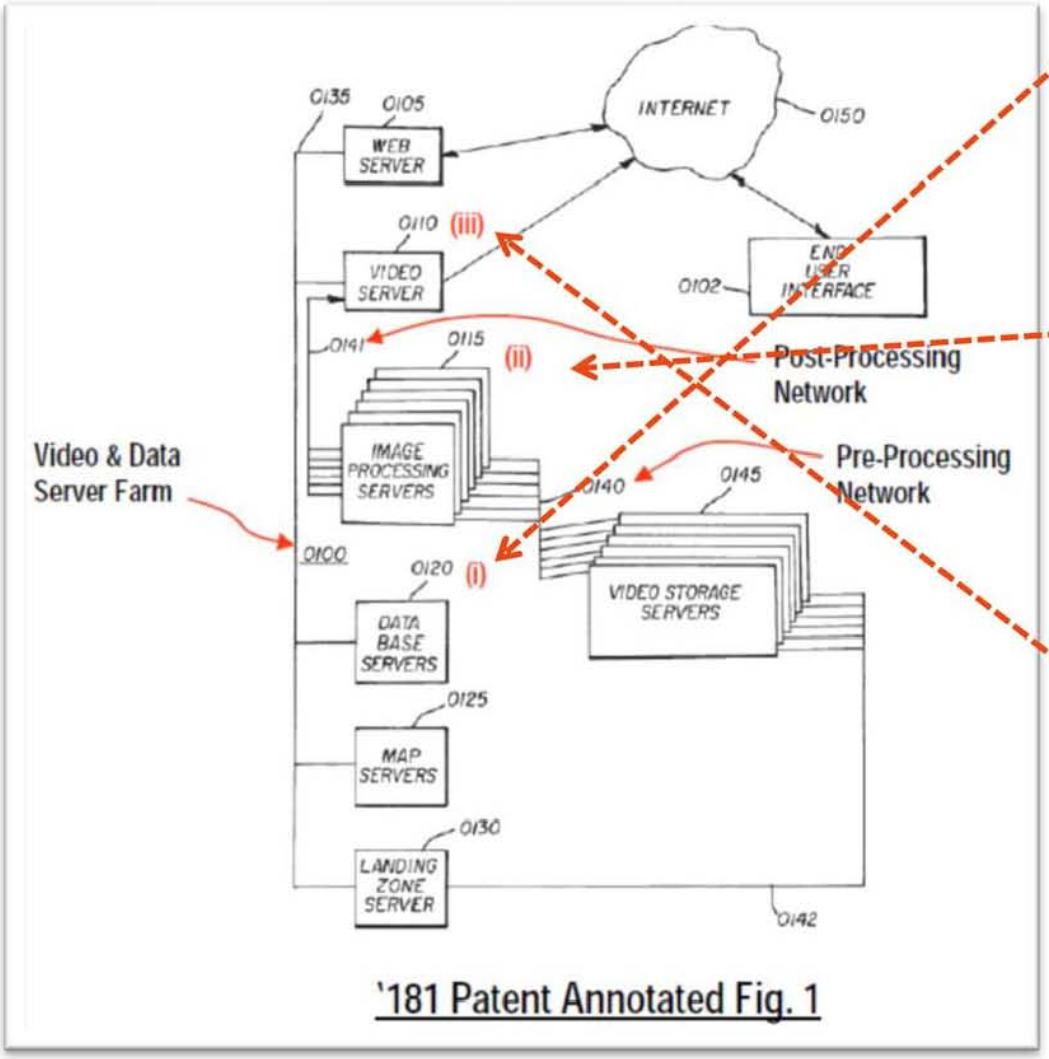
Google 1002, 6:52-56

IPR 2014-01338, Paper No. 22 at 23.
IPR 2014-01339, Paper No. 22 at 20.

"a video and data server farm"

VRE DX 11

FIG. 1 of 181 Patent



'181 Patent Annotated Fig. 1

(i) The database server **0120** identifies the appropriate video image files corresponding to the location of interest from the video storage servers **0145** for transfer over a pre-processing network **0140** to image processing servers **0115**. The image

Google 1002, 6:49-52

(ii) network **0140** to image processing servers **0115**. The image processing servers **0115** convert the original video drive-by data to one of many potential new image formats (depending on the particular application) which constitute Post Processed Video Data (PPVD). The PPVD is then transferred to

Google 1002, 6:52-56

(iii) cessed Video Data (PPVD). The PPVD is then transferred to a video server **0110** over a post-processing network **0141**, which then forwards the PPVD data to the Internet **0150** in response to the query. In addition, if so desired, the video

Google 1002, 6:56-59

IPR 2014-01338, Paper No. 22 at 23.
IPR 2014-01339, Paper No. 22 at 20.

"a video and data server farm"

VRE DX 12

> Indeed, the '181 Patent's explanation of a "video and data server farm" is consistent with the well-known, ordinary, and customary meaning of the term "server farm" within the industry, which refers to a group of networked computer servers that are housed in one location.

IPR 2014-01338, Paper No. 22 at 24;
see also IPR 2014-01339, Paper No. 22 at 21.

"a video and data server farm"

VRE DX 13

the well-known, ordinary, and customary meaning of the term "server farm" within the industry, which refers to a group of networked computer servers that are housed in one location.

"**A *server farm* is a group of networked servers that are housed in one location.** A server farm streamlines internal processes by distributing the workload between the individual components of the farm and expedites computing processes by harnessing the power of multiple servers. The farms rely on load-balancing software that accomplishes such tasks as tracking demand for processing power from different machines, prioritizing the tasks and scheduling and rescheduling them depending on priority and demand that users put on the network. When one server in the farm fails, another can step in as a backup."

Ex. 2009, http://www.webopedia.com/TERM/S/server_farm.html (last visited on June 3, 2015) (emphasis added).

As of June 3, 2015

IPR 2014-01338, Paper No. 22 at 25;
see also IPR 2014-01338, Paper No. 22 at 22-23 (both quoting VRE 2009).

"a video and data server farm"

VRE DX 14

the well-known, ordinary, and customary meaning of the term "server farm" within the industry, which refers to a group of networked computer servers that are housed in one location.

9/25/2015

As of June 3, 2004

"a video and data server farm"

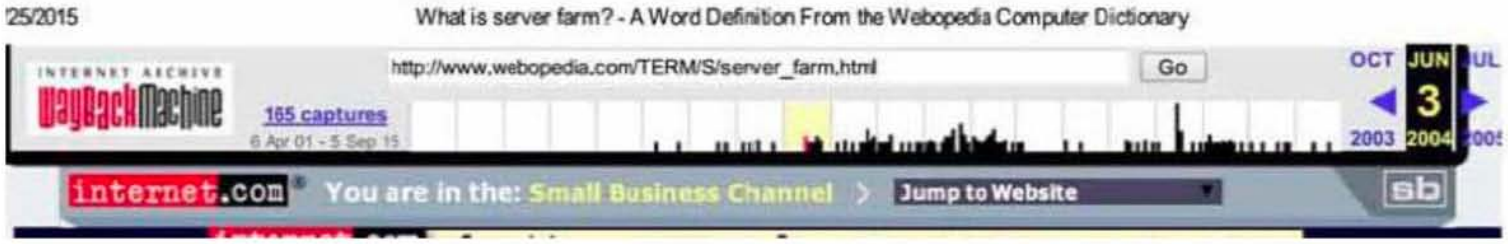
VRE DX 15

the well-known, ordinary, and customary meaning of the term "server farm" within the industry, which refers to a group of networked computer servers that are housed in one location.

Ex. 2009, http://www.webopedia.com/TERM/S/server_farm.html (last visited on June 3, 2015) (emphasis added).

As of June 3, 2015

"A *server farm* is a group of networked servers that are housed in one location. A server farm streamlines internal



As of June 3, 2004

Also referred to as *server cluster*, *computer farm* or *ranch*. A *server farm* is a group of networked servers that are housed in one location. A server farm streamlines internal processes by distributing

IPR 2014-01338, VRE 2009, cited in Paper No. 22 at 25;
IPR 2014-01338, VRE 2015.

"a video and data server farm"

VRE DX 16

Dr. Fuchs's understanding of "server farm"

DEPOSITION OF HENRY FUCHS, PH.D.
April 23, 2015

206

BY MR. KINCART:

Q. You've indicated you've seen a server farm. Can you describe that server farm to me?

A. Yes.

Q. Please do.

A. A rack of computer devices.

Q. Thank you.

What would the distinguishing characteristic of a server farm as compared to a server?

MR. ALMELING: Objection; form. You can answer.

A. Don't know.

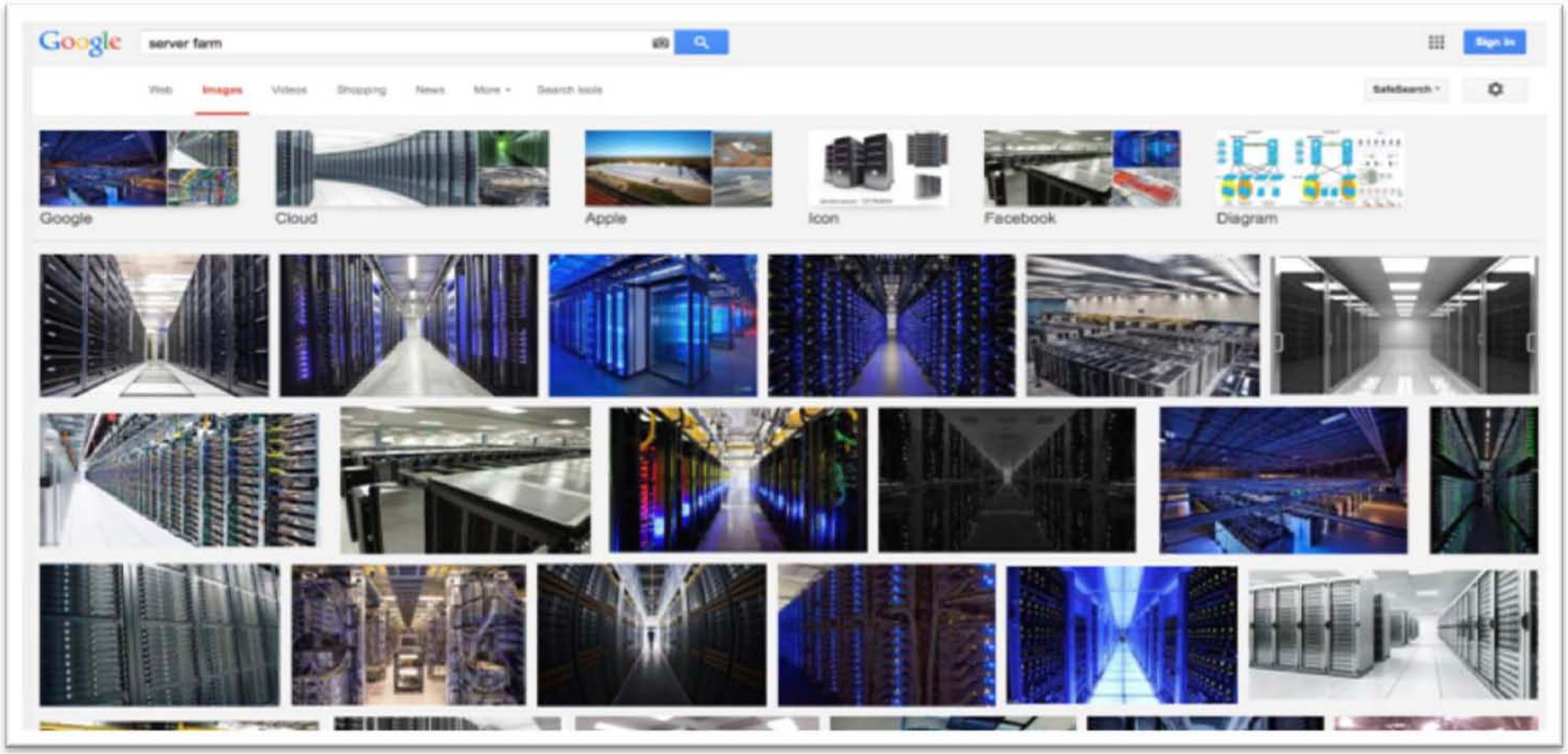
Dr. Fuchs is Google's Expert In Support of the Petition (see Google 1001)

IPR 2014-01338, VRE 2006, Fuchs Dep. at 206, cited in Paper No. 22 at 27.

"a video and data server farm"

VRE DX 17

the well-known, ordinary, and customary meaning of the term "server farm" within the industry, which refers to a group of networked computer servers that are housed in one location.



IPR 2014-01338, VRE 2012, shown in Paper No. 22 at 28; *see also* IPR 2014-01339, VRE 2011, shown in Paper No. 22 at 24.

"a video and data server farm"

VRE DX 18

Google's own contemporaneous reference

II. Web Server Farms

A Web server farm refers to a Web site that uses two or more servers housed together in a single location to handle user requests. They use one host called site to provide a single interface for users [1]. Today busy web servers are required to

GOOGLE-1013
Google v. Visual Real Estate
IPR2014-01338

A new scheduling algorithm for server farms load balancing

IPR 2014-01338, Google 1013, cited in Paper No. 23, Petitioner's Reply at 4;
IPR 2014-01339, Google 1013, cited in Paper No. 23, Petitioner's Reply at 4.

"a video and data server farm"

VRE DX 19

II. Web Server Farms

A Web server farm refers to a Web site that uses two or more servers housed together in a single location to handle user requests. They use one host called site to provide a single interface for users [1]. Today busy web servers are required to

Q. Then it says, "A server farm is consisting of a collection of many computers also called host, server or node and front-end high speed dispatcher."

A. I see it.

Q. Do you think that is a correct understanding of what a server farm was in 2004?

A. This is an article which is addressing a particular example and particular problem with these. It is -- it seems generally fair at this point that that sentence you just read does apply to server farms.

A new scheduling algorithm for server farms load balancing

GOOGLE-1013
Google v. Visual Real Estate
IPR2014-01338

IPR 2014-01338, Observation 8, Paper No. 29 at 13, quoting VRE 2014, Grindon Dep. at 123-24;
IPR 2014-01339, Observation 8, Paper No. 29 at 13, quoting VRE 2014, Grindon Dep. at 123-24.

IPR 2014-01338, Google 1013, cited in Paper No. 23, Petitioner's Reply at 4;
IPR 2014-01339, Google 1013, cited in Paper No. 23, Petitioner's Reply at 4.

"a video and data server farm"

VRE DX 20

Dr. Grindon "did't attempt" to offer "a full construction of the term, 'server farm'"

Observation 7: In Ex. 2014, at 86:7-86:17, Dr. Grindon testified,

> Q. I just want to make it clear, ***the PTAB should not be reading your declaration as offering a construction of what the term server farm means in the context of the '181 patent in-suit for the '1338 and '1339 IPRs; is that correct***?
>
> A. In my declarations, I established only certain aspects of the term, "server farm" as it applies to the patents. ***But I didn't attempt to develop a full construction of the term, "server farm."***

Dr. Gindon is Google's other expert on Di Bernardo (VRE 2002) , and offered as a Reply Expert (Google 1010) here

IPR 2014-01338, Observation No. 7 on Dr. Grindon Dep., Paper No. 7 at 11;
IPR 2014-01339, Observation No. 7 on Dr. Grindon Dep., Paper No. 7 at 11.

"a video and data server farm"

VRE DX 21

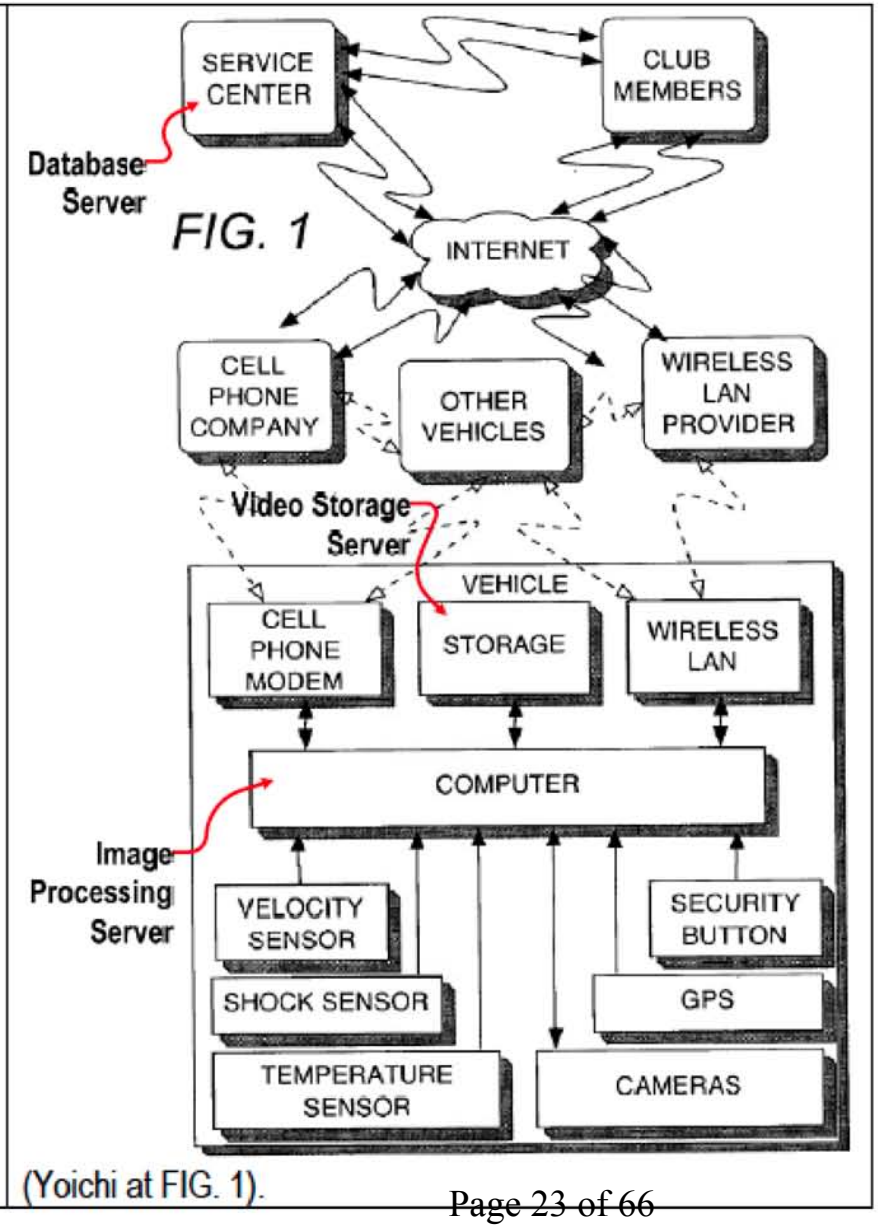
Petition asserts element present in Yoichi

U.S. Pat. 7,389,181	US 2003/0210806 to Yoichi et al.
[1.P] A system including a video and data server farm comprising:	Yoichi discloses a system including a video and data server farm. GOOGLE1001 at ¶ 29. For example, Yoichi discloses that the system of FIG. 1 includes a "SERVICE CENTER, which is the administrator of the embodiment system, is connected to the Internet" and "a plurality of vehicles (VEHICLE and OTHER VEHICLES) are in direct vehicle to vehicle wireless communication with each other." (Yoichi at ¶¶ [0060] and [0061]). "According to the embodiment, vehicles are equipped with one or more digital cameras, various sensors, a computer, user interface, and broadband wireless data communication with central locations and directly or indirectly with other vehicles for a peer-to-peer transfer of large up-to-date video files." (*Id.* at ¶ [0031]). "One or more service centers store data captured and sent from the digital cameras and provide various new services based upon the data." (*Id.* at ¶ [0032]).

"a video and data server farm"

VRE DX 22

Petition asserts element present in Yoichi



(Yoichi at FIG. 1).

IPR 2014-01338, Corrected Petition, Paper No. 4 at 16.

"a video and data server farm"

VRE DX 23

Dr. Fuch's understanding of what is not a server farm

Q. In your work with your clients, have you ever seen a server farm that consisted of computers in vehicles traveling in different directions?

A. I don't know.

Q. Outside the scope of your work with your clients, have you ever seen a server farm that consisted of computers in vehicles traveling in different directions?

A. I don't know.

Q. State of the art communication systems around the year 2004, how fast could the internet communicate?

A. 2004.

IPR 2014-01338, VRE 2006, Fuchs Dep. at 212, cited in Paper No. 22, at 27-28.

"a video and data server farm"

VRE DX 24

Petition asserts element present in Di Bernardo

U.S. Pat. 7,389,181	US Patent Pub. No. 2002/0047895 to Di Bernardo et al.
[1.P] A system including a video and data server farm comprising:	Di Bernardo teaches a system including a video and data server farm. *See* GOOGLE1001 at ¶ 67. For example, Di Bernardo teaches that "FIG. 1 is a schematic block diagram of **a data acquisition and processing system** for acquiring and processing image and position data used to create composite images of a geographic location." GOOGLE1005 at ¶ 32; FIG. 1 (below).

"a video and data server farm"

VRE DX 25

Petition asserts element present in Di Bernardo

U.S. Pat. 7,389,181	US Patent Pub. No. 2002/0047895 to Di Bernardo et al.
[1.P] A system including a video and data server farm comprising:	Di Bernardo teaches a system including a video and data server farm. *See* GOOGLE1001 at ¶ 67. For example, Di Bernardo teaches that "FIG. 1 is a schematic block diagram of **a data acquisition and processing system** for acquiring and processing image and position data used to create composite images of a geographic location." GOOGLE1005 at ¶ 32; FIG. 1 (below).

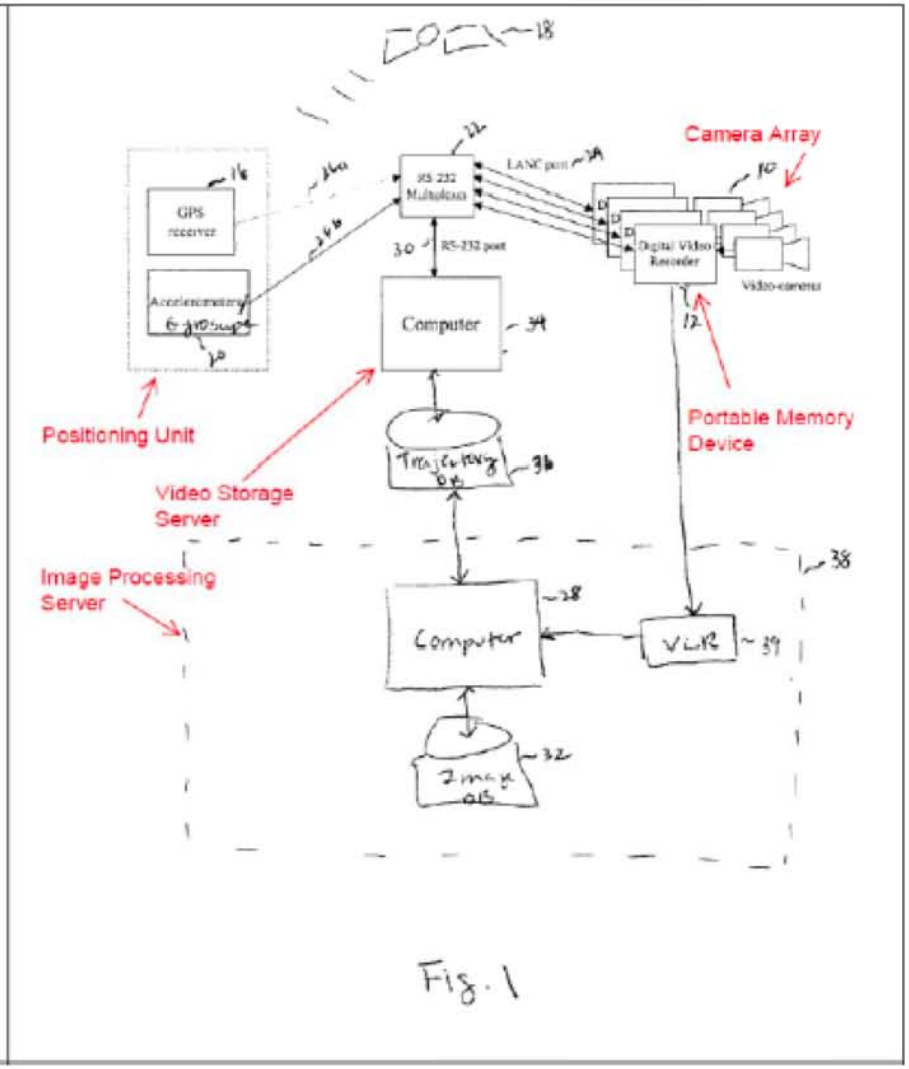
Generally, Petitioner equates the server farm in Claim 1 to "a data acquisition and processing system for acquiring and processing image and position data used to create composite images of a geographic location." Pet. at 30. The use of a server farm for the functions of Fig. 1 of Di Bernardo may be possible but is not required, and therefore Di Bernardo cannot inherently teach the use of a server farm.

IPR 2014-01339, Corrected Petition, Paper No. 4 at 30; Paper No. 22 at 26.

"a video and data server farm"

VRE DX 26

Petition asserts element present in Di Bernardo



IPR 2014-01339,
Corrected Petition,
Paper No. 4 at 31.

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 27

Petition asserts element present in Yoichi

image" format that includes a watermark. GOOGLE1001 at ¶ 34. For example, Yoichi discloses that "**each image frame is watermarked to secure the image and provide legal proof that the image was not tampered with after capture**, so that the image becomes tamperproof for later assuring reliability as evidence in court or the like." (emphasis added) GOOGLE1004 at ¶ 85. Yoichi further describes returning an identified watermarked image (referred to as a "secured image") in response to a query: "The image data history (key data, watermarked images and identification of the emergency mode) is **transmitted to the service center**, another vehicle that generated the original emergency event signal, and the authority that generated the original emergency event signal." *Id.* at ¶ 86; *see also* ¶ 97.

IPR 2014-01338,
Corrected Petition,
Paper No. 4 at 20.

"wherein the image processing server **converts** the video drive-by data to **post processed video data** corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 28

Petition asserts element present in Yoichi

[1.5a] wherein the image processing server converts the video drive-by data to post processed video data corresponding to a desired image format, and	Yoichi discloses that the image processing server converts the video drive-by data to post processed video data corresponding to a desired image format. GOOGLE1001 at ¶¶ 34-35. For example, Yoichi discloses that "upon detection of the occurrence of the emergency event . . . , **each image frame is watermarked to secure the image and provide legal proof that the image was not tampered with after capture**, so that the image becomes tamperproof for later assuring reliability as evidence in court or the like." (Id. at ¶ [0085] (emphasis added); *see also* FIG. 1).
[1.5b] transfers the post processed video data via post-processing network to the communications network in response to the query.	Yoichi discloses that the image processing server transfers the post processed video data via post-processing network to the communications network in response to the query. GOOGLE1001 at ¶¶ 34-35. For example, Yoichi discloses that "The image data history (key data, watermarked images and identification of the emergency mode) is transmitted to the service center, another vehicle that generated the original emergency event signal, and the authority that generated the original emergency event signal." (Yoichi at ¶ [0086]). "The service center provides data and results of analyses to the customers or members, including: . . . Secured images on a critical event, for example, an image at an accident, upon the occurrence of vandalism to the vehicle, upon the occurrence of theft of the vehicle." (*Id.* at ¶ [0097]).

Not "convert[ing]" post processed video data to "a desired image format" (Paper No. 22 at p. 6)

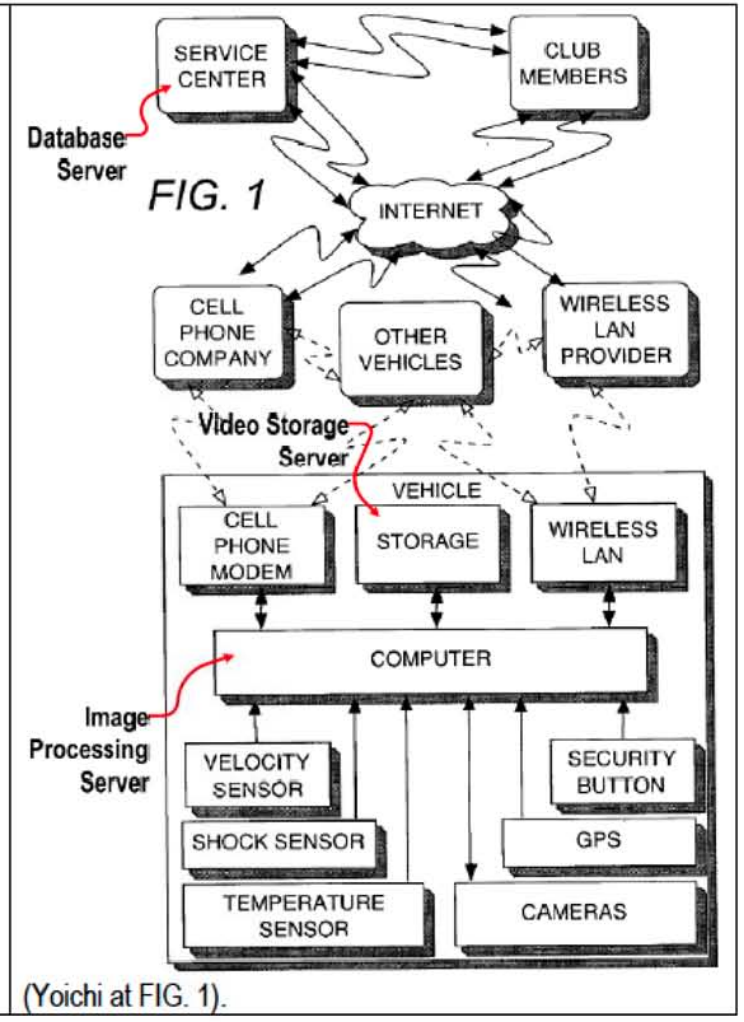
"[N]o significant processing" (Paper No. 22 at p. 20)

IPR 2014-01338, Corrected Petition, Paper No. 4 at 36.

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 29

Petition assertion of elements present in Yoichi



(Yoichi at FIG. 1).

IPR 2014-01338, Corrected Petition, Paper No. 4 at 33.

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 30

'181 Patent Description

network **0140** to image processing servers **0115**. The image processing servers **0115** convert the original video drive-by data to one of many potential new image formats (depending on the particular application) which constitute Post Processed Video Data (PPVD). The PPVD is then transferred to

Google 1002, 6:53-56

IPR 2014-01338, Paper No. 22 at 11-12, 31 (quoting Google 1002 at 6:53-56).

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 31

'181 Patent Description

parcel. Once a segment of video is selected that contains video frames within 300 feet, an extractor program **0620** (which is based on an open source programming tool MENCODER) converts the compressed MPEG2 data into lossless TIFF image files with each image frame file encoded for camera orientation and interpolated location.

Google 1002, 9:22-26

IPR 2014-01338, Paper No. 22 at 31-32 (quoting Google 1002 at 9:22-26).

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 32

'181 Patent Description

parcel. Once a segment of video is selected that contains video frames within 300 feet, an extractor program **0620** (which is based on an open source programming tool MENCODER) converts the compressed MPEG2 data into lossless TIFF image files with each image frame file encoded for camera orientation and interpolated location.

Google 1002, 9:22-26

TIFF. Is there a first -- does the '181 Patent describe changing from a first file format to a second file format?

MR. ALMELING: In particular, Counsel, do you mean Column 9, lines 23 through 27?

MR. KINCART: It does it twice, but, yes, 23 through 27. Okay --

THE WITNESS: As I read this, there is talk here in the '181 Patent between 23 and 25 something about converts the compressed MPEG-2 data into lossless TIFF image files.

VRE 2006, Fuchs Dep. at 99:12-23

IPR 2014-01338, Paper No. 22, at 31-32 (quoting Google 1002, 9:22-26 and VRE 2006, Fuchs Dep. at 99:12-23).

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

Dr. Grindon

VRE DX 33

In Ex. 2014, at 204:2-23, Dr. Grindon further testified,

Q. So at a minimum, you would agree the '181 patent discloses examples of converting from one image file format, TIFF, to another image file format, MPEG2; is that correct?

A. It's not saying -- it's saying convert MPEG data. It's not saying convert files, but some of the examples that they're giving here do show converting MPEG and TIFF files.

Q. Do you agree that MPEG2 is a kind of image file format?

A. The MPEG2 is an image compression format. It would describe the data comprising image.

Q. So you would consider that an image format?

A. That would be one example of an image format.

Q. TIFF would be another example of an image format?

A. Another example.

IPR 2014-01338, Observation 4, Paper No. 29 at 8 (quoting VRE 2014 at 204:2-23);
IPR 2014-01339, Observation 4, Paper No. 29 at 8 (quoting VRE 2014 at 204:2-23).

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 34

Dr. Grindon

Observation 6: In Ex. 2014 at 209:15-20, Dr. Grindon testified,

> Q: The question I'm asking you is whether there's an example of adding a watermark to a file disclosed in the '181 patent.
>
> A. I don't see in the '181 patent an exclusive example of the watermark.

IPR 2014-01338, Observation 6, Paper No. 29 at 10 (quoting VRE 2014 at 209:15-20); IPR 2014-01339, Observation 6, Paper No. 29 at 10 (quoting VRE 2014 at 209:15-20).

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 35

Dr. Grindon was not aware of other examples

Dr. Grindon further testified at 205:22-207:6

Q. Right. So what we're talking about is what does image format mean. And I was asking you whether there were any examples of image format that you saw on the patent other than MPEG2 or TIFF?...

A. Okay. I'm not aware of any at the moment.

IPR 2014-01338, Observation 4, Paper No. 29 at 8 (quoting VRE 2014 at 205:22-207:6);
IPR 2014-01339, Observation 4, Paper No. 29 at 8 (quoting VRE 2014 at 205:22-207:6).

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 36

Ordinary meaning of "converts" in this context

One useful analogy is editing a document using a word processor. If the user opens in Microsoft's Word processor a file in a ".doc" format, and then edits and saves the document in the same ".doc" format, there has been no conversion of the file format, regardless of any additions added to the file during the editing process. *Barron's Dictionary of Computer and Internet Terms* explains this problem in the context of its definition of "file format" which is described to mean "a way of arranging information in a file. Almost every computer program has one or more file formats of its own...and similar programs from different manufacturers cannot necessarily process each other's files." (Ex. 2073)

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 37

22 And in the placing of the watermark on the
23 image, does it change the file format?

1 THE WITNESS: It could.

VRE 2006, Fuchs Dep. at 223:22-224:1.

* * *

16 Q. Can you direct me to a place in Yoichi
17 where it indicates it could?
18 A. I don't remember if Yoichi exclusively
19 talks about the change in file formats after putting
20 the watermark, but a POSITA at the time of Yoichi
21 would understand that depending on circumstances, it
22 might be desirable to change the file format after
23 watermarking.

VRE 2006, Fuchs Dep. at 224:16-23.

IPR 2014-01338, VRE 2006, Fuchs Dep. at 223-224, cited in Paper No. 22 at 33-34.

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 38

"could" is not enough to anticipate

> The mere possibility that a prior art reference "could" perform a claim limitation, but was not "required" to perform a claim limitation is insufficient to show anticipation as a matter of law. *See, e.g., Gracenote, Inc. v. Iceberg Indust., Inc.*, IPR2013-00551, Paper No. 6, at 31 (PTAB Feb. 28, 2014) (denying institution and stating that "[i]n order to demonstrate that a reference inherently discloses a claim element, Petitioner must show that the reference — *necessarily* functions in accordance with, or includes, the claimed limitations, it anticipates.") (emphasis added) (citation and internal quotation marks omitted); *see also In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349 (Fed. Cir. 2002). (stating that "[e]ven if it was known to apply filtering, Petitioner fails to demonstrate that the teaching of a signal filter is inherent in Ikezoye's disclosure. Petitioner's unexplained citation to Dr. Kalker's Declaration is insufficient to support the legal conclusion of inherency.").

IPR 2014-01338,
Paper No. 22 at 34.

No institution on Obviousness Grounds (IPR 2014-01338)

VRE DX 39

> Accordingly, on the record before us, we are not persuaded that Petitioner has provided adequately an articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *See KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). As such, the information presented in the Petition does not demonstrate a reasonable likelihood that Petitioner would prevail with respect to its contention that claims 1, 3–5, 7 and 9 are obvious under 35 U.S.C. § 103(a) over Yoichi. Accordingly, we do not institute an *inter partes* review of claims 1, 3–5, 7, and 9 as obvious over Yoichi.

IPR 2014-01338,
Paper No. 11 at 26.

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 40

In Di Bernardo "**the computer stores the image data in its memory in its original form or as a compressed file**". Ex. 1005, 5:33-35. This teaching by Di Bernardo is contrary to the claimed action of "converting" to a desired format in response to a query. Nothing in Di Bernardo describes or suggest any change in image data in response to a user query, no less the defined act of conversion from a first file format to a second file format.

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

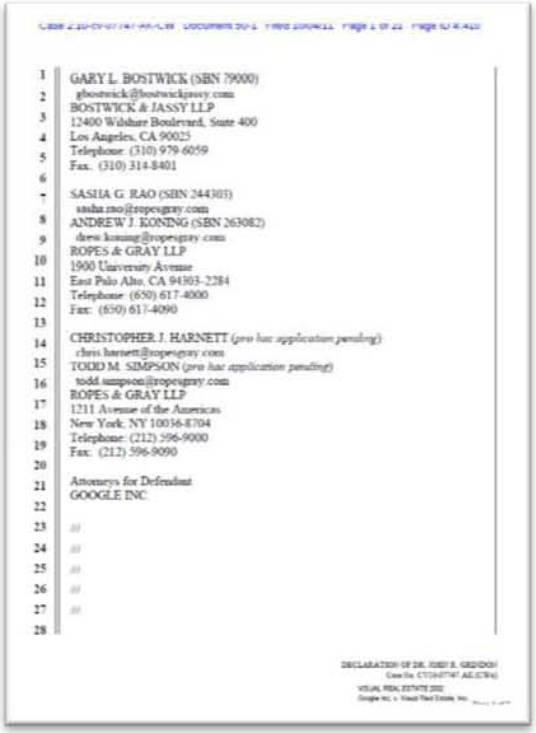
VRE DX 41

Dr. Fuchs solely cites to the two incompatible embodiments described in Di Bernardo in an attempt to reach the conclusion that a POSITA "would have recognized that *Di Bernardo's* **post-processing system converts** the street-level video to post processed video data corresponding to a desired format, and transfers the post processed video data via post-processing network to the communications network **in response to the query**." Ex. 1001, ¶ 74 (emphasis added).

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 42

38. However, the patents-in-suit disclose an alternative embodiment for the formation of composite images. In this embodiment, "the images are transferred directly to the data acquisition computer 34 as the images are being recorded," eliminating the post-processing system 38 which includes the image database storage 32. (4:44-46; Figure 1.) In this embodiment, the data acquisition computer 34 is "preferably equipped with the video acquisition card and includes sufficient storage space for storing the acquired images." (4:46-48.) Because "the data acquisition computer 34 preferably contains program instructions to create the composite images from the acquired images" it can form the composite images itself without the need for the post-processing system 38. (4:48-51.) Images may be stored and then processed to form composite images, but one of ordinary skill in the art would recognize that images may be processed "on-the-fly" as they are being received and originally stored into permanent memory as composite images.



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GOOGLE INC.

IPR 2014-01339, VRE 2002, Declaration of Dr. Grindon at p. 11, cited in Paper No. 9 at 4.

"wherein the image processing server **converts** the video drive-by data to post processed video data corresponding to a **desired image format**, and **transfers** the post processed video data via post-processing network to the communications network **in response to the query**."

VRE DX 43

Observation 3: In Ex. 2014, at 260:9-261:13, Dr. Grindon testified,

Q. The first embodiment that you're describing in paragraph 37, you talk about the post processing system which includes a computer with a video acquisition card and a processer programmed with instructions to take the image and positional data and create one more composite images for storing into an image database, correct?

A. Essentially, right.

Q. And in the alternative, you talk about the on-the-fly technique where it can go directly from the camera into the image card and done without any additional processing after it's been formed, right?

A. Yes.

Q. And while in your new declaration you say that you could have a hybrid system which does both the on-the-fly, in some instances, and the post processing in other instances, you're not suggesting that DiBernardo would teach that you should do both on the same image, are you?

A. ***That wasn't the intent.*** Let's look at the declaration. Can you point me to the paragraph?

Q. I'm looking at paragraph 24 on page 17.

A. ***The intent was different images, not the same image.***

IPR 2014-01339, Observation 3, Paper No. 29 at 6-7, quoting VRE 2014, Grindon Dep. at 260:9-261:13.

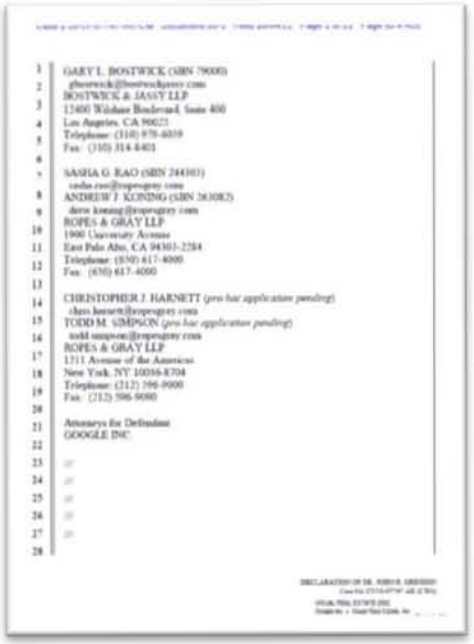
Di Bernardo "teaches away" from adding Computational Intensity

VRE DX 44

28. Vederi's claimed invention sacrifices image quality in order to reduce computational complexity. Indeed, the provisional patent application states that "[t]he present method is a compromise between quality of the synthetic image and algorithmic complexity." (Declaration of Sasha G. Rao In Support Of Google's Opening Claim Construction Brief, Exhibit H at 8; exhibits to the "Rao Declaration" are hereinafter cited as "Rao Ex. __".) Vederi acknowledged that "[m]uch more sophisticated and computationally intensive techniques for 3 dimensional reconstruction of the scene are available in the prior art." *Id.* But for Vederi's "proposed application, the quality of the panoramic images is sufficient even in presence of some distortion." *Id.*

29. The patents-in-suit purport to invent and claim something different that can be performed in a "more time and cost efficient manner," and that "should not require the reconstruction of 3D scene geometry nor the dense sampling of the locale in multiple dimensions." (2:5-7.)

VRE 2002, Declaration of Dr. Grindon at 7:25-8:10.



* * *

39. The patents-in-suit, in seeking to improve upon the so-called "computationally intensive" and "cumbersome" methods of forming composite images in the prior art, teach a single way to form composite images that seeks to minimize this computational burden. This process is illustrated by Figure 2 (see below, ¶ 58).

VRE 2002, Declaration of Dr. Grindon at 12:1-5.

IPR 2014-01339, VRE 2002, Declaration of Dr. Grindon at p. 7-8, 12, cited in Paper No. 9 at 3, 27-28.

Di Bernardo "teaches away" from adding Computational Intensity

VRE DX 45

Observation 1: In Ex. 2014, at 26:10-27:14, Dr. Grindon testified:

(Grindon Exhibit 7, U.S. Patent 10 No. 7,239,760 was marked for 11 identification, as of this date.)

Q. U.S. Patent No. 7,239,760 B2 to DiBernardo. Do you recognize Grindon Exhibit 7 [Ex. 2018]?

A. Yes.

Q. Is that one of the same patents that you identified in paragraph three of your October 4, 2011 declaration marked as Grindon Exhibit 4 [Ex. 2002]?

A. Yes.

Q. If you look at it, it was filed on May 16, 2005, correct? Look at the paragraph marked It says filed.

MR. MACEDO: Counsel, you canpoint it to him if you need to.

A. You're asking the date of filing of the '760 patent?

Q. Correct.

A. May 16, 2005.

Q. And it is claimed to be a division of Application Number 09/758717 filed on January 11, 2001, correct?

A. Yes.

Q. And that's the same serial number as Grindon Exhibit 5 [Ex. 1005, see p. 17:8-18], correct?

A. The numbers appear to be the same, yes.

IPR 2014-01339, Observation 1, Paper No. 29 at 1-2, quoting VRE 2014, Grindon Dep. at 26:10-27:14.

Di Bernardo "teaches away" from adding Computational Intensity

VRE DX 46

See also Ex. 1014, at 29:4-30:2. In Ex. 2014, Dr. Grindon further testified at 45:13-46:10:

> Q. Now, the Vederi patent in-suit, Grindon-7 [Ex. 2018], has a filing date of May 16, 2005, correct?
>
> A. Patent '760, which was considered in the Vederi matter?
>
> Q. Correct.
>
> A. Has a filing date of September 22nd. I'm sorry; May 16, 2005.
>
> Q. *Now,* ***if the court had said that the claims that were presented in the '760 patent were not entitled to a priority date before the filing date of the '760 patent, would your opinions in Grindon Exhibit 4 have been different?***
>
> MR. ALMELING: Objection; form. Objection; outside the scope.
>
> A. ***Again, I didn't consider in this the declarations that we are here to talk about today. But as I sit here, I am not seeing a reason why there would be a substantive difference in the level of skill in the art even through 2005.*** [Emphasis added]

IPR 2014-01339, Observation 1, Paper No. 29 at 2, quoting VRE 2014, Grindon Dep. at 45:13-46:10.

Di Bernardo "teaches away" from adding Computational Intensity

VRE DX 47

In Ex. 2014, Dr. Grindon further testified at 251:23-252:23,

Q. Whether you read it in 2011 or whether you read it today, what DiBernardo is teaching is that its making a trade off of image quality for computational intensity. Whether you need to do that in 2011 is another story. What DiBernardo is teaching is to make that trade off, right?

A.. It seems right.

Q. That teaching is true today as it was in 2000, as it was in 2011, as it was in 2004, correct?

A. The teaching referenced to 2000 in DiBernardo.

Q. The teaching in DiBernardo which was written in 2000 is the DiBernardo is teaching you how to do a trade off between image quality and algorithmic complexity.

A. At that time.

Q. Well at any time. But whether you need to do that later on is another story, but it's teaching this is how I trade off on image quality to save on algorithmic complexity, right?

A. If I'm understanding you, that's right.

IPR 2014-01339, Observation 1, Paper No. 29 at 2-3, quoting VRE 2014, Grindon Dep. at 251:23-252:23.

Di Bernardo "teaches away" from adding Computational Intensity

VRE DX 48

In Ex. 2014, Dr. Grindon further testified at 303:21-304:21,

> Q. But my question is: Would any of the testimony contained in Grindon Exhibit 4 [Ex. 2002] change if DiBernardo's '760 patent [U.S. Patent No. 7,239,760, Ex. 2018] were only entitled to its 2005 filing date?
>
> A. I didn't consider that question directly in the disclosure of Exhibit 1. If you're asking me right now just as I sit here to give you my thoughts on that, I would really have to review this again to see if I would make any changes if the date moved to 2005.
>
> Q. You're not saying that any of the testimony you provided earlier today was wrong; is that correct? You stand by whatever you testified to earlier today?
>
> A. I am not aware as I sit here of any mistakes.
>
> ***Q. So whatever you testified earlier today is still true tonight as it was whenever you made the testimony?***
>
> ***A. I, again, am not aware of anything that I would change. Just recalling the testimony up to this point.***

IPR 2014-01339, Observation 1, Paper No. 29 at 3-4, quoting VRE 2014, Grindon Dep. at 303:21-304:21.

Claims 7-10, "means for"

VRE DX 49

Each one of the challenged Claims 7-10 includes a "means for" limitation. Both Petitioner and Patent Owner agree that these "means for" limitations are governed by Section 112, Par. 6. Pet. at 10-14. Thus, as the Petition concedes, the "means for" claim elements require that the language be "limited to the corresponding structure disclosed in the specification and equivalents thereof" under 35 USC 112, ¶ 6. Pet. at 10 (citing *In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed. Cir. 1994) (en banc)). As the Federal Circuit recently recognized, for computer implemented inventions, where the claimed functions are performed by computer software, the corresponding structure is a software algorithm, not merely the computer itself. *See, e.g., EON Holdings, LLC v. FLO TV Inc.*, No. 2014-1392, Slip Op. (Fed. Cir. May 6, 2015).

IPR 2014-01338, Paper No. 22 at 43; *see also* IPR 2014-01339, Paper No. 22 at 44.

Claims 7-10, "means for"

VRE DX 50

7. A system as claimed in claim **1**, further comprising means for providing a variety of geo-coded data layers in conjunction with the video drive-by data.

8. A system as claimed in claim **1**, further comprising means for creating geo-coded text, image and vector data which is superimposed onto the post processed video data that is transferred to the communications network.

9. A system as claimed in claim **1**, further comprising means for linking latitude and longitude data with video drive-by data.

10. A system as claimed in claim **9**, further comprising means for calculating a camera position of designated individual frames of video by using position data points captured before and after a designated frame position.

IPR 2014-01338, Google 1002, U.S. Patent No. 7,389,181, Claims 7-10;
IPR 2014-01339, Google 1002, U.S. Patent No. 7,389,181, Claims 7-10.

"Means for providing a variety of geo-coded data layers in conjunction with the video drive-by data" (Claim 7)

VRE DX 51

Claim 7 requires a "means for providing geo-coded data layers in conjunction with video drive-by data." The claimed function is "providing geo-coded data layers in conjunction with video drive-by data". The specification discloses software based on an open source programming tool MENCODER as a structure capable of performing this claimed function:

> "Once a segment of video is selected that contained video frames within 300 feet, an extractor program 0620 (which is based on an open source programming tool MENCODER) converts the compressed MPEG2 data into lossless TIFF image files with each image frame file encoded for camera orientation and interpolated location."

Ex. 1002, 9:23-27.

IPR 2014-01338, Paper No. 22 at 44-45; *see also* IPR 2014-01339, Paper No. 22 at 45-46.

"Means for providing a variety of geo-coded data layers in conjunction with the video drive-by data" (Claim 7)

VRE DX 52

Q. Earlier today counsel asked you a series of questions about various programs referenced in the 131 declaration, including GDAL, Mencoder, FFmpeg, OpenGL, Graphics Magic, and Apache Server, and counsel asked whether any of those programs are the same as or similar to various structures disclosed in DiBernardo and Yoichi. Do you recall those questions?

A. Yes.

IPR 2014-01338, VRE 2006, Fuchs Dep. at 258, cited in Paper No. 22 at 45;
IPR 2014-01339, VRE 2006, Fuchs Dep. at 258, cited in Paper No. 22 at 48.

can answer.

A. I don't remember.

Q. Okay. Thank you very much.

And if we move down the column to -- 925?

MS. HIGHAM: Um-hmm.

Q. It's 925, first occurrence. It refers to the program Mencoder. Specifically it says an open source programming tool, Mencoder. Did you research the Mencoder structure?

A. To the best of my recollection, yes.

Q. Thank you. And what is your understanding of the Mencoder structure?

A. To the best of my recollections I verified that it was an open source tool that could, in fact, do that conversion specified in the patent here.

Q. Thank you. And can you explain to me your understanding of the Mencoder structure?

MR. ALMELING: Objection; form. You can answer.

A. In order to answer a question I would need the documentation for the Mencoder program.

Q. Thank you. And in your opinion is the Mencoder structure the same as the structure listed in DiBernardo?

A. I don't know.

"Means for creating **geo-coded text, image and vector data** which is superimposed onto the post processed video data that is transferred to the communications network" (Claim 8)

VRE DX 54

communication network". Pet. at 11. However, the '181 Patent explicitly discloses specific software run on the "image processing server" used to perform this claimed function:

> A render program 0640, which runs on the image processing server 0115, is then provided (in this example implemented using open source programming tool suite Open GL and GraphicsMagick) to calculate a location within the TIFF image file in which text or an icon can be placed based on the centroid. The process is then repeated in each of the TIFF images which are then stored in each of the image files. A recompositing program 0650 (in this example, implemented using an open source programming tool FFMPEG) then assembles each of the TIFF images together in time sequence to create a compressed video file. Finally, the video in the MPEG2 format with the newly added text and icons added is streamed 0660 out to an end user using the open source Apache web server."

Ex. 1002, 9:36-50.

IPR 2014-01338, Paper No. 22 at 47; *see also* 2014-01339, Paper No. 22 at 47-48.

"Means for creating **geo-coded text, image and vector data** which is superimposed onto the post processed video data that is transferred to the communications network" (Claim 8)

VRE DX 55

Dr. Fuchs on OpenGL

18 And if we refer now to column 9, line 39,
19 the reference to OpenGL.
20 A. Column 9 --
21 Q. Did you research the program OpenGL?
22 A. Yes.
23 Q. Thank you. And what is your understanding
24 of OpenGL?
25 A. OpenGL is a popular open source software

1 for generating computer images.
2 Q. Thank you. And does the DiBernardo
3 reference produce structure the same as OpenGL?
4 A. It very well might. I don't remember.

IPR 2014-01338, VRE 2006, Fuchs Dep. at 183-184, cited in Paper No. 22 at 47;
IPR 2014-01339, VRE 2006, Fuchs Dep. at 183-184, cited in Paper No. 22 at 48.

for generating computer images.

Q. Thank you. And does the DiBernardo reference produce structure the same as OpenGL?

A. It very well might. I don't remember.

Q. Thank you.

If we can proceed to column 9, line 40, the reference to Graphics Magic.

Have you located that reference?

A. Yes.

Q. Thank you.

And did you research a structure associated with Graphics Magic?

A. I don't remember. I may have.

Q. Thank you.

What is your understanding of Graphics Magic?

A. I don't remember at this point.

Q. That's fine. Can you tell me if you have an opinion on whether the structure of Graphics Magic is the same as that in DiBernardo?

A. I don't know.

Q. Thank you. And is it the same as the structure employed in Yoichi?

A. I don't know.

Q. Thank you.

VRE DX 57

"Means for linking latitude and longitude data with video drive-by data" (Claim 9)

The claimed function is "linking latitude and longitude data with video drive-by-data". The '181 Patent discloses the following corresponding structure for this claimed function:

> For the target parcel, a calculation using GDAL is made in a camera centroid position program 0630 to determine the exact latitude and longitude of a centroid of the parcel, which generally approximates the location of the structure. Given the centroid of the parcel, another simple geometry calculation is made as to the orientation and location of the camera view that is pointed toward the centroid of the parcel. The location of the centroid of the parcel and the distance to the parcel is then calculated for the frame.

Ex. 1002, 9:28-36.

IPR 2014-01338, Paper No. 22 at 48; *see also* IPR 2014-01339, Paper No. 22 at 49.

witness.

MS. HIGHAM: Camille Higham, Ideation Law, representing the patent owner.

MR. KINCART: Joseph Kincart from Ideation Law also representing the patent owner.

MR. ALMELING: Today's transcript is a continuation of the one began yesterday regarding all four of the petitions and IPRs.

Sorry, counsel, please go ahead.

Thank you.

MR. KINCART: No, thank you.

BY MR. KINCART:

Q. Do you have a copy of the '181 with you?

A. The '181 patent of Mr. Meadow?

A. Yes.

Q. And would you turn to column 9 of Mr. Meadow's patent. I'd just like to review some of the open source programs there. I can call them out by column and line, or you can just answer if they're --

A. Please call them out by line.

Q. -- well known in the art.

So column 9, line 16, is an open source program referred to as GDAL, G-D-A-L, and did you research the GDAL structure?

MR. ALMELING: Objection; form. You can answer.

A. To the best of my recollection I researched every one of these terms, and I think that includes GDAL.

Q. Thank you. And what is your understanding of the GDAL structure?

A. To the best of my recollection it was as characterized in the patent here.

Q. Can you elaborate on that?

A. To the best of my recollection -- and this was some months ago -- I found that it was an open source programming tool, as stated here, which completes range calculation from latitude and longitude positions, and coding and video segments to the latitude and longitude positions of the subject property.

Q. And is this the same as in DiBernardo?

MR. ALMELING: Objection; form. You can answer.

A. I don't remember.

Q. Thank you.

And in your opinion is it the same as in Yoichi?

MR. ALMELING: Objection; form. You

"Means for calculating a camera position of designated individual frames of video by using position data points captured before and after a designated frame position" (Claim 10)

VRE DX 59

The claimed function is "calculating a camera position of designated individual frames of video by using position data points captured before and after a designated frame position". Ex. 1002, 3:43-45. The '181 Patent discloses the following corresponding structure for this claimed function:

> Using simple interpolation techniques, the position of each frame between the GPS one-second interval points can be calculated with time and speed between each. The assumptions are that no radical changes in speed or direction occur within the one second interval. Using simple geometry the change of horizontal location of the camera from frame position **5 0810** to frame position **29 0815** pointing to a fixed point **0835** enables a calculation of the distance to **0835**. By combining the positions of the landmarks with the GPS data, a precise set of relative positions can be calculated for landmarks in the video. The newly created two dimensional data for the location of the landmarks can now be added to a GIS viewing software application such as the open source University of Minnesota MapSe[r]ver.

Ex. 1002, 11:4-17 (emphasis in original).

IPR 2014-01338, Paper No. 22 at 49-50; *see also* IPR 2014-01339, Paper No. 22 at 50-51.

Claims 7-10, "means for"

VRE DX 60

Q. Earlier today counsel asked you a series of questions about various programs referenced in the 131 declaration, including GDAL, Mencoder, FFmpeg, OpenGL, Graphics Magic, and Apache Server, and counsel asked whether any of those programs are the same as or similar to various structures disclosed in DiBernardo and Yoichi. Do you recall those questions?

A. Yes.

VRE 2006, Fuchs Dep. at 258:10-18.

During Google's Cross-Examination, Dr. Fuchs confirmed he never performed the required analysis of Yoichi

Have you conducted any analysis into whether any of those programs were the same as or similar to various structures disclosed in DiBernardo or Yoichi?

A. No.

Q. Could you conduct that analysis?

A. Yes.

Q. What would you need in order to conduct that analysis?

A. I would need the specification documentation for each one of those programs, each one of those formats, and then I would need the documentation for the corresponding programs and formats used in Yoichi or DiBernardo, and then perhaps some other documentation and texts.

Q. And you have not yet done that analysis to date; correct?

A. That's correct.

VRE 2006, Fuchs Dep. at 259:3-20.

IPR 2014-01338, VRE 2006, Fuchs Dep. at 258-259, cited in Paper No. 22 at 50;
IPR 2014-01339, VRE 2006, Fuchs Dep. at 258-259, cited in Paper No. 22 at 50.

Claims 7-10, "means for"

VRE DX 61

Dr. Grindon further testified at 186:6-187:2:

> Q. So other than statements that you otherwise addressed from other parts of the brief [Paper No. 22 in IPR2014-01338], there were no portions of this section of the brief from pages 43 through 51 that you identified as having uniquely problematic or inconsistent statements?
>
> A. Just to clarify, unless the point was raised elsewhere outside of these pages, I don't recall addressing it in my declaration, and I don't have an opinion on the accuracy.
>
> Q. And if you look at Exhibit 22 [Patent Owner's Response to Petition, Paper No. 22 in IPR2014-01339], and you look at the section starting on page 43 going through page 51, is your testimony the same starting on page 44?
>
> A. Are these corresponding pages to the Exhibit 21 [Patent Owner's Response to Petition, Paper No. 22 in IPR2014-0338] pages that you mentioned?
>
> Q. I wouldn't swear to you that they're verbatim identical, but they are the corresponding sections.
>
> A. Then my answer would be the same.

Patent Owner's technical points regarding Claims 7-10 were "Not addressed" by Dr. Grindon

IPR 2014-01338, Observation 2, Paper No. 29 at 5-6, quoting VRE 2014, Grindon Dep. at 186:6-187:2;
IPR 2014-01338, Observation 2, Paper No. 29 at 5-6, quoting VRE 2014, Grindon Dep. at 186:6-187:2

Summary of Institution Grounds (IPR 2014-01340)

VRE DX 62

- **Instituted Ground 1 (Petition Ground 1):** Claims 1-4, 10, 11, 13-15, and 18 as allegedly anticipated under 35 U.S.C. § 102(b) by Di Bernardo; and
- **Instituted Ground 2 (Petition Ground 3):** Claims 1-4, 10, 11, 13-15, and 18 as allegedly unpatentable under 35 U.S.C. § 103(a) over Di Bernardo and Kumar.

In Instituted Grounds 1 and 2, Petitioner alleges that Claims 1-4, 10, 11, 13-

IPR 2014-01340,
Paper No. 21 at 2.

Independent Claim 1 of USP 7,929,800

VRE DX 63

[1.P] 1. Apparatus for processing a continuum of image data, the apparatus comprising:

[1.1] a computer server comprising a processor and a storage device;

[1.2] and executable software stored on the storage device and executable on demand,

[1.3] the software operative with the processor to cause the server to:

[1.4] capture two or more images of a subject, wherein the two or more

[1.5] images are captured from disparate points on a continuum;

align portions of the two or more images in a dimension consistent

[1.6] with the continuum; and

generate a composite image of the subject comprising the aligned

[1.7] portions of the two or more images,

wherein the software is additionally operative to: record positional data descriptive of a respective location of each of the two or more images; and

associate the composite image with a particular portion of the subject based upon the positional data.

Summary of Institution Grounds (IPR 2014-01341)

VRE DX 64

Instituted Ground 1: Claims 1, 2, 5, and 8-13 as allegedly anticipated under 35 U.S.C. §102(b) by Früh (corresponding to Petition Ground 1); and

Instituted Ground 2: Claims 1, 2, 5, 8, 9, and 11-13 as allegedly unpatentable under 35 U.S.C. § 103(a) over Früh and Di Bernardo (corresponding to Petition Ground 3).

IPR 2014-01341,
Paper No. 21 at 3.

Independent Claim 1 of USP 8,078,396

VRE DX 65

[1.P] 1. A method for creating a continuum of image data, the method comprising:

[1.1] a) receiving multiple two-dimensional image data sets of a subject, wherein each image data set is captured from a disparate point on a continuum and each image data set comprises a plurality of features;

[1.2] b) generating a composite image of the subject from portions of two or more of the multiple two-dimensional image data sets, wherein the portions are aligned in a dimension consistent with the continuum;

[1.3] c) receiving data descriptive of a location of the plurality of features;

[1.4] d) tracking the position of at least one of the plurality of features in two or more of the two-dimensional images;

[1.5] e) generating a point cloud array for the at least one of the plurality of features;

[1.6] f) converting the point cloud array to a polygon based model; and

[1.7] g) associating a location for the polygon based model relative to the portions of the image data sets and based upon the location of the plurality of features.

IPR 2014-01341, Paper No. 21 at 13-14.