

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CORELOGIC, INC.,
Petitioner,

v.

BOUNDARY SOLUTIONS, INC.,
Patent Owner.

Case IPR2015-00228
Patent 7,092,957 B2

Before LYNNE E. PETTIGREW, PETER P. CHEN, and
RICHARD H. MARSCHALL, *Administrative Patent Judges*.

CHEN, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

CoreLogic, Inc. (“Petitioner”) filed a Corrected Petition requesting an *inter partes* review of claims 1–19 of U.S. Patent No. 7,092,957 (Ex. 1001, “the ’957 patent”). Paper 4 (“Pet.”). Boundary Solutions, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). On May 21, 2015, we instituted an *inter partes* review for the challenged claims on the grounds of unpatentability alleged in the Petition. Paper 8 (“Dec. to Inst.”).

After institution of trial, Patent Owner filed a Corrected Patent Owner Response (Paper 26, “PO Resp.”), to which Petitioner filed a Reply (Paper 37, “Pet. Reply”). Petitioner filed a Motion to Exclude Evidence (Paper 39, “Mot. Excl.”), Patent Owner filed an Opposition to the Motion to Exclude, Paper 43, and Petitioner filed a Reply in support of its Motion to Exclude, Paper 44. An oral hearing was held on February 11, 2016, consolidated with the hearings in IPR2015-00219, IPR2015-00222, and IPR2015-00226. The transcript of the consolidated hearing has been entered into the record. Paper 49 (“Tr.”). On February 26, 2016, Patent Owner filed a disclaimer of claims 13 and 16–18. *See CoreLogic, Inc. v. Boundary Solutions, Inc.*, Case CBM 2016-00016, Ex. 2003.

The Board has statutory authority under 35 U.S.C. § 6(c). In this Final Written Decision, issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73, we determine Petitioner has shown by a preponderance of the

IPR2015-00228
Patent 7,092,957 B2

evidence that claims 1–12, 14, 15, and 19 of the '957 patent are unpatentable.

A. Related Proceedings

According to Petitioner, the '957 patent is involved in the district court case captioned *Boundary Solutions, Inc. v. CoreLogic, Inc.*, No. 5:14-cv-00761 (N.D. Cal.). Pet. 59. Patent Owner also has asserted related U.S. Patent No. 8,065,352 (“the '352 patent”) and U.S. Patent No. 7,499,946 (“the '946 patent”) in that proceeding. Pet. 59; Paper 6.

We instituted *inter partes* reviews of the '352 patent (IPR2015-00219, IPR2015-00222) and the '946 patent (IPR2015-00226). Petitions for covered business method patent review of the '957 patent, '946 patent, and '352 patent are pending in Cases CBM2015-00016, CBM2015-00017, and CBM2015-00018, respectively.

B. The '957 Patent

The subject matter of the challenged claims of the '957 patent relates generally to a Geographic Information System (“GIS”) and a National Online Parcel-Level Map Data Portal referred to as a “NPDP.” Ex. 1001, Title, Abstract, 1:17–26. The '957 patent states that “[p]arcel-level GIS is a mature technology” and adds that “[t]hough hundreds of local governments have finished digitizing their parcel maps, a single national parcel map source (portal) does not exist. The National Online Parcel-Level Map Data Portal (NPDP) remedies this problem by providing the first national

repository of parcel data for use by all industry sectors.” *Id.* at 3:19–20, 1:15–20. In particular, the ’957 patent describes an interactive online method for users to retrieve geographic parcel maps and related data:

An end user, utilizing an assigned password, begins the NPDP process by logging on from a computer terminal to an intranet or internet start page of the NPDP, and enters the state, city, street and number of a desired address. The NPDP address database is searched for a matching tax record. If there is a match, the NPDP displays the road right-of-ways, all parcel boundaries within a select distance, the “exact” address location highlighted, the pertinent parcel polygon changing the color to a brighter or different color from surrounding parcels also displayed. In addition, a list of property record attributes such as owner, use code, assessed value and year constructed can be displayed for the selected parcel. Other displayed parcels can also be selected and their linked attributes viewed.

Id. at 1:54–67. Parcel-level information includes parcel boundaries and geocodes, which are linked using a parcel identifier to a non-graphic database containing property tax records. *Id.* at 1:49–53, 4:1–4:11, 8:13–24. Data from jurisdictions are normalized into a single standard format. *Id.* at 1:34–37, 7:31–54.

The ’957 patent describes retrieving a parcel-level map based on the address of a requested parcel. *Id.* at 1:54–57, 4:47–51. A jurisdictional lookup table is searched to identify, for example, the jurisdiction in which the requested parcel is located. *Id.* at 8:25–30. In particular:

The Jurisdiction Lookup Table (JLT) 102 is a single tabular file, developed and maintained by NPDP service provider. The JLT makes it possible for the state and jurisdiction values stated in an

address entry transaction to be used to determine the pertinent county in which it is located. Hence, by the table also containing the county's FIPS number, the appropriate county directory is automatically accessed for data retrieval purposes. In addition, the JLT is the source of the Metadata values assigned to the parcel map data of each jurisdiction within a county. Each JLT record contains the following fields: state, jurisdiction, county name, county FIPS number, accuracy, publication date, percent complete, ortho scale, ortho resolution, and update frequency.

Id. at 8:25–38. The non-graphic database for that jurisdiction is searched for a record matching the address, and the parcel identifier for that record is used to access a graphic database containing the selected parcel. *Id.* at 3:41–58. The selected parcel and surrounding parcels may be displayed, with the selected parcel shown as a highlighted polygon. *Id.* at 3:58–61; 4:56–58. The parcel's linked data (e.g., tax record) also may be displayed. *Id.* at 4:58–59.

Illustrative Claim

Claims 1–19 are the subject of the Petition, and claims 13 and 16–18 have since been disclaimed by Patent Owner. Claim 1 is independent. Claim 1 is reproduced as follows.

1. An interactive computer implemented method for retrieving geographic parcel boundary polygon maps and associated parcel attribute data linked to a non-graphic database, wherein the data is acquired electronically, comprising:

- a. activating a computer terminal connected to a computer network;
- b. accessing an applications program for access to the data;

- c. accessing a data entry screen and entering a parcel attribute to call up the parcel selected;
- d. subsequently accessing a national parcel map database comprising multiple jurisdictional databases which have been normalized to a common data protocol;
- e. searching a jurisdiction look up table associated with the national parcel map database, said look up table indexed for identification of the pertinent jurisdictional database, whereby a numerical jurisdictional identifier for the selected jurisdiction is located, and the identified jurisdictional database thereafter accessed; and,
- f. thereafter displaying on screen a parcel boundary polygon map, along with surrounding parcel boundary polygons, the default scale of the displayed map selected to fill the computer display screen with parcel boundaries within a selected distance around the subject parcel, the selected parcel boundary polygon highlighted, defining both the location and boundary of the parcel, and associated attribute data for the highlighted parcel displayed.

Ex. 1001, 16:14–43.

C. Prior Art Relied Upon

The following references were asserted in the instituted grounds.

Reference	Title	Date	Ex. No.
Harder	“Serving Maps on the Internet: Geographic Information on the World Wide Web,” Environmental Systems Research Institute,	July 28, 1998	Ex. 1003

Reference	Title	Date	Ex. No.
	Inc.		
Longley	“Geographic Information Systems and Science,” John Wiley & Sons, Ltd.	May 2001	Ex. 1015
Roy	US 5,966,135	Oct. 12, 1999 (filed Oct. 30, 1996)	Ex. 1012
Kearney	“Internet Access to Real Property Information,” in Integrating Spatial Information Technologies for Tomorrow, GIS 1997 Conference Proceedings	Feb. 1997	Ex. 1021
ARC/INFO	“Understanding GIS, The ARC/INFO Method,” Environmental Systems Research Institute, Inc.	1997	Ex. 1004

D. The Asserted Grounds

The challenges to patentability on which we instituted trial are as follows (not including claims 13 and 16–18, which were disclaimed by Patent Owner).

Reference(s)	Basis	Claims Challenged
Harder and Longley	§ 103	1–10, 12–19
Harder, Longley, and Roy	§ 103	11

Reference(s)	Basis	Claims Challenged
Kearney and ARC/INFO	§ 103	1–8, 16–19

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278–79 (Fed. Cir. 2015), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 890 (mem.) (2016). Claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). An inventor may provide a meaning for a term that is different from its ordinary meaning by defining the term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

In our Decision to Institute, we construed “numerical jurisdictional identifier” to mean “a number that identifies a jurisdiction.” Dec. to Inst. 7–8. We based our construction on the only appearance of “jurisdictional identifier” in the written description of the ’957 patent:

FIG. 3 illustrates a USA County Boundary Map (USACM). This is a public domain boundary file of each and every of the 3140 counties within the United States. Each of these polygons is

geocoded with its county name and FIPS number, a numerical *jurisdictional identifier*, as illustrated in the figure.

Ex. 1001, 8:48–53 (emphasis added).¹

Patent Owner does not challenge our construction of “jurisdictional identifier” in its Patent Owner Response, *see* PO Resp. 7, nor does Petitioner challenge the construction in its Reply, *see* Reply 7. For this Final Written Decision, after considering the complete record, we maintain our construction of “numerical jurisdictional identifier” as “a number that identifies a jurisdiction.”

Patent Owner also proposes a construction for “national parcel map database comprising multiple jurisdictional databases which have been normalized to a common data protocol.” PO Resp. 7–15. Patent Owner’s proposal is 60 words long, and reads, “a database covering more than one state including multiple jurisdictional databases, wherein a jurisdictional database is a collection of data representing the boundaries of parcels from the jurisdiction, each of the jurisdictional databases having been received from a jurisdiction, and modified, transformed, amended or converted by a common set of one or more processes applied to all data and updates.” PO Resp. 8.

Patent Owner had in its Preliminary Response proposed a different construction (“the database of individual land parcels having been

¹ According to the ’957 patent, the Federal Information Processing Standards (“FIPS”) number “is used nationally to numerically identify specific county jurisdictions.” Ex. 1001, 7:27–30.

transformed by a set of one or more automated and/or semiautomated processes applied to data and data updates supplied by sponsoring jurisdictions using a set of rules or procedures”) for nearly the identical phrase (“multiple jurisdictional databases which have been normalized to a common data protocol”). Prelim. Resp. 15–17. We did not adopt Patent Owner’s proposed construction in our Decision to Institute, and we do not adopt its revised (and lengthier) construction in this Final Written Decision, for the reasons argued by Petitioner in its Reply (Reply 2–5) and also because the Patent Owner’s prolix proposed construction does not add clarity to the term. We decline to provide an express construction for this term or for any other terms in the claims other than discussed above.

B. Principles of Law

To prevail in challenging BSI’s claims, CoreLogic must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time of the invention to a person having ordinary skill in the art. *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary

skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

C. Level of Ordinary Skill in the Art

Petitioner’s proposal for the level of ordinary skill in the art is “at least a bachelors degree in geographic information science, survey engineering, geomatics, or similar education, and two years of experience in a relevant field (e.g., land or geographic information science), or six years of experience in the relevant field.” Ex. 1006 (Declaration of Michael Goodchild), ¶ 11. Patent Owner has proposed that one of ordinary skill in the art would possess a “a Bachelor’s degree or higher in, GIS engineering with at least 5 years of academic or industry experience in GIS database design.” Ex. 2004 (Declaration of William Huxhold), ¶ 13.

We determine that an express definition of the level of ordinary skill is not required. The level of ordinary skill in the art can be reflected in the cited prior art references. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (“[T]he absence of specific findings on the level of skill in the art does not give rise to reversible error where the prior art itself reflects an appropriate level and a need for testimony is not shown.”) (internal quotations omitted); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Therefore, we find the level of ordinary skill in the art to be reflected in the cited references.

D. Claims 1–10 and 12–19: Asserted Obviousness over Harder and Longley

Petitioner contends claims 1–10 and 12–19 are unpatentable under 35 U.S.C. § 103(a) as obvious over Harder and Longley. Pet. 12–46. In view of Patent Owner’s disclaimer of claims 13 and 16–18, we analyze claims 1–10, 12, 14, 15, and 19. Claim 1 is independent. Relying on the testimony of Dr. Michael F. Goodchild, Petitioner explains how the references allegedly teach or suggest the claim limitations and sets forth a rationale for combining the references. *Id.* (citing Ex. 1006).

Harder (Exhibit 1003)

Harder is a book titled “Serving Maps on the Internet,” published by the Environmental Systems Research Institute (ESRI). Harder “presents case studies of a dozen different private and public organizations that are delivering geographic information” online. Ex. 1003, Preface. Harder notes: “The convergence of geographic information systems (GIS) and the World Wide Web has changed mapmaking forever.” *Id.* at 1.² Harder discloses that web-based geographic information systems were well-known at the time of the alleged invention of the ’957 patent. *Id.* at 3, 12–17, and 19–25. Web-based GISs generally have a client/server architecture, where a server receives requests for parcel information from a client computer, searches a database for the selected parcel information, and returns the

² All citations herein are to page numbers in the original underlying references, rather than to the exhibit page numbers affixed by Petitioner.

information to the client computer. *Id.* at 7, 8, 13, 111, 113. The database can be a relational database system. *Id.* at 13.

Harder also describes applications that implement a web-based GIS, including a GIS application developed for a county in North Carolina to provide the public with access to the county's land records database. *Id.* at 19. A user can query the system for a parcel map by entering an address or parcel identification number of the desired parcel. *Id.* at 7, 21. Geographic and non-geographic data associated with the selected parcel are retrieved and transmitted to a client computer for display with the selected parcel highlighted. *Id.* at 21–22. For example, a parcel information table containing information about the selected parcel, such as parcel owner, tax value, and property value data can be displayed with the geographic map. *Id.* Harder describes an application that, using ARC/INFO GIS software, joins tables of tax records to parcel information, converts the data to shapefiles, and indexes key fields to speed up user-defined searches. *Id.* at 24. Harder explains that the disclosed processes could be used to select data and control the “geographic area to be displayed (from statewide down to the town level).” *Id.* at 7.

Longley (Ex. 1015)

Longley is a book titled “Geographic Information Systems and Science.” Longley discloses features and technologies relating to GISs that search and retrieve parcel-level data from a database of parcel data that may

cover many jurisdictions. Ex. 1015, 2–5, 10–11, 13–14, 17–18, 28–31, 35–37, 80, 83–86, 164–172, 194–198, 226–244.

Longley references “look up” operations (*id.* at 191), and describes known technologies and features regarding such systems, including methods of configuring and formatting data and storing it in different ways in a database, such as tables (*id.* at 226–29), linking the collections of data based on Federal Information Processing Standard (“FIPS”) codes or other types of jurisdictional identifiers (*id.* at 226–30), searching and accessing such data, such as through indexing (*id.* at 226, 237–38), and maintaining such data in common formats (*id.* at 226–31, 237–38). A user can request a property map based on property values, by querying for properties similarly valued within a selected distance range, with the selected properties displayed on the screen. *Id.* at 36.

Analysis

Petitioner provides explanations of how the subject matter of each of the challenged claims is taught or suggested by Harder or Longley. Pet. 12–46. For independent claim 1, Petitioner contends Harder teaches the recited limitations of activating a computer terminal connected to a computer network (Pet. 13; Ex. 1003, 7–13, 21, 106–113); accessing an applications program for access to parcel attribute data (Pet. 13–14; Ex. 1003, 7–13, 20–21, 106–113); and accessing a data entry screen and entering a parcel attribute (Pet. 14–15; Ex. 1003, 8, 13, 19–25, 113, 117).

Petitioner also contends that Harder and Longley teach or suggest subsequently accessing a national parcel map database comprising multiple jurisdictional databases which have been normalized to a common data protocol (Pet. 15–18; Ex. 1003, 7–8, 13, 21–22, 42, 48–51, 106; Ex. 1015, 2–5, 10–11, 13–14, 17–18, 28–31, 35–37, 80, 83–86, 164–172, 194–198, 229–233).

Petitioner further contends that Harder and Longley teach or suggest searching a jurisdiction look up table associated with the national parcel map database, where the look up table is indexed for identification of the pertinent jurisdictional database, whereby a numerical jurisdictional identifier for the selected jurisdiction is located, and the identified jurisdictional database thereafter accessed. Pet. 19–22. In particular, Petitioner contends that Harder discloses an index for identifying a jurisdictional database, and that Longley describes characteristics of national parcel databases, which may be configured with identifiers that link tables in the database to assist in searching for data. Pet. 19–21; Ex. 1003, 24; Ex. 1015, 226–30. Petitioner contends Longley further discloses searching tables relating to databases of multiple jurisdictions, such as states and sub-regions comprising more than one state. Pet. 20; Ex. 1015, 229–32. The tables include keys, “which may include numerical jurisdictional identifiers, such as a state ‘FIPS’ identifier.” Pet. 20–21 (citing Ex. 1015, 229–30, Figs. 11.2 (a)-(c)).

Lastly, Petitioner contends Harder and Longley teach or suggest claim 1's limitation of displaying on screen a parcel map, along with surrounding parcel boundary polygons, the selected parcel highlighted and filling the screen. Pet. 23–27.

Patent Owner's arguments in its Response resemble those in its Preliminary Response, which, as we noted in the Decision to Institute, focus on the separate disclosures of Harder and Longley. Dec. to Inst. 11. Nonobviousness, however, cannot be established by attacking references individually in isolation, when the asserted ground of unpatentability is based on a combination of references. *See In re Keller*, 642 F.2d 413, 426 (CCPA 1981).

We agree with Petitioner that Patent Owner's arguments in its Response are “often unclear” (Pet. Reply 9), but discern several arguments by Patent Owner asserting Harder and Longley do not teach or suggest the recited “national parcel map database comprising multiple jurisdictional databases which have been normalized to a common data protocol,” or the recited searching of “a jurisdiction look up table associated with the national parcel map database, said look up table indexed for identification of the pertinent jurisdictional database, whereby a numerical jurisdictional identifier for the selected jurisdiction is located.” PO Resp. 16, 22–29.

First, Patent Owner argues that Harder does not disclose databases that have been normalized to a common data protocol. PO Resp. 22–23. Petitioner cites the '957 patent's description of data being normalized into a

universal spatial protocol using SHP files (shapefiles) (Ex. 1001, 7:31–41), and Harder’s description of how its system’s datasets are “stored in the industry-standard shapefile (.shp) format” and how the system “converts the data into shapefiles.” Pet. Reply 9–11; Ex. 1003, 24, 106. Petitioner also notes that Patent Owner’s declarant acknowledged that assembling databases according to a standard protocol was in the prior art. Pet. Reply 11; Ex. 1034, 29:15–32:17, 32:18–40:22. We agree with Petitioner and find that Harder teaches or suggests databases that have been normalized to a common data protocol.

Second, Patent Owner argues about the lack of disclosure of multiple jurisdictional databases. PO Resp. 28–29. Petitioner contends multiple jurisdictional databases are taught by both Harder and Longley, which explicitly discloses a “STATES table” that is a multi-state database. Pet. Reply 13; Ex. 1015, 229, Fig. 11.2. We agree with Petitioner and find that Harder and Longley teach or suggest multiple jurisdictional databases.

Third, Patent Owner argues about the lack of disclosure of claim 1’s limitation of “searching a jurisdiction look up table associated with the national parcel map database, said look up table indexed for identification of the pertinent jurisdictional database, whereby a numerical jurisdictional identifier for the selected jurisdiction is located” (see PO Resp. 24–28). Petitioner concedes that Harder and Longley “disclose retrieving a jurisdictional identifier using an index, but do not expressly refer to an index as a look up table.” Pet. 23. Harder discloses that its system “indexes key

fields,” Ex. 1003, 24, and Longley describes indexes and tables, Ex. 1015, 226–231. In particular, Longley discloses a grid index, in which grid locations “are recorded in a list (the index),” and a query to locate an object searches the indexed list to find the object and then retrieves the object . . . for further analysis.” Pet. Reply 16; Ex. 1015, 237, Fig. 11.8.

There is additional evidence that Harder and Longley teach or suggest the recited look up table. First, Longley specifically references a “look-up operation.” Ex. 1015, 191. In addition, at the oral hearing, Patent Owner’s counsel equated an index with a look up table, stating, “a lookup table serves the same purpose as an index . . . I presume you can call a lookup table a kind of index . . . I certainly understood when [Dr. Goodchild] said jurisdictional lookup table is a kind of index.” Tr. 83:9–11, 83:13–14. Patent Owner’s counsel also distinguished another of Petitioner’s references by stating, “ARC/INFO has a particular kind of lookup table . . . I don’t think that’s the kind of lookup table that we’re talking about here, which is more akin to an index.” *Id.* at 85:24–25, 86:8–9.

Petitioner further explains why its proposed combination of Harder and Longley teaches or suggests the recited look up table:

[O]ne skilled in the [art] would have found it obvious at the time of the alleged invention of the ’957 patent to have the index used in the combined system of Harder and Longley arranged as a look-up table to allow the system to locate the appropriate location where requested parcel information is stored in the national parcel map database of the combined system. Ex. 1006 [Goodchild declaration], ¶ 44. Implementing an index as a look-up table would have been a predictable and common sense

modification to the combined system that would have increased the efficiency of the searching functions disclosed by the combined system of Harder and Longley.

Pet. 23. Based on the evidence and arguments set forth above, we find that the recited jurisdiction look up table is taught or suggested by Petitioner's proposed combination of Harder and Longley.

Lastly, Patent Owner argues that the references do not disclose the recited numerical jurisdictional identifier because Longley's FIPS identifier is used to join tables, "there is no disclosure of using a county FIPS code in connection with indexing," and "no one before the patent had thought of using the county FIPS code . . . as a jurisdictional identifier." PO Resp. 24, 27–28. Patent Owner's argument, however, focuses on this teaching in Longley in isolation. Petitioner's obviousness argument cites the FIPS identifier in Longley as an example of a jurisdictional identifier used as a key in database tables. *See* Pet. 20–21; Reply 17–18. Patent Owner acknowledges this, agreeing that the state FIPS code in Longley is used as a key for finding records. *See* PO Resp. 26. Petitioner then relies on that teaching in combination with Harder's teaching that indexing key fields can speed up searches and Longley's disclosure of the benefits of indexing geographic databases. *See* Pet. 22–23; Reply 17–18; Ex. 1003, 24; Ex. 1015, 237–38.

In addition, as we explained in the Decision to Institute, our construction of "numerical jurisdictional identifier" does not require a specific county FIPS code, and we find that Longley's FIPS code teaches or

suggests the recited numerical jurisdictional identifier. Dec. to Inst. 13; Ex. 1015, 229–30, Fig. 11.2.

In summary, we agree with Petitioner’s contentions and find that Harder and Longley teach or suggest the limitations of independent claim 1.

Patent Owner also argues, “there is no motivation to combine the two references.” PO Resp. 27. We disagree. The Petition cites to the Goodchild declaration and to *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007), and explains why one of ordinary skill in the art would have combined Harder and Longley as to the limitations of claim 1:

Given the knowledge of one skilled in the art, the disclosure of Harder and the known configurability of such databases as described by Longley, it would have been obvious to one of ordinary skill in the art to configure the combined system with separate and distinct databases associated with specific jurisdictions such as states, etc., to allow more efficient access to parcel data spanning multiple jurisdictions. Ex. 1006, ¶¶ 34-39. . . . [T]he disclosure of *Longley* and the knowledge of one skilled in the art would have motivated such a person to modify *Harder*’s system given that *Harder* discloses parcel-based searching and display functionalities for a jurisdiction (e.g., Ex. 1003, 21-25) and for multiple states (*id.*, 49-51), and discloses that databases in GIS environments could span multiple jurisdictions (*id.*, 7, 49-51), and that *Longley* discloses configuring such databases to include data relating to different states and also discloses parcel based systems. Moreover, one skilled in the art would have been motivated to look to *Longley* to supplement the features of the systems and processes of *Harder* given they both describe[] features of ESRI systems. Ex. 1015, 170, 172; Ex. 1003. Thus, modifying *Harder*’s database in such a way would have been a common sense and predictable

modification that was within the realm of knowledge of one skilled in the art at the time of the alleged invention. *See KSR*, 550 U.S. at 417; Ex. 1006, ¶¶ 34-39.

Pet. 18–19. The Petition continues:

[O]ne skilled in the art would have realized that using an index in the combined system of *Harder* and *Longley* would have been a predictable and common sense modification to the system, which would have had the foreseeable result of improving the effectiveness of locating parcel data in the national parcel map database of the combined system of *Harder* and *Longley*. *See KSR*, 550 U.S. at 401, 417; Ex. 1006, ¶ 43. One skilled in the art would have been motivated to look to *Longley* to modify *Harder* as explained above because *Longley* discloses functionalities that are related to GIS features similar to those of *Harder*. . . . One of ordinary skill in the art would have understood that implementing such a modification would have been common sense, predictable, and within the realm of knowledge of one skilled in the art, and that doing so would have resulted in enhanced performance of the combined system to locate requested parcel information in the national parcel map database of the combined system. *See KSR*, 550 U.S. at 417; Ex. 1006, ¶¶ 40-43.

Pet. 22–23. Petitioner’s Reply further cites to the Goodchild declaration and asserts that it would have been obvious to modify *Harder*’s system “in view of *Harder*’s other disclosures of GIS systems” and *Longley*’s “disclosure of ways in which multi-state databases comprising multiple jurisdictional databases may be efficiently accessed This is particularly so given that both *Harder* and *Longley* disclose features relating to GIS systems, database configurations, and ESRI systems.” Pet. Reply 13. Petitioner also relies on

“the harmonies between the systems in *Harder* and *Longley* given that both disclose similar technologies and features, including those related to ESRI.”
Pet. Reply 14.

Finally, we note that *Harder* was published by ESRI, and *Longley* expressly acknowledged the contributions of ESRI to the GIS industry. Ex. 1003, ii; Ex. 1015, xv, 12, 362. ESRI’s involvement and influence in both references further supports Petitioner’s contention that one of ordinary skill in the art would have combined *Harder* with *Longley*. We agree with and adopt Petitioner’s reasoning in the Petition, Reply, and Goodchild declaration, and find that Petitioner has provided articulated reasoning, with rational underpinning, for a motivation to combine *Harder* and *Longley*.

Claims 2–10 and 12, 14, 15, and 19 all depend directly or indirectly from claim 1, and recite further features of the interactive online method for retrieving and displaying parcels. Ex. 1001, 16:44–17:4, 17:9–11, 17:16–17, 18:1–3, 18:14–15. Petitioner provides explanations of how *Harder*, or the combination of *Harder* and *Longley*, teaches or suggests the recited features of these dependent claims (Pet. 27–38, 40–43, 44–46), and sets forth reasons for combining the references (Pet. 30, 32, 37–38, 40–43, 44–46). Patent Owner makes no separate arguments as to these dependent claims. We agree with and adopt Petitioner’s reasoning for why the limitations of the dependent claims are taught or suggested by *Harder* and *Longley*, and why one of ordinary skill in the art would have been motivated to combine *Harder* with *Longley*.

In summary, we are persuaded that Harder and Longley teach or suggest the limitations of claims 1–10, 12, 14, 15, and 19, and that Petitioner has provided articulated reasoning supported by rational underpinnings for combining the references. We conclude that Petitioner has proved by a preponderance of the evidence that claims 1–10, 12, 14, 15, and 19 would have been obvious over Harder and Longley.

E. Claim 11: Asserted Obviousness Over Harder, Longley, and Roy

Dependent claim 11 depends indirectly from claim 1 and adds the limitation, “where the user can highlight several parcel boundary polygons at once and query the database to generate a data table for the highlighted parcel boundary polygons.” Ex. 1001, 17:5–8. Relying on the testimony of Dr. Goodchild, Petitioner explains why claim 11 is unpatentable under 35 U.S.C. § 103(a) as obvious over Harder, Longley, and U.S. Patent No. 5,966,135 to Roy (Ex. 1012). Pet. 46–47.

Roy is titled, “Vector Based Geographic Data,” and describes a computer-implemented geographic information system that enables viewing map pictures (comprised of map objects, such as states and cities) that are generated from vector-based data. Ex. 1012, Abstract. Map objects can be chosen to obtain additional information, for example, a different map picture. *Id.* For claim 11, Petitioner in particular states that:

Roy discloses that an initial map picture is displayed after the location of map data is identified, which then enables a user to make “requests for additional information” causing the “map viewer [to] download[] additional map data identified in the map

window file from a map server.” Ex. 1012, 3:19-24. . . .
“Information related to the chosen map objects can be presented
in reports.” Ex. 1012, 3:51-52.

Pet. 46–47. Additionally, Roy states that “an individual map object is chosen by pointing at the map object with a mouse pointer and double clicking the mouse button. The present invention also enables choosing multiple map objects through various techniques, such as choosing multiple objects from lists or using a spatial technique of enclosing multiple objects within a circle or polygon.” Ex. 1012, 3:44–51.

Patent Owner argues only that “Roy does not provide any of the missing limitations” of Harder and Longley, and does not argue specifically as to claim 11’s limitations. PO Resp. 29–30. We agree with Petitioner’s contention that Roy’s “requests for additional information,” “choosing multiple objects,” and “reports,” teach or suggest the recited limitation of claim 11 for highlighting several parcels at once.

Petitioner cites to the Goodchild declaration and further contends why one of ordinary skill in the art would have combined Harder, Longley, and Roy:

[I]t would have been [a] common sense and foreseeable modification to enable a user to highlight multiple parcels to obtain additional data, as disclosed by Roy, which would have been within the realm of knowledge of one skilled in the art at the time of the alleged invention. See *KSR*, 550 U.S. at 417. Ex. 1006 ¶¶ 83–85.

Pet. 47. Patent Owner does not argue specifically on this issue. We agree with and adopt Petitioner’s reasoning and find that Petitioner has shown

sufficiently a reason to combine Roy with Harder and Longley. We are persuaded that Harder, Longley, and Roy teach or suggest the limitations of dependent claim 11, and that Petitioner has provided articulated reasoning supported by rational underpinnings for combining the references. We conclude that Petitioner has proved by a preponderance of the evidence that dependent claim 11 is obvious over Harder, Longley, and Roy.

F. Claims 1–8 and 16–19: Asserted Obviousness over Kearney and ARC/INFO

Petitioner contends claims 1–8 and 16–19 are unpatentable under 35 U.S.C. § 103(a) as obvious over Kearney and ARC/INFO. Pet. 47–59. In view of Patent Owner’s disclaimer of claims 16–18, we analyze claims 1–8 and 19. Relying on the testimony of Dr. Goodchild, Petitioner explains how the references allegedly teach or suggest the claim limitations and attempts to provide a rationale for combining the references. *Id.* (citing Ex. 1006).

Kearney (Ex. 1021)

Kearney is titled “Internet Access to Real Property Information,” was published in the 1997 GIS conference proceedings, and discloses an online system and process for retrieving parcel boundary polygon maps and associated attribute data for a single jurisdiction, the Province of New Brunswick, Canada. Ex. 1021, 575–76, 578. The disclosed processes include maintaining databases of parcels in the Province with indexing and searching tools to provide parcel map data and related attribute data for

display to users. *Id.* Kearney notes, “[w]ith the introduction of this service, New Brunswick is one of the first jurisdictions in North America to offer complete integrated on-line access to both property mapping and attribute data across the Internet.” *Id.* at 579.

ARC/INFO (Exhibit 1004)

ARC/INFO is a “self study workbook” that is “an introduction to the concepts and capabilities of GIS” and a software GIS product called ARC/INFO. Ex. 1004, cover, xiii. In particular, the training workbook leads the user through a small “sample project” using the ARC/INFO software and “teaches the basics” of GIS “in the context of completing an ARC/INFO project.” *Id.* at ix, xi. It further states: “During the training, you will . . . design and develop a digital spatial database, perform spatial analysis, create a map, and generate a report.” *Id.* at ix. The sample project designs a database to identify a site for an aquaculture lab and office building in a coastal farming area, and creates a map and a report. *Id.* at 3-6.

Analysis

Petitioner provides explanations of how the subject matter of each of the challenged claims is disclosed, or taught or suggested by Kearney and ARC/INFO. Pet. 47–59. Patent Owner argues, *inter alia*, that neither Kearney nor ARC/INFO discloses the limitations in claim 1 reciting a “national parcel map database comprising multiple jurisdictional databases which have been normalized to a common data protocol.” PO Resp. 30–34.

Petitioner concedes Kearney “does not expressly disclose a national database.” Pet. 49. Petitioner cites to paragraphs 91 and 92 of the Goodchild declaration as support for the assertion that one of ordinary skill in the art “would have found it obvious to implement” Kearney’s system “for other types of areas, such as those with national-based jurisdictions” (Pet. 49). Only paragraph 91 refers to Kearney, and that paragraph merely repeats the language of the Petition without explanation of why one of ordinary skill would implement the Kearney single-province system on a national level.

Petitioner then asserts that “employing parcel-level GIS’s for various types of jurisdictions was known at the time of the alleged invention, including multiple states, as demonstrated by ARC/INFO,” citing to paragraphs 90–93 of the Goodchild declaration and fourteen pages of the ARC/INFO workbook (pages 1-2 through 1-5, 2-3, 2-4, 2-20, D-4, 3-2 to 3-4, 3-6, 3-8, and 3-24). Pet. 49–50. The fourteen ARC/INFO pages are excerpts from chapters entitled, “Why GIS?,” “Geographic data concepts,” and “Starting Your ARC/INFO project,” Ex. 1004. The cited pages of the ARC/INFO workbook do not disclose or suggest multiple states, much less a national database, and instead focus on the workbook’s sample project, which guides new users of the ARC/INFO software in designing a database to identify sites for an aquaculture laboratory and office building in coastal farming areas. Ex. 1004, 3-5 to 3-6.

Paragraphs 92 and 93 of the Goodchild declaration refer to the ARC/INFO workbook. Paragraph 92 repeats some of the arguments at page 50 of the Petition and largely paraphrases and reproduces figures from ARC/INFO but also mischaracterizes page 3-6 of ARC/INFO in contending “the first step in the design of the database is to determine what data to include, such as the geographic features (e.g., counties, states, parcels, etc.) and their attributes.” Page 3-6 does mention “the first step of database design is to determine what data to include in the database . . . identify the geographic features you need in the database.” Ex. 1004, 3-6. Contrary to the Goodchild declaration, page 3-6 does not list “counties, states, parcels, etc.” as geographic features, but rather lists soil conditions, local land use codes, and purchase cost. Ex. 1004, 3-6. Paragraph 93 of the Goodchild declaration consists of two sentences, regarding Kearney and alleged design choice, which do not explain whether or why ARC/INFO discloses, teaches, or suggests a national database.³

We find that the claimed national parcel map database would not have been obvious to a person of ordinary skill in the art in view of the

³ We do not consider any of Petitioner’s citations in its Reply or its Demonstrative slides to excerpts from ARC/INFO that were not cited in the Petition, or to testimony by Patent Owner’s declarant about such excerpts. 35 U.S.C. § 312; Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,767–68 (Aug. 14, 2012).

combination of Kearney and ARC/INFO, which does not teach or suggest such a database. The remaining challenged claims depend from claim 1, and Petitioner thus has not shown that the combination of Kearney and ARC/INFO discloses, teaches, or suggests the limitations of claims 1–8 and 19. Accordingly, Petitioner has failed to prove by a preponderance of evidence that these claims would have been obvious over Kearney and ARC/INFO.

G. Petitioner's Motion to Exclude Evidence

Petitioner moves to exclude the redirect testimony of Patent Owner's expert, Mr. William Huxhold, on the ground that it was provided in response to leading questions. Mot. Excl. 1 (citing Ex. 1034, 150:6–153:8). The redirect testimony relates to a portion of Mr. Huxhold's cross-examination testimony. *Id.* at 1–2 (citing Ex. 1034, 72:5–22). Because we do not rely on Mr. Huxhold's testimony, Petitioner's motion is dismissed as moot.

CONCLUSION

Based on the evidence and arguments, Petitioner has demonstrated by a preponderance of the evidence that claims 1–10 and 12, 14, 15, and 19 of the '957 patent would have been obvious over Harder and Longley, and that claim 11 would have been obvious over Harder, Longley, and Roy. Petitioner has not demonstrated by a preponderance of the evidence that claims 1–8 and 19 would have been obvious over Kearney and ARC/INFO.

III. ORDER

Accordingly, it is ORDERED that:

Claims 1–12, 14, 15, and 19 of the '957 patent have been shown to be unpatentable;

FURTHER ORDERED that Petitioner's Motion to Exclude is dismissed; and

FURTHER ORDERED that, because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

FOR PETITIONER:

Joseph Palys
josephpalys@paulhastings.com

Naveen Modi
naveenmodi@paulhastings.com

Daniel Zeilberger
danielzeilberger@paulhastings.com

FOR PATENT OWNER:

Lawrence Edelman
lawrence.edelman@comcast.net

Bruce Wecker
bwecker@hausfeld.com