IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

ERICSSON INC., AND TELEFONAKTIEBOLAGET LM ERICSSON, *Plaintiff,* v. TCL COMMUNICATION TECHNOLOGY HOLDINGS, LTD., TCT MOBILE LIMITED, AND TCT MOBILE (US), INC., *Defendants*.	Case No. 2:15-cv-00011-RSP

CLAIM CONSTRUCTION ORDER

Before the Court is the opening claim construction brief of Ericsson Inc. and Telefonaktiebolaget LM Ericsson (collectively "Plaintiffs" or "Ericsson") (Dkt. No. 81, filed on August 14, 2015),[1] the response of TCL Communication Technology Holdings Ltd., TCT Mobile Limited, and TCT Mobile (US), Inc. (collectively, "Defendants" or "TCL") (Dkt. No. 91, filed on August 28, 2015), and the Reply of Plaintiffs (Dkt. No. 97, filed on September 4, 2015). After the conclusion of briefing, the parties jointly filed a claim construction chart representing that the parties have resolved their disputes with respect to certain terms. (Dkt. No. 109, filed on September 22, 2015). The Court held a claim construction hearing on September 29, 2015. Having considered the arguments and evidence presented by the parties at the hearing and in their briefing, the Court issues this Order.

[1] In this Order, citations to the parties' filings in this case are to the number in the docket (Dkt. No.) and pin cites are to the page numbers assigned by ECF.

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I. BACKGROUND

Plaintiff alleges infringement of U.S. Patents No. 7,149,510 ("the '510 Patent"), No. 6,029,052 ("the '052 Patent"), No. 6,418,310 ("the '310 Patent"), No. RE 43,931 ("the '931 Patent"), and No. 6,535,815 ("the '815 Patent") (collectively, the "Asserted Patents"). In general, the Asserted Patents are directed to systems and methods for controlling the software and hardware functionality of mobile devices such as cell phones. The disputed claim terms are found in the '510 and '310 Patents.

The '510 Patent is entitled "SECURITY ACCESS MANAGER IN MIDDLEWARE." It issued December 12, 2006 and has a filing date of September 19, 2003. The '510 patent teaches a system for controlling application access to software and hardware services in a mobile platform. An exemplary embodiment is depicted in Figure 1 of the '510 Patent, reproduced here and annotated by the Court. Application software (blue) is installed, loaded, and run on the mobile platform. '510 Patent at 4:14–16. The software services component (green) is composed of software units that provide services, e.g. application services (*id.* at 5:33–35), audio access and control (*id.* at 5:38), structured storage services (*id.* at 5:40), and hardware driver software (*id.* at 5:1). The hardware component (red) includes a set of hardware units that are associated with and controlled by their respective software units. *Id.* at 4:27–32. The application software can request access to the software services component. Such service

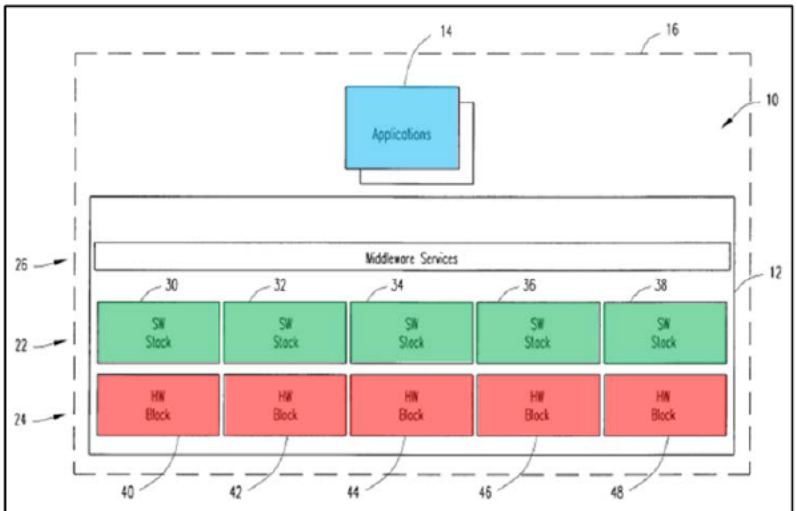
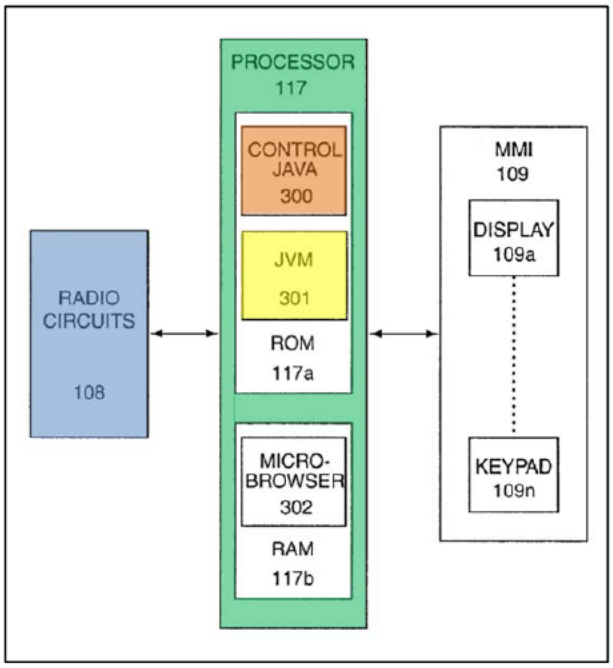


FIG. 1

requests are intercepted by an interception module. *Id.* at 7:11–13. Once the request is intercepted, a decision entity determines whether the request should be granted based on the security policies of the mobile platform. *See id.* at 8:1–15, 8:26–41.

The '310 Patent is entitled "WIRELESS SUBSCRIBER TERMINAL USING JAVA CONTROL CODE." It issued July 9, 2002 and has a filing date of August 5, 1999. The '310 patent teaches a portable wireless communications device with a processor that includes in its read-only memory ("ROM") an interpreter and a control program written in an interpretive language such as JAVA. '310 Patent at 2:34–54. An embodiment of the invention is shown in Figure 3 of the '310 Patent, reproduced here and annotated by the Court. In this embodiment, the processor (green) has read-only memory ("ROM") which contains a software control program (orange) written in JAVA source code and stored as JAVA byte codes instead of being compiled and stored as native machine code. *Id.* at 6:1–4. A JAVA Virtual Machine (yellow) is stored in the ROM as native machine code; the JAVA Virtual Machine acts as a translator, interpreting the JAVA byte codes for the processor. *Id.* at 6:5–8. The interpreted JAVA is used to control various aspects of the wireless device including its radio circuits (blue). *Id.* at 5:65–67, 6:8–14. By storing the control program as JAVA rather than native machine code, the '310 Patent enables the same control program code to be used across different types of processors and devices. *See id.* at 6:51–59.



II. LEGAL PRINCIPLES

A. Claim Construction

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *Id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. The general rule—subject to certain specific exceptions discussed *infra*—is that each claim term is construed according to its ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014) ("There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.") (vacated on other grounds).

"The claim construction inquiry . . . begins and ends in all cases with the actual words of the claim." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). "[I]n all aspects of claim construction, 'the name of the game is the claim.'" *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) (quoting *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998). First, a term's context in the asserted claim can be instructive. *Phillips*, 415 F.3d at 1314. Other asserted or unasserted claims can also aid in determining the claim's

meaning, because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term's meaning. *Id*. For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id*. at 1314–15.

"[C]laims 'must be read in view of the specification, of which they are a part.'" *Id*. (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Id*. (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). But, "[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims." *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. "[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

The prosecution history is another tool to supply the proper context for claim construction because, like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. However, "because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is

less useful for claim construction purposes." *Id.* at 1318; *see also Athletic Alternatives, Inc. v. Prince Mfg.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (ambiguous prosecution history may be "unhelpful as an interpretive resource").

Although extrinsic evidence can also be useful, it is "less significant than the intrinsic record in determining the legally operative meaning of claim language." *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id*. at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert's conclusory, unsupported assertions as to a term's definition are entirely unhelpful to a court. *Id*. Generally, extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id*. The Supreme Court recently explained the role of extrinsic evidence in claim construction:

> In some cases, however, the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period. *See, e.g., Seymour v. Osborne*, 11 Wall. 516, 546 (1871) (a patent may be "so interspersed with technical terms and terms of art that the testimony of scientific witnesses is indispensable to a correct understanding of its meaning"). In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the "evidentiary underpinnings" of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.

Teva Pharm. USA, Inc. v. Sandoz, Inc., 135 S. Ct. 831, 841 (2015).

B. Departing from the Ordinary Meaning of a Claim Term

There are "only two exceptions to [the] general rule"[2] that claim terms are construed according to their plain and ordinary meaning: "1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of the claim term either in the specification or during prosecution." *Golden Bridge Tech., Inc. v. Apple Inc.*, 758 F.3d 1362, 1365 (Fed. Cir. 2014) (quoting *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)); *see also GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) ("[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal."). The standards for finding lexicography or disavowal are "exacting." *GE Lighting*, 750 F.3d at 1309.

To act as lexicographer, the patentee must "clearly set forth a definition of the disputed claim term," and "clearly express an intent to define the term." *Id.* (quoting *Thorner*, 669 F.3d at 1365); *see also Renishaw*, 158 F.3d at 1249. The patentee's lexicography must appear "with reasonable clarity, deliberateness, and precision." *Renishaw*, 158 F.3d at 1249.

To disavow or disclaim the full scope of a claim term, the patentee's statements in the specification or prosecution history must amount to a "clear and unmistakable" surrender. *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009); *see also Thorner*, 669 F.3d at 1366 ("The patentee may demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.") "Where an applicant's statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable." *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

[2] Some cases have characterized other principles of claim construction as "exceptions" to the general rule, such as the statutory requirement that a means-plus-function term is construed to cover the corresponding structure disclosed in the specification. *See, e.g.*, *CCS Fitness*, 288 F.3d at 1367.

C. Definiteness Under 35 U.S.C. § 112, ¶ 2 (pre-AIA) / § 112(b) (AIA) [3]

Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. A claim, when viewed in light of the intrinsic evidence, must "inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). If it does not, the claim fails § 112, ¶ 2 and is therefore invalid as indefinite. *Id.* at 2124. Whether a claim is indefinite is determined from the perspective of one of ordinary skill in the art as of the time the application for the patent was filed. *Id.* at 2130. As it is a challenge to the validity of a patent, the failure of any claim in suit to comply with § 112 must be shown by clear and convincing evidence. *Id.* at 2130 n.10. "[I]ndefiniteness is a question of law and in effect part of claim construction." *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012).

When a term of degree is used in a claim, "the court must determine whether the patent provides some standard for measuring that degree." *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015) (quotation marks omitted). Likewise, when a subjective term is used in a claim, "the court must determine whether the patent's specification supplies some standard for measuring the scope of the [term]." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1351 (Fed. Cir. 2005); *accord Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) (citing *Datamize*, 417 F.3d at 1351).

In the context of a claim governed by 35 U.S.C. § 112, ¶ 6, the claim is invalid as indefinite if the claim fails to disclose adequate corresponding structure to perform the claimed functions. *Williamson*, 792 F.3d at 1351–52. The disclosure is inadequate when one of ordinary

[3] Because the application resulting in the patent was filed before September 16, 2012, the effective date of the America Invents Act ("AIA"), the Court refers to the pre-AIA version of § 112.

skill in the art "would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim." *Id.* at 1352.

III. CONSTRUCTION OF AGREED TERMS

The parties have agreed to the following constructions set forth in their Joint Claim Construction Chart (Dkt. No. 109):

Term[4]	Agreed Construction
"aiding data" • '815 Patent, claims 1–3, 8–12, 15–19	"timing data, satellite ephemeris data, almanac data, correction date, position data, and other data used by a GPS receiver to compute pseudo-ranges and/or actual position or data used to acquire satellite signals"
"remote source" • '815 Patent, claims 2, 3, 15, 17–19	Plain and ordinary meaning.
"positioning receiver" • '815 Patent, claims 17–19	Plain and ordinary meaning.
"requesting application" • '815 Patent, claim 8	Plain and ordinary meaning.
"compute/computing said current position of said mobile terminal" • '815 Patent, claims 11–12, 15–16	Plain and ordinary meaning.
"quality of service" • '815 Patent, claims 1–3, 8–12, 15–19	Plain and ordinary meaning.
"read only memory" • '310 Patent, claims 13, and 17–20	"non-volatile memory, such as Flash memory or EEPROM"

[4] For all term charts in this order, the claims in which the term is found are listed with the term, but only claims identified in the parties' Joint Claim Construction Chart (Dkt. No. 109) are listed.

Term[4]	Agreed Construction
"control messages" • '310 patent, claims 1 and 13	"layer-3 signaling messages passed between a portable wireless communications device and a network station"
"non-native application domain software" • '510 patent, claim 7	"any software not compiled for a particular processor in the platform"
"non-native application software" • '510 patent, claim 10	"any software not compiled for a particular processor in the platform"
"interface component" • '510 patent, claims 1–5, 7–11	Plain and ordinary meaning.
"interception module for receiving a request from the requesting application domain software to access the software services component" • '510 Patent, claims 1, 10, and 11	Plain and ordinary meaning.
"identification of the requesting application domain software." • '510 Patent, claim 2	Plain and ordinary meaning.
"decision cache" • '510 Patent, claim 4	Plain and ordinary meaning.
"graphical object(s)" • '931 patent, claims 10–12	"visual element(s) including image(s) and/or row(s) of alphanumeric characters"
"a contact sensitive transducer . . . which produces an output" • '931 patent, claims 1, 30, 33	"a device, …, that converts physical contact of an object with the device to an electrical signal"
"output signal that characterizes … contact" • '931 patent, claims 16–26, 29, 33–36, 47–49, 58–69	Plain and ordinary meaning.

Term[4]	Agreed Construction
"wherein direct conversion is used for converting all received communication signals in any one of the plurality of frequency bands" • '052 Patent, claims 13, 15, 16 and 18	Plain and ordinary meaning.
"receiving a communication signal in any one of a plurality of frequency bands" • '052 Patent, claims 13, 15, 16 and 18	"receiving a communication signal in a frequency band selectable among multiple frequency bands"

Having reviewed the intrinsic and extrinsic evidence of record, the Court hereby adopts the parties' agreed constructions.

IV. CONSTRUCTION OF DISPUTED TERMS

The parties' positions and the Court's analysis as to the disputed terms are presented below.

A. The '510 Patent – "software services component"

Disputed Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
"software services component" • '510 Patent, claims 1–5 and 7–11	"a software component that includes a plurality of functional software units that each provides services to a user"	"a software component allowing applications to provide services to a user"

The Parties' Positions

Plaintiffs contend this term should be construed as "a software component that includes a plurality of functional software units that each provides services to a user." Plaintiffs advance a two-part argument. *First*, that "the specification unambiguously requires the software services component to include a plurality of software units." (Dkt. No. 81 at 7) (emphasis added). Plaintiffs support this interpretation by citing to the preferred embodiment of Figure 1, which depicts a software services component made up of multiple distinct software units. *Second*,

Plaintiffs criticize TCL's use of the word "allowing" in its proposed construction, because the word "allowing" implies that the software services component is responsible for granting or denying permission for applications to access the platform's services. (*Id.* at 8.) Plaintiffs submit that this is contrary to the specification and will confuse the jury.

In addition to the claims themselves, Plaintiffs cite the following **intrinsic evidence** to support their position: '510 Patent at Fig. 1, 4:19–32, 4:67–5:2, 5:5–10, 10:7–10.

Defendants respond, *first*, that Ericsson's "plurality of functional software units" language is improper because it attempts to import limitations from the specification and because the term "functional software units" is vague and lacks a plain and ordinary meaning to one of skill in the art. (Dkt. No. 91 at 8.) *Second*, Defendants defend their inclusion of the word "allowing." This term is important, Defendants argue, because "the software services component ***does not*** provide services ***directly*** to a user, but only through the interface component." (*Id.* at 9) (emphasis in original). Defendants support their assertion that "the software services component is ***lower level*** software … not directly accessible to the user" by citing to the embodiment disclosed in Figure 1 and the specification's description of the same. (*Id.*) (emphasis in original). At the oral hearing, Defendants conceded that the software services component is not limited to providing services "to a user" but can also provide services to other applications. (Dkt. No. 127 at 15:2–15.)

In addition to the claims themselves, Defendants cite the following **intrinsic evidence** to support their position: '510 Patent at Fig. 1, Fig. 2, 2:18–24, 4:19–24, 4:27–32, 4:67–5:2, 6:28–36

Plaintiffs reply that the term "functional software units" has an unambiguous meaning to one of ordinary skill in the art, as it is taken directly from the specification's description of the

preferred embodiment. (Dkt. No. 97 at 4–5.) Moreover, Plaintiffs contest Defendants' position that the software services component may not provide services directly to the user. (*Id.* at 5.) Plaintiffs point to the specification disclosure that "[s]oftware services component 22 includes a plurality of well-structured functional software units for providing services that are offered to users via the interface component 26." '510 Patent at 4:21–24 (emphasis added).

Plaintiffs cite further **intrinsic evidence** to support their position: '510 Patent at 5:43–46.

Analysis

Each party's proposed construction asks the Court to limit the plain and ordinary meaning of "software services component" by reading a limitation from a preferred embodiment into the claims. Plaintiffs urge the Court to import a "plurality of functional software units" limitation. (Dkt. No. 81 at 7.) Defendants request "allowing," which they argue carries an implied meaning that "the software services component does not provide services directly to a user." (Dkt. No. 91 at 9.) Neither Plaintiffs nor Defendants contend that the patentee redefined the plain meaning of "software services component" or disavowed the full scope of this term; accordingly the Court declines to depart from the plain meaning. *See GE Lighting*, 750 F.3d at 1309 ("[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal.")

Although the preferred embodiment depicted in Figure 1 of the '510 Patent employs a software services component composed of "a plurality of well-structured functional software units," nothing in the intrinsic record requires the software services component to be arranged in this way. The claims of the '510 Patent are directed to systems for intercepting requests to access the software services component and for determining whether such requests should be granted; the claims do not describe the internal composition or arrangement of the software services

component itself. All disclosures in the specification of "a plurality of well-structured functional software units" and the like are contained in descriptions of preferred embodiments. *See, e.g.*, '510 Patent at 4:21–24, 5:14–23. There is nothing to indicate the patentee regarded his invention as limited to these embodiments. One disclosed embodiment recites a layer of the software services component containing "from one to many modules," implying a "plurality" is not required because "one" can be sufficient. '510 Patent at 9:62. Accordingly, the Court will not import an embodiment-specific "plurality of functional software units" limitation. *Liebel-Flarsheim*, 358 F.3d at 913 ("[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.").

Likewise, the intrinsic record evinces no clear intent to require the software services component to "not provide services directly to a user" as Defendants urge. All claims of the '510 Patent are agnostic as to whether the software services component provides services directly or indirectly. In fact, the words "service" and "services" appear nowhere in the claims other than in the term "software services component" itself. The specification makes clear that the "software services component" is so named because it is capable of "providing services." *See, e.g.* '510 Patent at 4:23. The specification also explains that these services can be provided to "users" or they can be "services for applications."[5] *Id.* at 4:23, 5:35. However, the specification places no restrictions on whether these services are provided "directly" or "indirectly." Defendants cite the following specification passage as an example of services being provided indirectly to a user: "Software services component 22 includes a plurality of well-structured functional software units for providing services that are offered to users via the interface component 26." *Id.* at 4:21–24.

[5] As noted above, Defendants concede that the software services component is not limited to providing services "to a user." (Dkt. No. 127 at 15:2–15.)

Assuming *arguendo* that this is an example of services being provided indirectly, there is no basis for importing this non-limiting example into the claims. This disclosure relates only to a preferred embodiment and cannot meet the "exacting" standard required for redefinition or disavowal. *GE Lighting*, 750 F.3d at 1309.

Thus there is no basis for limiting the software services component to: (1) "a plurality of functional software units," (2) providing services only indirectly, or (3) providing services only to a user. Pruning away these extraneous limitations from the parties' proposed constructions, the Court construes "software services component" as follows:

- "software services component" means "**a software component for providing services**."

B. The '510 Patent – "a cache with the rules and policies of the decision entity"

Disputed Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
"a cache with the rules and policies of the decision entity" • '510 Patent claim 11	Plain meaning, no construction necessary.	"cache for storing permissions also stored at the decision entity"

The Parties' Positions

The parties' dispute turns on whether the claimed cache must be separate from the decision entity.

Plaintiff asserts that claim 11 is broad enough to cover either an embodiment where the interception module (which includes the cache) is separate from the decision entity or an embodiment where the interception module and decision entity are one and the same. (Dkt. No. 81 at 15–16.) Plaintiff argues that Defendant is improperly attempting to exclude the latter embodiment. Plaintiff identifies a specification disclosure in which, Plaintiff asserts, the

interception module acts as the decision entity. ’510 patent at 8:45–53 (“Instead of sending a permission request with the ID tag from the IM 223 to the SAM 518, the IM 223 makes a decision locally.”).

In addition to the claims themselves, Plaintiff cites the following **intrinsic evidence** to support its position: ’510 patent at 8:45–63.

Defendants respond that “[t]he term cache was well known in the art at the time of invention to refer to storage used for improving execution speed.” (Dkt. No. 91 at 13) (citing Declaration of Dr. Sam Malek at ¶¶ 37–39). Because the “rules and policies of the decision entity” are stored at the decision entity, Defendant argues that the cache of these rules and policies must be located elsewhere in order to comport with this ordinary meaning of “cache.” Further, Defendants contend that the patentee originally filed certain claims that identified the “decision entity” as the “security access manager” and other claims that identified the “decision entity” as the “interception module.”[6] (*Id.* at 10-11.) However, the patentee subsequently cancelled the claims that specifically identified the “decision entity” as the “interception module” in response to a rejection by the Patent Office. Defendants argue this cancellation shows the patentee intended to limit the claims to an embodiment in which the decision entity and interception module are separate.

In addition to the claims themselves, Defendants cite the following **intrinsic evidence** to support their position: ’510 patent at 9:10–26, ’510 Patent Prosecution File History.

Plaintiffs acknowledge claim 12 explicitly requires that “the decision entity is a security access manager.” (Dkt. No. 97 at 8–9.) However, Plaintiffs note that claim 12 depends from

[6] The Court takes judicial notice of the Prosecution File History of the ’510 Patent (App. No. 10/666,673). *See Advanced Software Design Corp. v. FRB of St. Louis*, 583 F.3d 1371, 1379 n.3 (Fed. Cir. 2009).

claim 11, and claim 11 does not require that the decision entity is a security access manager. Accordingly Plaintiffs argue the limitations of claim 12 should not be read into claim 11. Plaintiffs also reply that Defendants have not identified any express disavowal in the specification that would require the interception module to be separate from the decision entity. To the contrary, Plaintiffs reiterate, the specification explicitly describes an embodiment in which the interception module is also the decision entity.

Analysis

Nothing in the plain language of claim 11 requires the interception module (which includes the cache) to be separate from the decision entity. And assuming *arguendo* that "cache" has the plain meaning proposed by Defendants, this plain meaning does not require "a cache with the rules and policies of the decision entity" to be separate from the decision entity. For example, the decision entity could store its rules and policies in a slower or less accessible storage medium, and also store a copy of these rules and policies in a cache for fast retrieval and execution.

The specification also undermines Defendants' argument that the interception module containing the cache must be separate from the decision entity. The specification describes an embodiment in which "the IM 223 [interception module] makes a decision locally" rather than send a permission request to a separate decision entity. '510 patent at 8:52–53. A person of ordinary skill in the art, reading this disclosure, would understand the ordinary meaning of "interception module" to encompass embodiments in which the interception module and decision entity are not separate. Accordingly, a person of ordinary skill would conclude that the cache need not be separate from the decision entity.

Defendants are correct that during prosecution the patentee canceled claims reciting "wherein the decision entity is the interception module" but did not cancel claims reciting "wherein the decision entity is a security access manager." *Compare* '510 Patent Application, Sept. 19, 2003, at 24 (original claim 13) *with* '510 Patent claim 12. However, Defendants do not identify any statement of alleged disclaimer or disavowal, and thus provide no basis for the Court to limit claim 11 to exclude the scope of the cancelled claims. Mere cancellation of claims is not sufficient to effect a prosecution history disavowal; disavowal requires a "clear and unmistakable" manifestation of the patentee's intent to surrender claim scope. *See Cordis Corp.*, 561 F.3d at 1329; *see also DealerTrack, Inc. v. Huber*, 674 F.3d 1315, 1322 (Fed. Cir. 2012) (examiner's deletion of "the InterNet" from the specification and cancellation of claims directed to the Internet was insufficient to disclaim the Internet from the scope of the allowed claims because "there is no evidence that the applicant made any statements supporting patentability on the basis of the removal of that phrase"); *Merck & Co. v. Teva Pharms. USA, Inc.*, 347 F.3d 1367, 1372 (Fed. Cir. 2003) (mere cancellation of claims insufficient to disclaim corresponding subject matter in allowed claims).

However, the original claims are instructive in two respects. *First*, they demonstrate that the patentee knew how to explicitly claim an embodiment where the interception module is the decision entity, as well as an embodiment where the two are separate. This suggests that claim 11, lacking either of these limitations, is broad enough to encompass both. *Second*, the presence of an original claim reciting "wherein the decision entity is the interception module" implies that a person of ordinary skill in the art, reading the intrinsic record, would understand this configuration to fall within the ordinary meanings of the claimed "interception module," "decision entity," and "cache."

Accordingly, the Court rejects Defendants argument that the cache must be separate from the decision entity, and construes "a cache with the rules and policies of the decision entity" as follows:

- "a cache with the rules and policies of the decision entity" has its **plain and ordinary meaning** and no further construction is required.

C. The '310 Patent – "control program"

Disputed Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
"control program" • '310 Patent claims 1, 13, and 18	Plain meaning, no construction necessary. If construction is necessary: "a program running on a control processor"	"program capable of handling layer-3 signaling messages exchanged between the network and the portable wireless communications device and capable of controlling the radio functions of the device in response to the layer-3 signaling messages"

The Parties' Positions

At the oral hearing, the parties resolved their dispute by agreement:

> MR. DUNSTAN: Good afternoon, your Honor. Chris Dunstan for Ericsson. I think this should be an easy one for us to resolve because we have no objection to defining "control program" as "a control program running on a control processor." So, if TCL is willing to agree to that, which I think Mr. Korniczky just suggested, we are perfectly okay with that.
>
> THE COURT: Mr. Korniczky, that sounded like where you were going.
>
> MR. KORNICZKY: Yes, your Honor. I think we can agree to that.
>
> THE COURT: All right. Then that's good. I will adjust the construction accordingly.

(Dkt. No. 127 at 28:22–29:10). The Court believes this construction is consistent with the language of the claims and the ordinary meaning of the term "control program" as disclosed in the intrinsic record.

Analysis

In light of the parties' agreement, the Court construes "control program" as follows:

- "control program" means "**a control program running on a control processor**."

D. The '310 Patent – "a control program in JAVA language" and "a control program in an interpretive computer programming language"

Disputed Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
"a control program in JAVA language" • '310 Patent claim 1	"a program substantially written in JAVA code running on a control processor"	"a program capable of handling layer-3 signaling messages exchanged between the network and the portable wireless communications device and capable of controlling the radio functions of the portable wireless communications device in response to the layer-3 signaling messages, in the form of Java source code or Java bytecodes"

Disputed Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
"a control program in an interpretive computer programming language" • '310 Patent claim 13	"a program substantially written in code expressed in a form that can be recognized and processed by an interpreter running on a control processor"	"program capable of handling layer-3 signaling messages exchanged between the network and the portable wireless communications device and capable of controlling the radio functions of the device in response to the layer-3 signaling messages, in the form of source code in an interpretive language or bytecodes to be interpreted"

Because the parties' arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

The parties do not dispute that JAVA is a type of interpretive language, and the specification is consistent with this understanding. *See, e.g.*, '310 Patent at 1:5–9 ("control programs written in an interpretive language, such as the JAVA language"). Accordingly, the parties' arguments and the Court's analysis focus on the "JAVA" limitation of claim 1, with the understanding that substantially the same reasoning applies to the "interpretive computer programming language" limitation of claim 13.

The Parties' Positions

The parties dispute whether the control program must be written entirely in JAVA (or another interpretive language) or whether only a "substantial portion" of the control program must be written in the claimed language.

Plaintiffs argue that the plain meaning of "in JAVA language" encompasses programs that are not written entirely in JAVA, but include some native machine code. (Dkt. No. 81 at 23–24). Plaintiffs assert that the specification is consistent with this plain meaning: "[i]n the

invention, a substantial part of the software control program for processor 117 is written in JAVA source code and stored as JAVA bytecodes 300 in ROM instead of being compiled to and stored in the form of native machine code." '310 Patent at 5:67–6:8 (emphasis added).

In addition to the claims themselves, Plaintiffs cite the following **intrinsic evidence** to support their position: '310 Patent at 5:67–6:8.

Defendants respond that, although the specification states "a substantial part" of the control program is written in JAVA, claim 1 is narrowly drawn to a control program "in JAVA language." The omission of "substantial" or the like in the claims indicates that only JAVA is claimed. (Dkt. No. 91 at 22.) Defendants also argue that the patentee disparaged the prior art, described in the specification as "written in a language such as 'C' mixed with native Assembly Code which is compiled and linked to produce native machine code instructions." '310 Patent at 1:19–32. Defendants characterize this as an express disavowal of "control programs written in languages other than interpreted programming languages." (Dkt. No. 91 at 23.) Defendants also assert that including the word "substantially" in the claim construction would render the claims indefinite, because "the intrinsic evidence does not offer any objective boundaries for the term 'substantial.'" (*Id.*)

In addition to the claims themselves, Defendants cite the following **intrinsic evidence** to support their position: '310 Patent at 1:5–10, 1:19–50, 2:28–30, 2:34–3:29; 5:25–29; 5:67–6:13; 6:25–29; 6:47–59.

Plaintiffs reply that Defendants' disavowal argument is contradicted by the specification statement that "[i]n the invention, a substantial part of the software control program for processor 117 is written in JAVA source code and stored as JAVA bytecodes." (Dkt. No. 97 at 11) (quoting '310 Patent at 5:67–6:8) (emphasis added). Plaintiffs argue that Defendants'

construction would exclude this preferred embodiment, which is improper. Plaintiffs also assert that "substantially," as a term of degree, has been repeatedly held not indefinite by the Federal Circuit. (*Id.* at 12.)

Analysis

The parties originally disputed whether the claimed "control program" must be "capable of handling layer-3 signaling messages exchanged between the network and the portable wireless communications device and capable of controlling the radio functions of the portable wireless communications device in response to the layer-3 signaling messages." However, Defendants never addressed this "radio functions" limitation in their briefing of the "JAVA" and "interpretive computer programming language" terms. (Dkt. No. 91 at 22–26.) Moreover, the parties' agreed construction of "control program" omits this language. *See supra*. The plain terms of claims 1 and 13 adequately describe the required capabilities of the control program. Accordingly, the Court will not import this language into the claim construction.

Turning to the parties' central dispute, the Court holds that the control program need not be written entirely in JAVA or an interpretive language. However, the Court will not include the term "substantially" in the construction. The basis for the Court's holding is twofold.

First, Defendants have not established that a person of ordinary skill in the art would understand "in JAVA language" to mean written entirely in JAVA or stored entirely in JAVA bytecodes. Such a strict interpretation would improperly read out the "substantial part" embodiment described in the specification. *See Globetrotter Software, Inc. v. Elan Computer Group, Inc.*, 362 F.3d 1367, 1381 (Fed. Cir. 2004) ("A claim interpretation that excludes a preferred embodiment from the scope of the claim is rarely, if ever, correct."). However, including the word "substantially" in the construction would be imprecise because the claims set

forth an objective measure of the extent to which the claimed control program must be written in JAVA. Claim 1 recites a "JAVA interpreter program" and requires the control program to be "interpreted by said interpreter program." Thus the test for whether an accused product contains a control program "in JAVA language" turns on whether the claimed control program can be interpreted by a JAVA interpreter.

Second, claims 1 and 13 are "comprising" claims. "In the parlance of patent law, the transition 'comprising' creates a presumption that the recited elements are only a part of the device, that the claim does not exclude additional, unrecited elements." *Crystal Semiconductor Corp. v. Tritech Microelectronics Int'l, Inc.*, 246 F.3d 1336, 1348 (Fed. Cir. 2001). The "comprising" transition therefore leaves the claims open and permits the addition of unclaimed elements. The presence of non-JAVA code in an accused product will not negate infringement of claim 1 if the claim limitations are satisfied by a control program that meets the "in JAVA language" limitation discussed above.

Accordingly, the Court construes the "JAVA language" term as follows[7]:

- "a control program in JAVA language" means "**a control program written in the JAVA language that can be interpreted by a JAVA interpreter program**."

As noted *supra*, JAVA is a species of interpretive programming language and the same reasoning that applies to the "JAVA language" term also applies to the "interpretive computer

[7] The Court notes that the parties agreed to this construction of "a control program in JAVA language" at the oral hearing, but Defendants did not agree to the corresponding construction of "a control program in an interpretive computer programming language." (Dkt. No. 127 at 43:23–44:23, 45:10–47:7.) Defendants argued that the JAVA language is the only interpretive language adequately disclosed in the '310 Patent's specification. (*Id.* at 45:18–46:9). "Whether a patent claim is supported by an adequate written description is a question of fact," and therefore the Court will not decide this issue at the claim construction stage. *Abbvie Deutschland GmbH & Co. v. Janssen Biotech, Inc.*, 759 F.3d 1285, 1297 (Fed. Cir. 2014)

programming language" term. Accordingly, the Court construes the "interpretive computer programming language" term as follows:

- "a control program in an interpretive computer programming language" means "**a control program written in an interpretive computer programming language that can be interpreted by an interpreter program for said interpretive computer programming language**."

V. CONCLUSION

The Court adopts the above constructions set forth in this opinion for the agreed and disputed terms of the Asserted Patents. The parties are ordered that they may not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.