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UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

WESTERN DIVISION

Enovsys LLC, Plaintiff/Counterclaim defendant, vs. Nextel Communications, Inc., et al., Defendants/Counterclaimants.	Case No. CV 06-05306 RSWL (SHx) **Declaration of Christopher Rose, Ph.D. in opposition to Defendants' motion for summary judgment of invalidity under Sections 102 and 103 (with exhibit A)** Date: February 14, 2008 Time: 9:00 a.m. Place: Courtroom 21, Spring Street Judge: Hon. Ronald S.W. Lew

Declaration of Christopher Rose, Ph.D.

(in opposition to Defendants' invalidity motion)

I, Christopher Rose, hereby declare:

1. I am currently a professor of Electrical & Computer Engineering at the Wireless Information Network Laboratory (WINLAB), a research center at Rutgers University in New Jersey and have been retained by counsel for Enovsys LLC as a technical consultant in this case. I have been asked to evaluate certain patents and publications and to provide my opinions regarding the validity of Enovsys' patents (the '159 and '461 patents). The below represents my analysis and opinions on the matter to date. As the case proceeds, I expect to conduct further analysis and submit a more formal report regarding issues of validity that may supplement or add to the below.

Personal background:

2. Following is an overview of my educational background and industry experience. A copy of my formal C.V. is attached to this declaration as exhibit A.

3. I received the B.S. (1979), S.M. (1981) and Ph.D. (1985) degrees in Electrical Engineering and Computer Science all from the Massachusetts Institute of Technology in Cambridge, Massachusetts. My undergraduate course work included Linear Systems, Electromagnetic Field Theory, Probability, Digital and Analog Circuits, Programming (methodology, algorithms and structures), all directly relevant to the physics and implementation of wireless localization methods.

4. Following graduate school, I joined AT&T Bell Labs as a Member of Technical Staff in the Network Systems Research Department. There I did research on optical network structure, performance and algorithms as well as electromagnetic theory for novel communication media.

5. In 1990, I joined the faculty of Rutgers University in New Jersey and helped found the Wireless Information Network Laboratory (WINLAB), the first

National Science Foundation (NSF) Industrial/University Cooperative Research Center (I/U CRC). WINLAB research covers all aspects of wireless systems, from cell phones and pagers to wireless sensor networks and beyond. Our job is to invent possible futures (through research and technology development) and advise our industrial sponsors of concomitant likely trends in wireless. My specific interests cover a wide range of wireless systems issues including propagation, signaling, mutual interference, mobility management, wireless user localization and novel structures for wireless delivery of information. This year (2008) WINLAB was awarded the 6th Annual Schwarzkopf Prize from NSF for our efforts as an I/U CRC.

6. I am currently a full professor in the department of Electrical and Computer Engineering as well as an Associate Director of WINLAB. I am also a Fellow of the IEEE, cited for contributions to wireless system theory.

7. I have served on many professional editorial boards and numerous conference technical program committees in the area of wireless communications. I was technical program co-chair for the premier conference on mobile computing (ACM MobiCom '97), and co-chair of several conferences on the efficient use of unlicensed spectrum. I have been a member of the ACM SIGMobile Executive Committee, the ACM MobiCom Steering Committee and have also served as General Chair of ACM MobiCom 2001 (Rome, July 2001). (ACM stands for The Association for Computing Machinery, the computer science analog of the IEEE). In December 1999 and 2003 I served on an international panel to evaluate engineering teaching and research in Portugal. Closer to home I have served on the Scientific Fields Advisory Committee of the New Jersey Commission on Science and Technology.

8. I have written close to 90 peer-reviewed technical articles. Past work has included landmark papers on wireless paging and registration (1995-97) while other related work considered mobile-assisted location management for wireless systems. Unpublished work has included mobile user localization methods in cellular systems to meet federally imposed e911 standards.

9. My current technical interests include novel mobile communications methods and networks, and interference avoidance methods using universal radios to foster peaceful coexistence in what will be the wireless ecology of the 5GHz U-NII bands. This latter work received the 2003 IEEE Marconi Prize Paper Award in Wireless Communications. Most recently, my colleagues and I have begun study of GPS/accelerometer/magnetometer/video-assisted methods of localization and mapping for indoor/outdoor exploration.

Claim constructions:

10. I understand that the Court has not yet issued a claim construction order concerning the patents in this case. Because this is an open issue that forms a necessary part of my validity analysis, I will explain my analytic approach as to the construction of the patents below.

Understanding of the law on claim construction

11. I am familiar with the basic principles of claim construction that are applied by patent courts. My familiarity is owed to prior work on other patent matters and also my discussions with counsel for Enovsys. I have been provided with the following citations by counsel for Enovsys and have been informed that they provide a fair summary of the fundamental claim construction principles. (For ease of reading, these and other case citations below do not include internal case cites or quotes).

12. *Ordinary meaning to one skilled in the art is applied*

- "The words of a claim are generally given their ordinary and customary meaning." *Phillips v. AWH Corp*., 415 F.3d 1303, 1313 (Fed. Cir. 2005);
- "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question

at the time of the invention, i.e., as of the effective filing date of the patent application," *Phillips*, page 1313;

- "It is the person of ordinary skill in the field of the invention through whose eyes the claims are construed. Such person is deemed to read the words used in the patent documents with an understanding of their meaning in the field, and to have knowledge of any special meaning and usage in the field," *Phillips*, page 1313;
- "When interpreting claims, we inquire into how a person of ordinary skill in the art would have understood [the] claim terms at the time of the invention," *Cook Biotech, Inc. v. Acell, Inc.*, 460 F.3d 1365, 1372-1373 (Fed. Cir. 2006).

13. *Ordinary meaning may be readily apparent*

"In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words," *Phillips*, page 1314.

14. *The ordinary meaning of some terms may require greater context to decipher*

- "In many cases that give rise to litigation, however, determining the ordinary and customary meaning of the claim requires examination of terms that have a particular meaning in a field of art." *Phillips*, page 1314;
- "Because the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, and because patentees frequently use terms idiosyncratically, the court looks to those sources available to the public that show what a person of skill in the art would

have understood disputed claim language to mean. Those sources include the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art," *Phillips*, page 1314.

15. *Claim language itself, and comparison of other claims, is instructive*

- "Quite apart from the written description and the prosecution history, the claims themselves provide substantial guidance as to the meaning of particular claim terms. [T]he context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms. [T]he context in which a term is used in the asserted claim can be highly instructive." *Phillips*, page 1314.
- "Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term. Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims. Differences among claims can also be a useful guide in understanding the meaning of particular claim terms. For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Phillips*, page 1314-15;
- "[T]he doctrine of claim differentiation . . . is based on the common sense notion that different words or phrases used in separate claims are presumed to indicate that the claims have different meanings and scope. To the extent that the absence of such difference in meaning and scope would make a claim superfluous, the doctrine of claim differentiation states the presumption that the difference between claims is significant,"

Andersen Corp. v. Fiber Composites, LLC, 474 F.3d 1361, 1369-1370 (Fed. Cir. 2007).

16. *The specification and prosecution history provide context and are important tools in the claim construction process*

- "The claims, of course, do not stand alone. Rather, they are part of a fully integrated written instrument, consisting principally of a specification that concludes with the claims. For that reason, claims must be read in view of the specification, of which they are a part. As we stated in *Vitronics*, the 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." *Phillips*, page 1315.
- "In addition to consulting the specification, we have held that a court should also consider the patent's prosecution history, if it is in evidence. An invention is construed not only in the light of the claims, but also with reference to the file wrapper or prosecution history in the Patent Office. The prosecution history, which we have designated as part of the intrinsic evidence, consists of the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent. Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent." *Phillips*, page 1317.

17. *Expert testimony is also useful*

"We have also held that extrinsic evidence in the form of expert testimony can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person

of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field," *Philips*, page 1318.

18. *Ordinary meaning controls except where (a) the inventor expressly defines a term in a peculiar way or (b) the inventor has expressly disclaims the full scope of the claim's meaning in the specification or prosecution history.*

- "the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs. In other cases, the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor. In that instance as well, the inventor has dictated the correct claim scope, and the inventor's intention, as expressed in the specification, is regarded as dispositive." *Phillips*, page 1316;
- "Nonetheless, the prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be. The purpose of consulting the prosecution history in construing a claim is to exclude any interpretation that was disclaimed during prosecution." *Phillips*, page 1317.

19. *Limitations or embodiments from the specification or prosecution history should not be read into claims where the claim's ordinary meaning does not require.*

- "Although the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments." *Phillips*, page 1323;
- "In examining the specification for proper context, however, this court will not at any time import limitations from the specification into the

claims." *Stumbo v. Eastman Outdoors, Inc*., 2007 U.S. App. LEXIS 27396, *6 (Fed. Cir. 2007);

- "This court has cautioned against limiting the claimed invention to preferred embodiments or specific examples in the specification," *Verizon Servs. Corp. v. Vonage Holdings Corp*., 503 F.3d 1295, 1303 (Fed. Cir. 2007);
- "Extraneous limitations cannot be read into the claims from the . . . prosecution history." *Purdue Pharma L.P. v. Endo Pharms., Inc*., 438 F.3d 1123, 1137 (Fed. Cir. 2006).

20. *Purpose of claim construction is to stay true to meaning of words used in claims; not to rewrite the claims*

"[W]e are powerless to rewrite the claims and must construe the language of the claim at issue based on the words used." *SRAM Corp. v. AD-II Eng'g, Inc*., 465 F.3d 1351, 1359 (Fed. Cir. 2006).

Claim constructions applied

21. I am familiar with the claim constructions that the parties have proposed in this case. Except for a few specific instances below, I will not be offering detailed claim construction opinions in this declaration. However, based on my understanding of the law regarding claim construction, my review of the patents and prosecution histories, and my understanding and knowledge of the relevant fields of technology, I concur with Enovsys' proposed constructions. For reference, those constructions are provided below.

Claim term	Claim(s)	Enovsys' construction
"paging information"	'159 claim 1	Information comprising or accompanying a paging message.
"positioning information"	'159 claim 1	Information comprising or used to determine the global position [of an object or person].
"call receiver or pager"	'159 claim 1	A small, portable device used to receive calls or paging messages (*i.e.*, short messages or alerts sent electronically).
"global position"	'159 claim 1	The position or location [of an object or person] on the face of the earth estimated with a high degree of accuracy, such as from using the Global Positioning System.
"global location"	'159 claim 1	The location of an object or person on the face of the earth.
"means to resolve a global position from satellites or earth based communication means"	'159 claim 1	Function: To resolve (*i.e.*, determine or calculate) a global position from satellites or earth based communication means. Structures: • Transceiver; • Connecting circuitry; • Satellite signal circuitry or Terrestrial signal circuitry; • Microprocessor or CPU; • Decoder/decoding circuitry; • Temporary store
"caller"	'159 claim 1	Calling party; a party initiating a call (*i.e.*, page) to the call receiver.
"the system divulging to certain or all callers the global location of a callee in possession of	'159 claim 1	The system capable of divulging the global location of a callee in possession of said call receiver or pager to certain or all callers although

the said call receiver [while] blocking such information from being divulged to certain or all other callers.		also capable of blocking such information from being divulged to certain or all other callers.
"network"	'461 claims 1, 11, 23, 25, and 28	A group or collection of interconnected devices or resources.
"mobile remote unit" / "mobile remote"	'461 claims 1, 23, and 25	A small, portable device that is used to send or receive communication transmissions from a remote location.
"mobile remote receiving unit"	'461 claim 11	A small, portable device that is used to receive communication transmissions from a remote location.
"to establish"	'461 claims 1, 25, and 28	To bring about; bring into existence
"at the network"	'461 claims 1, 11, and 28	At the network level
"pre-authorized" / "preauthorized"	'461 claims 1, 11, 23, 25, 28	Authorized (*i.e.*, approved or given permission) in advance.
"continuously tracked"	'461 claim 1	Kept track of (*i.e.*, observed or known about) without interruption.
"querying"	'461 claim 11	Accessing, searching, or consulting a resource (*e.g.*, a database) for information or data.
"location information disclosure instruction"	'461 claim 11	Information specifying or instructing whether the location information can or should be disclosed.
"location based service"	'461 claim 23	A service that concerns or makes us of, in substantial part, the location [of an object, person, etc.].
"profile"	'461 claim 28	A set or collection of information, attributes, or parameters relating to a particular person, device, application, or subject.
"location access field"	'461 claim 28	A field, element, or item of data in a profile that indicates, or contains information indicating, whether access to location information can or should be allowed.

22. In my view, these constructions represent a fair statement of the meaning these claim terms would have to one of ordinary skill in the art. Thus, I will apply these constructions in my analysis below.

Ordinary skill in the art

23. It is my understanding that the level (and nature) of skill of one of ordinary skill in the art at the time of the invention is not only important to determining issues of claim construction, but also to issues of validity. I have also been informed that the invention of the '159 and '461 patents was made at least as early as August 1996 – one year before the filing of the '159 patent – and I will use that time frame as the relevant point in time. I have been asked to provide my opinion on what constitutes the level of ordinary skill in the pertinent art within this time frame.

24. My definition of "ordinary skill in the art" as applicable to the subject matter of this case would be an individual with a B.S. degree in electrical engineering and computer science/engineering with either a concentration in wireless systems or two years additional post-graduate experience in wireless systems design or maintenance at the systems level. Some prior knowledge of localization techniques including GPS (Global Positioning System) and its limitations would also be helpful, but not essential since the basic ideas can be understood using undergraduate training.

25. It is this definition that has been applied in my analysis below.

Anticipation: overview; summary of opinions

26. I understand that the Defendants have asserted that the patents in this case are invalid because they are anticipated by the Foladare patent (US Patent 5,946,626). I have been asked to provide my opinion on the matter.

Understanding of the law regarding anticipation

27. My understanding of the law regarding invalidity and anticipation is garnered from both my prior work on other patent matters and my discussions with counsel for Enovsys. The following citations have been provided to me by counsel for Enovsys and I am informed that they provide a fair summary of the law on anticipation as applied in this context (where it is claimed that a prior patent anticipates).

28. *Every limitation must be disclosed in a single reference, expressly or inherently*

- "A patent claim is deemed anticipated when every element and limitation of the claim is found in a single prior art reference, either explicitly or inherently." *Pharmastem Therapeutics, Inc. v. Viacell, Inc.*, 491 F.3d 1342, 1369 (Fed. Cir. 2007);
- "Under 35 U.S.C. § 102, anticipation requires that each and every element of the claimed invention be disclosed in a prior art reference" *Hakim v. Cannon Avent Group, PLC*, 479 F.3d 1313, 1319 (Fed. Cir. 2007);
- "Anticipation requires a showing that each limitation of a claim is found in a single reference, either expressly or inherently." *Atofina v. Great Lakes Chem. Corp.*, 441 F.3d 991, 999 (Fed. Cir. 2006);

29. *Strict identity is required; similarity is not enough*

- "Under 35 U.S.C. § 102, every limitation of a claim must identically appear in a single prior art reference for it to anticipate the claim," *Gechter v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997);
- "Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim. . . [A]nticipation is not shown by a prior art disclosure which is only substantially the same as

the claimed invention." *Jamesbury Corp. v. Litton Indus. Prods.*, 756 F.2d 1556, 1560 (Fed. Cir. 1985);

- "Anticipation, however, requires identity of invention: the claimed invention, as described in appropriately construed claims, must be the same as that of the reference, in order to anticipate," *Glaverbel Societe Anonyme v. Northlake Mktg. & Supply*, 45 F.3d 1550, 1554 (Fed. Cir. 1995);

30. *Prior art is viewed from perspective of one of ordinary skill in the art at the time of the invention*

- "In order to anticipate, the reference must place a person who has ordinary skill in the field of the invention, in possession of the invention. . . . possession of the invention adequate to show anticipation requires that a person of ordinary skill in the field of the invention would discern every element of the invention in the allegedly anticipating reference, and know how to carry it out based on the state of knowledge at the time of the reference," *Pharmastem Therapeutics, Inc. v. Viacell, Inc.*, 491 F.3d 1342, 1369 (Fed. Cir. 2007);
- "An anticipating reference must describe the patented subject matter with sufficient clarity and detail to establish that the subject matter existed in the prior art and that such existence would be recognized by persons of ordinary skill in the field of the invention," *Crown Operations Int'l, LTD v. Solutia Inc.*, 289 F.3d 1367, 1375 (Fed. Cir. 2002)

31. *Prior art must also be enabling*

- "In order to be anticipating, a prior art reference must be enabling so that the claimed subject matter may be made or used by one skilled in the art. Prior art is not enabling so as to be anticipating if it does not enable a person of

ordinary skill in the art to carry out the invention." *Impax Labs., Inc. v. Aventis Pharms., Inc*., 468 F.3d 1366, 1381 (Fed. Cir. 2006)

- "In order to anticipate, a prior art disclosure must also be enabling, such that one of ordinary skill in the art could practice the invention without undue experimentation." Novo Nordisk Pharm., Inc. v. Bio-Technology Gen. Corp., 424 F.3d 1347, 1355 (Fed. Cir. 2005).

Overview of the Enovsys patents

32. At heart, the Enovsys patents are about enabling mobile communications subscribers to maintain differing levels of privacy with respect to other users and a variety of service-provider-mediated location-dependent services which can often require reasonably precise localization of the subscriber (or *user*). The device carried by the mobile user (handheld) is described in the '159 patent as having means to determines its own precise position (e.g., by using the Global Positioning System or GPS), whereas the device in the '461 patent may either independently determine its location (with varying degrees of specificity) or do so with the help of the network. The device's location can then be used by the device operator himself (e.g., for navigational aid services or to locate points of interest, etc.) or provided to the network so that the network can provide the location to various preauthorize "queriers," which might include, for instance, local search services, tracking services, family members, employers/employees, etc. The aim of the '159 and the '461 patents, however, is not just about the specific automatic mechanisms by which users are localized and by which their information is passed to the network. The key point is flexible and selective denial of location information queries subject to user preferences. That is, the user is placed in explicit control of his or her location information and can explicitly state (either through instructions left with the service provider or through use of the handset itself) what services/queries are allowed access and which are not, all the

while allowing continuous (i.e., uninterrupted) tracking of her location by parties and services of her choice.

Response to Defendants' characterization of Enovsys patents

33. In the Defendants' motion, they describe the Enovsys patents as claiming "a paging system that tracks the location of the subscriber in order to efficiently route pages to the precise area of the subscriber." Motion, page 2. They further claim that "As a result of having the current location of the subscriber, the system is able to provide a location reporting service in which a caller sending a page can obtain the location of a subscriber being paged). *Id.* This is not an accurate characterization of the patents. First, it is only the '159 patent that claims the transmission of paging information. Second, the innovation of the patents' claims is not being able to route pages efficiently (again, this would only apply in the '159 patent anyway), but to be able to determine the location of a mobile device so that it can be used by the device operator and shared with others, while keeping privacy control in the hands of the user. The Defendants incorrectly describe the patent as if the reporting of location is simply an ancillary benefit of the invention – that is clearly not the case. Additionally, I see that the Defendants describe the process of localizing a pager to be able to send the device paging messages through the closest transmitter as "continuous tracking." Motion, page 10-11. The Defendants argue that this is the essence of the Enovsys inventions and that it is found in the prior art. The prior art does include pager localization. In fact, as the Defendants note, the '159 patent acknowledges this. Motion, page 8. This only proves the point that the innovation of the invention was not in pager localization, but in precise location resolution and reporting and the privacy features that were provided to the user of the device. Further, the localization of a pager as per the prior art, does not represent "continuous tracking" as described and claimed by the '461 patent. As explained further below, that feature of the invention relates to the system being able to continue to provide the device location to

the system, the device user, and/or certain requesting parties *at the same time that a preauthorized party is being denied access to the location*. This is clear from the claim language itself and from the prosecution history. This is not the concept or scenario that occurs with pager localization. To the extent that Enovsys' early discovery responses suggested or argued otherwise, I disagree. Further, I do not see any disclosure in the prior art of a system that localizes a pager at the same time that access to the pager's location is being denied to another source.

Overview of the Foladare patent

34. The Foladare patent describes a system that includes a two-way pager (a pager that can both send and receive messages) that can be used to send a "signal" to the paging network that includes a "location parameter." Foladare Col. 1, lines 29-34. The location parameter can then be accessed by "a wife, employer, probation officer or other individual [that] may want to know the location of a spouse, employee, parolee or friend." Col. 1, lines 21-25. This is more than just about localization for the purpose of efficiently delivering paging messages to the pager disclosed; like the Enovsys patents, Foladare contemplates others being able to locate someone who is out and about with their pager. But unlike the Enovsys patents, Foladare failed to understand or discuss a number of features that are critical to the Enovsys patents.

35. At the start, Foladare's use of the term "location parameter" is highly ambiguous in two respects. First, while Foladare describes the "location parameter" as existing at the pager and then transmitted by signal to the network, it does not disclose whether the pager itself is capable of determining its location (i.e, automatically, or upon request by the user). In fact, my first reading of this patent led me to conclude that it is the user that may be the one determining and then manually typing in his or her location for transmission, rather than any automated process performed by the device itself. (The novelty of Foladare, in this case, would not be in providing the user

of the pager the ability to send its location but in allowing people paging the user to obtain that location from the paging network). Having now read the patent multiple times, I am not sure this initial conclusion was incorrect – particularly because the patent does not describe how the location parameter is determine or what it is, and there are no diagrams of the pager's components. This is in contrast to the Enovsys patents, which clearly contemplate automated methods of determining the device location – most specifically in the '159 patent, which calls for the device to have "means to resolve a global position" from satellites or earth based transmitters. Second, the term "location parameter" does not have a defined meaning in the field of wireless communications. It is subject to many different uses and interpretations – it does not necessarily describe a precise global position, as the '159 patent requires. In fact, it may be used to describe only the general area of the paging device.

36. Additionally, while Foladare does describe some level of user privacy – requiring a PIN be entered by those who seek the "location parameter" - it does not go nearly as far as the Enovsys patents in ensuring varying levels of privacy and maintaining control of that privacy in the hands (and even in the handset itself) of the user. For example, it does not allow the user to deny access to the device's location parameter by someone who has the PIN, nor does it describe a scenario (or the importance of) allowing the user to at once provide access to the location by one source (or the user itself) while denying access to another source, or even the system itself.

Summary of opinion

37. Thus, it is my opinion that Foladare discloses a system whose features are somewhat ambiguous and that does not describe or disclose key concepts claimed by the Enovsys patents. Further, it is my opinion that none of the claims of the Enovsys patents are anticipated by Foladare. I explain the basis for this opinion below.

Anticipation: no anticipation of '159, claim 1

38. Claim 1 of the '159 patent states:

> **1**. A satellite paging communication system with means to locate the global position of a of a call receiver unit comprising:
>
> space satellites and terrestrial stations, some of which are adapted for the purpose of transmitting paging information and some of which, are adapted for the purpose of transmitting positioning information;
>
> ground control stations for processing the said information and controlling the actions of the paging network;
>
> the call receiver or pager having means to resolve a global position from satellites or earth based communication means;
>
> the system divulging to certain or all callers the global location of a callee in possession of the said call receiver white blocking such information from being divulged to certain or all other callers.

39. Generally speaking, this claim describes a system that includes a "call receiver or pager" that is able to not only receive paging messages but also resolve its precise global position from satellite or earth-based signals and then selectively provide or deny access to that location by "certain or all callers" (those sending paging messages to the device).

Foladare lacks the necessary "call receiver or pager"

40. Much is unclear about the disclosure of Foladare. But it is clear that it does not disclose a "call receiver or pager having means to resolve a global position from satellites or earth based communication means," the third element of Claim 1's system.

41. This element, as construed by Enovsys, requires the presence of:

(1) a "call receiver or pager": a small, portable device used to receive calls or paging messages (*i.e.*, short messages or alerts sent electronically);

(2) "having means to resolve a global position from satellites or earth based communication means": means to resolve (*i.e.*, determine or calculate) a global position – the position or location [of an object or person] on the face of the earth estimated with a high degree of accuracy, such as from using the Global Positioning System - from satellites or earth based communication means.

42. Foladare does disclose the first of these requirements – the two way pager disclosed meets the proper definition of "call receiver or pager." But it lacks the second requirement, in two respects. First, as discussed above, the pager in Foladare does not necessarily have any means to calculate its location from any sort of signals. All we know is that the device can send a signal with a "location parameter," which could just as easily be the user typing in his or her location and sending it back to the system. Second, Foladare does not disclose the calculation of the device's "global position" – the precise location of the device, such as its GPS coordinates. One of ordinary skill in the art would not necessarily interpret the "location parameter" to disclose a precise location, as required by Claim 1. In fact, with the absence of any discussion of the location specificity, the means (if any) of determining the location, or any design of the device itself, one skilled in the art would more likely interpret the location parameter as merely the general location of the device. Thus, if we use Enovsys' constructions, Foladare clearly does not disclose all elements of Claim 1.

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Defendants' added limitations are also missing

43. Additionally, if we take the Defendants' proposed claim constructions, Foladare still does not disclose each element. I am informed that the Defendants interpret Claim 1 to require the following elements:

(1) that the "positioning information" that is transmitted by the system (see element [a]) consist of "signals transmitted by the space satellite and earth based communications means containing information describing the location of the transmitter and the time the signal was sent;" and

(2) that the "control station" (see element [b]) be a "ground based station configured to: 1) processes positioning information that is to be transmitted by the space satellites and terrestrial based stations; 2) processes paging information that is to be transmitted by the space satellites and terrestrial based stations; and 3) control the operation of space satellites and terrestrial stations."

44. My opinion is that these constructions are overly restrictive and do not represent what one of ordinary skill in the art would interpret Claim 1 to require. Regardless, these limitations are not disclosed in Foladare; and it does not appear that the Defendants' motion argues the contrary.

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Anticipation: no anticipation of '461, claim 1

45. Claim 1 of the '461 patent states (element labels added by me):

> 1. A communication system comprising:
>
> [a] a network of signal transmitting and receiving units;
>
> [b] a mobile remote unit able to communicate with at least a signal transmitting and receiving unit to establish mobile remote unit location information at the network;
>
> [c] a pool of signal transmitting and receiving units from the network some of which are pre-authorized to be able to access the location of the mobile remote unit at the network for a time;
>
> [e] the system able to accept or deny the provision of mobile remote unit location information to a network resource selected from the pool of preauthorized signal transmitting and receiving units, during said time;
>
> [f] wherein the location of the mobile remote unit is continuously tracked during the time that the location is being denied to said network resource selected from said pool of preauthorized signal transmitting and receiving units.

46. Generally speaking, this claim discloses a system that is in some ways broader than the one disclosed by Claim 1 of the '159 patent (the location need not be precise, the device need not have means for calculating its location, and there is no mention of paging or satellites) but is overall more advanced and narrower than the former. The essence of this claim is that the user of the mobile remote unit (whether a cell phone, pager, PDA, etc.) can not only deny access to those requesting his or her location, they can deny such access to requesters who have already been authorized (or "preauthorized") to obtain the device location. And they can do so without denying access to the location by the system (or another requesting party) – that is, the location can be "continuously tracked," even while a preauthorized source is being denied access.

Foladare is missing elements [c] ("a pool. . .") and [d] ("able to accept or deny…")

47. Claim 1 requires a "pool of signal transmitting and receiving units." This is a broad term that, by itself, could encompass both devices or system resources that are part of the system provider's network infrastructure as well as the communication or computing devices of other users who are interacting with the system. However, the remaining language of the claim narrows the scope of this term and explains that (1) the signal transmitting and receiving units must be "from the network" and (2) at least some of these units must be "preauthorized to be able to access the location of the mobile remote unit at the network." Additionally, Claim 1 also requires that the claimed system be capable of denying the signal transmitting and receiving units that are preauthorized from accessing the location of the mobile remote unit.

48. Thus, for Foladare patent to anticipate Claim 1, it must disclose a system that is capable of (1) denying access to the location of a mobile remote unit (2) by a signal transmitting and receiving unit from the network (3) that is preauthorized to access the former's location.

49. Foladare does not disclose these elements.

50. Foladare discloses two categories of signal transmitting and receiving units (in addition to the paging device itself): (a) elements of the network architecture (such as the "Network Control Point") and (b) the "caller telephone" (used by someone calling in to the system to get the location of the pager). If we consider both categories to include "preauthorized" signal transmitting and receiving units – units that the pager's user has either expressly or implicitly authorized in advance to access the device location – then Foladare discloses the 3rd requirement listed above (a preauthorized source). But that is where the similarity ends.

51. If we look at the "caller telephone", there is no indication in Foladare that this device be "from the network." As far as the reader knows, anyone can call in to

request location from any device – the disclosed system does not require that the device be also associated or registered with the network or that the caller also be a subscriber to the service (for example). Additionally, and most importantly, Foladare does not describe any means by which the user can deny a preauthorized caller from accessing the location; instead, if the user has the correct PIN, he gets the location. The pager's user cannot block access.

52. Thus, if the "preauthorized signal transmitting and receiving units" are the caller telephones, they are neither "from the network" nor capable of being denied access to the location, as required by Claim 1. If we then look at the network elements as the preauthorized signal transmitting and receiving units, they are "from the network." But again, Foladare does not disclose any means by which the pager can deny one of these preauthorized units from accessing the location. There is no indication in Foladare that the user has any ability to block the network from getting the location of the pager.

Response to Defendants' argument

53. In their motion, the Defendants identify the caller telephone as the preauthorized unit and list 5 scenarios in which they say the caller will be denied access to the pager's location:

> "Based on the system described in Foladare, the following are examples when the paging system will block a caller's request:
>
> 1) The PIN code entered by the caller did not match the profile PIN. This could be because the caller forgot the number, the caller mistyped the number or the subscriber changed the PIN code.
>
> 2) The number of the Caller's phone doesn't match the caller-id (ANI) phone number in the profile. This could be because the caller is using

a calling from a different phone than what was used to create the profile, the caller changed the phone's number, or the subscriber changed the number in the profile.

3) The subscriber phone number dialed by the caller doesn't match the subscriber's number. This could be because the caller mistyped the number, or the subscriber changed the pager's number.

4) The caller's phone is not sent to the paging system. This could be because the caller has selected anonymous calling.

5) Another circumstance is if the caller had recently placed a request for the subscriber's location. Instead of getting the subscriber's location, the caller will be notified there has been no change since the last request. This may be a satisfactory response to a caller, but the request is still denied." Defendants' motion, pages 20-21.

54. These scenarios are not actually described by Foladare. Further, they seem to be less about the functionality the system is able to offer the user of the pager, than about the caller or the system malfunctioning. Additionally, if the user of the pager in Foladare changed his or her PIN, as the Defendants suggest in their first example, the user would essentially be de-authorizing those calling in for the location – not denying access to a preauthorized caller. In my opinion, one of ordinary skill in the art would not read these scenarios into the disclosure of Foladare and identify that system as providing a means of denying a preauthorized source's access.

Foladare is also missing the "continuous tracking" element

55. Claim 1 of the '461 patent also requires that the location of the device be "continuously tracked during the time that the location is being denied" to a preauthorized signal transmitting and receiving unit. This phrase was added during the prosecution to show that denial to one source did not mean the system or other sources would have their access interrupted (a distinction over the Lemelson patent cited by the Patent Office). The location of the device can continue to be accessed (and kept track of) by the system, other requesters, or even the device itself (which is also part of the system) while a preauthorized source is being denied access.

56. This element is not disclosed in Foladare. First, this element is missing because it incorporates the earlier requirement that a preauthorized source be denied access; something that is not found in Foladare. Second, this element is missing because Foladare does not disclose a system that simultaneously provides location to one preauthorized source (such as the network itself or another caller) while denying to another such source. Again, there is no circumstance in Foladare where one caller with a PIN can obtain location while another caller with a PIN cannot.

Defendants' added limitations are also missing

57. Additionally, if we take the Defendants' proposed claim constructions, Foladare still does not disclose each element. I am informed that the Defendants interpret Claim 1 to require each of the following elements:

(1) that the "mobile remote unit" have means to resolve a global position (that is, that the device is the same as the "call receiver or pager" of the '159 patent);

(2) that the continuously tracked element requires that: "During periods of time in which the call receiver is out of its paging area and the times in which the current global position of the call receiver is not stored in the network's data bank: The call receiver being configured

to periodically resolve its current global position from signals transmitted from satellites and earth based communication means and to then transmit the resolved global position to the network, and the network being configured to receive the global position from the call receiver and store the global position in the network's data bank."

58. I do not agree that these requirements are found in Claim 1. Regardless, these limitations are not found in the Foladare patent (and I don't see any attempt by the Defendants to identify them in Foladare).

Anticipation: no anticipation of '461, claim 2

59. Claim 2 states:

> **2**. The communication system of claim **1**, the network of signal transmitting and receiving units includes a terrestrial control station and at least one of terrestrial signal transmitting and receiving stations and satellite signal transmitting and receiving stations.

60. Foladare does not disclose each element of this claim for the same reasons explained above regarding Claim 1.

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Anticipation: no anticipation of '461, claim 11

61. Claim 11 states:

> **11**. A method for divulging or blocking the location information of a mobile remote receiving unit associated with a network comprising:
>
> i) receiving a request at the network for location information of the mobile remote receiving unit;
>
> ii) identifying the source of request;
>
> iv) verifying that the source of request is pre-authorized to access location information of the mobile remote receiving unit at the network;
>
> v) querying at the network for location information disclosure instruction for the mobile remote receiving unit;
>
> vi) using said instruction (v) to allow or block mobile remote receiving unit location information to the pre-authorized source of request.

62. In contrast to the claims addressed above, this is a method claim. The method described is one that is performed using a system similar (or identical) to those described by the other claims. The method is described from the perspective of the system provider, and generally relates to the service provider's fielding of requests for location and then responding to those requests based on the results of a two tiered process of verification.

Foladare does not disclose both element (iv) (verifying) and element (v) (querying)

63. There is a distinction between Foladare's disclosure and the requirements of Claim 11 that seems to be missed by the Defendants. In Foladare, the "PIN" allows access to location information. Having a PIN corresponds most closely to being a pre-authorized resource or user as that concept is described in the '461 claims. But while Foladare's security or privacy features end with the PIN, those claimed by the '461

patent do not. As explained above, the user still has the ability to deny access to location by even a preauthorized source. That concept is embodied in Claim 11 through a 2 tiered verification process:

First, in step (iv), the source of the request must be verified as "preauthorized to access location information of the mobile remote unit receiving unit at the network." This ensures that only those requesters that have already been authorization to obtain location information at the network for the mobile devices associated with the system get through the front gate.

Second, in step (v), a "query" is made at the network for a "location information disclosure instruction for the mobile remote receiving unit." This is a search, typically of a database, to determine whether the source of the request (which has already been determined to be preauthorize) should be allowed to access the location of a particular mobile device at the time of the request (not just generally).

64. Foladare does not disclose both of these steps. Foladare describes a system where a PIN is needed to obtain the location of a device. Arguments can be made, in the abstract, that the step of checking to see whether the caller has the correct PIN (as disclosed in Foladare) is similar to either step (iv) (verifying) or step (v) (querying) in Claim 11's method. But this step in Foladare does not represent both steps of Claim 11 – Foladare simply lacks the two tiered process described in Claim 11.

Foladare does not disclose the step of blocking a preauthorized source

65. The last element of Claim 11 requires that the location disclosure instruction be used to either "allow or block" the device location from being provided to a preauthorized requester. Regardless of whether Foladare discloses the earlier step of querying for the location disclosure instruction that is then used in this step, this step is not performed. As explained with respect to Claim 1, Foladare does not disclose any circumstance in which a preauthorized source is denied access to the pager location.

If the source is preauthorized (that is, has the right PIN) it always gets the location. Thus, this element is missing as well.

Defendants' additional elements are also missing

66. Additionally, if we take the Defendants' proposed claim constructions, Foladare still does not disclose each element. I am informed that the Defendants interpret Claim 11 to require each of the following elements:

(1) that the "mobile remote receiving unit" have means to resolve a global position (that it is the same device described by the '159 patent);

(2) that the "location information disclosure instruction" be a "a setting stored within the in the network's data bank, which is uniquely associated with the call receiver. The setting indicating whether the position disclosure feature for the call receiver has been blocked by the subscriber of the call receiver;" and

(3) that the step of "using said instruction (v) to allow or block mobile remote receiving unit location information" include: "If the location disclosure instruction indicates the position disclosure feature for receiver is active, the control unit will then allow the transmission of the global. Otherwise, the control unit will block the transmission of the global position."

67. I do not agree that these requirements are found in Claim 11. Regardless, these limitations are not found in the Foladare patent (and I don't see any attempt by the Defendants to identify them in Foladare).

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Anticipation: no anticipation of '461, claim 23

68. Claim 23 states:

> **23**. A communication system for limiting access to a pre-authorized location based service provided for a mobile remote by the system, wherein the location of the mobile remote unit is continuously being tracked by the system, the system comprising:
>
> i) a network of communication resources some of which are able to communicate with the mobile remote unit;
>
> ii) at least a first communication network resource pre-authorized to be able to access said location based service;
>
> iii) at least a second network communication resource able to inhibit a pre-authorized network resource according to (ii) from accessing said location based service for a time while allowing other network resources of (ii) to access said location based service.

69. This claim describes a system similar to the one described by Claim 1. It is simply written from a different perspective, speaking in terms of access to the location based service (the network element that locates the device and/or reports the device location to those requesting) rather than the location itself.

Foladare is missing element (iii)

70. The third element of this claim requires three things: that the system be capable of (i) denying access to a location based service (ii) by a preauthorized resource (iii) during the same period of time that access to the service is allowed to another preauthorized resource. Foladare is missing the second and third of these requirements.

71. As explained above, Foladare does not disclose any means by which the system described could deny access to the location of the pager (or the service that

provides that location) by a preauthorized source. In Foladare, if the requester has the PIN (that is, is preauthorized), that is the end of the story – access is granted.

72. Additionally, Foladare makes no disclosure of the system being able to simultaneously deny one preauthorized source's access while allowing another's.

Defendants' additional elements are also missing

73. Additionally, if we take the Defendants' proposed claim constructions, Foladare still does not disclose each element. I am informed that the Defendants interpret Claim 23 to require each of the following elements:

(1) that the "mobile remote receiving unit" have means to resolve a global position (that it is the same device described by the '159 patent);

(2) that the location based service be "the service of transmitting pages, received by the network for the call receiver, to the global area of the call receiver based on the global position for the call receiver, which is stored in the network's data bank";

(3) that "for a time" (as in the time that location is denied) be "the period of time in which the current global position of the call receiver is stored in the network's data bank," and

(4) that the "continuously being tracked" language from the preamble requires "the call receiver being configured to periodically resolve its current global position from signals transmitted from satellites and earth based communication means and to then transmit the resolved global position to the network, and the network being configured to receive the global position from the call receiver and store the global position in the network's data bank."

74. I do not agree with these constructions. Regardless, the Defendants' limitations are not found in the Foladare patent (and I don't see any attempt by the Defendants to identify them in Foladare).

Anticipation: no anticipation of '461, claim 25

75. Claim 25 states:

> **25**. A communication system for accepting or denying access to the location information of a mobile remote associated with the system, such a system comprising:
>
> **[a]** the mobile remote unit able to communicate with the system to establish mobile remote unit location information;
>
> **[b]** a network of communication resources also associated with the system and some of which are pre-authorized to obtain said establish mobile remote location information from the system;
>
> **[c]** the mobile remote unit able to deny the provision of said establish mobile remote unit location information to a pre-authorized communication resource selected from the network of pre-authorized communication resources during a period time when access to mobile remote unit location information has been granted to another preauthorized communication resource at the network.

76. Claim 25 is similar to Claims 1 and 23. It also discloses a system that allows the user of a mobile device to prevent a resource from accessing his or her location even if that source has been preauthorized. The most interesting thing about Claim 25 is that it not only keeps control over location disclosure in the hands of the

user, it literally places that control at the handset level – the device itself can be used to block a location request.

Foladare is missing elements [b] and [c]

77. The second and third elements of Claim 25 require that the system (i) be capable of denying a preauthorized source (ii) that is "associated with the system" (iii) from accessing the device location during a period of time when access has been granted to another preauthorized source. Further required, as mentioned above, is that (iv) the denial is effected by the "mobile remote unit" itself.

78. Foladare doesn't disclose any of these four requirements.

79. First, as explained above, Foladare does not disclose any means for denying access by those who are preauthorized. If the caller has the PIN, he gets the device location.

80. Second, if the preauthorized resources in Foladare are the "calling telephones" (the phones of those calling in to get the pager's location) – as the Defendants argue – there is nothing in Foladare to suggest that they are "associated with the system." As explained above, there is no indication that the callers in Foladare are also subscribers to the system or are otherwise associated with it.

81. Third, as discussed above, Foladare makes no disclosure of a system that blocks one preauthorized resource from accessing the pager's location while simultaneously allowing another's access.

82. Fourth, Foladare not only fails to disclose any means of blocking a preauthorized source's access to the pager location – it does not describe any privacy or security means residing at the level of the pager itself as Claim 25 requires. The only security is provided by the PIN, which is managed at the network level.

Defendants' additional elements are also missing

83. Additionally, if we take the Defendants' proposed claim constructions, Foladare still does not disclose each element. I am informed that the Defendants interpret Claim 25 to require each of the following elements:

(1) that the "mobile remote receiving unit" have means to resolve a global position (that it is the same device described by the '159 patent);

(2) that the time during which access is granted to one source and denied to another be "The period of time in which the location disclosure instruction indicates the position disclosure feature for the call receiver is active."

84. I do not agree that these requirements are found in Claim 25. Regardless, these limitations are not found in the Foladare patent (and I don't see any attempt by the Defendants to identify them in Foladare).

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Anticipation: no anticipation of '461, claim 25

85. Claim 28 states:

28. A communication system comprising:

[a] a network of communication resources;

[b] a first communication resource able to establish its location information at the network;

[c] wherein at least a profile is maintained by the system, said profile containing the identity of a preauthorized resource, identity of the first communication resource and a location access field indicating whether said preauthorized resource identified in the profile should be allowed/disallowed to access the location information of the first communication resource identified in said profile;

[d] the system able to use the location access field of a first profile to deny the location information of the first communication resource to the preauthorized resource identified in said first profile while allowing another preauthorized resource identified in a second profile to access the location information of the first communication resource during the time that access is being denied to the preauthorized resource identified in said first profile.

86. This system described by this claim is again similar to the system of the other claims addressed above. The primary difference is that this claim recites storage – in a profile – of the user's privacy preferences (which, as with the other claims, can be used to allow or block a preauthorized source from accessing the device location).

Foladare is missing element [c] – the first profile

87. The third element of this claim requires a profile (defined by Enovsys to mean "a set or collection of information, attributes, or parameters relating to a particular person, device, application, or subject") that contains the following three

items: (i) the identity of a "preauthorized source," (ii) the identity of "the first communication resource" (*e.g.*, the mobile device itself), and (iii) a "location access field" (defined by Enovsys to be "a field, element, or item of data in a profile that indicates, or contains information indicating, whether access to location information can or should be allowed").

88. It's this third item that clearly is not found in Foladare. The purpose of this field is to specify whether the preauthorized resource "should be allowed/disallowed to access the location information" of the device. As explained above, this is about allowing the user to deny access by even a *preauthorized* source – something that Foladare simply does not disclose (since all callers that are preauthorized, by having the correct PIN, get location when requested).

Foladare is missing element [d] – denying to one while allowing another

89. The last element of this Claim requires that the system (i) be "able to use the location access field" (ii) "to deny access to the location information of the first communication resource" to a preauthorized source (iii) while allowing another preauthorized source to access the location during that same time. None of these three requirements are found in Foladare.

90. First, as explained above, there is no location access field in Foladare; thus it cannot be "used", for any purpose. Second, as explained above, the system in Foladare lacks any disclosure or teaching that a preauthorized source can be denied access. Third, Foladare makes no disclosure of simultaneously allowing access to one preauthorized source while another is being denied.

Defendants' additional elements are also missing

91. Additionally, if we take the Defendants' proposed claim constructions, Foladare still does not disclose each element. I am informed that the Defendants

interpret Claim 28 to require the following elements:

(1) that the "mobile remote receiving unit" have means to resolve a global position (that it is the same device described by the '159 patent);

(2) that in the last element "the network being configured such that if the location disclosure instruction in the first profile indicates the position disclosure feature for the call receiver is not active, then the network control unit will block the transmission of the global position for the call receiver."

92. I do not agree that these requirements are found in Claim 28. Regardless, these limitations are not found in the Foladare patent (and I don't see any attempt by the Defendants to identify them in Foladare).

Anticipation: conclusion

93. For the reasons explained above, it is my opinion that one of ordinary skill in the art would not read Foladare as disclosing every limitation of any of the claims of the patents. Therefore, it is my opinion that no claim of the Enovsys patents is anticipated by Foladare.

Obviousness: overview; summary of opinions

94. I understand that the Defendants have also asserted that the patents in this case are obvious in light of the Foladare patent and other cited references and prior art. I have been asked to provide my opinions on the matter.

Understanding of the law

95. My understanding of the law regarding invalidity and obviousness is garnered from both my prior work on other patent matters and my discussions with

counsel for Enovsys. The following citations have been provided to me by counsel for Enovsys and I am informed that they provide a fair summary of the law on obviousness.

96. *The Graham factors*

- "[T]he *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966), factors still control an obviousness inquiry. Those factors are: 1) 'the scope and content of the prior art'; 2) the 'differences between the prior art and the claims'; 3) 'the level of ordinary skill in the pertinent art'; and 4) objective evidence of nonobviousness." *Takeda Chem. Indus. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1355 (Fed. Cir. 2007);
- "Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined." *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17 (1966).

97. *Scope and content of prior art: inherent disclosure in prior art requires necessity* of presence

- "Inherent anticipation requires that the missing characteristic is necessarily present . . . in the single anticipating reference." *Glaxo Group Limited v. Apotex, Inc.*, 376 F.3d 1339, 1348 (Fed. Cir. 2004).
- "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1269 (Fed. Cir. 1991).

98. *Objective indicia of non-obviousness*

- "Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy," *Graham*, page 17.

99. *Combination of existing elements does not necessarily render obvious*

- "A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art," *KSR*, page 1741;
- "This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known," *id*.;
- "Most inventions arise from a combination of old elements and each element may often be found in the prior art. However, mere identification in the prior art of each element is insufficient to defeat the patentability of the combined subject matter as a whole. Rather, to establish a prima facie case of obviousness based on a combination of elements disclosed in the prior art, the Board must articulate the basis on which it concludes that it would have been obvious to make the claimed invention." *In re Kahn*, 441 F.3d 977, 986 (Fed. Cir. 2006);

100. *Hindsight bias must be avoided*

- "A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning." *KSR*, page 1742
- "This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *KSR*, page 1741;
- Courts must be careful of the "temptation to read into the prior art the teachings of the invention in issue" and must "guard against slipping into the use of hindsight." *KSR*, page 1742;
- "The genius of invention is often a combination of known elements which in hindsight seems preordained. . . . When the art in question is relatively simple, as is the case here, the opportunity to judge by hindsight is particularly tempting." *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351 (Fed. Cir. 2002);
- "We must avoid "the subtle but powerful attraction of a hindsight-based obviousness analysis;" *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999);
- It is wrong to "simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability -- the essence of hindsight." *Id.*

101. *Teaching away*

- "when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious," *KSR*, page 1740;
- "Evidence rebutting a prima face case of obviousness can include . . .

evidence 'that the prior art teaches away from the claimed invention in any material respect," *In re Sullivan*, 498 F.3d 1345, 1351 (Fed. Cir. 2007);

- "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant," *In re Icon Health & Fitness, Inc*., 496 F.3d 1374, 1381 (Fed. Cir. 2007);
- "General skepticism of those in the art - not amounting to teaching away - is also relevant and persuasive evidence of nonobviousness. In effect, teaching away is a more pointed and probative form of skepticism expressed in the prior art. In any case, the presence of either of these indicia gives insight into the question of obviousness," *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 885 (Fed. Cir. 1998).

102. *The invention's creation of unexpected results*

- "Evidence of unexpected results can be used to rebut a prima facie case of obviousness," *Pfizer, Inc. v. Apotex, Inc*., 480 F.3d 1348, 1369 (Fed. Cir. 2007);
- "[O]ne way for a patent applicant to rebut a prima facie case of obviousness is to make a showing of 'unexpected results,' i.e., to show that the claimed invention exhibits some superior property or advantage that a person of ordinary skill in the relevant art would have found surprising or unexpected," *In re Geisler*, 116 F.3d 1465, 1469 (Fed. Cir. 1997).

103. *Synergies*

- "The device, the Court concluded, did not create some new synergy: The radiant-heat burner functioned just as a burner was expected to function; and the paving machine did the same. The two in combination did no more than they would in separate, sequential operation," *KSR*, page 1740;
- "While the existence of a new and unexpected result or function or a so-called synergistic effect may support a holding of nonobviousness, our predecessor courts have considered and rejected the notion that a new result or function or synergism is a requirement of patentability," *American Hoist & Derrick Co. v. Sowa & Sons, Inc*., 725 F.2d 1350, 1360 (Fed. Cir. 1984);

Summary of opinion

104. I have reviewed the Defendants' cited prior art references and conducted the analysis required under the patent laws and in light of my personal knowledge and experience concerning wireless communications systems and localization. My opinion is that the Enovsys patents, when viewed from the perspective of one of ordinary skill in the art at the time of the invention (circa summer 1996) show substantial foresight in predicting the trends of location based services for wireless devices and the need for varying degrees of user privacy and control and claim inventions that would not have been obvious to one of ordinary skill in the art at that time. My opinions are explained in detail below.

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Graham factor 1: level of ordinary skill in the art; snapshot of 1996

105. Because it is an important part of the obviousness inquiry, I will reiterate my prior opinion as to the level of ordinary skill in the art.

106. My definition of "ordinary skill in the art" as applicable to the subject matter of this case would be an individual with a B.S. degree in electrical engineering and computer science/engineering with either a concentration in wireless systems or two years additional post-graduate experience in wireless systems design or maintenance at the systems level. Some prior knowledge of localization techniques including GPS (Global Positioning System) and its limitations would also be helpful, but not essential since the basic ideas can be understood using undergraduate training.

107. Additionally, because the validity of the '159 and '461 patents must be made from the perspective of one of ordinary skill in the art at the time of invention, it is useful to provide a snapshot of what the state of wireless communications was at that time (that is, circa August 1996). At that time, cellular handsets were still relatively large (about twice the size of current handsets) and coverage was somewhat spotty since roaming agreements between the carriers were not fully in place for seamless coverage and carriers had not yet built out their infrastructure (base stations) sufficiently to avoid "dead zones" in coverage. In cellular systems, calls were (and still are) routed through the base station with the strongest signal to the cell phone and the term "localization" was used primarily as an indicator of which base station or service area (group of base stations covering a larger geographic area) to which a cell phone was connected. At the time, there was little thought given to localizing users sufficiently well to enable the various location-based services taken for granted today. The technical reasons for this state of affairs were twofold.

108. First, localization of users was based on wireless attachment to base stations with known physical coordinates. Thus, a given base station might cover a relatively large geographic area in 1996 since the cellular tower infrastructure was nowhere near as dense as it is today. However, even with a more dense infrastructure,

the vagaries of wireless signal propagation and system loading might have a cell phone connected to a much more distant base station than the closest one. Therefore, connection to a particular base was not a good indication of actual user position. In fact, it was only with the Wireless Communications and Public Safety Act of 1999 that the FCC was formally charged with making 911 the universal emergency number and developing criteria which wireless carriers had to meet with regard to localization accuracy. I was involved in exploring various theoretical aspects of how e911 might be provided. The short story is that it was difficult to localize cell phones through "triangulation" using only the existing cellular infrastructure structure.

109. Second, in 1996, the Global Positioning System (GPS) existed and was already in use for civilian applications such as boating and fleet management. However, GPS units were bulky and the thought of including even pared down versions in an already bulky cell phone was impractical. However, with the exponential advance of complexity in microelectronics (Moore's Law), by the turn of the millennium, the first GPS-assisted telephones were being designed and demonstrated, and in 2001 the FCC mandated that all new cell phones contain GPS-assistive technology to aid in localization of 911 callers.

110. Overall, in 1996, wireless researchers such as myself were primarily worried about systems aspects of localization only as they related to signal strength and routing calls to users. The field of mobile computing was in its infancy and there hadn't been much thought given to "location based services" even by academics, let alone cell phone companies. Furthermore, it is only relatively recently (within the past five years) that the research community began giving serious thought to how detailed location information about users should be managed and how it can be selectively hidden or made anonymous to location-based service providers. Thus, the notion of selective denial of location information set forth in the Enovsys patents was in some sense visionary in 1996.

Graham factor 2: scope and content of the prior art

111. As stated above, one of the factors under the Graham case is to evaluate the scope and content of the prior art. In their motion, the Defendants rely on 15 specific prior art references. In addition to Foladare, they cite the following references:

- U.S. Patent No. 5,388,147 to Grimes ("Grimes");
- U.S. Patent 6,151,505 to Larkins et al. ("Larkins");
- U.S. Patent No. 5,625,668 to Loomis et al. ("Loomis");
- U.S. Patent No. 5,835,907 to Newman ("Newman");
- U.S. Patent Application Publication 2006/0025158 to LeBlanc et al. ("LeBlanc");
- ATIS – A Modular Approach ("ATIS");
- An Advanced Driver Information System Concept and its Communications Considerations ("Toperzer");
- Survey of Location Technologies to Support Mobile 9-1-1 ("Driscoll");
- In The Matter of Revision of The Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems ("FCC Rev. 1994");
- In The Matter Of Revision Of The Commission's Rules To Ensure Compatibility with enhanced 911 Emergency Calling Systems ("FCC Rev. 1996");
- Wireless Technologies And The National Information Infrastructure ("Wireless Tech");
- ANI Is The Key To Unlock Advanced Network Services ("ANI");
- U.S. Patent No. 5,408,528 to Carlson et al. ("Carlson"); and
- U.S. Patent No. 5,731,785 to Lemelson et al. ("Lemelson")

112. I have reviewed each of these references. My initial observations are that none of the references disclose each and every element of any one claim of the

Enovsys patents; which is presumably why these additional references have not been asserted to be anticipating the patents. I also note that the last of these references – the Lemelson patent – was cited by the Patent Office during the prosecution of Enovsys' '461 patent and overcome by the inventors. This is worth noting for two reasons. First, because the disclosure of Lemelson is arguably more relevant than the Foladare reference and certainly more relevant than most of the other cited references, yet it was overcome during prosecution. Second, because, as I have been informed, the patent laws state that it is more difficult to meet the clear and convincing standard that applies to invalidity challenges where the prior art raised has already been considered during prosecution.

113. I have further observed that the cited references can be grouped into three categories:

Category 1: *methods of allowing or denying access to various sorts of user information or the user him/herself* [Foladare, Lemelson, ANI, Carlson].

114. As discussed above, Foladare discloses PIN access to a somewhat vague user "location parameter," which is somehow provided to or potentially determined by the user handset and communicated to the network. The most likely interpretation of "location parameter" given the context and the time frame is general coverage area (often large) for the paging system or a local fixed network (PSTN) telephone number from which a proximal physical location of the user could be inferred (home/office, etc.). In Lemelson, the PIN-controlled transmission of location information from a device mounted in a vehicle which can explicitly determine its location (via GPS or other) is disclosed. The device disclosed is not a pager or communication device as described by the Enovsys patents, nor mobile in the sense that a pager or cell phone is. Additionally, the device cannot deny access to the vehicle's location by a source with a PIN without denying all other sources (and the network itself) access to the location – a major distinction raised by the '461 inventors during prosecution. The remaining

two references in this category discuss various forms of customized network services which handle telephone calls differently depending on their origin (as in special handling for calls coming from mobile phones or from unsolicited vendors); these references have little to do with the subject matter of the Enovsys patents.

Category 2: *methods and techniques of user localization and rendering it in usable form* [Grimes, Larkins, Loomis, Newman, LeBlanc].

115. The second set of references disclose the various technologies available for user localization at the time and also translating items such as longitude/latitude into usable location handles such as street addresses or neighborhoods for navigation or tracking services. These references disclose what might be thought of as "widgets" that provide location at the handset; privacy is not the focus of these references.

Category 3: *General references on user localization and the wireless landscape in and around the mid-1990s* [ATIS, Toperzer, Driscoll, FCC Rev 1994, FCC Rev 1996, Wireless Technologies].

116. The final set of references simply refer to the growing understanding (FCC, reports to the FCC and others) that a need existed for services such as Enhanced 911 (e911) to obtain physical locations for emergency calls from cell phones and also other possible services including traffic control, navigation, theft tracking and the like.

The PSTN

117. In addition to the specific references cited above, the Defendants also make reference to the public switched telephone network (see motion at 23-24). This reference is somewhat puzzling in that the PSTN is a *fixed* network and the '159 and '461 patents teach a solution for a *mobile* network in which the users move and therefore have no fixed point of network attachment. This mobility of endpoints makes the PSTN and mobile networks two very different animals. For instance, it was

known at the time of invention that mobile services like cellular telephony put a tremendously increased signaling load on a PSTN signaling infrastructure designed for fixed endpoints. Adding location queries and selective denial capability taught by the '159 and '461 patents would only intensify the problem. So simply marrying PSTN intelligent network services (i.e., ANI) to a mobile communications location information control problem where the number of location queries could in aggregate be extremely large would not have been obvious. Put another way, the '159 and '461 patents seem to presage a "dumb" network (like the modern Internet) designed to treat all traffic equally (as opposed to segregating signaling and services traffic) and where the "smarts" (services, etc.) are at the endpoints -- such as individual users handling location queries, for instance. This is in contrast to a heavily centralized network such as the PSTN where the network itself is "intelligent." The architectures of the Internet and the PSTN are very different and one could not expect that methodologies adapted for one would prove effective or practical on the other.

Graham factor 3: differences between the inventions and the scope and content of the prior art

118. As explained above, the Enovsys '159 and '461 patents describe systems and methods that allow a user of a pager or cellphone (or similar mobile device) to determine his or her location, share that location with others, but also retain control over who can access the location and when. Put another way, the patents not only foresaw the need and benefit of providing location based services to mobile device users, they recognized the importance of privacy in this context and the benefit of putting location information control into the hands of the user rather than the network.

119. The details of *how* location is obtained is most relevant in the '159 patent, which requires that a precise global position (as opposed to a coarse localization within a cellular or paging coverage area) be calculated and be calculated by the device itself (which, because the claimed device can calculate its position from satellite signals,

allows for use outside of the paging network's coverage). But both the '159 and '461 patents are about more than just the method of determining location; they are also about putting the *user* in control of acquisition of location as opposed to the network.

120. Thus, in my opinion, the main differences between the Enovsys inventions and prior art are stem from the "telco-centric" or "network-centric" perspective of the prior art versus the more "user-centric" view put forth in the Enovsys patents.

121. As previously stated, the Enovsys patents seek to put the acquisition and disbursal of location information under the explicit control of the user to preserve privacy. In the '159 patent the user does the localization, potentially with network help, but the user device clearly has the capability to resolve the user global position. This information is then provided to the network (or not). Furthermore, the user in addition has control over which other users of the network can have access to the device location and can change these access permissions as need be, allowing some users location information even while others are being denied such information. In contrast, the prior art supplied by the Defendants either misses the point entirely (providing uncontended techniques of mobile user localization), the general need for location-based services (again not under contention) and then almost invariably takes a network-centric approach where location information denial requires either disabling the location-sensing capabilities of the mobile device or allowing the network to issue PINs for sources the users selects.

122. Furthermore, the prior art does not teach the two-tiered approach taught by Enovsys' '461 patent (where preauthorization is not the end of the story) and does not explicitly seek to guard user location even from the network itself. That is, the Enovsys patents can allow that even the network itself be blind to a user's location even while that user issues location information to sources of its choosing. The Enovsys patents were designed explicitly with user privacy concerns (almost presciently anticipating location-based services) in mind. The prior art does not teach

toward how privacy can be controlled dynamically for users on the move who wish their precise locations known to some while not to others, including potentially the network itself.

123. Turning back to the Defendants' primary reference, the Foladare patent, this patent not only lacks several elements of the Enovsys patents (as explained in the section on anticipation above), it is antithetical to the Enovsys patents in a fundamental way. The absence of a "call receiver or pager having means to resolve a global position from the satellites or earth based communication means" as contained in Claim 1 of the '159 patent is a telling first indication. And the lack of even a suggestion that the network or a preauthorized source can be denied access to the device location comports with the convention of leaving control in the hands of the network rather than the user.

124. Only in Lemelson is the user assumed able to deny location information to the network – and this is only by disabling the mobile localization unit during which time no one can localize the user except in emergency cases. In contrast, the Enovsys patents specify location information under user control with the network mediating (or sometimes not, as in the '461 patent where the handset itself can potentially allow or deny queries) only the disbursal of information to sources of the user's choosing. The Enovsys patents go further in allowing some normally authorized (pre-authorized in the patent terminology) users to be blocked while at the same time allowing access to others.

125. In fact, and of great significance in my view, by teaching toward putting location information under direct user control, the Enovsys patents teach a much more modern "Internet ethos" than the network-centric "large telco" view suggested by the defendant-supplied prior art, as typified by Foladare.

Graham factor 4: objective indicia of non-obviousness (commercial success)

126. In recent years, I have observed the rapid growth and tremendous popularity of location based services offered for mobile devices. I have also been advised by counsel for Enovsys that the Defendants alone (not just the entire LBS industry) now generate revenues from location based services that are in the many millions annually (expected to be in the hundreds of millions this year).

127. Given the many different types of such services now being offered (which allow for not only navigation, tracking, and friend or family finding, but also convert the mobile device into essentially an information magnet, drawing in information about nearby streets, buildings, houses, etc.) and their great convenience, it is easy to see why such services are so popular and why people are willing to pay for them. But, having worked in and studied the wireless industry for many years, it is my opinion that very few people can genuinely say that back in 1996 – when most cell phones were not even capable of sending or receiving text messages – that the LBS industry would become what it has and what it's growing to be. Further, I don't think anyone can argue today that the industry would be as successful if restrictions were not placed on location access to protect user privacy, the primary concern of the Enovsys patents.

128. Thus, it is my opinion that the LBS market is not only highly successful and continuing to grow rapidly, but that success is necessarily linked to not only the convenience (and enjoyment) such services provide, but also the essential privacy features claimed by the Enovsys patents.

Specific factors indicating non-obviousness

129. In addition to the reasons set forth above, it is my opinion that the inventions of the Enovsys patents would not be obvious to one of ordinary skill in the art for the following reasons.

Teaching away

130. As explained in part above, the prior art cited by the Defendants, would not suggest or lead one of ordinary skill in the art to reach the conclusion made by the inventors of the Enovsys patents: that location based services for mobile devices would be an important industry and that the importance of that industry would depend in large part in the availability and operability of privacy features afforded to the user. More significantly, the Defendants' two most relevant references – Foldare and Lemelson, if read by one of ordinary skill in the art circ 1996, would lead that person down a path divergent from the one take by the Enovsys inventors.

131. Foldare, as explained above, fails to disclose a system that recognizes the important of placing control in the hands of the user – literally. The pager disclosed may have the ability to determine its location, but that is far from given, in light of the patents' generalized reference to a "location parameter" and failure to disclose any localization circuitry in the device. Further there is no disclosure of privacy at the handset level – a further indication that what is being taught is along the lines of the network-centric convention prevalent at that time and only recently supplanted in the Internet age. Thus, one of ordinary skill in the art would read Foldare as consistent with the convention and would be led in a divergent path from the Enovsys inventions, which disclose the resolution of a precise location by the device itself ('159 claim 1), as well as privacy features that can be effected on the actual device ('461 patent claims 25 and 28).

132. Lemelson, on the other hand, discloses certain things that Foldare lacks – like a precise GPS location, the ability to block a preauthorized source, and privacy features at the device level (though no mobile device was disclosed). But it suffers from its own limitations. The primary being that Lemelson failed to envision or disclose a system that would allow selective disclosure and blocking of access to occur *simultaneously*, as many of the '461 claims require. In Lemelson, as explained above, the user could deny access to a preauthorized source by entering an "inhibiting PIN" in

the device – but this resulted in a literal disconnect between the device and the network. Lemelson failed to recognize that the user might want to continue to provide its location to one source (or the network itself) while denying another's access – or that he or she might want to at least themselves know their own location during this period of denial. Thus, despite its inhibiting PIN at the device level, Lemelsom still taught the convention - control in the hands of the network. If the network didn't have access to location, neither did the user or his friends or family. This teaching would not lead one down the path toward the Enovsys inventions which expressly place the user in control of his privacy and do so in a way that accounts for practicalities (i.e., that the user may not want all service denied simply to deny access by one source).

Unexpected or unpredictable results

133. The inventions claimed by the '159 and '461 patents result in many benefits to both the user of the claimed systems and the system providers; many of these would not have been predicted or expected by one of ordinary skill in the art circa 1996.

(1) Results from precise location

134. The user of the system of the '159 patent's Claim1 can determine and/or report their precise global position. There are several benefits that result from this that would not have been predicted or expected by someone of ordinary skill in the art in 1996. It is one thing for the user (or the system or other users) to know the general location of the device. But it is another to know the precise location. The precise location is not only more satisfying to the user or those its being reported to, it allows related services to be offered to the user that would not be effective if only a more general location were reported. For example, there are certain location based services offered by the Defendants and other carriers that allow the cell phone operator to view the sale price of recently sold homes on the street they are walking or driving on or to

measure their speed and distance when they go for a jog. These services would be substantially less effective if the device was not able to determine a precise location. Further, the ability to offer such services to cell phone users would not have been expected or predicted by one of ordinary skill in the art in 1996.

(2) Results from combination of phone/pager with GPS

135. Claim 1 of the '159 patent provides a system that combines a mobile communication device (such as a pager or mobile phone) with circuitry and other components that can receive and interpret satellite signals to resolve a precise location. The primary benefit of this is that, to make use of the system and the various benefits that the system provides, the user does not need to carry a separate device (such as a GPS receiver or portable navigation system). The same device used to receive pages and to make voice calls, which the user is much more likely to have with him or her at all times, can be used as a GPS receiver and navigation tool. Those at the forefront of the GPS receiver industry may have had plans to someday offer their technology in a mobile communication device – as indicated by the Loomis patent (which was developed by GPS leader Trimble). But to one of ordinary skill in the art of wireless telecom in 1996, it would not have been expected that cell phone users would be able to have GPS capable cell phones in the near future, particularly given the limitations on memory, bandwidth, and battery power. Further, the Loomis patent failed to recognize any need for privacy, or provide any means for ensuring privacy. Privacy becomes much more important when the location enabled device not only reports a precise location but is also going to be carried by the user at all times (or close to it) – as a cellphone would be (as opposed to a separate GPS receive). The '159 patent, however, explicitly recognized this need for privacy.

(3) Results from having GPS receiver in the phone

136. There are additional benefits to providing the GPS circuitry in the device itself, as the '159 patent requires, rather than having the device only be able to determine its location by communicating with the network. Most significantly, the device can determine its location when out of network coverage – by communicating with satellites. This results in the unexpected benefit that a mobile communication device – such as a pager or cell phone – could have substantially utility for the user even when outside of the network of the service provider. Today mobile devices are capable of all types of uses when outside network coverage – they can play music, take pictures, be used to play sophisticated games, etc. But back in 1996, it was a different story. And a person of ordinary skill in the art of wireless telecommunications would not expect that a pager or cell phone would retain such substantial benefits when shut off from the network – allowing the user to navigate while driving for example, using GPS directions.

(4) Results from denial to preauthorized source

137. As explained above, the asserted claims from the '461 patent each allow the user to deny a request for his location by a preauthorized source. Just because the requesting source has previously been authorized to make location request to the network or to obtain the location of a specific user, that does not mean that the request will be granted. As discussed above, this is not something that is disclosed in the cited prior art. Further, this capability achieves results that would not have been predicted or expected by one of ordinary skill in the art as of 1996. One such result is that the user can give their friends, family, or employers authorization to obtain their location generally but still retain the ability to temporarily deny their access – and they can do this without having to completely de-authorize them or even let them know they are being temporarily blocked. These are useful benefits that would not have been foreseen or expected by one of ordinary skill in the art at the time of invention (1996) –

particularly when the focus then, as shown by the art, was much less privacy oriented and more focused on the feasibility of providing location enabled devices or related services.

(5) Results from denial of one while allowing another

138. The claims of the '461 patent also allow the user to not only deny access by a preauthorized source, they can do so while continuing to allow another such source to access the location. As described above, this is not something found in the cited prior art. Additionally, this feature creates additional benefits. Not only can the user choose to temporarily deny access by one friend while allowing another friend's continued access, for example, the user can also choose to deny access by his employer (after hours for example) while continuing to allow friends and family to access the location. That a location enabled device would be used for both business and social/family purposes, that the user would want to have different privacy criteria for or within these groups, and that these criteria would best be effected by a system that was able to simultaneously grant while also denying location access are issues and insights that cannot be readily attributable to the expectations of one of ordinary skill in the art as of 1996. Additionally, by allowing the user to deny to one source while granting to another, the system allows the user to stay connected to the system during denial. This is in contrast to prior art systems like the one disclosed by the Lemelson patent cited by Defendants. Additional benefits of this feature are that the user can continue to use the device for other means that require network interaction – like sending or receiving pages or voice calls. The user doesn't have to go completely "dark" to avoid being located by just one source. And this also benefits the service provider – because the more time that the device is in network coverage, the more time the device can be and will be used for network interactions (and charged for such use – e.g., by minutes used or for data transport). Again, these are considerations and

benefits that cannot be summarily attributed to one of ordinary skill at the time of the invention.

Synergy

139. There are important synergies achieved from the combination of a location enabled device with a communication device. The combination of a paging device with a GPS receiver does not just result in a device that does both paging and location resolution. It also results in the following synergies. By adding location enabling circuitry to the communication device, the user now has much greater access to location resolution – because, as explained above, the communication device is something that the user is much more likely to carry with them constantly; the same cannot be said of a GPS receiver. And by combining communication with location, the user's family, friends, and employers have available several different options for locating or contacting the user – for example, if a wife wants to be sure that her husband remembered to pick up the kids at school but doesn't want to bother him with a phone call, she can look up the location without placing a call; and if she sees that he is not where he's supposed to be, she can call him and knows exactly where he is and that he has his phone with him. Conversely, the user also obtains synergies from the combination of location with communication; because the device can be used to receive pages or voice calls, the user knows that even when he temporarily denies a preauthorized source – like his wife – access to the location, he can still be reached by her if it's an important or emergency situation by page or voice call. Finally, by combining GPS technology with a paging device or cell phone, the user receives the additional synergy that he can still obtain location when outside of satellite view but still in network coverage.

140. From the perspective of the service provider, there are also commercial synergies. Traditional GPS receivers were and are available for a monthly subscription

fee but other than that fee there are typically no other revenues; when the GPS is in the communication device, and the device uses the network to transmit that location to the system or to others, it does so over a data channel (in some but not all cases) and this transport generates additional revenue for the carrier. Those synergies could not be effectively achieved, or achieved without being overridden by other concerns, without privacy protections. As explained above, some of these concepts – such as the combination of GPS with a cell phone – are discussed in the prior art. But not with the recognition of the importance of privacy that is found in the '159 and '461 inventions and is essential for these synergies to truly be beneficial.

Obviousness: conclusion

141. For the reasons explained above, when considering the inventions of the Enovsys patents from the perspective of one of ordinary skill in the art at the time of the invention (circa 1996), and in light of the conventional thinking regarding wireless systems and localization at that time, the state of the art, the differences between the prior and the Enovsys inventions, and the various other factors identified above, it is my opinion that the inventions would not have been obvious.

I declare, under penalty of perjury, that the foregoing analysis and opinions are, in my view, true and accurate.

Executed on January 23, 2008 at New Rochelle, New York.



Christopher Rose, Ph.D.