

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JASMIN JIJINA, WILLIAM E. ITALIA,  
WILLIAM E. MAZZARA, JR.,  
and BRUCE A. GROSKREUTZ

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Appeal 2007-2432  
Application 10/305,380  
Technology Center 2600

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Decided: December 4, 2007

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Before JAMES D. THOMAS, MAHSHID D. SAADAT, and JOHN A.  
JEFFERY, *Administrative Patent Judges*.

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DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 1-14. We have jurisdiction under 35 U.S.C. § 6(b). We affirm-in-part.

## STATEMENT OF THE CASE

Appellants invented a method to rout emergency calls (e.g., 911 calls) from mobile wireless devices. The method includes, among other things, transferring data throughout an emergency network indicative of the position of the mobile device. This position data is then used to select and establish communications with the most appropriate public safety authority with respect to the caller's location.<sup>1</sup> Claim 1 is illustrative:

1. A method for call routing for emergency network connectivity, comprising:

placing a call from a mobile unit to a service management system;

transferring unit position data representing a position of the mobile unit to the service management system

initiating a network connection from the service management system to a first mobile switching center serving the mobile unit;

transferring the unit position data to the first mobile switching center;

utilizing the unit position data at the first mobile switching center to identify a public safety answering point associated with the location of the mobile unit;

initiating a priority connection from the first mobile switching center to the identified public safety answering point;

transferring the unit position data to the identified public safety answering point; and

enabling voice communications from the mobile unit to the public safety answering point through the call.

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<sup>1</sup> See generally Specification 2:14-29.

The Examiner relies on the following prior art references to show unpatentability:

Lichter	US 6,256,489 B1	Jul. 3, 2001
Antonucci	US 6,819,929 B2	Nov. 16, 2004 (filed Mar. 12, 2001)

1. Claims 9-11 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Antonucci.
2. Claims 1-8 and 12-14 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Antonucci and Lichter.

Rather than repeat the arguments of Appellants or the Examiner, we refer to the Briefs<sup>2</sup> and the Answer for their respective details. In this decision, we have considered only those arguments actually made by Appellants. Arguments which Appellants could have made but did not make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

## OPINION

### *The Anticipation Rejection*

We first consider the Examiner's rejection of claims 9-11 under 35 U.S.C. § 102(e) as being anticipated by Antonucci. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. *RCA Corp. v. Applied Digital Data Systems*,

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<sup>2</sup> We refer to the most recent Appeal Brief filed Oct. 10, 2006 and the Reply Brief filed Feb. 27, 2007 throughout this opinion.

*Inc.*, 730 F.2d 1440, 1444 (Fed. Cir. 1984); *W.L. Gore and Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554 (Fed. Cir. 1983).

The Examiner has indicated how the claimed invention is deemed to be fully met by the disclosure of Antonucci (Answer 3-4). Regarding independent claim 9, Appellants argue that Antonucci does not disclose establishing a trigger connection from a service management system to a mobile switching center. According to Appellants, claim 9 recites a three-point system such that one entity, the service management system (SMS), triggers a connection between the other two entities, namely the mobile switching center (MSC) and the public safety answering point (PSAP). Appellants emphasize that Antonucci does not disclose such a three-point system, but rather a system with two endpoints, namely the mobile unit and the appropriate PSAP (Br. 4-5; Reply Br. 1-2).

The Examiner contends that Antonucci's Emergency Services Complex (ESC) 614 corresponds to the claimed SMS, and that there is a trigger connection between the ESC 614 and the MSC 612. In reaching this conclusion, the Examiner emphasizes that the claim does not require a direct connection between the entities (Answer 9-10).

For the reasons stated below, we will sustain the Examiner's rejection of independent claim 9. As shown in Figure 6, Antonucci routes emergency calls from a mobile phone 620 to an appropriate PSAP in essentially a cascaded process. Once mobile phone 620 makes an emergency call (e.g., via 911), it is received by the mobile transceiving tower 618 which then contacts MSC 612. The MSC then generates a temporary local directory number related to the mobile phone along with position information and contacts ESC 614. Upon receipt of the position information, the ESC's

Emergency Services Switch (ESS) then queries a database 636 regarding which public safety answering position should receive the call. The ESS then opens communication with a selected PSAP (Antonucci, col. 17, l. 58 - col. 20, l. 60; Fig. 6).

With this brief description of the call routing process of Antonucci in mind, we turn now to the language of independent claim 9. At the outset, we note that the scope and breadth of the term “service management system” does not preclude Antonucci’s ESC as indicated by the Examiner. In this regard, the Examiner refers to the Specification’s Background section<sup>3</sup> which indicates that an exemplary operating service management system “acts as an intermediary or gateway into 911 services” (Answer 10). In this implementation, an agent at the service management subsystem establishes contact with the vehicle occupants, locates the appropriate PSAP, and facilitates communication between the vehicle and the PSAP (Specification 1:15-25).

Furthermore, the Specification in the Detailed Description section indicates that the service management system 116 is operated by a telematics service provider and “is also referred to as a call center” (Specification 3:29-30). Although this and other passages from the Specification as well as

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<sup>3</sup> Although Appellants argue that the Examiner’s reliance on the definition in the Background section of the Specification applies only to background art and not the invention (Reply Br. 2), we find this argument unavailing. The fact that a limitation is defined or specifically described in the Background section hardly forecloses its use in interpreting terms recited in the claims. Indeed, defining terms in the Background section can be quite helpful in determining the ordinary and customary meanings that the terms would have to those of ordinary skill in the art. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

Figure 1 (numeral 116) appear to use the term “service management system” and “call center” interchangeably,<sup>4</sup> Appellants nevertheless contend that a call center is merely an exemplary implementation of a service management system.<sup>5</sup>

In any event, the Specification clearly indicates that a “service management system” has a definite meaning in the art and, in fact, is used interchangeably with “call center.” We therefore conclude that Appellants have, in effect, implicitly defined the term “service management system” in the Specification as a “call center.”<sup>6</sup>

In light of this implicit definition of “service management system,” we agree with the Examiner that this limitation is fully met by at least Antonucci’s ESC 614. In our view, the ESC reasonably constitutes a “call center” at least with respect to its role in handling multiple incoming calls and dispatching the calls to the appropriate PSAP.<sup>7</sup>

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<sup>4</sup> See Specification, at 7-8 (“The agent at the *service management subsystem* (116, FIG 1) establishes a connection...to a tandem MSC (Mobile Switching Station) 214. When this connection is established, the *call center 116* transmits the vehicle data to the tandem MSC 122....”) (emphasis added).

<sup>5</sup> See also Br., at 5 (“[There is no indication as to what, if anything, the action intended [sic] as the service management system (*e.g.*, call center); Br., at 6-7 (“*By way of example*, the present application teaches that a service management system *may* comprise a call center.”) (emphasis added).

<sup>6</sup> See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005) (“Even when guidance is not provided in explicit definitional format, the specification may define claim terms by implication such that the meaning may be found in or ascertained by a reading of the patent documents.”) (citations and internal quotation marks omitted).

<sup>7</sup> According to Antonucci, ESCs are configured much like a digital switching node in a public telecommunication network. To this end, the ESCs include network and data communication management devices and selective call routing to facilitate location-based call routing, monitor system

We also find that the connection between the ESC 614 (i.e., the “service management system”) and the MSC 612 in Antonucci reasonably constitutes a “trigger connection” at least with respect to the connection between the MSC and the appropriate PSAP. Significantly, the connection between the MSC and the ESC in Antonucci occurs *prior to* establishing the connection from the MSC to the appropriate PSAP -- a fact that Appellants readily acknowledge.<sup>8</sup>

Simply put, the connection between the MSC and ESC<sup>9</sup> is a necessary precondition to establishing the connection between the MSC and the appropriate PSAP. Therefore, establishing the MSC-to-ESC connection, at least indirectly, ultimately causes or “triggers” the MSC-to-PSAP connection. Although this “trigger connection” is initially made from the MSC to the ESC via the PSTN 616, the connection is nonetheless bi-directional and need not be direct as the Examiner indicates. *See* Antonucci, at Figure 6 (illustrating connections between MSC 612, PSTN 616, and ESC 614 respectively with double-arrows).

For at least these reasons, we conclude that independent claim 9 is fully met by Antonucci. We will therefore sustain the Examiner’s rejection

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maintenance needs, and perform other administrative functions (Antonucci, col. 11, ll. 10-19). Furthermore, ESCs can have Internet capability such that an operator at the ESC can, among other things, communicate with the caller via the Internet (Antonucci, col. 13, ll. 37-48).

<sup>8</sup> *See* Br., at 5 (noting that after the mobile unit contacts the mobile transceiving tower 618, the tower contacts the MSC 612 which, in turn, contacts the ESC 614).

<sup>9</sup> As we noted previously, we find that the ESC fully meets a “service management system.”

of representative claim 9 as well as claims 10 and 11 which fall with claim 9.

*The Obviousness Rejection*

We now consider the Examiner's rejection of claims 1-8 and 12-14 under 35 U.S.C. § 103(a) as unpatentable over Antonucci and Lichter. In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

Discussing the question of obviousness of a patent that claims a combination of known elements, *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007) explains:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida [v. AG Pro, Inc.]*, 425 U.S. 273 (1976)] and *Anderson's-Black Rock[, Inc. v. Pavement Salvage Co.]*, 396 U.S. 57 (1969)] are illustrative—a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

*KSR*, 127 S. Ct. at 1740. If the claimed subject matter cannot be fairly characterized as involving the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art

ready for the improvement, a holding of obviousness can be based on a showing that “there was an apparent reason to combine the known elements in the fashion claimed.” *Id.*, 127 S. Ct. at 1740-41. Such a showing requires “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.*, 127 S. Ct. at 1741 (quoting *In re Kahn*, 441 F.3d 977, 987 (Fed. Cir. 2006)).

If the Examiner’s burden is met, the burden then shifts to the Appellants to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

Regarding independent claim 1, the Examiner's rejection essentially finds that Antonucci teaches every claimed feature except for the last four recited limitations in the claim, namely (1) utilizing the unit position data at the first mobile switching center to identify a PSAP associated with the location of the mobile unit; (2) initiating a priority connection to the identified PSAP; (3) transferring the unit position data to the PSAP; and (4) enabling voice communications from the mobile unit to the PSAP as claimed. The Examiner cites Lichter as teaching these features and concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to provide such features in Antonucci to more quickly respond to a wireless emergency call (Answer 4-6).

Appellants argue that both Antonucci and Lichter fail to disclose a service management system. Regarding Lichter, Appellants contend that since Lichter does not teach a service management system, the reference cannot teach transferring unit position data to a service management system, nor the subsequent utilization or further transfer of such position data (Br. 6-7).

The Examiner responds that the mobile station in Antonucci transmits unit position data which ultimately reaches the ESC via the MSC and PSTN (Answer 10-11). The Examiner also notes that Antonucci's MSC utilizes the unit position data to identify a PSAP associated with the mobile unit, and transfers that position data to the PSAP as claimed. In addition, the Examiner indicates that Lichter, likewise, teaches this limitation (Answer 11-12).

We will sustain the Examiner's rejection of independent claim 1. In Antonucci, the mobile unit's geographic location or position is determined by the mobile unit's associated position determining equipment (PDE) 624 (Antonucci, col. 17, ll. 23-40). Data regarding the geographic location or position of the mobile unit is transferred to MSC 612 (and its associated mobile geolocation system 628 (MGS)). This geographic data may include, among other things, position information (x, y, z) (Antonucci, col. 18, ll. 49-59).

If the MGS fails to operate properly, the MSC 612 sends the temporary local directory number (TLDN) and Cell Site and Sector (CSS) information encoded as a default position indicator (x, y) to the ESC's Emergency Services Switch (ESS) 634. The ESS then uses this received position information to query georouter database 636 regarding which PSAP

should receive the call (Antonucci, col. 20, ll. 7-26). Once ESS determines the appropriate PSAP via the querying ESS' georouter database, the ESS opens communications with a selected PSAP. The ESS then transmits information to the PSAP including, among other things, the TDLN and the position indicator (Antonucci, col. 20, ll. 26-60).

The clear import of this discussion is that data corresponding to the position of the mobile unit that placed the emergency call is utilized by the MSC (and its associated MGS) and the ESC (i.e., the "service management system"). And, as indicated above, this position data is ultimately transmitted to the PSAP.

We acknowledge that the position data in Antonucci is first transferred to the MSC prior to transferring the data to the ESC (service management system), whereas claim 1 recites the step of transferring unit position data to the service management system before reciting the step of transferring the unit position data to the MSC. However, nothing in the claim expressly or implicitly requires this specific order of unit position data transfer.<sup>10</sup> Although claim 1 calls for transferring "*the* unit position data" to the first MSC, the limitation merely requires that this data is the same data transferred to the service management system. Transferring the same data in the manner recited, however, does not necessarily require a particular sequence of such data transfer.

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<sup>10</sup> It is well settled that "[u]nless the steps of a method actually recite an order, the steps are not ordinarily construed to require one... However, such a result can ensue when the method steps implicitly require that they be performed in the order written." *Interactive Gift Exp., Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1342 (Fed. Cir. 2001) (citations omitted).

Since we find that Antonucci satisfies all recited limitations of independent claim 1, Appellants have not persuasively rebutted the Examiner's prima facie case of obviousness based on the collective teachings of Antonucci and Lichter for this reason alone.

Nevertheless, we also conclude that the teachings of Lichter are reasonably combinable with Antonucci. Although Appellants maintain that Lichter does not teach a service management system (Br. 7), the Examiner indicates that that selective router 2 in the reference corresponds to a call center (Answer 12).

We find the Examiner's interpretation of Lichter in this regard reasonable. According to Lichter, the selective router 2 is the switching system in the network for routing an incoming emergency call to the appropriate PSAP and is typically connected to one or more end offices 6 (which host telephones, computers, etc.) via trunks 8. The selective router is also connected to one or more mobile switching centers via trunks 16 (Lichter, col. 2, l. 62 - col. 3, l. 12; Fig. 1).

This functionality of the selective router, in our view, is reasonably commensurate with a service management system (or "call center") at least with respect to its role in handling multiple incoming calls and dispatching the calls to the appropriate PSAP. Moreover, not only does Lichter teach that the MSC transmits unit position data in the form of latitude/longitude or cell/sector information, Lichter also teaches that the selective router transmits unit position data to the PSAP (Lichter, col. 5, ll. 13-19). In view of these teachings, and since Lichter and Antonucci both pertain to systems for routing emergency calls, we conclude that Lichter's teachings would have been reasonably combinable with those of Antonucci.

For at least the foregoing reasons, Appellants have not persuasively rebutted the Examiner's prima facie case of obviousness for representative independent claim 1 or dependent claims 2-6 which fall with claim 1. The Examiner's rejection of those claims is therefore sustained.

*Claim 7*

Regarding claim 7, Appellants reiterate that the prior art fails to teach a service management system and transferring the unit position data that was previously transferred to such a service management system (Br. 8).

We will sustain the Examiner's rejection of claim 7 for the same reasons as we indicated with respect to claim 1 and we incorporate that discussion here by reference.<sup>11</sup> The Examiner's rejection of representative independent claim 7 is therefore sustained. We will also sustain dependent claim 8 which falls with claim 7.

*Claim 14*

We will not, however, sustain the Examiner's rejection of independent claim 14. Claim 14 recites, in pertinent part, transferring position data from (1) the mobile unit from the call center, and *upon a connection from the call center to the MSC*, (2) the call center to the MSC. The second limitation effectively recites a condition: the position data is transferred from the call center to the MSC *upon a connection from the call center to the MSC*.

While we find that both Antonucci and Lichter disclose "call centers," and that position data is transferred to these "call centers," the references do

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<sup>11</sup> See p. 10-12, *supra*, of this opinion.

not teach transferring position data *from the call center to the MSC*. Rather, the references teach just the opposite.

In Antonucci, the ESC 614 (“call center”) is downstream from the MSC and receives position data from the MSC. Although a double arrow is provided indicating two-way communication between these two entities in Figure 6, Antonucci nonetheless teaches that the position data is transferred from the MSC to the ESC -- not in the opposite direction.<sup>12</sup> Likewise, Lichter teaches that the position information (i.e., cell/sector information or latitude/longitude) used by the selective router (“call center”) is received *from* the MSC. This position information, in turn, is transmitted to the PSAP (Lichter, col. 4, l. 65 - col. 5, l. 17).

Since neither Antonucci nor Lichter teach or suggest transferring unit position data from the call center to the MSC, let alone upon a connection from the call center to the MSC, we cannot sustain the Examiner’s rejection of independent claim 14.

## DECISION

We have sustained the Examiner's rejection[s] with respect to claims 1-13. We have not, however, sustained the Examiner’s rejection of claim 14. Therefore, the Examiner’s decision rejecting claims 1-14 is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

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<sup>12</sup> *See id.*

Appeal 2007-2432  
Application 10/305,380

AFFIRMED-IN-PART

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