

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AT&T MOBILITY LLC, AT&T SERVICES INC., ERICSSON INC.,
NOKIA OF AMERICA CORPORATION, AND T-MOBILE USA, INC.,
PETITIONERS,

v.

DAINGEAN TECHNOLOGIES LTD.,
PATENT OWNER.

CASE IPR2024-00402
PATENT 10,841,958

SECOND DECLARATION OF DR. KARTHIKEYAN SUNDARESAN



TABLE OF CONTENTS

CURRENT EXHIBIT LIST	ii
INTRODUCTION	3
I. PROFESSIONAL BACKGROUND AND QUALIFICATIONS.....	4
II. RELEVANT TIME.....	4
III. LEVEL OF ORDINARY SKILL IN THE ART	4
IV. MATERIALS CONSIDERED	5
V. SUBSTITUTE CLAIMS	5
VI. DECLARATION	10

CURRENT EXHIBIT LIST

No.	Brief Description
1001	U.S. Pat. No. 10,841,958 (“’958 Patent”)
1002	Expert Declaration of Dr. Wayne Stark
1003	Curriculum Vitae of Dr. Wayne Stark
1004	U.S. Pat. Publication No. 2019/0158988 (“Lee”)
1005	U.S. Pat. Publication No. 2015/0382284 (“Brismar”)
1006	U.S. Provisional Patent Application No. 62/334,418 (“Lee Provisional”)
1007	16/597,325 Application that issued as ’958 Patent (“’325 App.”) File History
2001	Intentionally Left Blank
2002	Intentionally Left Blank
2003	US20150223148A1 to Shi et al. (“Shi”)
2004	U.S. Patent Pub. No. 2018 0049024 to Schliwa-Bertling <i>et al.</i> (“Schliwa-Bertling”)
2005	ETSI TS 125 211 V3.1.1 (2000-01) Technical Specification, Universal Mobile Telecommunications System (UMTS); Physical channels and mapping of transport channels onto physical channels (FDD) (3G TS 25.211 version 3.1.1 Release 1999)
2006	Intentionally Left Blank
2007	’958 Patent’s Parent Application, Application No. 15/659,060 (“’060 App.”)
2008	Provisional Application No. 62/368,126 to which the ’060 App. claims priority (“’126 App.”)

INTRODUCTION¹

¶1. My name is Dr. Karthikeyan Sundaresan. I have been retained by Daingean Technologies Ltd. (“Patent Owner” or “DTL”) to provide my expert assessment and technical opinions in connection with the above captioned inter partes review (“IPR”) of U.S. Patent No. 10,841,958 (“’958 Patent” or “Patent-at-Issue”), Ex. 1001.

¶2. Specifically, I have been asked to provide my opinion regarding specific aspects of how a person of ordinary skill in the art (“POSITA”) would understand certain teachings and aspects of the ’958 Patent.

¶3. This declaration is based on information currently available to me. I reserve the right to expand, modify, or supplement my opinions if I become aware of evidence or information that was not available for review at the time I drafted this declaration.

¶4. DTL is compensating me for my study and testimony in this case. This compensation is not contingent upon my performance, the outcome of this IPR, or any issues involved in or related to this IPR.

¹ All emphasis is added in this report unless otherwise noted.

I. PROFESSIONAL BACKGROUND AND QUALIFICATIONS

¶5. I have previously set forth my qualifications in my first declaration. *See* Ex. 2002.

II. RELEVANT TIME

¶6. I have been asked to assume that the Patent-at-Issue has an effective priority date of July 28, 2016 (“Effective Priority Date”).

¶7. To the extent that I cite to an exhibit created or published after the Effective Priority Date, I consider that the cited reference is still relevant to what a POSITA would have understood the point for which I cite the reference at or around the time of the invention.

III. LEVEL OF ORDINARY SKILL IN THE ART

¶8. I understand that the Board has adopted a modified version of Petitioner’s proffered level of ordinary skill in the art, substituting “wireless communications” for “telecommunication.” Paper 12 (“Inst. Dec.”) at 6–7.

¶9. It is my opinion that I would at least qualify as a person of ordinary skill in the art at the relevant time under any of the above descriptions, and that I exceed this level of knowledge, experience, and education so that I am qualified to provide an expert opinion in this proceeding.

¶10. I have approached my analysis from the perspective of a POSITA as of the Effective Priority Date.

IV. MATERIALS CONSIDERED

¶11. In forming my opinions expressed herein, I have considered the exhibits listed in the Current Exhibit List beginning on page ii as well as the merits papers, including the Petition, Preliminary Response, Institution Decision, and concurrently filed Motion to Amend (“MTA”).

V. SUBSTITUTE CLAIMS

¶12. I have reviewed the proposed substitute claims found in Appendix A of Patent Owner’s Motion to Amend (“MTA”).

¶13. It is my expert opinion that a POSITA would understand that the claim limitations prior to the amendments in the proposed substitute claims were directed at what the Patent-at-Issue called an “automatic broadcast-after-update” feature. *See, e.g.*, Ex. 1001 5:4–9. That is, among other limitations, a first type system information block (“1TYP SIB”) had “information indicating whether one or more associated second type system information blocks are provided by broadcast or on-demand, the value tag being updated upon a change of a corresponding second type SIB” and, when the second type SIB (“2TYP SIB”) changed, the information in the 1TYP SIB would “switch[] from ‘on-demand’ to ‘by broadcast’” Ex. 1007 at 1756

(emphasis removed).² This encompassed a single SIB with SIB#n as illustrated in the embodiment shown in Figure 27.

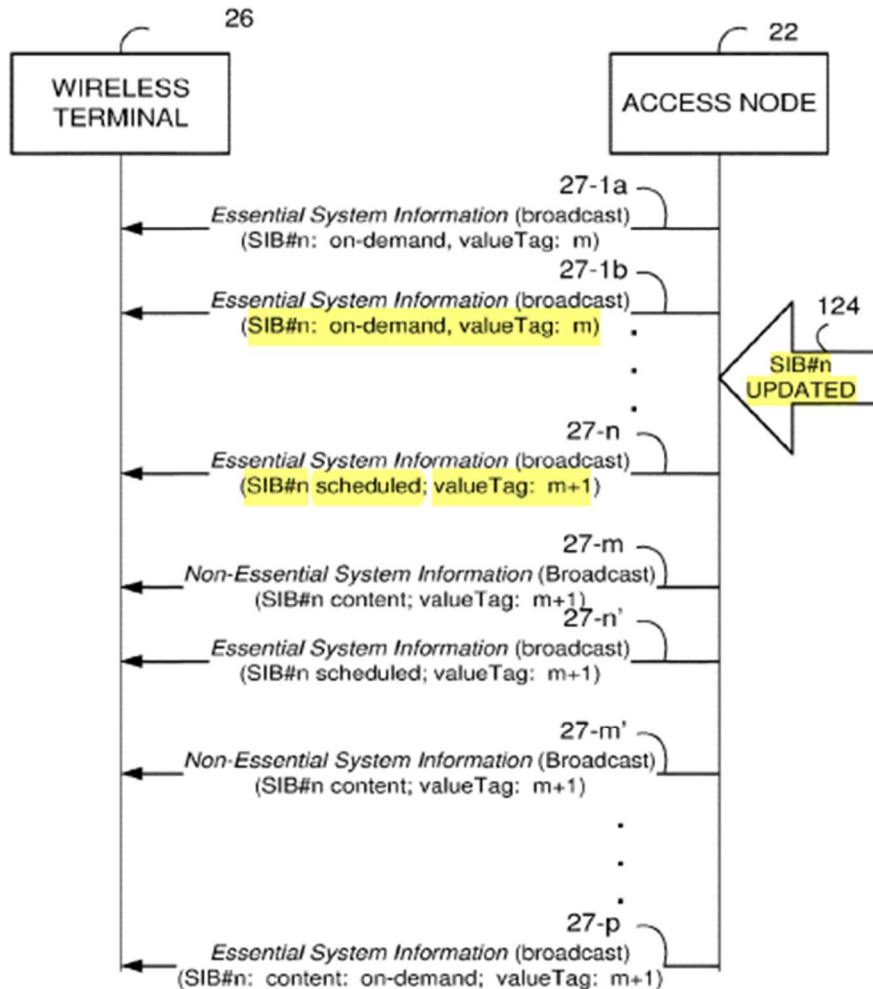


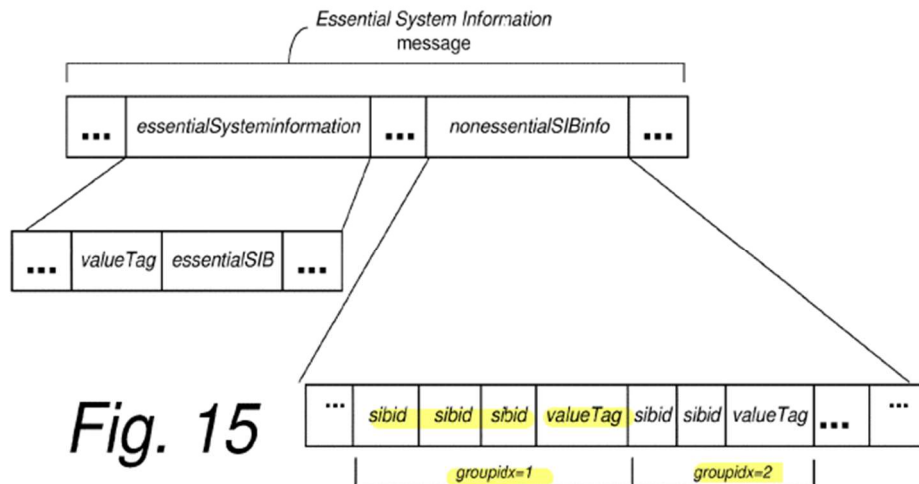
Fig. 27

Ex. 1001 Fig. 27 (highlighting added). As seen, there was a value tag in the Essential System Information, i.e., a 1TYP SIB, of value “m” that corresponded

² I refer to the last four digits of the Bates number of the prosecution history found in Exhibit 1007.

to 2TYP SIB SIB#n. The 1TYP SIB indicated that SIB#n with valueTag “M” was available “on demand.” However, upon updating SIB#n, the 1TYP SIB information then indicated that SIB#n with associated value tag “m+1” was scheduled for broadcast.

¶14. The substitute claims are further limited to the “automatic broadcast-after-update” feature only with a group. Specifically, the claims now require the value tag in the 1TYP SIB to be “associated with a group of plural second type system information blocks fewer than the total number of second type information blocks, wherein each of the second type information blocks in the group has different sibIDs and the group has a group identifier.” Such a value tag is illustrated most clearly in Figure 15 of the Patent-at-Issue.



Ex. 1001 Fig. 15 (highlighting added). As seen, the valueTag “covers” multiple SIBs denoted with their “sibid” and are arranged by group indexes such as

“groupid_x” 1 and 2. Note, however, that the groups are sub-groups rather than a global value tag that reflects a change of any 2TYP SIB.

¶15. In this group type embodiment when any SIB in a group changes, the valueTag for the group is updated, and the Essential System Information advertises that the group with a new value tag is scheduled to be broadcast as shown in Figure 31.

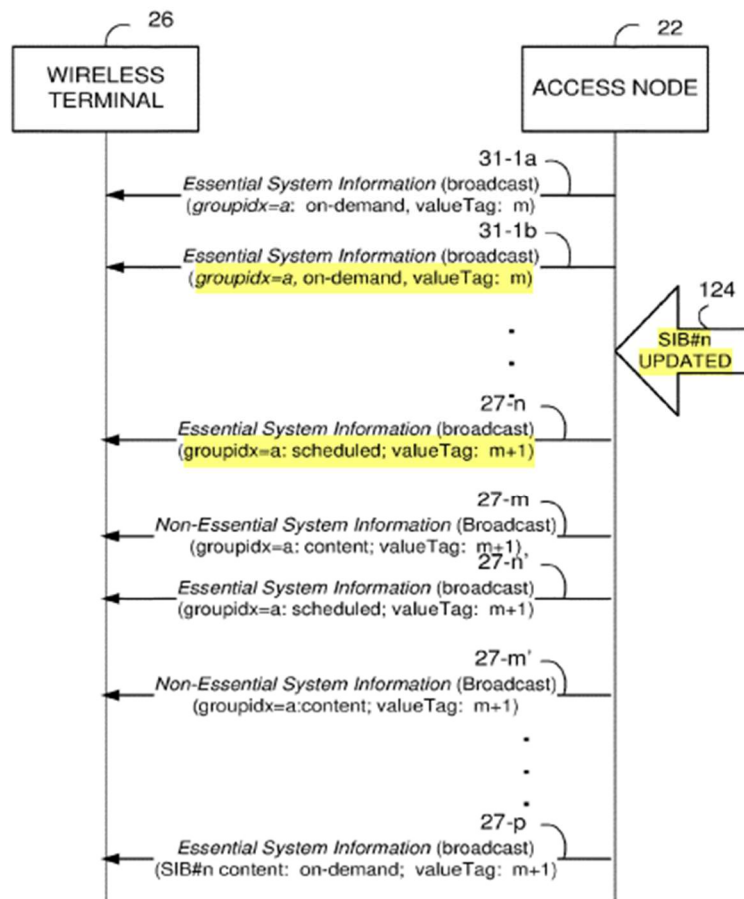


Fig. 31

Ex. 1001 Fig. 31 (highlighting added).

¶16. In this way, rather than treating every 2TYPsIB individually, the node may consider the group as a block. Likewise, a change of any SIB in the group may be determined through comparison with a corresponding value tag for the group at a wireless terminal. Ex. 1001, 14:24–36.

¶17. Indicating SIB changes as a group provides a flexible, efficient way to convey changed SIB information to the UEs. When multiple SIB values change, conveying such a change as a group reduces the overhead incurred by the UE in comparing value tags for individual SIBs. Depending on the set of SIBs that change often, different groups of SIBs can be formed and selectively used to efficiently indicate changes to UEs.

¶18. For instance, a POSITA would recognize, that with a one-to-one SIB and value tag correspondence, a change to two SIBs would require signaling the SIB number that changed and the value tag for the SIB twice, once for each change. However, if the two SIBs were logically grouped in the same groupidx, the node could simply indicate once the updated value tag for the groupidx. So, on the one hand, this may lead to reduced complexity and bandwidth in signaling. However, on the other hand, if only one SIB in a group changed, the node would still send the SIBs—changed and unchanged—from the group to the wireless device, thereby increasing the bandwidth use when sending the SIB data payload. Indeed, in the other extreme, where one global value tag covered all 2TYPsIBs—this is not

claimed—a single bit change would necessitate sending every 2TYPsIB. The currently amended claims strikes a balance, allowing the node to group as it sees fit to determine the performance it wishes to achieve.

VI. DECLARATION

¶19. In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross examination on the subject matter of this declaration. If cross examination is required of me, I will appear for cross examination within the United States during the time allotted for cross examination.

¶20. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true. Further, these statements are made with the knowledge that willful false statements are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed on Sept 27, 2024, at Suwanee, GA.



Dr. Karthikeyan Sundaresan