



US005377186A

# United States Patent [19]

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Wegner et al.

[45] Date of Patent: **Dec. 27, 1994**

- [54] **SYSTEM FOR PROVIDING ENHANCED SUBSCRIBER SERVICES USING ISUP CALL-SETUP PROTOCOL**
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- [73] Assignee: **Telefonaktiebolaget L M Ericsson, Stockholm, Sweden**
- [21] Appl. No.: **95,300**
- [22] Filed: **Jul. 21, 1993**
- [51] Int. Cl.<sup>5</sup> ..... **H04J 3/12**
- [52] U.S. Cl. .... **370/62; 370/110.1; 379/201; 379/207; 379/211; 379/230**
- [58] Field of Search ..... **370/94.1, 110.1, 62; 379/157, 201, 207, 210, 211, 212, 213, 224, 230, 258**

Communications Research, Technical Advisory, TA-NWT-000444, Issue 4, Aug. 1992.  
*Switching System Generic Requirements for Interexchange Carrier Interconnection Using the Integrated Services Digital Network User Part (ISDNUP)*, Bellcore, Bell Communications Research, Technical Advisory, TA-NWT-000394, Issue 5, Apr. 1993.  
*Advanced Intelligent Network (AIN) Service Control Point (SCP) Generic Requirements*, Bellcore, Bell Communications Research, Technical Advisory, TA-NWT-001280, Issue 1, Aug. 1992.

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*Assistant Examiner*—Russell W. Blum  
*Attorney, Agent, or Firm*—Johnson & Wortley

### [57] ABSTRACT

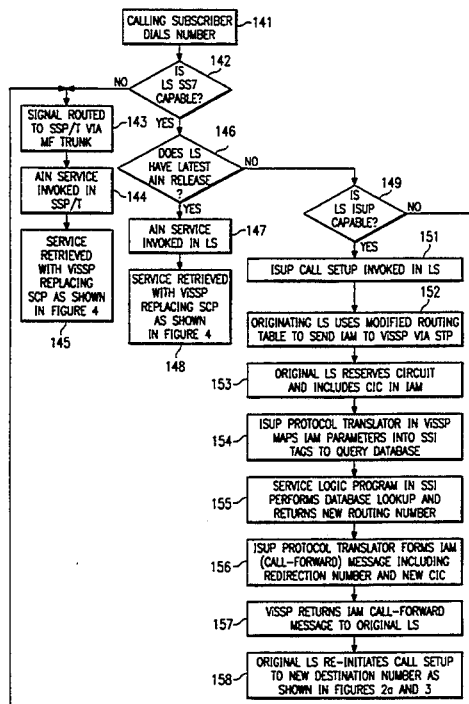
A system and method for retrieving enhanced subscriber services from at least one database and delivering those services to the subscribers of a telecommunications network without requiring the expensive upgrading of local switches (LSs) to operate with the Transaction Capabilities Application Part/Advanced Intelligent Network (TCAP/AIN) communications protocol. The system comprises a plurality of LSs which are connected to an Advanced Intelligent Network (AIN) and provide the subscribers with access to the network. The system also includes at least one virtual service switching point (ViSSP) within the AIN for storing the database of enhanced subscriber services. LSs or tandem switches may retrieve enhanced subscriber services from the ViSSP utilizing the Integrated Services Digital Network User Part (ISUP) call-setup protocol.

- [56] **References Cited**
- U.S. PATENT DOCUMENTS**
- |           |         |                    |           |
|-----------|---------|--------------------|-----------|
| 4,811,334 | 3/1989  | Matt               | 370/60    |
| 5,193,110 | 3/1993  | Jones et al.       | 379/94    |
| 5,204,861 | 4/1993  | Wiede              | 370/110.1 |
| 5,237,604 | 8/1993  | Ryan               | 379/220   |
| 5,241,588 | 8/1993  | Babson, III et al. | 379/201   |
| 5,251,255 | 10/1993 | Epley              | 379/242   |

### OTHER PUBLICATIONS

*Advanced Intelligent Network (AIN) 0.1 Switch-Service Control Point (SCP) Application Protocol Interface Generic Requirements*, Bellcore, Bell Communications Research, Technical Advisory, TA-NWT-001285, Issue 1, Jan. 1992.  
*Switching System Generic Requirements Supporting ISDN Access Using the ISDN User Par*, Bellcore, Bell

6 Claims, 8 Drawing Sheets



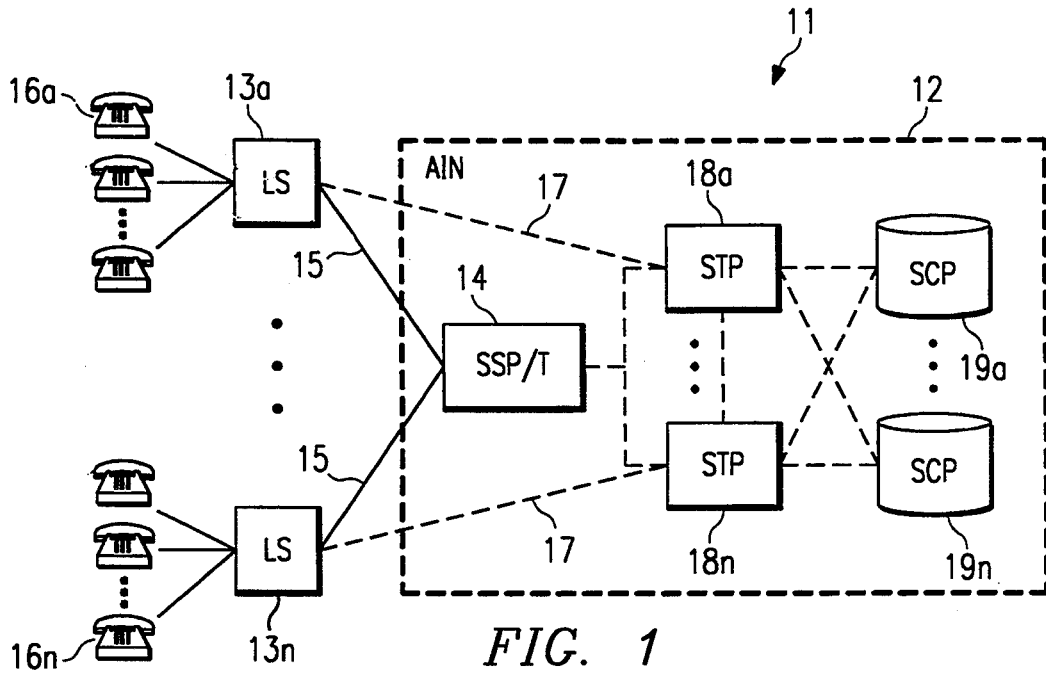


FIG. 1  
(PRIOR ART)

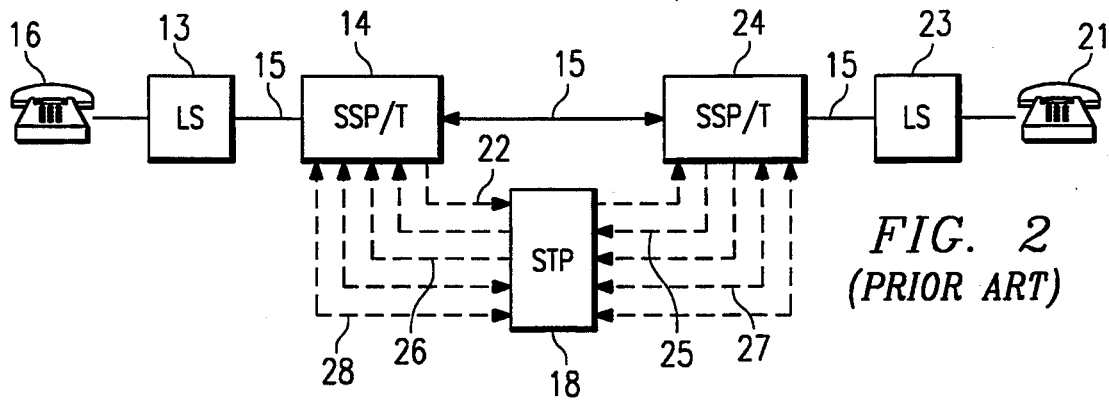


FIG. 2  
(PRIOR ART)

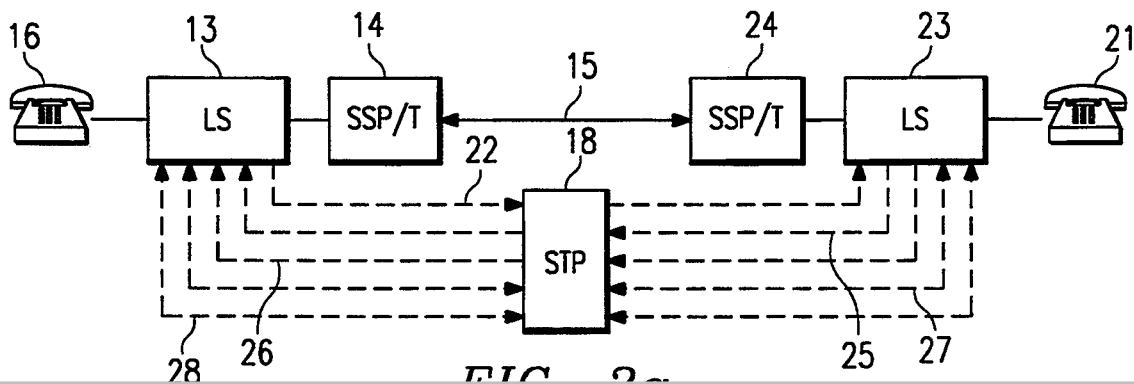


FIG. 2a

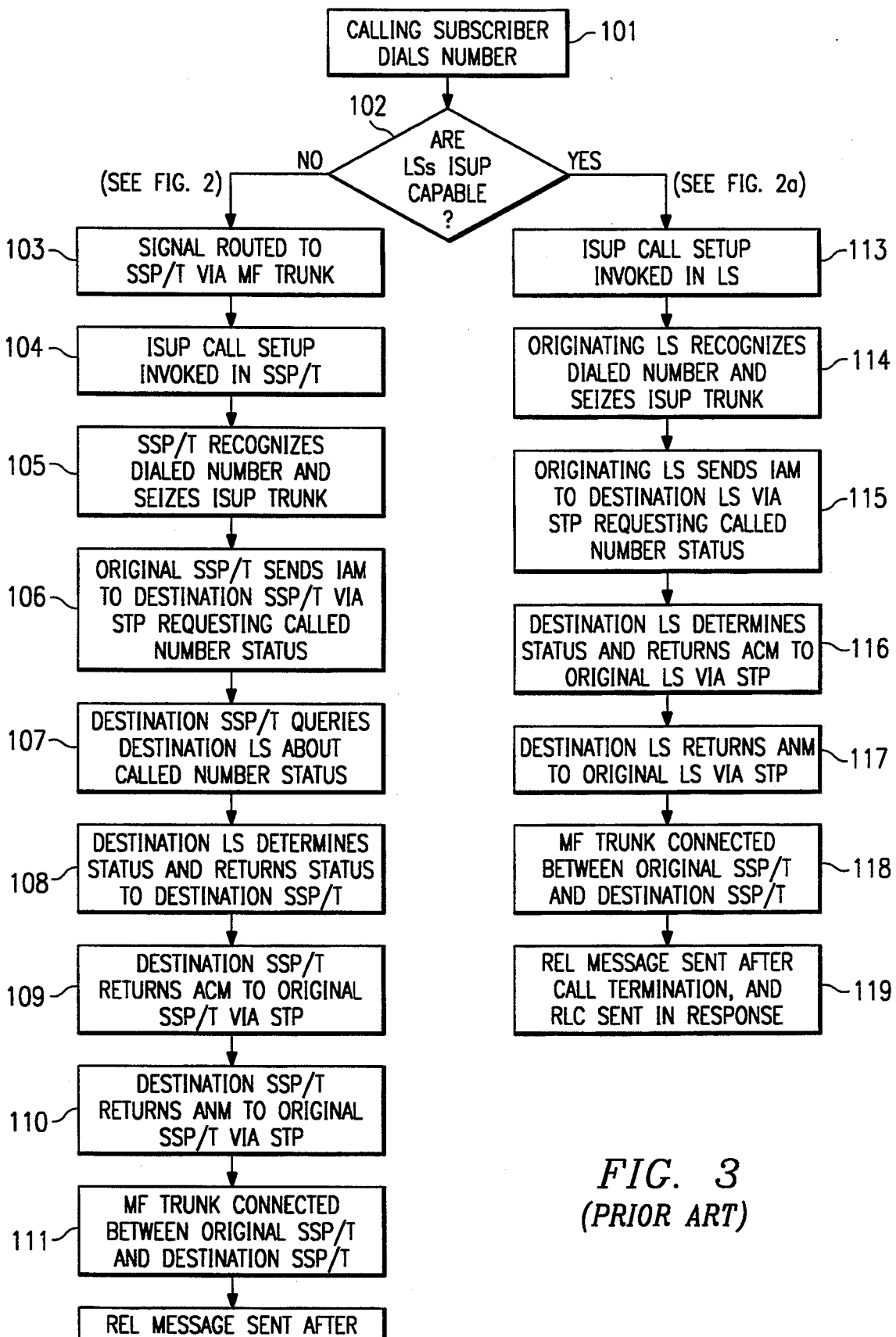
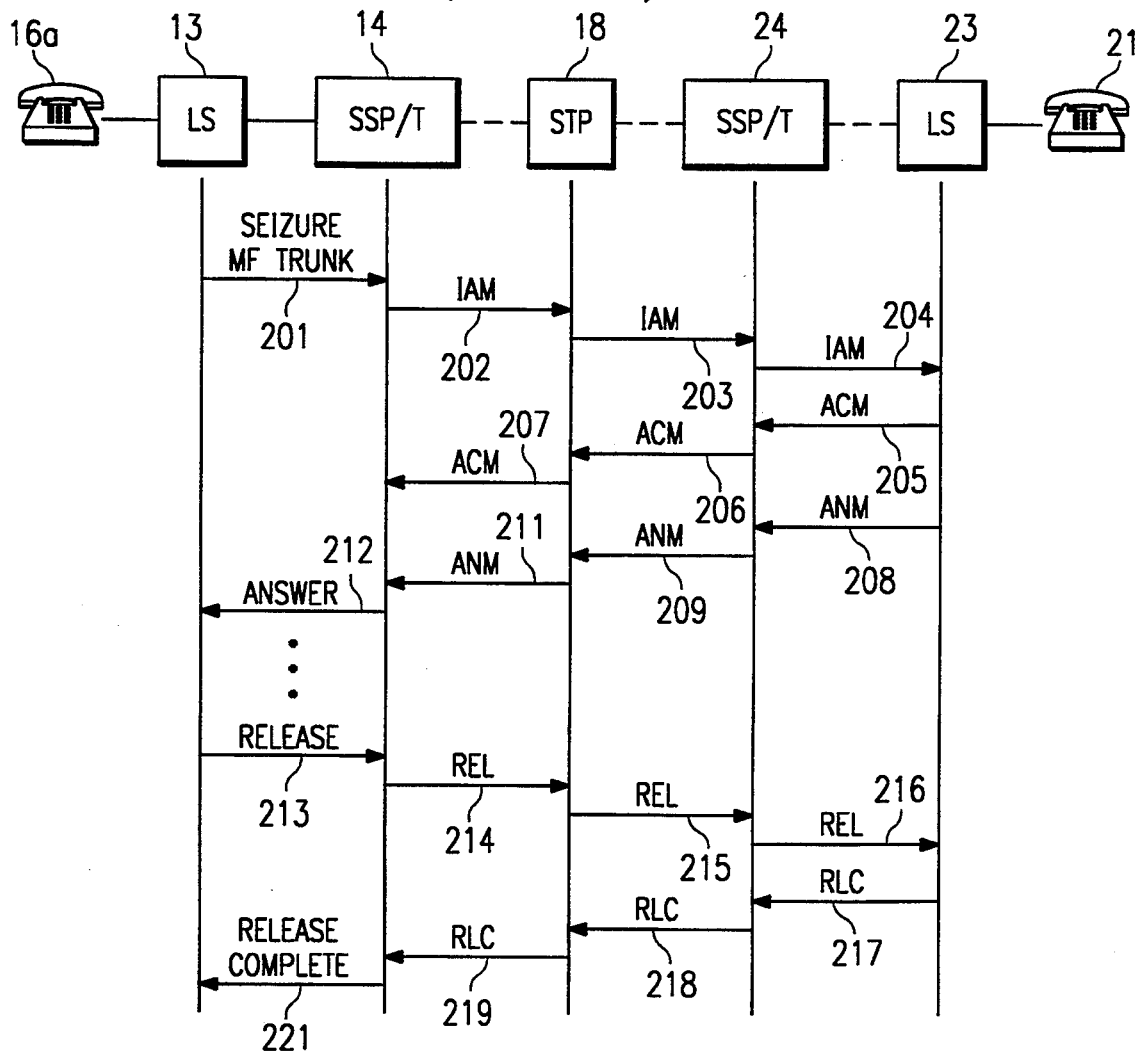


FIG. 3  
(PRIOR ART)

FIG. 3a  
(PRIOR ART)



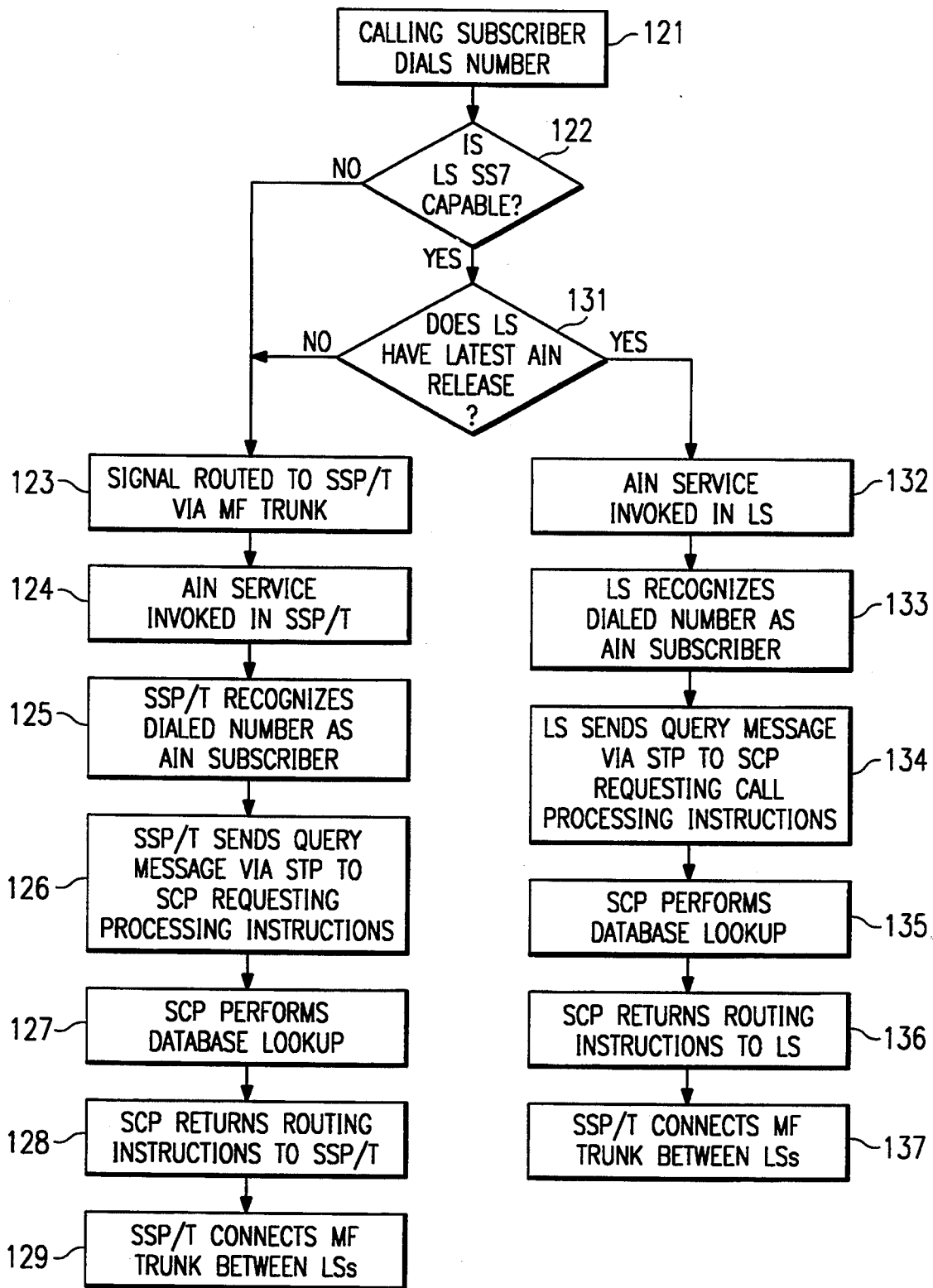


FIG. 4

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