

EXHIBIT 4



US006941313B2

(12) **United States Patent**
Seliger et al.

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(45) **Date of Patent:** **Sep. 6, 2005**

(54) **CONTEXT MANAGEMENT WITH AUDIT CAPABILITY**

6,691,118 B1 * 2/2004 Gongwer et al. 707/100

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 584 days.

(21) Appl. No.: **10/014,341**

(22) Filed: **Dec. 11, 2001**

(65) **Prior Publication Data**

US 2002/0107875 A1 Aug. 8, 2002

Related U.S. Application Data

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(51) **Int. Cl.**⁷ **G06F 17/30**

(52) **U.S. Cl.** **707/101**; 707/1; 707/104.1;
707/103 R; 705/3; 717/108; 717/101

(58) **Field of Search** 707/1, 104.1, 101,
707/103 R-103 Z, 209, 203, 8; 717/100,
101, 108; 705/2, 3

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Primary Examiner—Greta Robinson

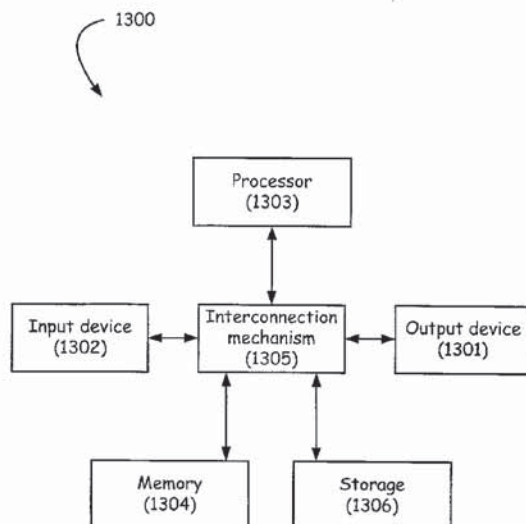
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(57) **ABSTRACT**

A context management framework is given that provides in various embodiments, numerous advantages over previously-existing systems. In some instances, an architecture having a centralized storage location coupled to a context manager is provided for servicing and logging context events from a plurality of sources. This type of system uses a synchronization scheme to perform orderly storage and retrieval of data to and from the centralized storage location. In other instances, information stored in the centralized storage location or signals from the context manager are used to achieve an auditing capability for reviewing and acting on context data events and gestures. Selective blocking or allowance of impending context gestures or data-access events is accomplished based on a rule set or lookup table containing rules or other data to make such access-control decisions. Access to private data and other security measures may thus be implemented using the teachings presented herein. Furthermore, a communication paradigm, using a Web-proxy, which identifies ordinarily-unidentified applications to a context manager is provided according to some embodiments of the invention.

39 Claims, 16 Drawing Sheets



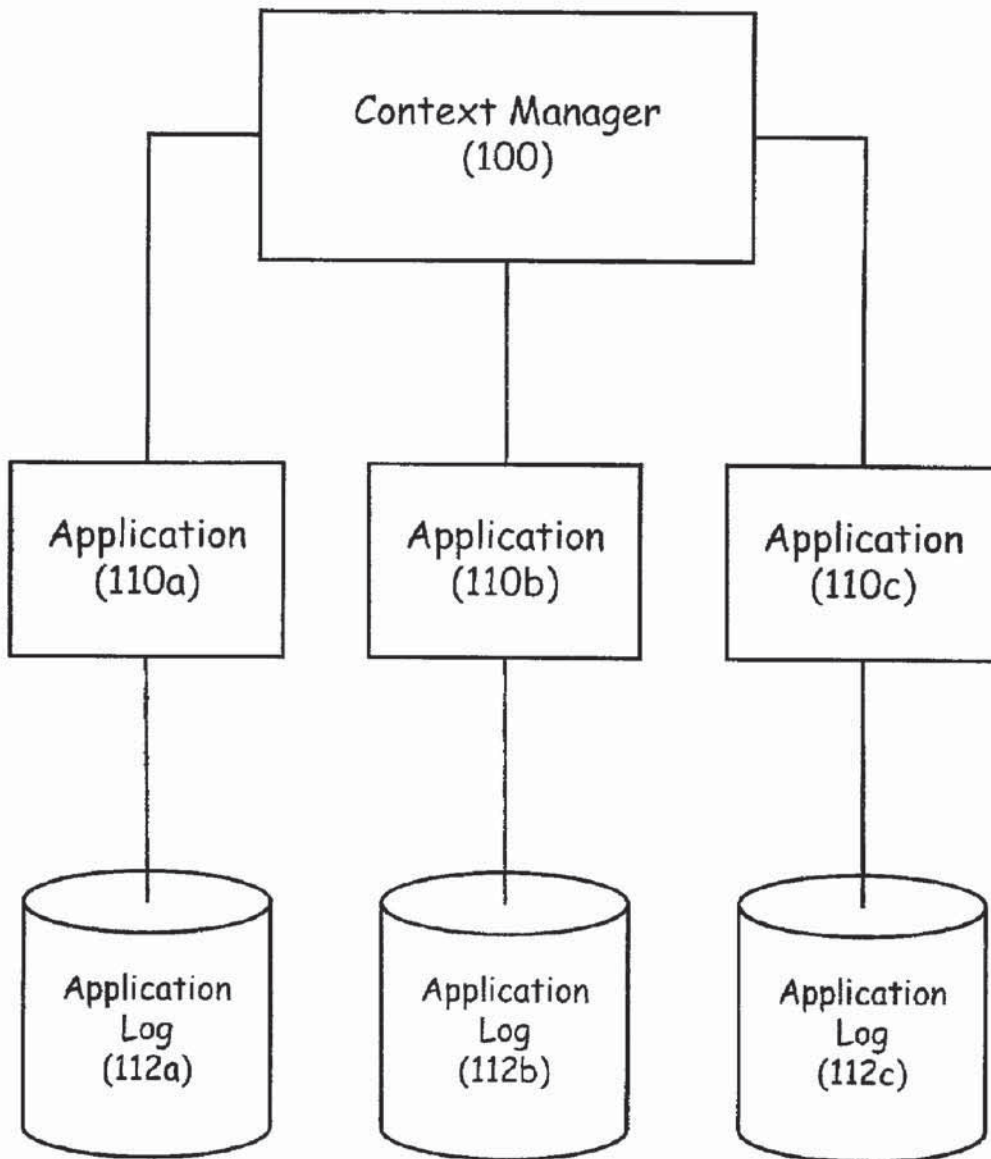


FIG. 1
(PRIOR ART)

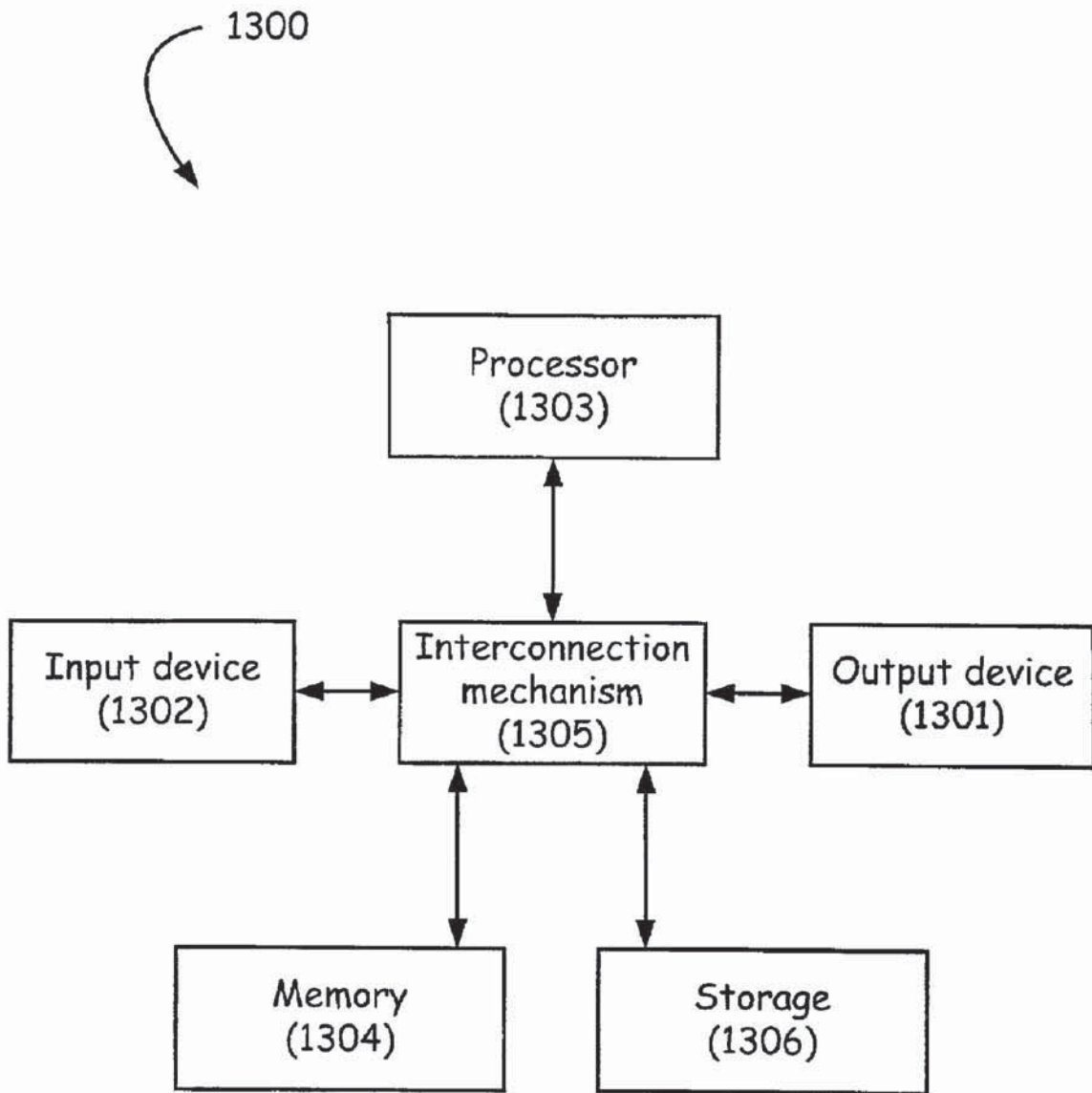


FIG. 2

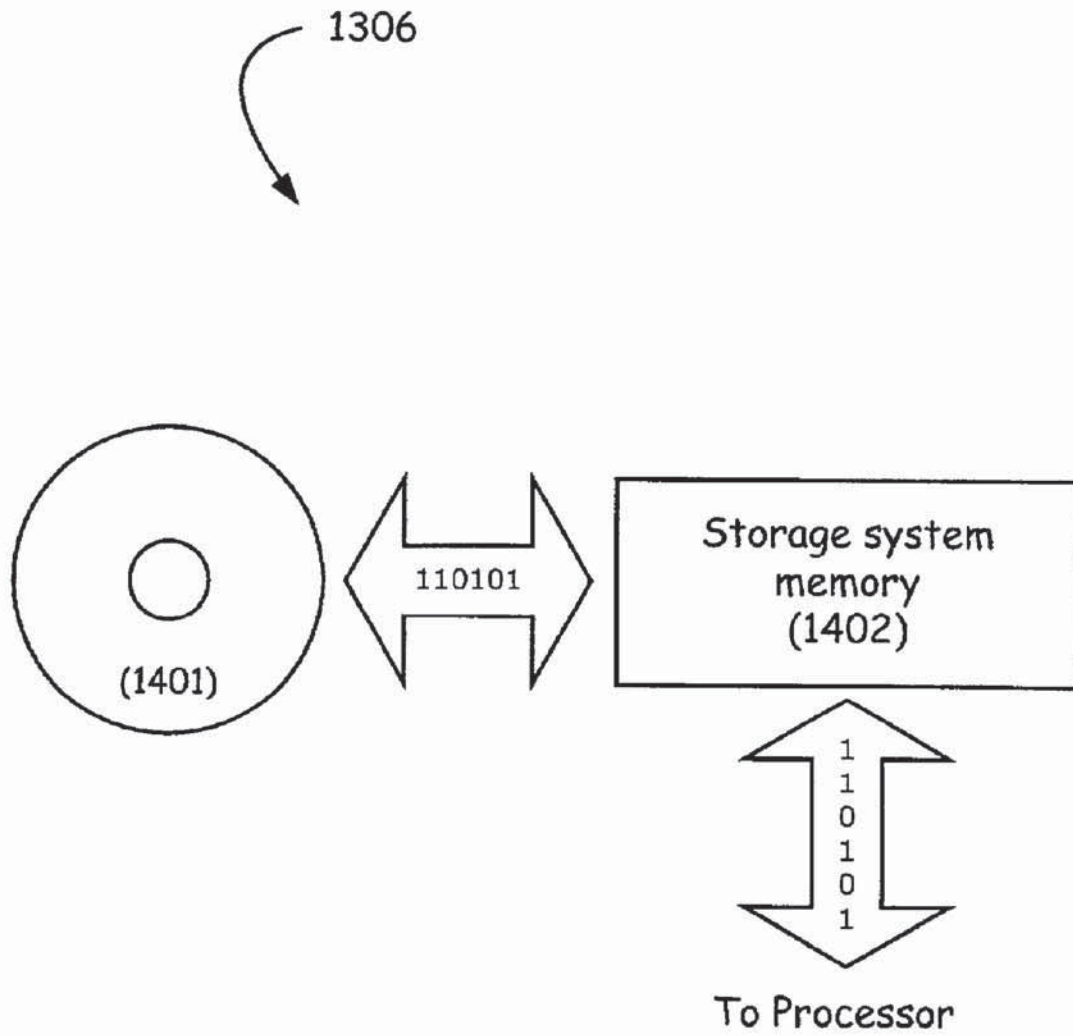


FIG. 3

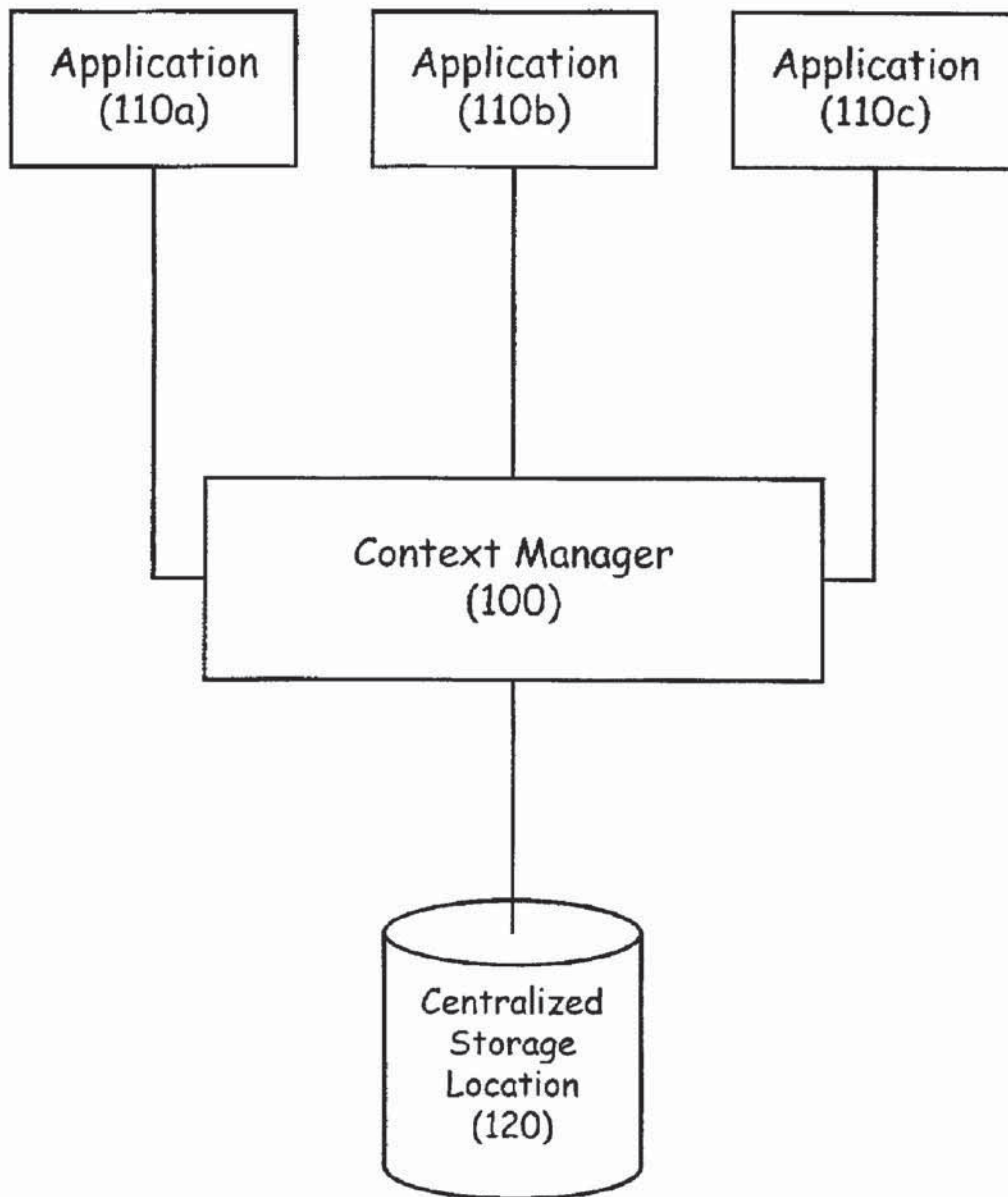


FIG. 4

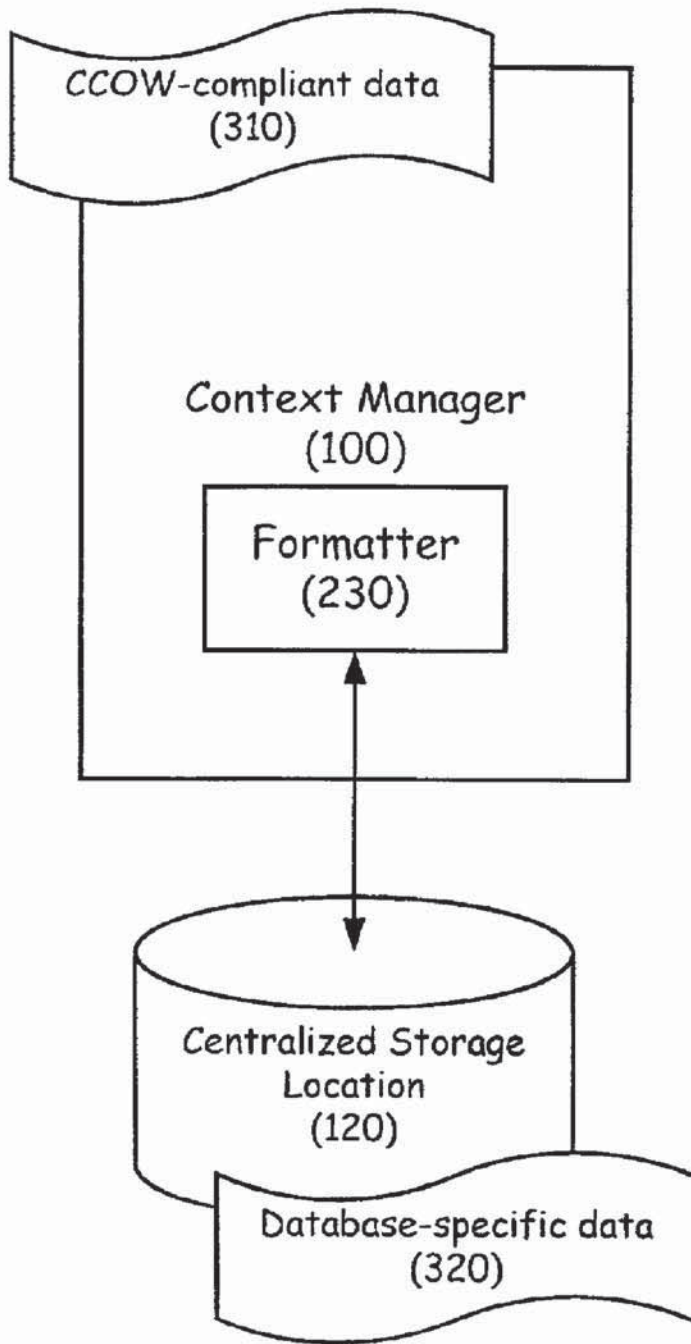


FIG. 5

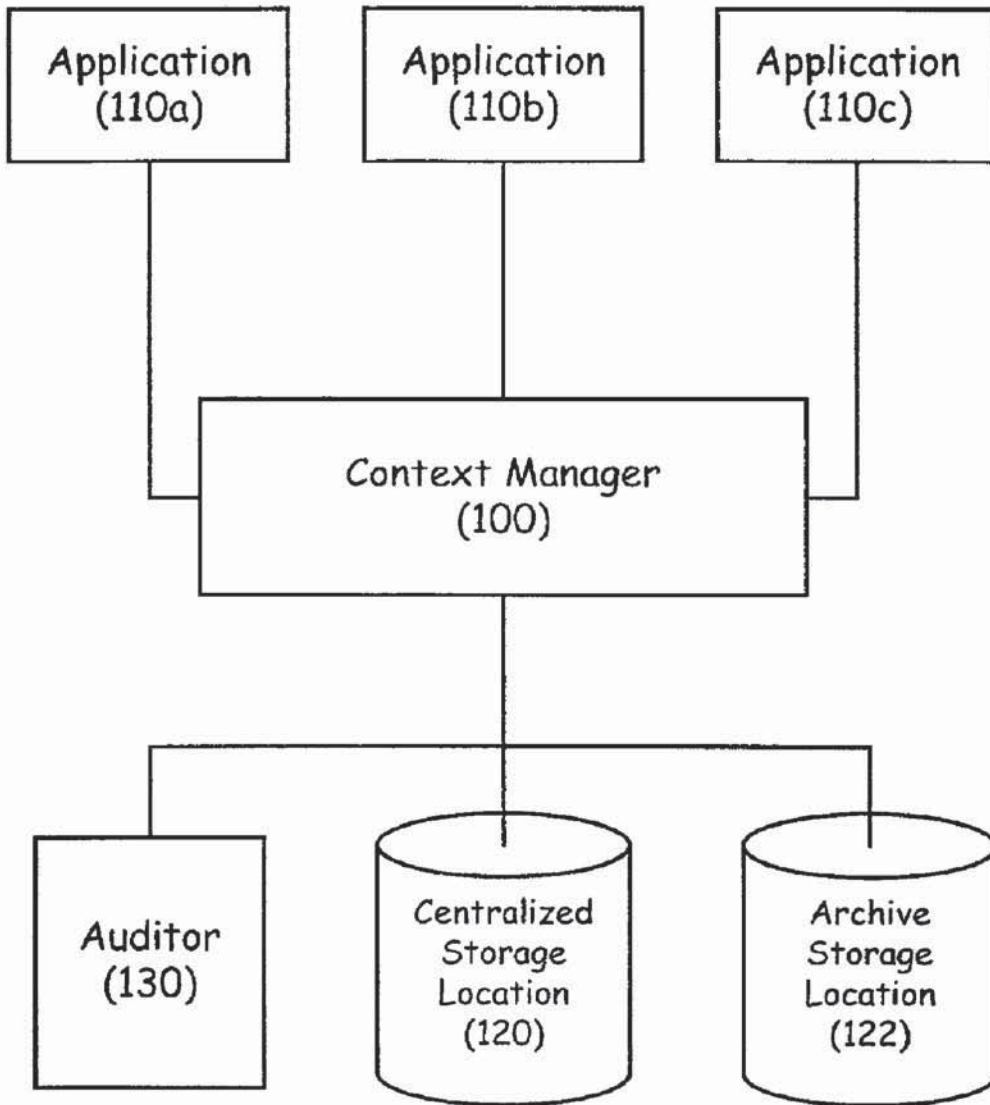


FIG. 6

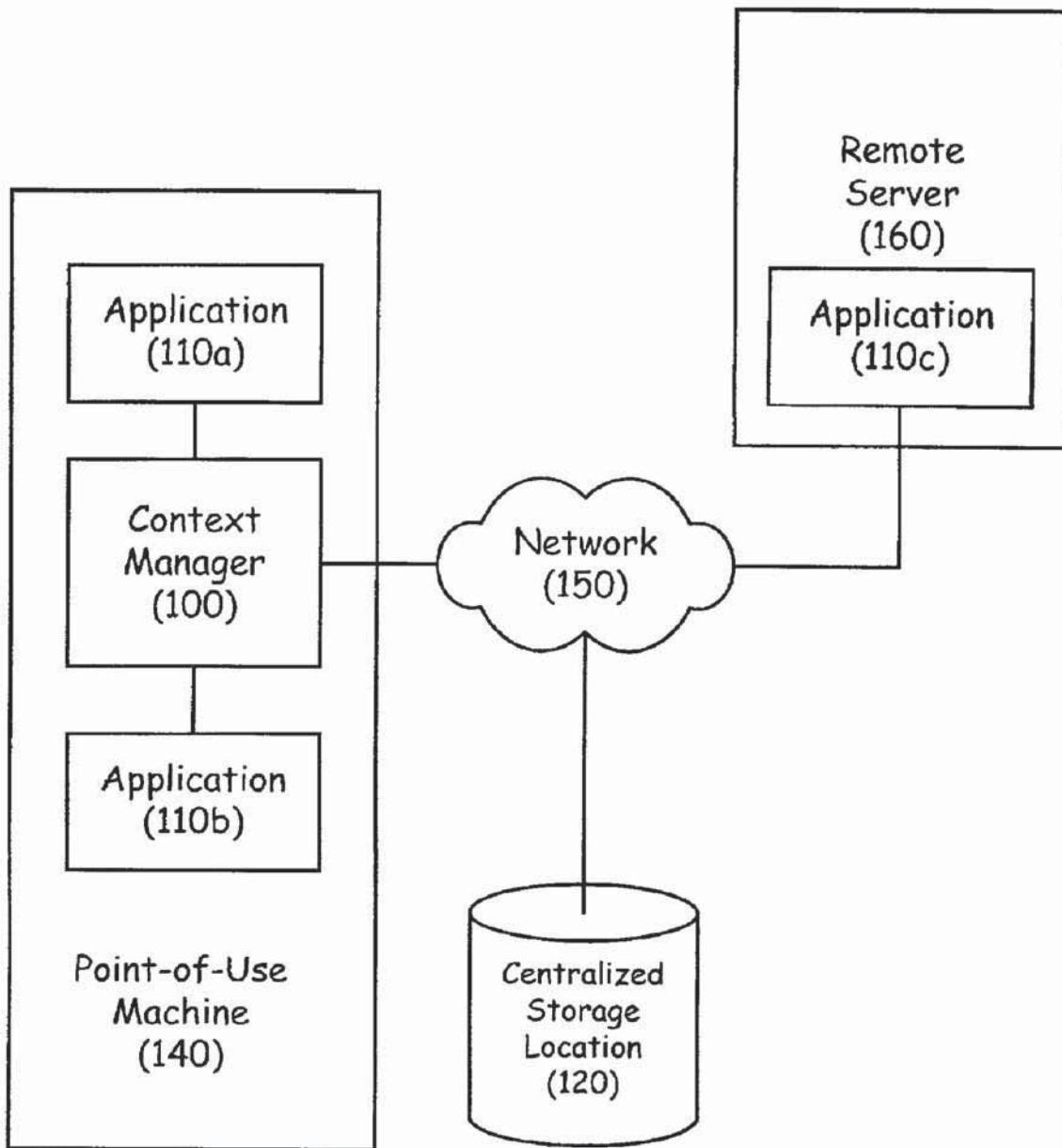


FIG. 7

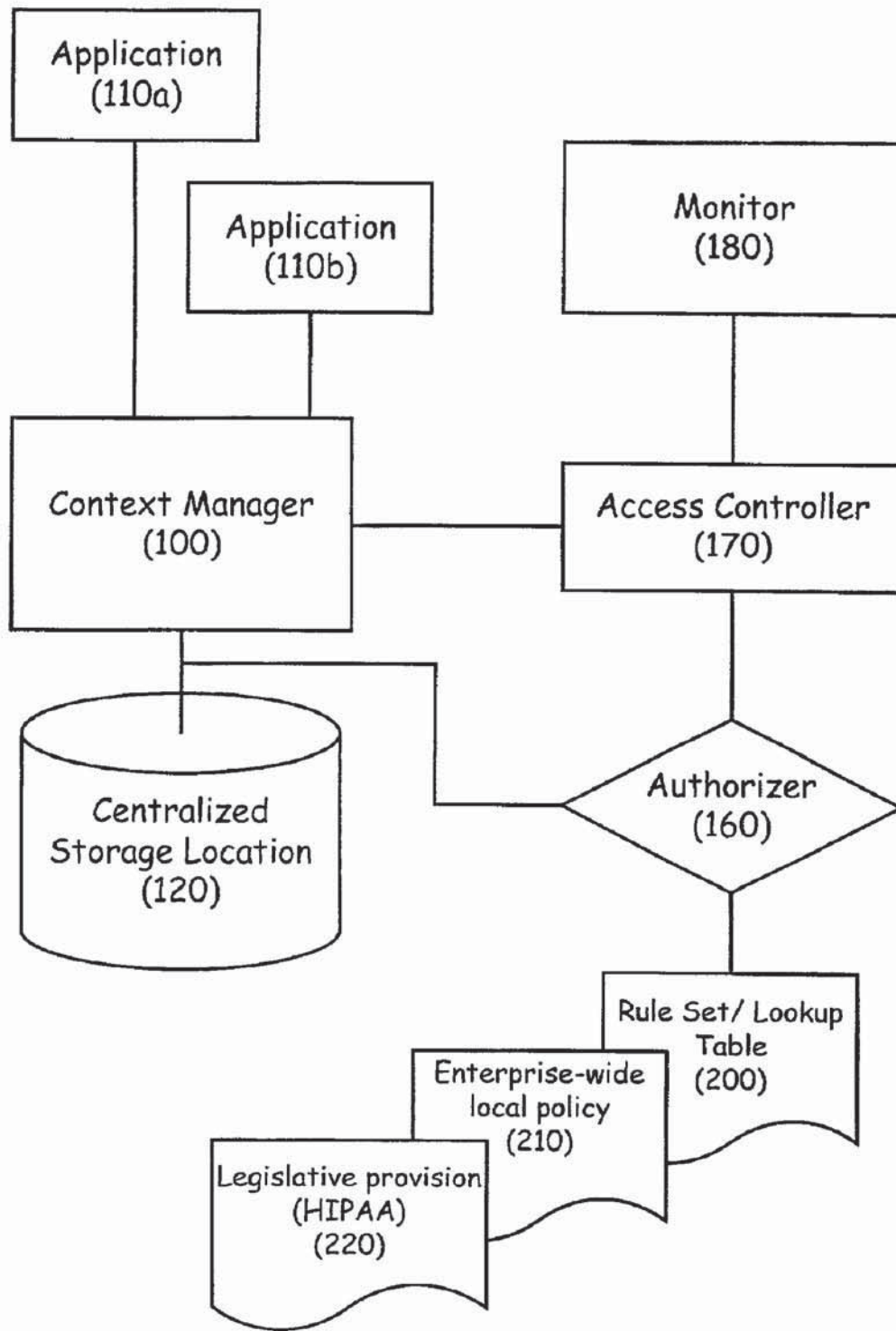


FIG. 8

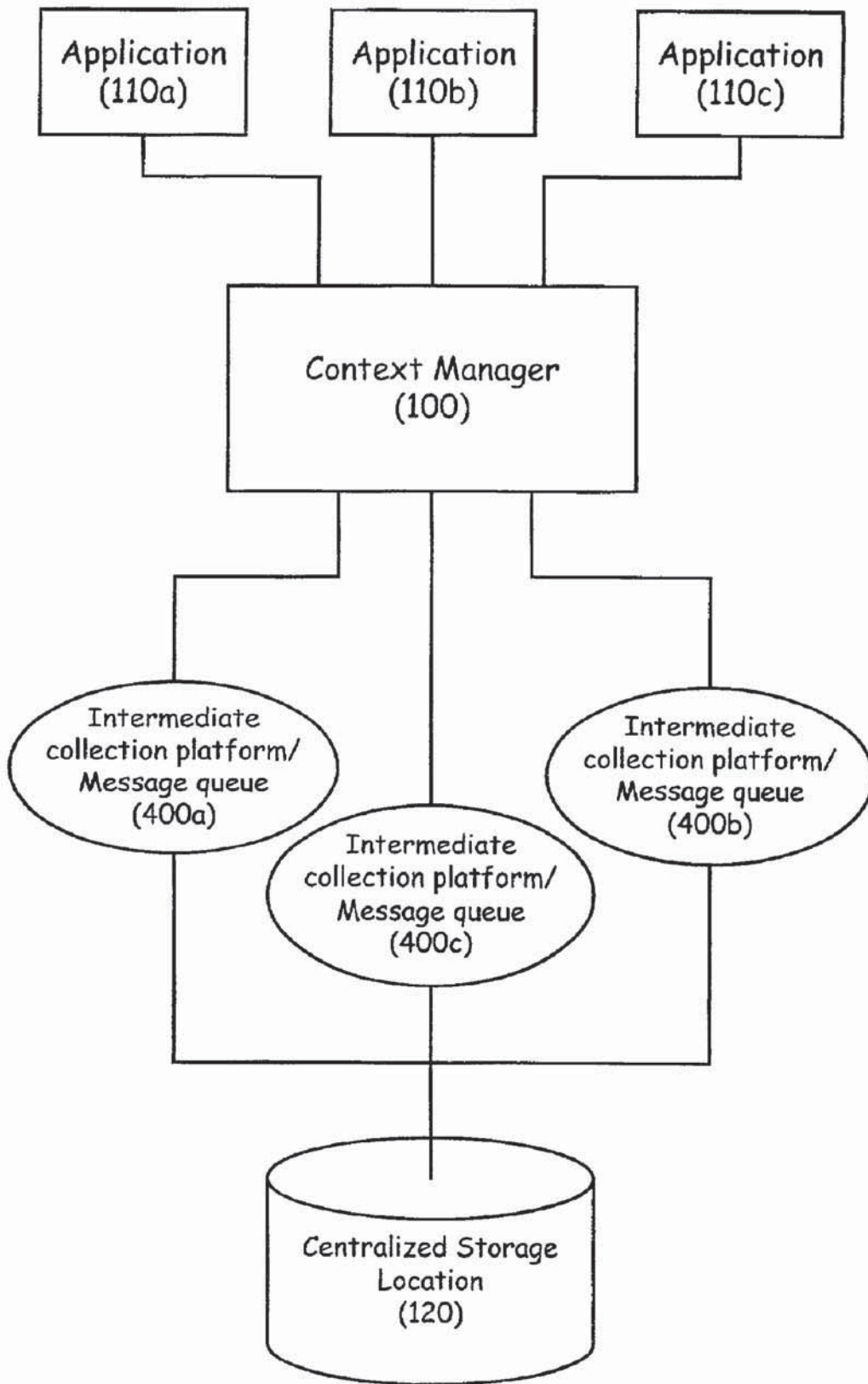


FIG. 9

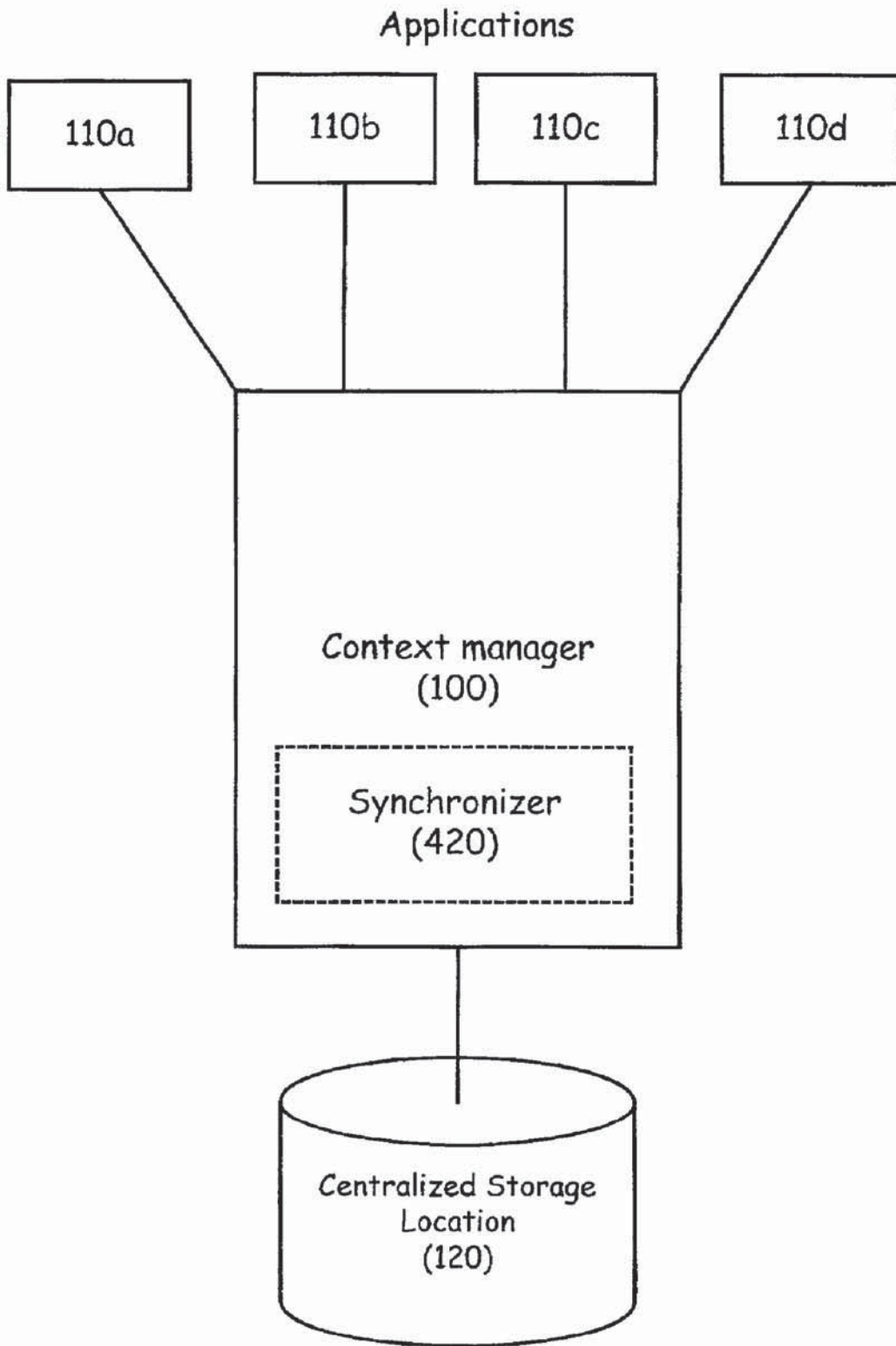


FIG. 10

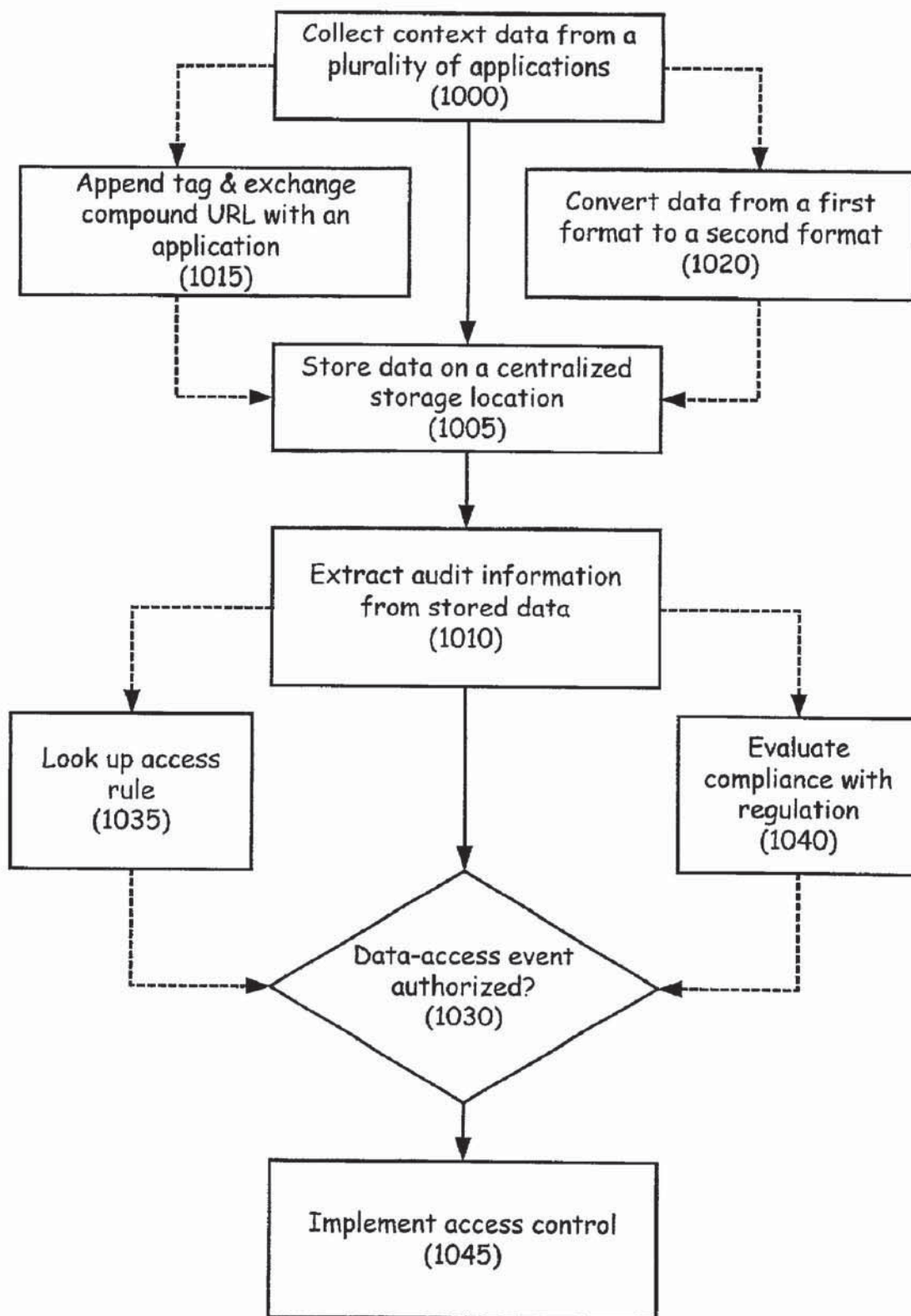


FIG. 11

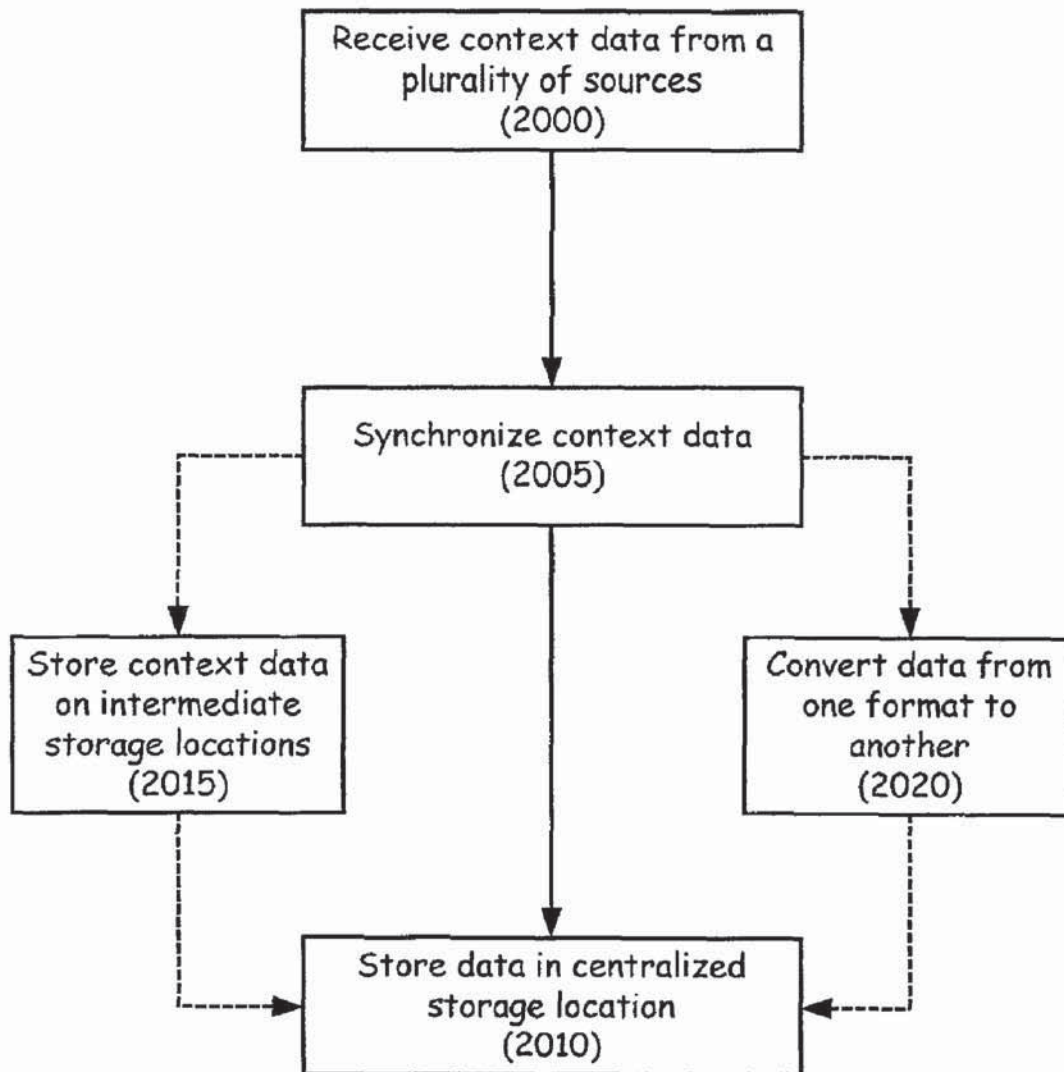


FIG. 12

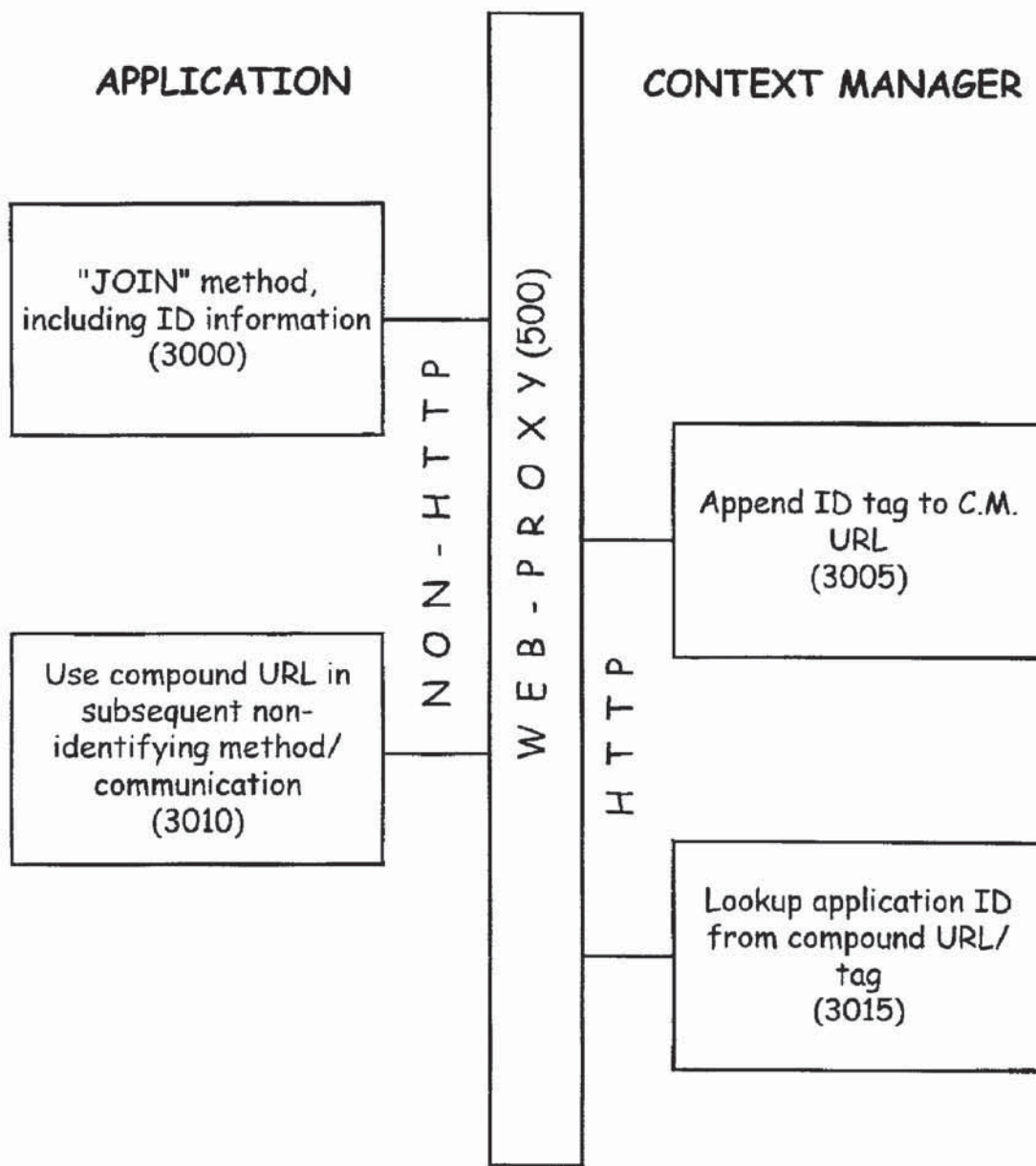


FIG. 13

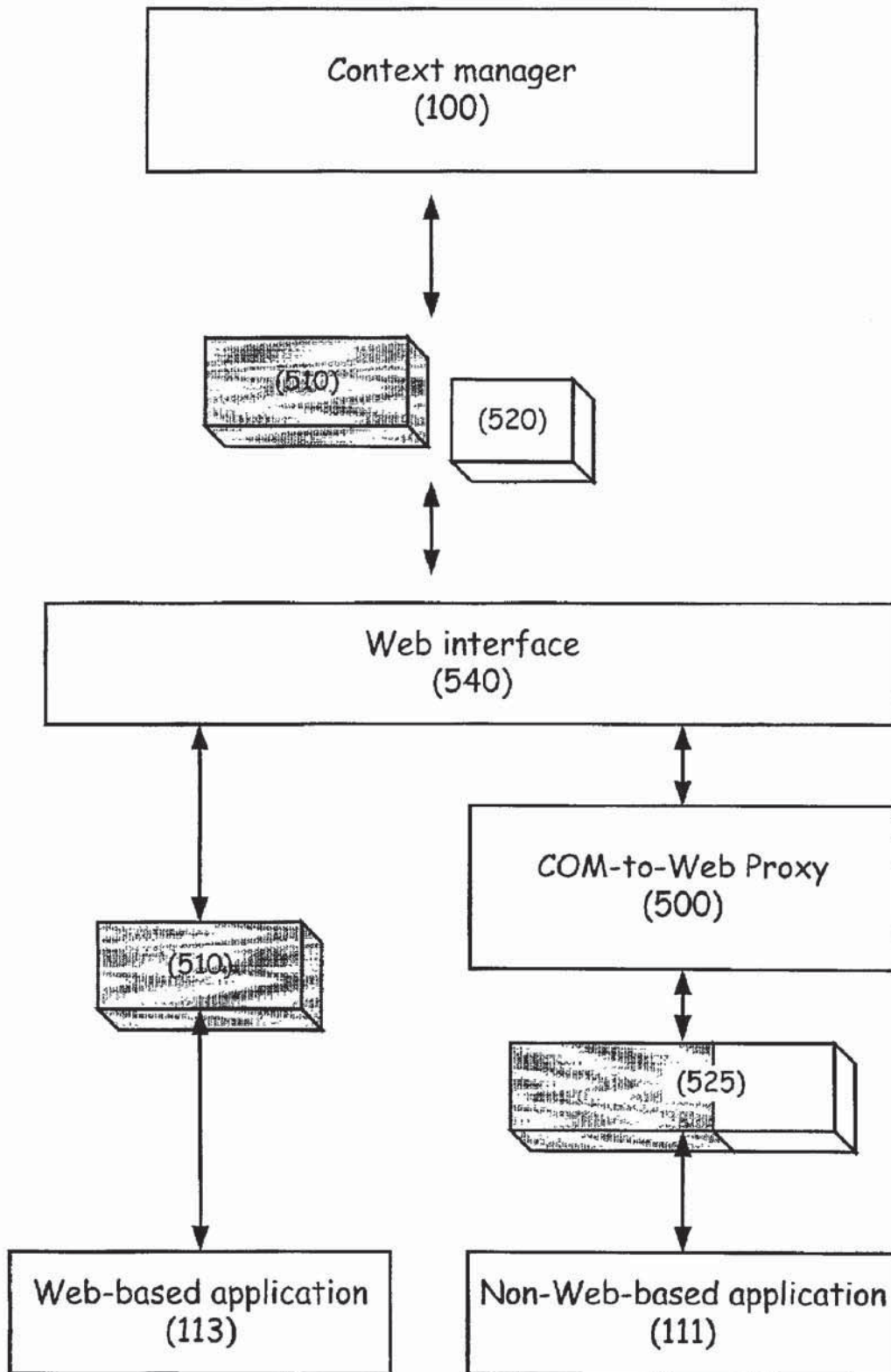


FIG. 14

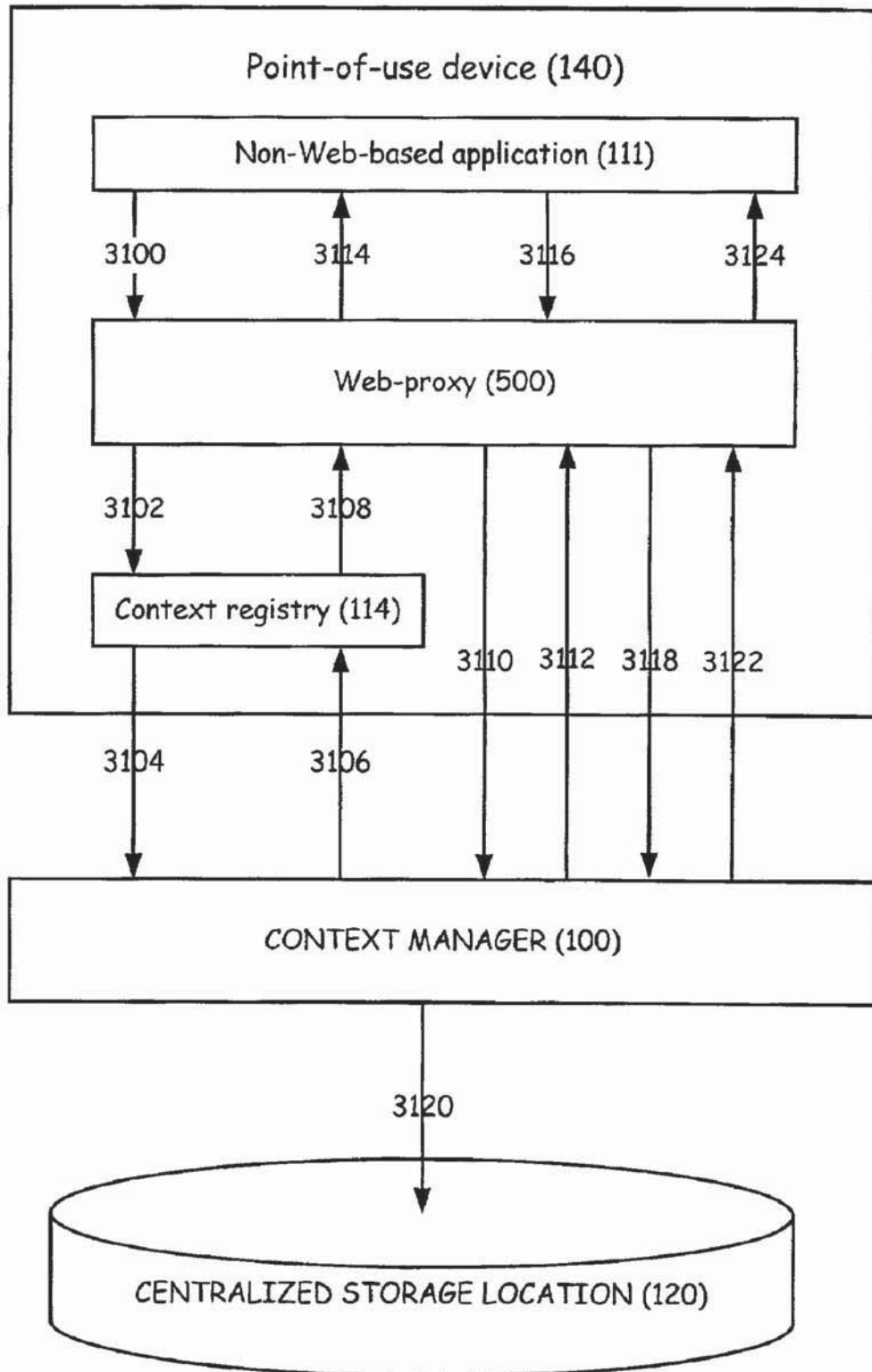


FIG. 15

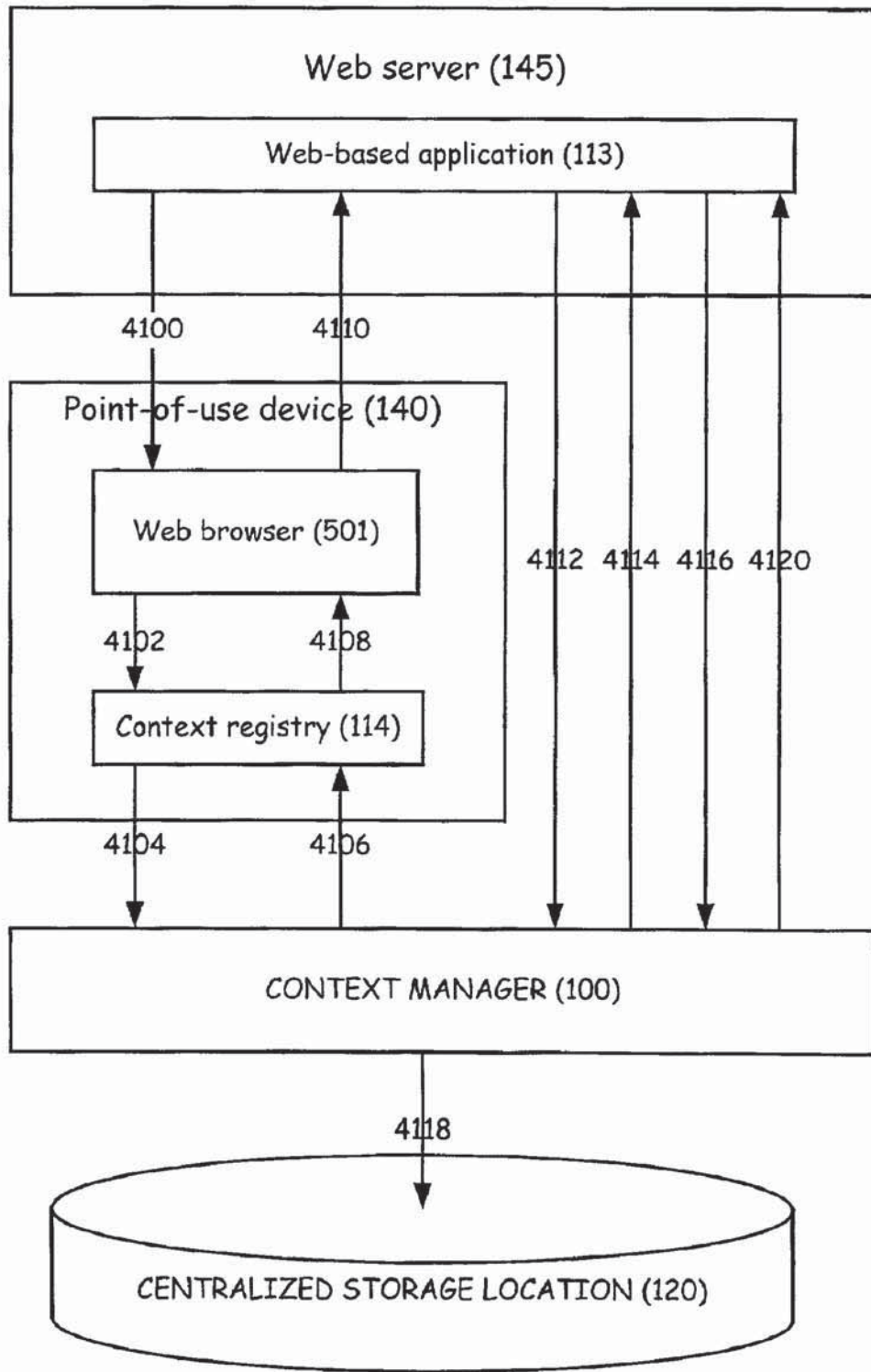


FIG. 16