AOCE: Description and Technology Overview (10/94)

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TOPIC --

This article provides a technology overview of the Apple Open Collaborative
Environment (AOCE).

DISCUSSION --

The Apple Open Collaberation Environment (AOCE) includes two products:

• PowerTalk
• PowerShare

PowerTalk
=========

System 7 Pro with PowerTalk is an upgrade to System 7 that provides a unified
framework for collaboration on the Macintosh computer.

The PowerTalk package includes System 7 extensions for collaborative services,
and AppleMail, a letter application for sending and receiving messages.
AppleMail is included to enable PowerTalk users to immediately take advantage of
the collaborative features of System 7 with PowerTalk.

PowerTalk requires a hard drive. Apple recommends 5 MB of RAM for PowerTalk
users.

PowerShare
==========

PowerShare is the AOCE server product.

The PowerShare package provides server-based services. Only customers who
require a server-based environment need to purchase the PowerShare package.
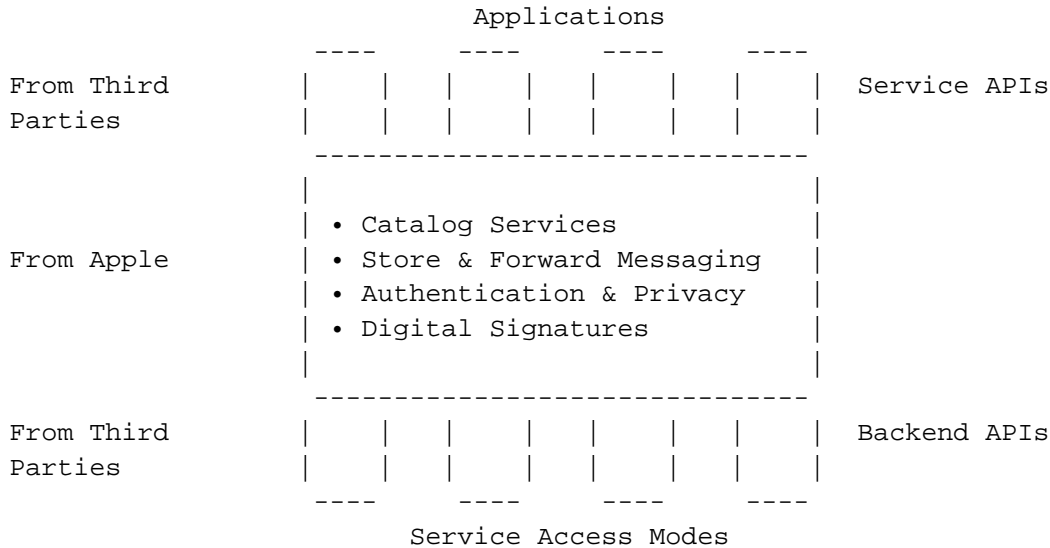Basic collaboration services are available in the PowerTalk package.

Technology Overview
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PowerTalk and PowerShare are the first Apple products to take advantage of the

AOCE technology. PowerShare and System 7 with PowerTalk consist of a number of managers, toolbox packages, and new desktop facilities that provide catalog services, store and forward messaging and mail, authentication and privacy features, and digital signature capability.

Apple and Third Party Components

This diagram illustrates what comes from Apple and what comes from third parties.

```
                            Applications
                    ----      ----      ----      ----
  From Third        |    |   |    |    |    |    |    |    Service APIs
  Parties           |    |   |    |    |    |    |    |
                    ------------------------------
                    |                            |
                    | • Catalog Services         |
  From Apple        | • Store & Forward Messaging |
                    | • Authentication & Privacy |
                    | • Digital Signatures       |
                    |                            |
                    ------------------------------
  From Third        |    |   |    |    |    |    |    |    Backend APIs
  Parties           |    |   |    |    |    |    |    |
                    ----      ----      ----      ----
                    Service Access Modes

       What comes from Apple and what comes from third parties
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NOTE: API = Application Program Interface

• Catalog Services

  PowerTalk catalog services can provide access to simple lists, which
  is only one of many types of information available through the
  PowerTalk catalogs. PowerTalk catalog services also provide access to
  data in any format from sounds to pictures to QuickTime movies.
  PowerTalk catalogs can provide access to services located on another
  Macintosh computer, an external directory service such as X.500, or a
  foreign file system such as a CD-ROM based database.

• Store and Forward Messaging

  Store and forward messaging is the ability to send messages to a
  server for later distribution or to hold the message locally until
  the destination is available to accept the incoming message. AOCE
  messages can take the form of either letters exchanged between users
  or program to program communication.

• Authentication and Privacy

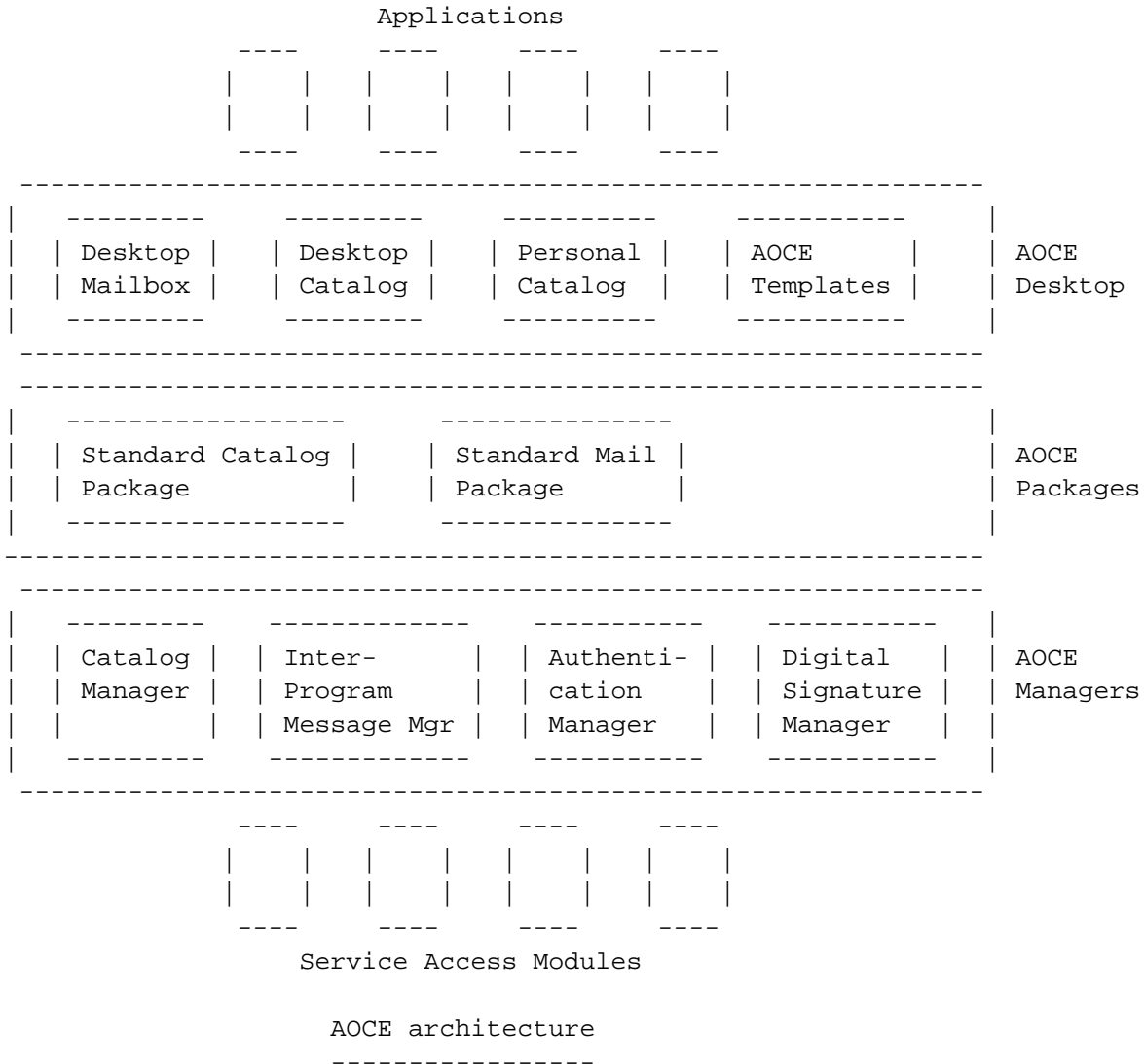 Authentication services ensure that the communicating entities are

who they claim to be. Privacy refers to a new protocol, AppleTalk
Secure Data Stream Protocol (ASDSP) which prevents wire tapping.

• Digital Signatures

  Digital signatures provide a means of detecting whether data has been
  altered and of providing positive identification of the signer. They
  are especially useful in building automated workflow solutions.

AOCE Architecture

AOCE technology is built in several layers, as this diagram illustrates:

```
                        Applications
                 ----      ----      ----      ----
                 |   |    |   |    |   |    |   |
                 |   |    |   |    |   |    |   |
                 ----      ----      ----      ----
      ----------------------------------------------------------------
     |    ---------      ---------      ----------      -----------      |
     |   | Desktop |    | Desktop |    | Personal |    | AOCE       |    | AOCE
     |   | Mailbox |    | Catalog |    | Catalog  |    | Templates  |    | Desktop
     |    ---------      ---------      ----------      -----------      |
      ----------------------------------------------------------------
      ----------------------------------------------------------------
     |    -----------------      ---------------                        |
     |   | Standard Catalog |    | Standard Mail |                       | AOCE
     |   | Package          |    | Package       |                       | Packages
     |    -----------------      ---------------                        |
      ----------------------------------------------------------------
      ----------------------------------------------------------------
     |    ---------      ------------      ----------      -----------      |
     |   | Catalog |    | Inter-      |    | Authenti- |    | Digital    |    | AOCE
     |   | Manager |    | Program     |    | cation    |    | Signature  |    | Managers
     |   |         |    | Message Mgr |    | Manager   |    | Manager    |    |
     |    ---------      ------------      ----------      -----------      |
      ----------------------------------------------------------------
                 ----      ----      ----      ----
                 |   |    |   |    |   |    |   |
                 |   |    |   |    |   |    |   |
                 ----      ----      ----      ----
                    Service Access Modules


                     AOCE architecture
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Inside the AOCE Toolbox are the managers and packages of the underlying
technology. AOCE software includes front end Application Program Interfaces
(APIs) for developers to build collaborative features into existing end user
applications or to build entirely new collaborative applications. AOCE
technology also offers an open back end through Service Access Modules.
Developers can use these APIs to connect AOCE users to existing messaging and
catalog services or to new, as yet unknown, services.

The front end APIs provide a uniform way of accessing collaborative service from within third party applications. Building the services into the operating system preserves the Macintosh experience. End users access collaborative services in the same manner, no matter which vendor's application is being used.

The open backend APIs of AOCE technology extend the reach of PowerTalk and PowerShare users to any messaging or catalog service. Service Access Modules (SAMs) make the technology fully extensible. When a new messaging or catalog standard appears, PowerTalk users can easily plug into the system through the use of a SAM.

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13 Oct 1994 - Added description of PowerTalk and PowerShare; added keyword.

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