Architecting the Identity-Enabled Enterprise

The Directory Interoperability Forum

Ed Harrington, Chair

(Principal Consultant & CEO, EPH Associates LLC)

edh@ephassociates.com

Some Relevant and/or Irreverent Quotes

"Human experience of identity has two elements; a sense of belonging and a sense of being separate"

-Salvador Minuchin (1974)

"Noble life demands a noble architecture for noble uses of noble men. Lack of culture means what it has always meant: ignoble civilization and therefore imminent downfall. "

- Frank Lloyd Wright

"No architecture is so haughty as that which is simple"

- John Ruskin, British art critic

"Architecture is the art of how to waste space"

- Philip Johnson

Agenda

- The difficulties of architecting for identity management
- Designing identity management for the enterprise
- Identity management building blocks
- The four strategies for identity management implementation
- Using TOGAF
- Conclusions

The Difficulties

The Difficulties

- Understanding the role of Identity Management
- Making it support the rest of the solution
- Integrating with existing infrastructure

The Role of Identity Management in the Enterprise

- Identity information creation, modification and deletion:
  - by administrators
  - by users
- Identity information provision:
  - to users
  - to applications
  - to access control decision points.

The Role of Identity Management in the Enterprise

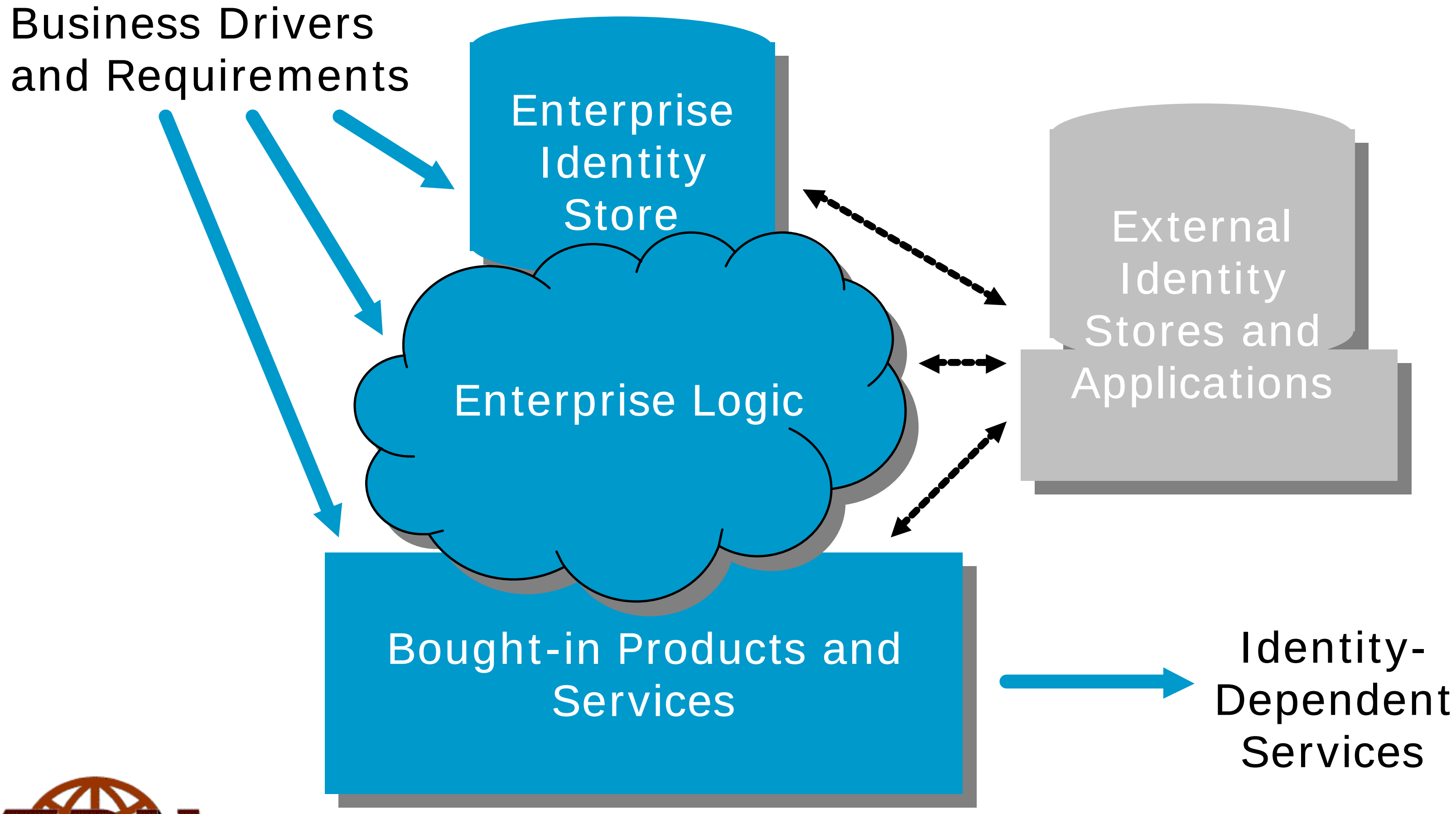
Enabling personalised services

Supporting the Whole Solution

Integrating with Existing Infrastructure

Designing Identity Management for the Enterprise

Designing Identity Management for the Enterprise


Business Drivers and Requirements

Enterprise Identity Store

External Identity Stores and Applications

Enterprise Logic

Bought-in Products and Services

Identity-Dependent Services

Building Blocks

Available Products and Services

- Directory, metadirectory, virtual directory
- Identification (biometrics, smart cards)
- Authentication (eg. via corporate & 3rd party databases)
- Single Sign-on (to web services, corporate applications)
- Access Control (including fine-grained, role-based)
- Identity Information Provisioning (ids, passwords, certificates, permissions, priveleges, attributes, profiles, . . .)
- Identity Information Administration
- Identity Information Synchronization
- Account federation
- Identity policy management

Standards for Interoperability

- Directory
  - X.500
  - LDAP
  - DSML
- Application Interaction
  - SAML - enables trusted access to external identity information
  - XACML - access control
  - SPML - provisioning
- Only X.500 and LDAP are mature
- LDAP is preferred to X.500 DAP over the Internet
- SAML (Liberty profiles) may become established

Standard Identity Management Building Blocks

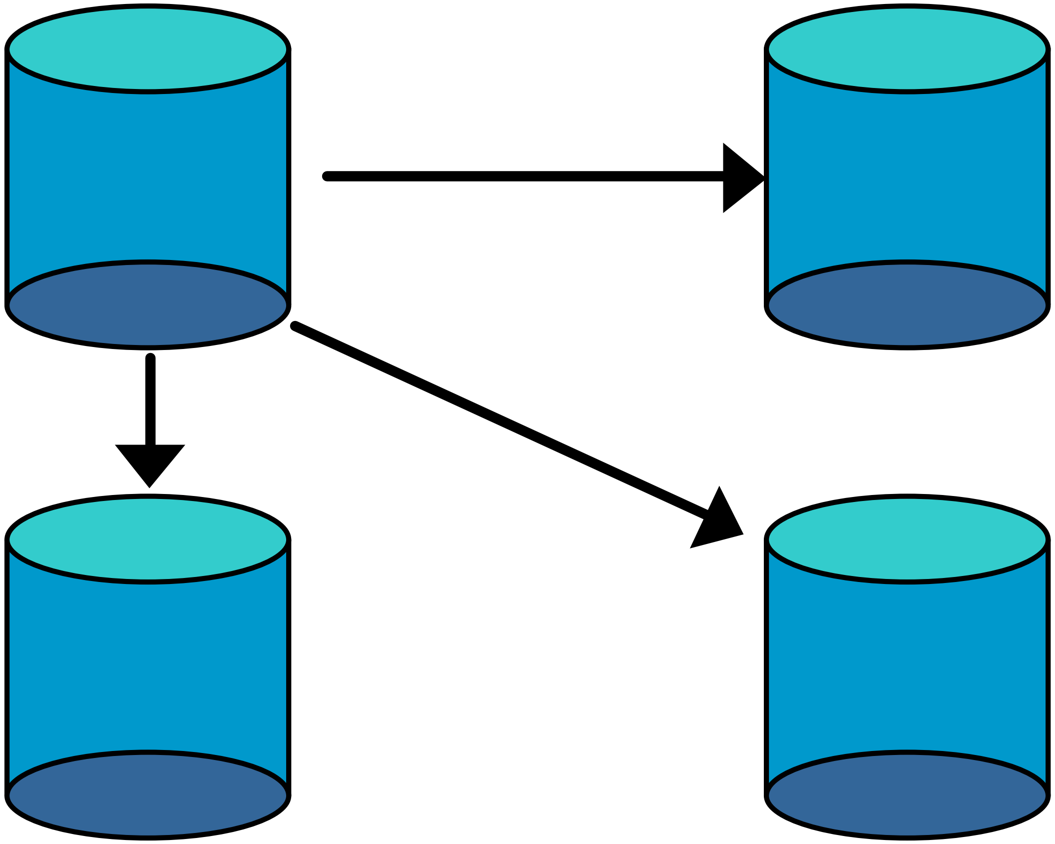
- Directories (X.500 and LDAP)

Identity Management Strategies

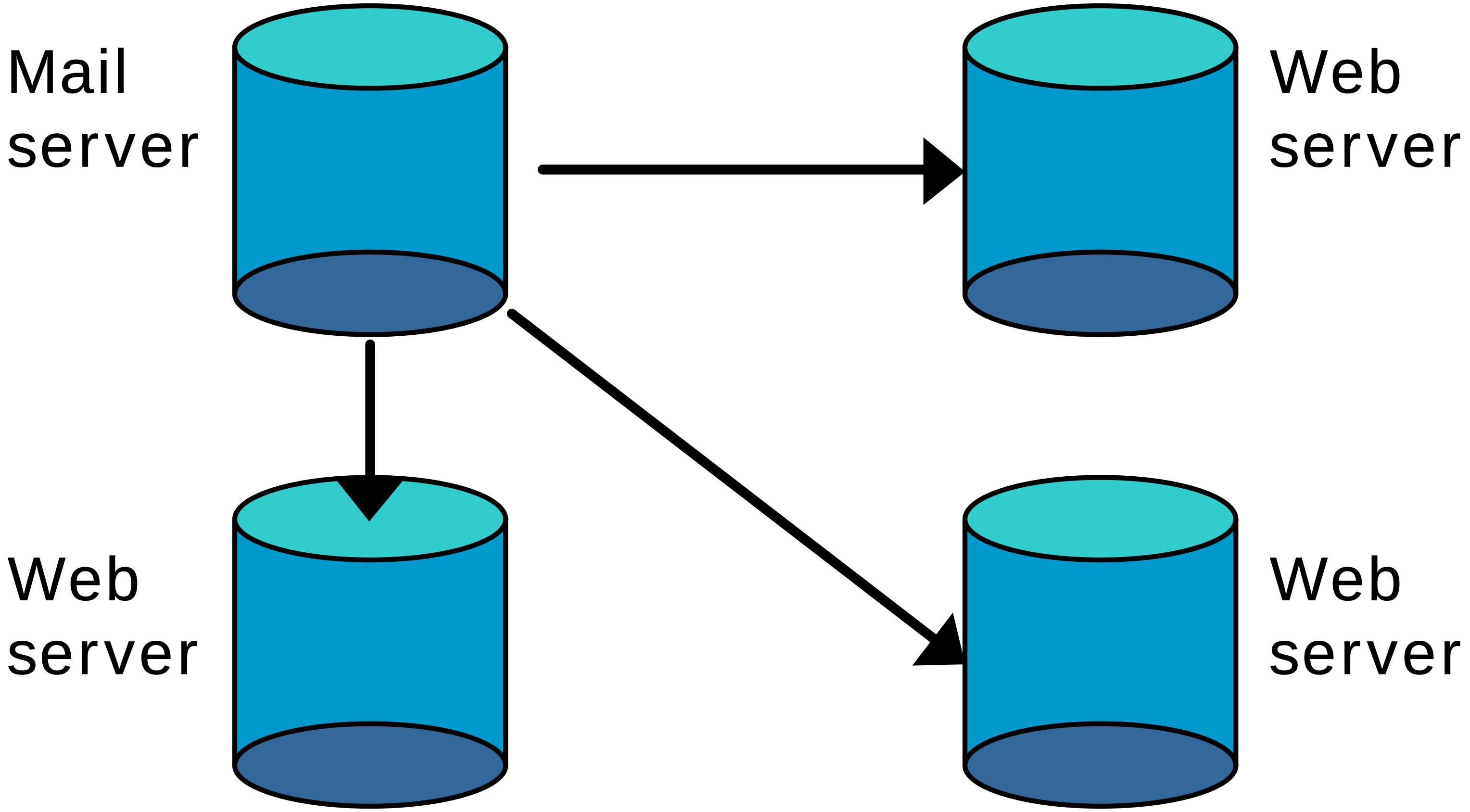
Identity management Strategies

- Synchronization
- Distributed directory
- Metadirectory/Virtual directory
- Federation

Synchronization



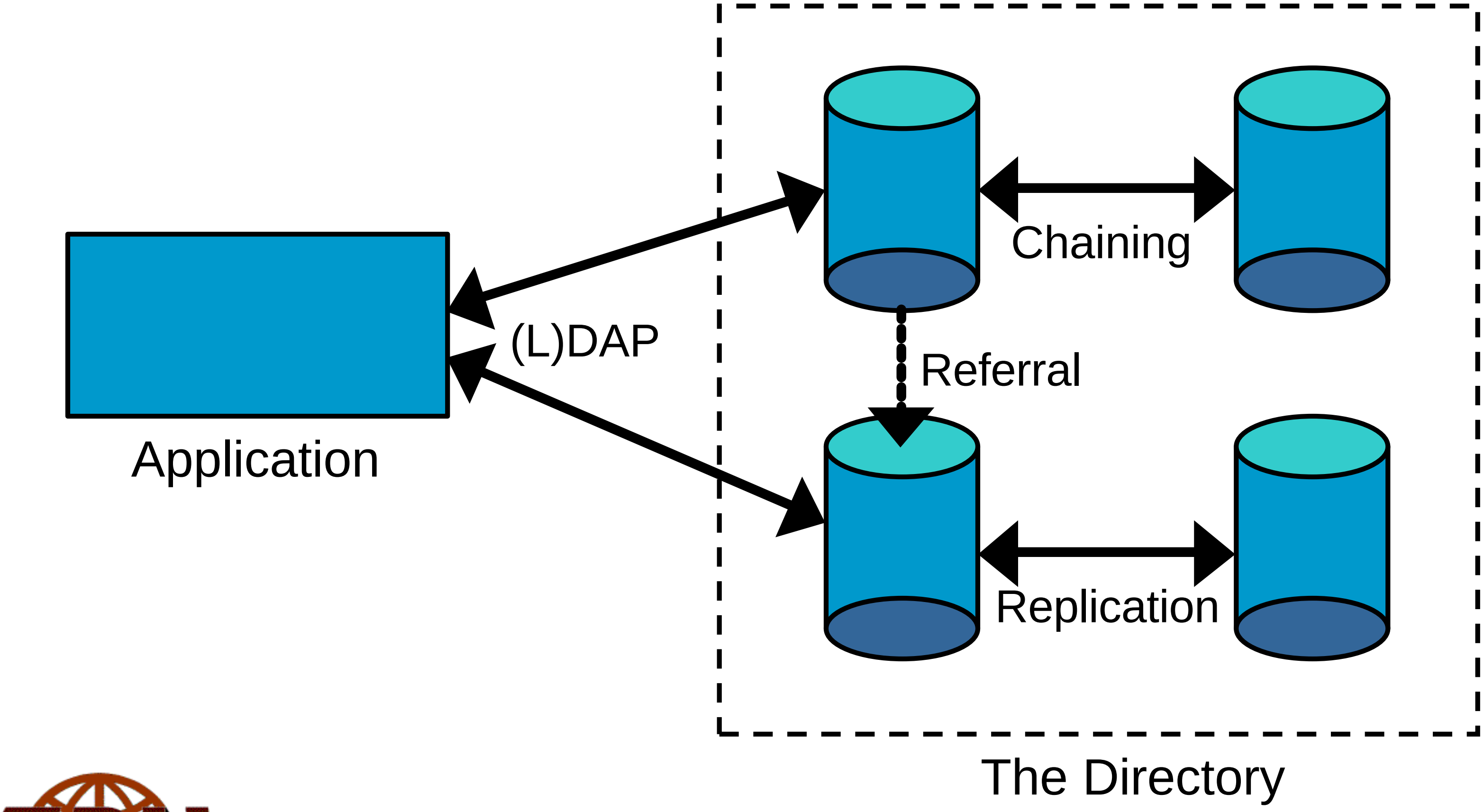
Synchronization Example - The Open Group



Distributed Directory

- X.500
- Proprietary

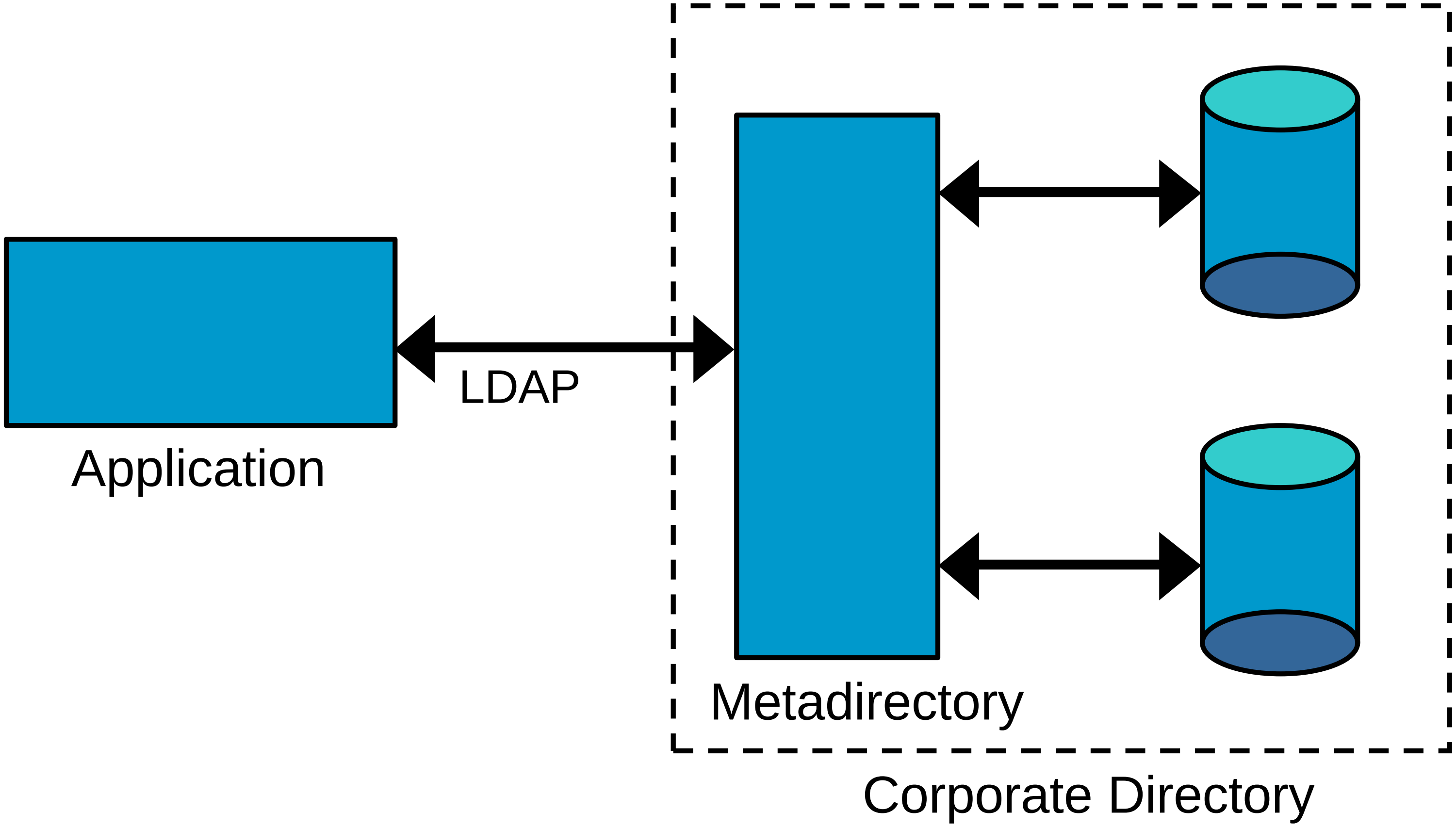
X.500 Model


(L)DAP
Application
Chaining
Referral
Replication
The Directory

Examples of Distributed Directory

- The major government chose Nexor X.500 directories
  - http://www.nexor.com/press_00.asp
- CNN uses distributed Novell directories
  - http://www.novell.com/success/cnn_wp.html

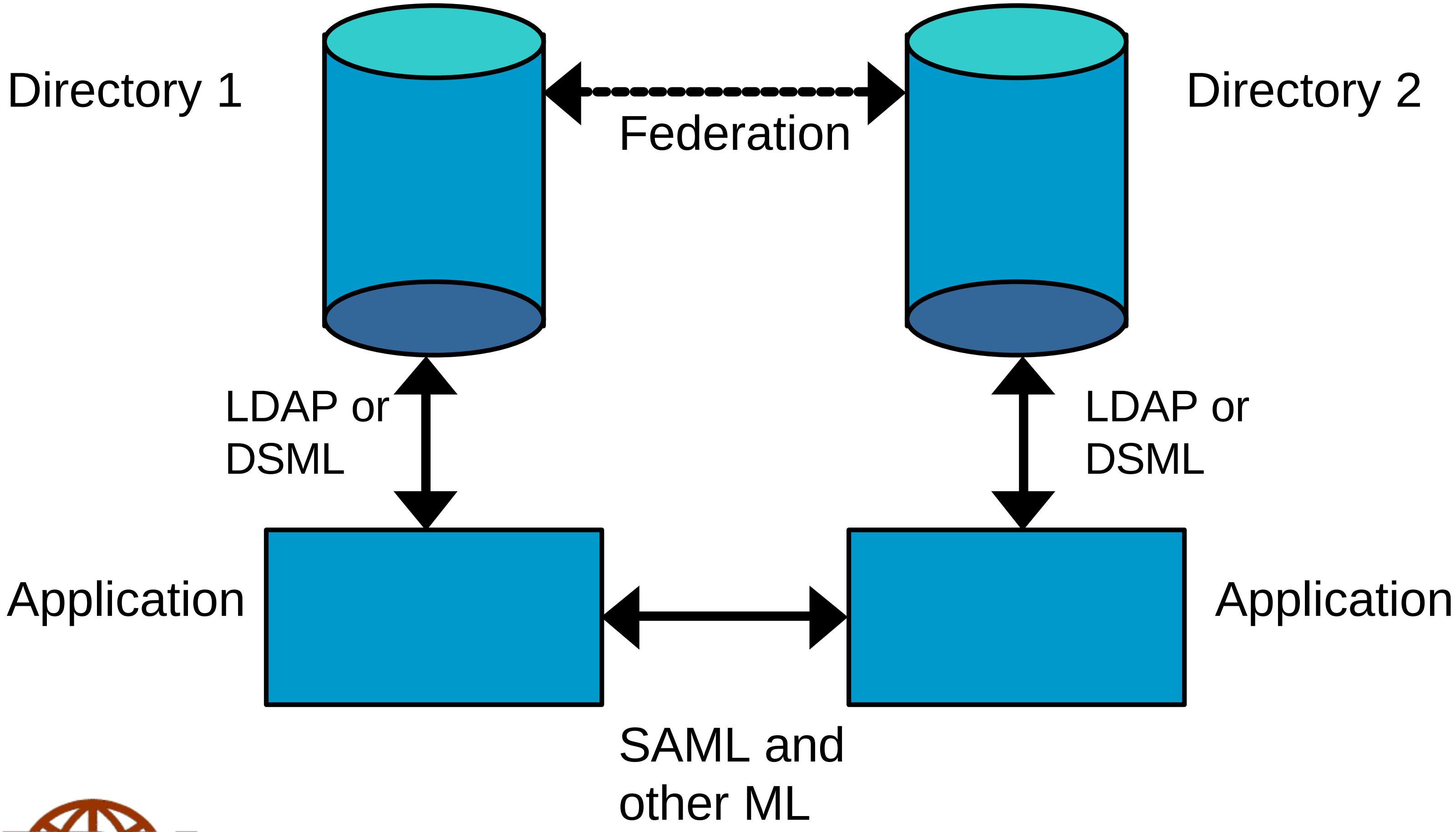
Meta/Virtual Directory



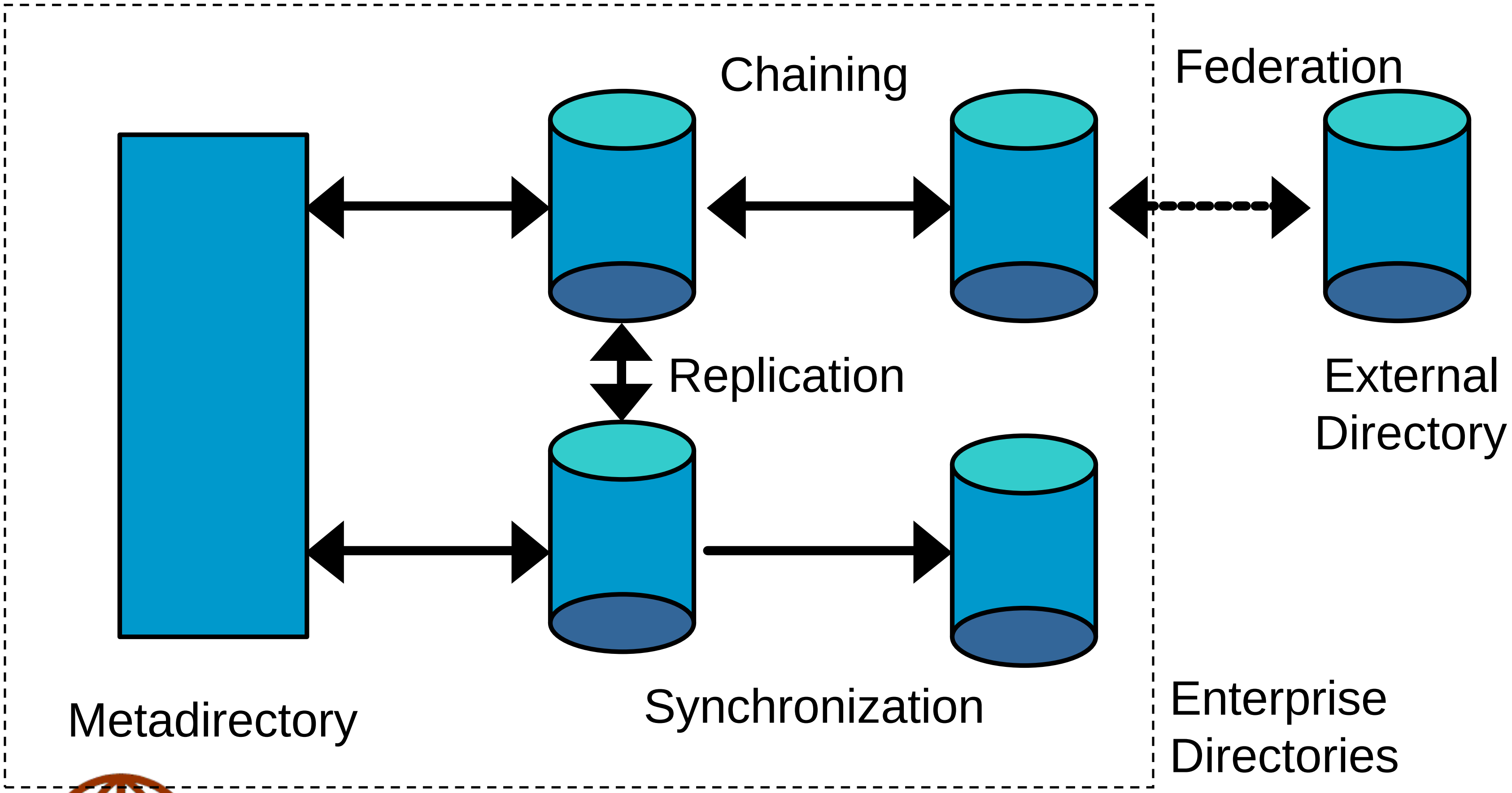
Examples of MetaDirectory/Virtual Directory

- Lufthansa uses Novell e-Directory
  - http://www.novell.com/news/press/archive/2002/01/pr02009.html
- ICL uses Microsoft Metadirectory Services
  - http://www.microsoft.com/presspass/features/2000/jul00/07-26mms.asp
- The Boeing Secure Messaging Challenge
  - http://www.opengroup.org/messaging/sm/index.htm

Federated Directories



Composite Strategies



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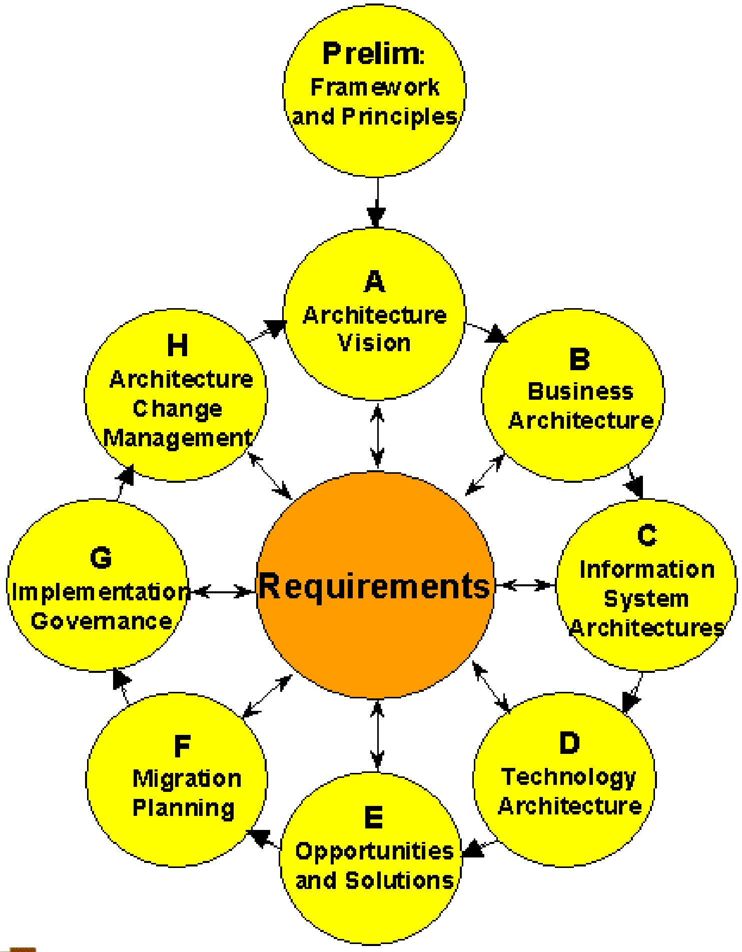
TOGAF

Using The TOGAF ADM



The Identity Management View

- People
- Identity Management Strategy
- Identity Store
- Identity Management Applications
- Identity Management Logic

Conclusions

Summary and Conclusions

- Identity Management is an important, specialized, aspect of architecture for the Boundaryless Enterprise
- But incorporating it in the architecture is not easy
- We have reviewed
  - design considerations
  - building blocks
  - implementation strategies
  - use of TOGAF
- More work is needed
  - to identify building blocks
  - to develop and describe the architecture process

Architecting the Identity-Enabled Enterprise

Thank you!