

Unlocking Directory Services

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Agenda

- Directories, Yesterday & Today
- Today's Reality, Tomorrow's Promise
- Q & A

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Directories, Yesterday & Today

- What is a Directory?
- What is a Directory service?

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What is a Directory?

A directory is merely a type of database that is distinguished by its purpose: it is designed, built, and populated with data to allow users to locate objects using information associated with the objects.

A Directory has three components:

Scope * Structure * Presentation



Directory Scope

That portion of the real world that will be represented by information in the directory.

- Types of Information (name, address, etc.)
- Range of Information (company, city, country, etc.)



Directory Structure

How data elements contained in the directory can be identified so that they can be associated unambiguously with objects that exist in the real world.

- Telephone number
- Social Security number
- ID number



Directory Presentation

The ways in which the information contained in the directory can be viewed or employed by users of the directory.

- White Pages
- Yellow Pages
- TV Guide

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Directory Examples

- Telephone Directory
- Employee Directory
 - TV Guide

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Example: Telephone Directory

SCOPE:

Type: Telephone number, first name, last name, street address

Range: City and county

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Example: Telephone Directory

STRUCTURE:

Fully Qualified Telephone Number is unique

011

512

918

1800

Country code+Area code+Exchange+4-digit
identifier

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Example: Telephone Directory

Presentation:

White pages:

Last Name, First Name, Address, [Area Code] Exchange, 4-digit identifier

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What is a Directory Service?

A directory service is a distributed, replicated database of information about every application, user, server, service and resource attached to a network, either permanently or transiently.

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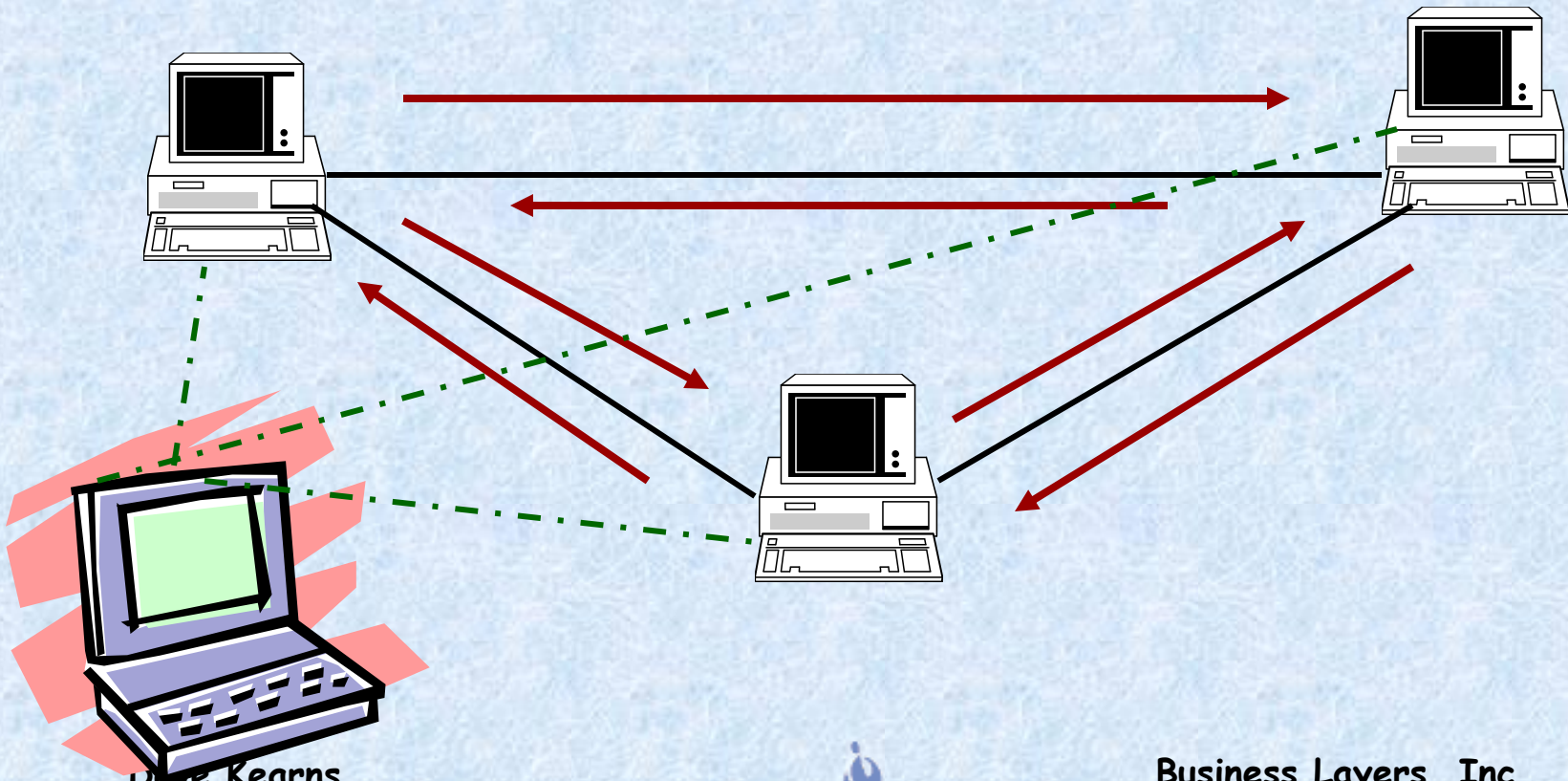
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Directory Service is distributed



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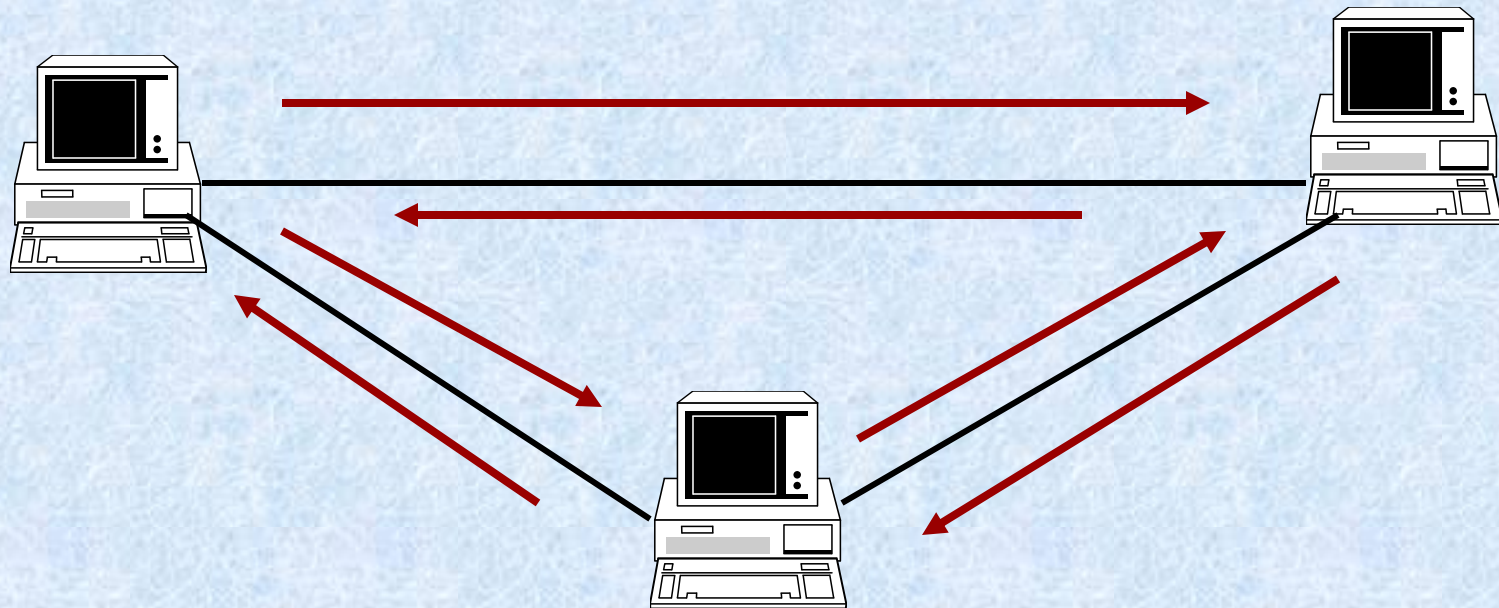
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Directory Service is replicated



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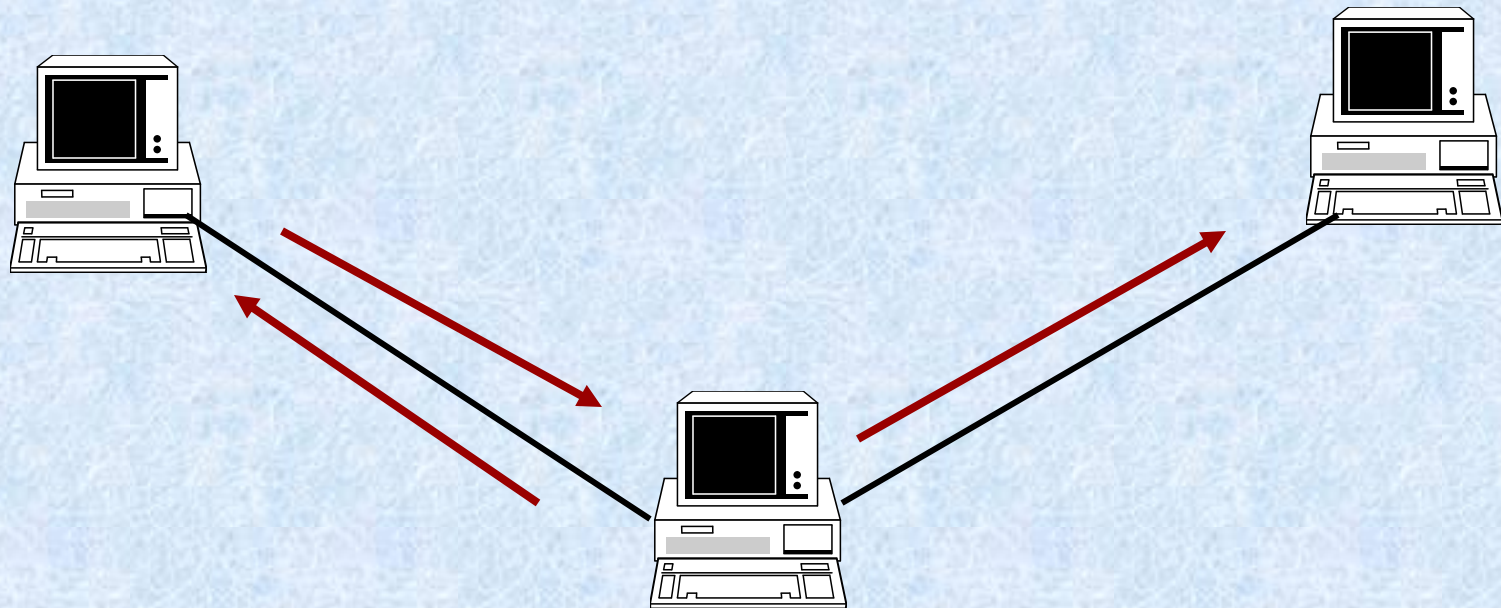
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Directory Service is replicated



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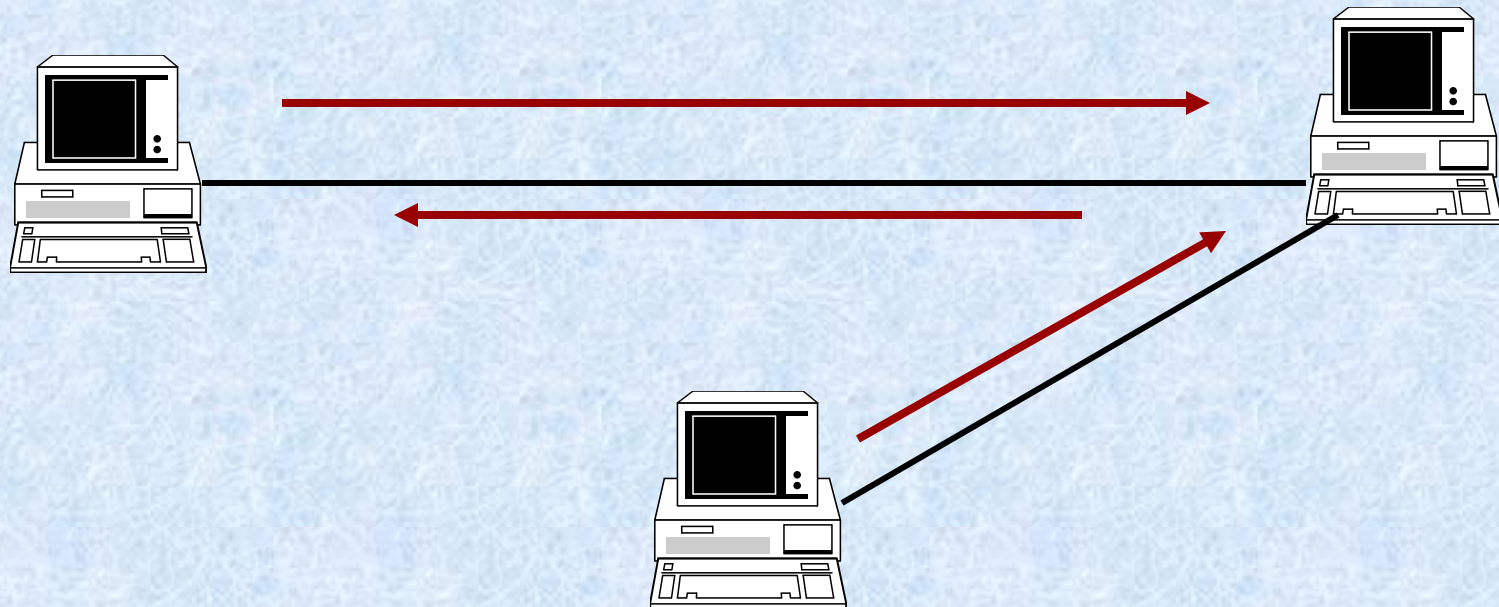
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Directory Service is replicated



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Catalog Services

Catalog = a snapshot of a directory

Telephone Directory = Telephone Catalog

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Directory & eCommerce

Electronic commerce is simply conducting business on-line, whether through an Internet connection or an Intranet. This includes, for example, buying and selling products with digital cash or exchanging documents via Electronic Data Interchange (EDI).

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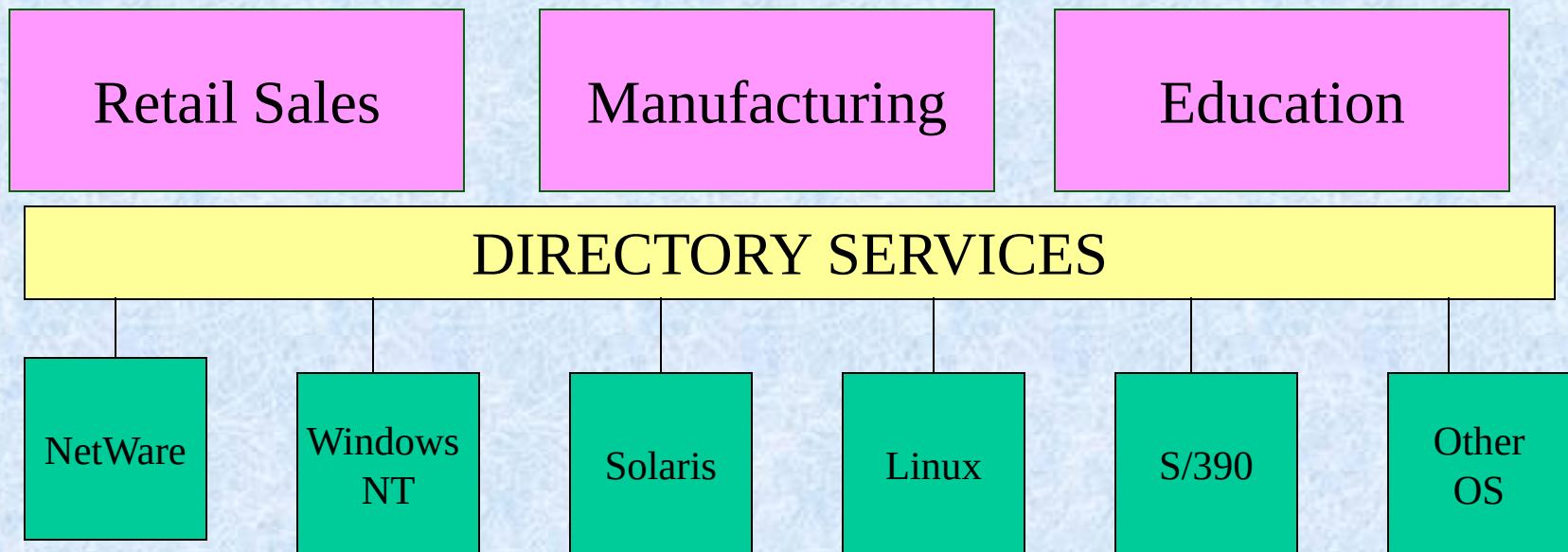


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Directory & eCommerce

"A directory is the single most important piece of foundation that will enable electronic commerce" -
Doug Simmons, The Radicati Group



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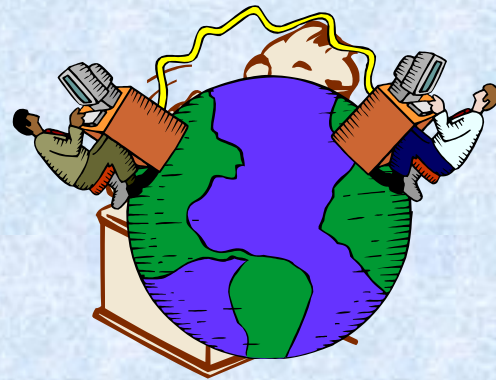
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Directory & eCommerce

"I don't need a directory to do e-mail if I know your address. So also in e-commerce. But if you go beyond our five-person LAN, you do need a directory for e-mail. So also with e-commerce."

- Gary Rowe, The Burton Group



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Directory = Identity

"As long as we know who you are, we can come up with a market mechanism to service you, but if we can't authenticate you, if we cannot fundamentally know who you are, we get very confused. We can't do business with you because we can't authenticate the transaction and we can't give you your money. We can't charge you. We can't measure you. We can't vend things to you. We can't serve you. **We can't find you without your identity.**" - *Eric Schmidt*

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Identity – How Many?

Multiple Identities ~~≠~~ Multiple Personalities!

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Digital Persona

How you are perceived

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Digital Persona

How you are perceived by:

- Other users

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Digital Persona

How you are perceived by:

- Other users
- Applications

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Digital Persona

How you are perceived by:

- Other users
- Applications
- Web sites

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Digital Persona

How you are perceived by:

- Other users
- Applications
- Web sites
- Services

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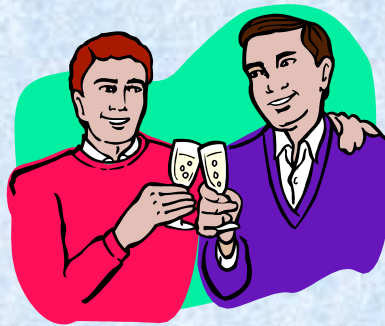


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Thanksgiving Persona

- Host/Hostess



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Thanksgiving Persona

- Mother/Father



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Thanksgiving Persona

- Son/Daughter



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Thanksgiving Persona

• Brother/Sister



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Thanksgiving Persona

•In-law



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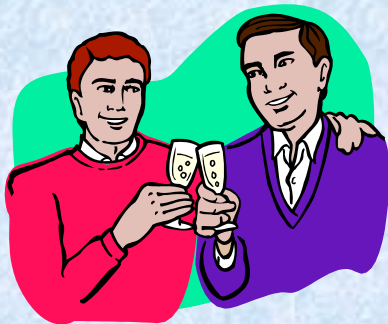


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Thanksgiving Persona

Which one is the *real* you?



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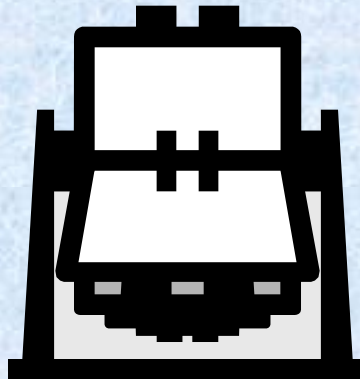
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Today's Directories

- Email Address Book

x.400, x.500, address books and directories



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Today's Directories

- Email Address Book
- **Network Operating System Authentication**

Bindery,
StreetTalk,
DNS-Bind,
Domains,
NDS, AD



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Today's Directories

- Email Address Book
- Network Operating System Authentication
- Mainframe Authentication**

RACF, Top Secret, ACF2



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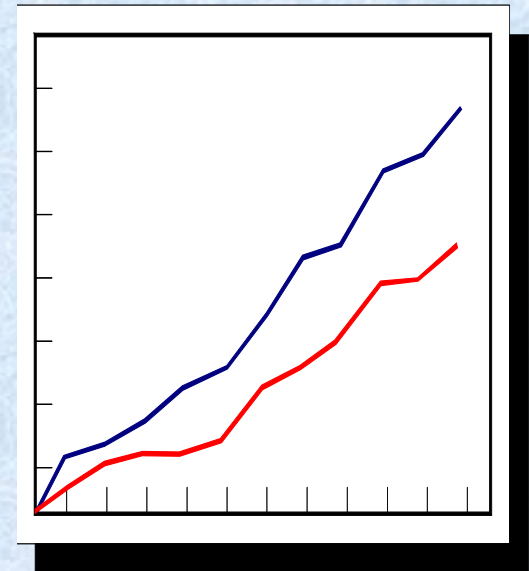
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Today's Directories

- Email Address Book
- Network Operating System Authentication
- Mainframe Authentication
- Databases**

Finance
Inventory
sales



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Today's Directories

- Email Address Book
- Network Operating System Authentication
- Mainframe Authentication
- Databases
- And more databases!**



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Break



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Today's Reality

Tomorrow's Promise

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Today's Reality

- Multiple Directories
- Multiple Directory Services
- Multiple Data owners

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Multiple Directories

- Email Address Book
- Network Operating System Authentication
 - Mainframe Authentication
 - Databases
- And more databases!

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Multiple Directory Services

Novell's NDS eDirectory

Microsoft's Active Directory

Sun/Netscape's iPlanet

IBM's SecureWay

Computer Assoc.'s eTrust

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Directory Interoperability

Lightweight Directory Access Protocol -
LDAP

MetaDirectories

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Lightweight Directory Access Protocol

LDAP is a specification for a client-server protocol to retrieve and manage directory information. LDAP is not a directory specification.

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Meta-Directories

- Uber Directories
- Virtual Directories

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Uber Directories

- One Authoritative directory - all others synchronize to it.
- Install new directory service
- Choose an installed service
- Data owned by IT

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Virtual Directories

- Data doesn't move
- Master Datastore holds pointers
- Synchronization goes either way
- Data controlled by owning department

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Meta Directory Examples

- Novell's DirXML
- Microsoft Metadirectory Service
(formerly Zoomit Via)
- Critical Path's InJoin
(formerly Isocor's MetaConnect)
- NetVision Synchronicity
- Radiant Logic's RadiantOne

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Today's Reality

- Security Issues

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Security = Directory

"...directories are critical to secure VPNs [Virtual Private Networks] especially for large applications where a public key infrastructure is needed to manage thousands of users effectively."

- *Ed Harrington, ICL Inc.*

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Security Vendors who leverage the Directory

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Security Vendors who leverage the Directory



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Today's Reality

Directory Enabled Applications and Services

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Directory Enabled Applications

- Tools & Utilities
- Messaging
- Collaboration
- Network Management
- Business Tools

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Directory Enabled Applications

Tools & Utilities

Single SignOn

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Directory Enabled Applications

Messaging

Electronic Mail

Universal Inbox

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Directory Enabled Applications

Collaboration

Instant Messaging

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Directory Enabled Applications

Network Management

Server management

QoS Policy Management

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Directory Enabled Applications

Business Tools

Electronic Provisioning

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Directory Enabled Applications

Electronic Provisioning

NOS Email HelpDesk Human Resources Security Apps
Workflow Collaboration Payroll and Timeslip Database
(RDBMS) Phone Systems Facilities MIS (Mainframe)

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Tomorrow's Promise

Imagine, if you will...

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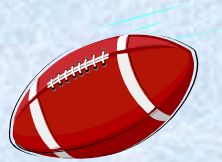
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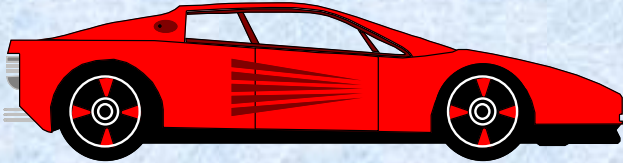
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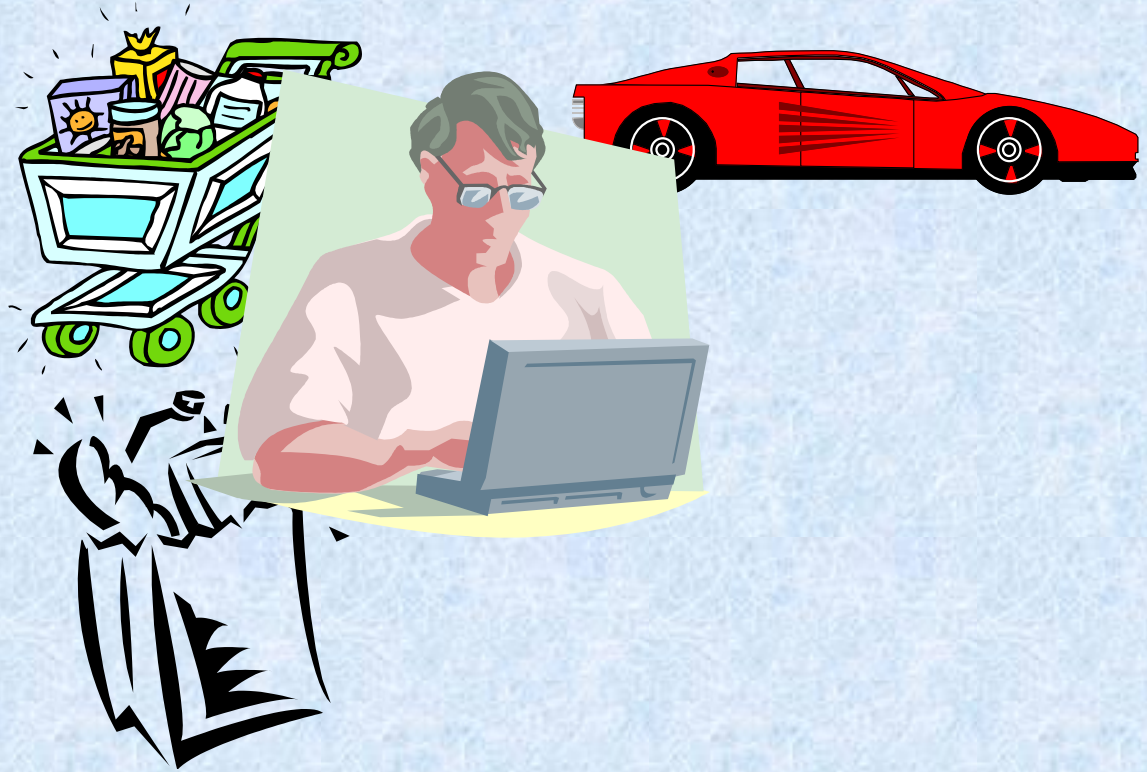
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Tomorrow's Promise

You can do it all today.
But, it isn't all tied together yet.

We still need to

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Directory Enable Life

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Directory Services

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