Enterprise Directories for Single Sign-On Infrastructures

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Agenda

- Industry drivers
- Trends
- Directory services
  - Enterprise directory
    - Challenges
    - Example
  - e-Business directory
    - Challenges
    - Example

Industry Drivers

The continuing build-out of extranet services

- –Organziations continue to reach out across the internet to their business partners, suppliers and customers.
- –Scaling their infrastructure to support this far larger user base requires new management capabilities and greater security controls than previously maintained in the well-bounded networks of old.
- –Directory services and directory-enabled applications play an important role in supporting scalable management and security frameworks.

Industry Drivers – ctd.

- Enhanced security concerns
  - Legislative requirements
  - Business requirements for data protection
  - Increased risk of cyber crime

All serve to align security with business more closely => authentication and access control considerations elevate to the executive level

- Mergers & acquisitions
  - Rapid data integration needs

- Global recession
  - Reducing operational expenses
  - Supporting efficiency-oriented initiatives
  - Developing greater business agility

Key Trends

- The notion of “identity management” as a business issue is taking hold

  Organizations are developing identity management strategies and incorporate them into their enterprise architecture plans

- Enterprise access management

  Web access management drives a central identity management framework in support of multiple applications

- Synergies are growing among web access management, provisioning, directories and portals

Key Trends – ctd.

- PKI initiatives

The directory acts as the distribution point for public keys and certificates, and becomes the repository for certificate management and use policies

- Context-based e-business initiatives
  - Multi-channel banking
  - e-Commerce
  - Enterprise portals
- Integration needs

most enterprises are required to implement multiple directories to support different platforms, applications and usage models

- The role of directories is changing
  - From internal company directory to external presence
  - Hub for b2b and b2c interaction
- Applications become directory enabled just as they have become web enabled

Directory Services Benefits

- Data integration among enterprises and service providers
- Improved interpersonal communication
- Single point of access for context based applications to a wide variety of data:
- Broadly accessible and highly available information store
- Broker of identity on a business-enabled Internet
- Foundation of identity and access management frameworks
- Reduced app development time and improved app agility
- Integration of user and resource administration functions enables simplified network environments

Triggers for an Enterprise Directory

- New services (e.g. e-government, multi-channel banking, e-commerce, etc.)
- Information security (access control, certificates)
- Enterprise Portals
- Application integration (directory is publishing vehicle for employee/enterprise data
- Mergers & Acquisitions

ROI of Enterprise Directory implementation

- **Investment depending on**
  - No of entries
  - No. of directories being integrated
  - Overall scope
- **Short term benefits**
  - Reduced cost of administration and support
  - Higher quality of directory information
- **Long term benefits**
  - Foundation for a variety of applications and services
  - Reduced cost of managing desktop computers, network devices, and other systems through policy based management systems
- Return is approximately 5 times the directory investment

Directory Services
Categories

Enterprise Directories

- integration / synchronization of multiple data stores and directories into a single general-purpose directory for all platforms and applications in an enterprise

e-Business Directories

- boundary directory repository for storing external user account information, allowing enterprises to manage relationships with partners, suppliers, and customers

Enterprise vs. e-Business Directories

enterprise directory	e-business directory
mainly targeted at internal enterprise use	mainly targeted at the boundary of the enterprise
top-down, administrative	multi-community
fixed, managed population	random population
trusted, identified members	non-trusted members
general-purpose	well-connected
centralized	distributed, segmented, segregated
uniform	diverse
mature	emerging

Enterprise Directories

•Vision:
ONE single directory for all platforms and applications in an enterprise

•Reality:
The majority of medium and large enterprises have deployed multiple directories

•Compelling approach: directory consolidation/standardization

– Very often not realistic

•Why?

– Platform dependencies
– Application dependencies
– Suitability for task

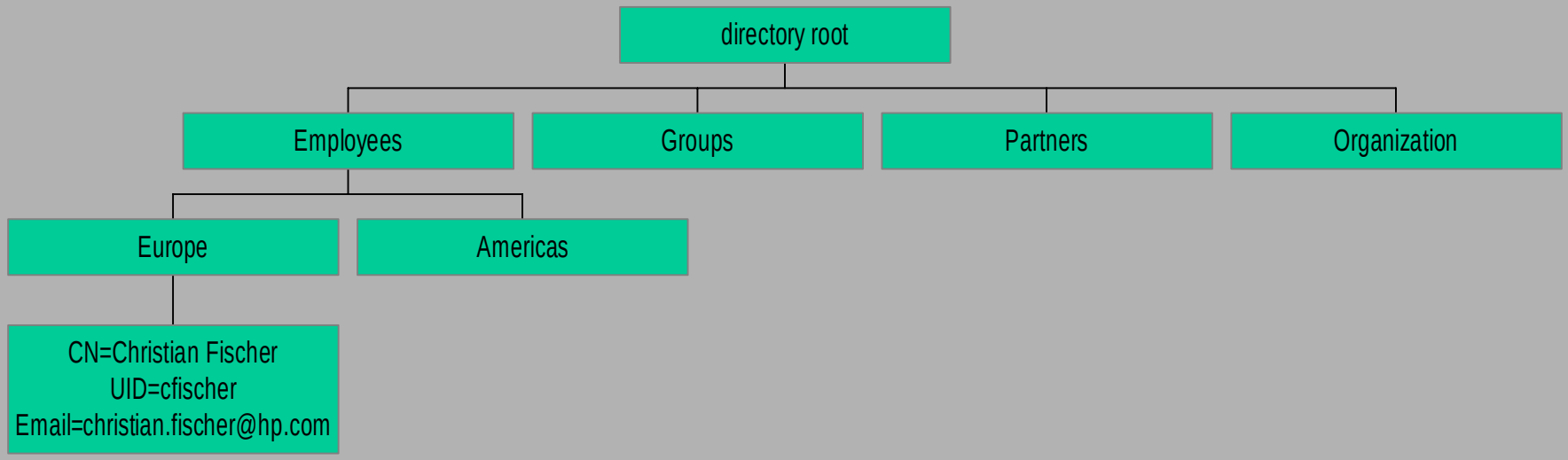
•Plan B: Manage multiple directories

– Manually
– Through automated synchronization solution

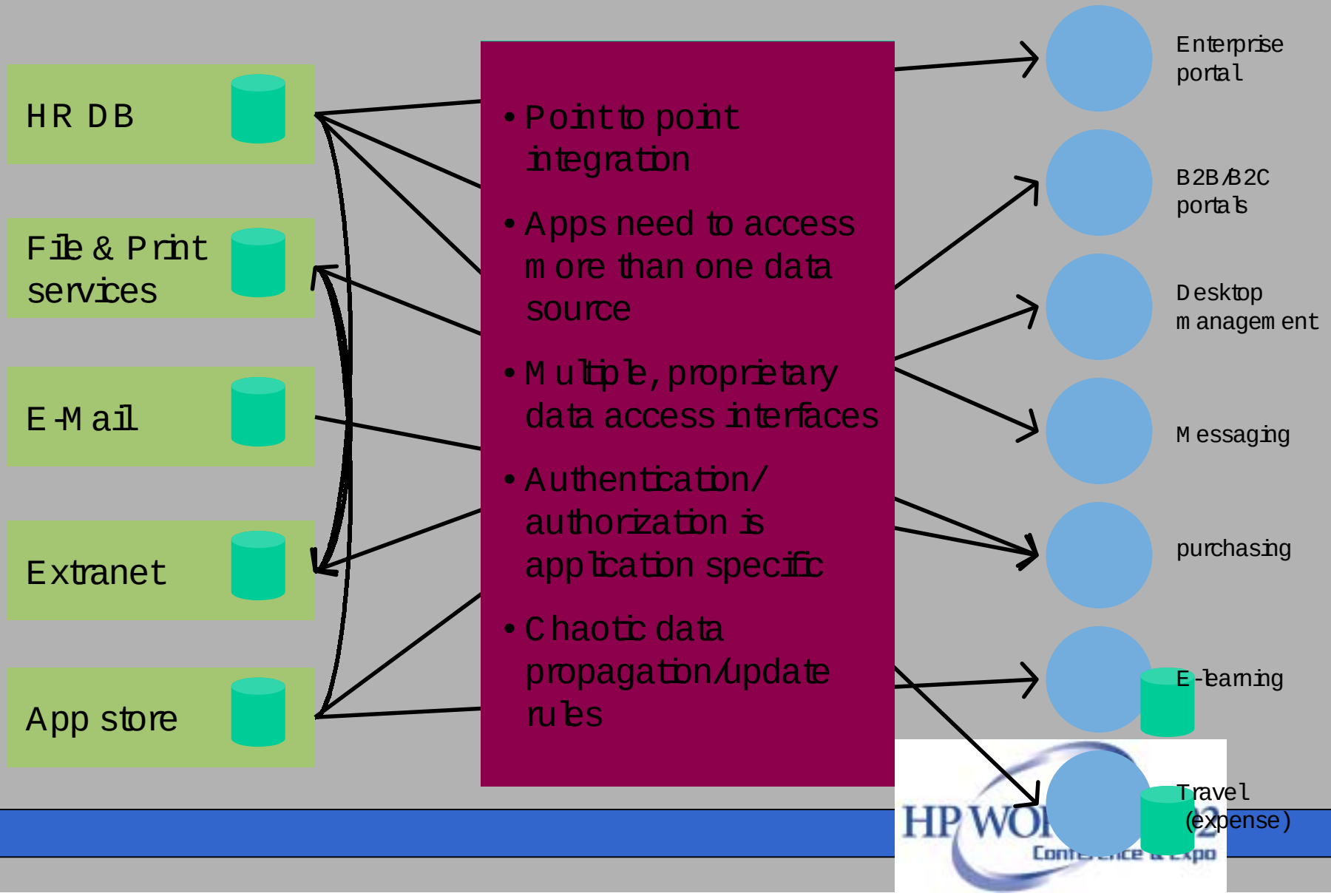
Challenges of Enterprise Directory Implementations

- Quality of directory data
- Ownership of data
- Politics !!!

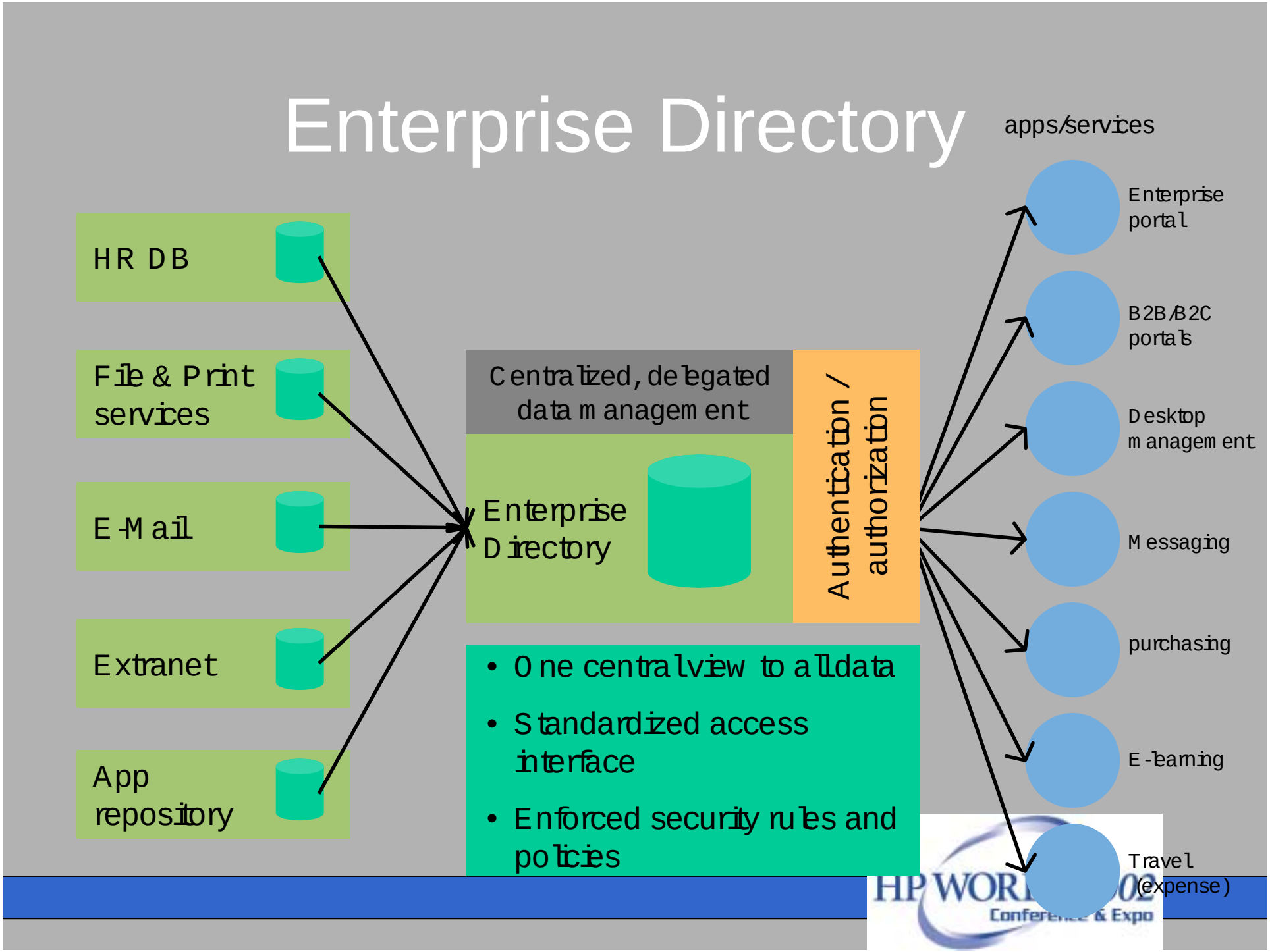
Directory Structure



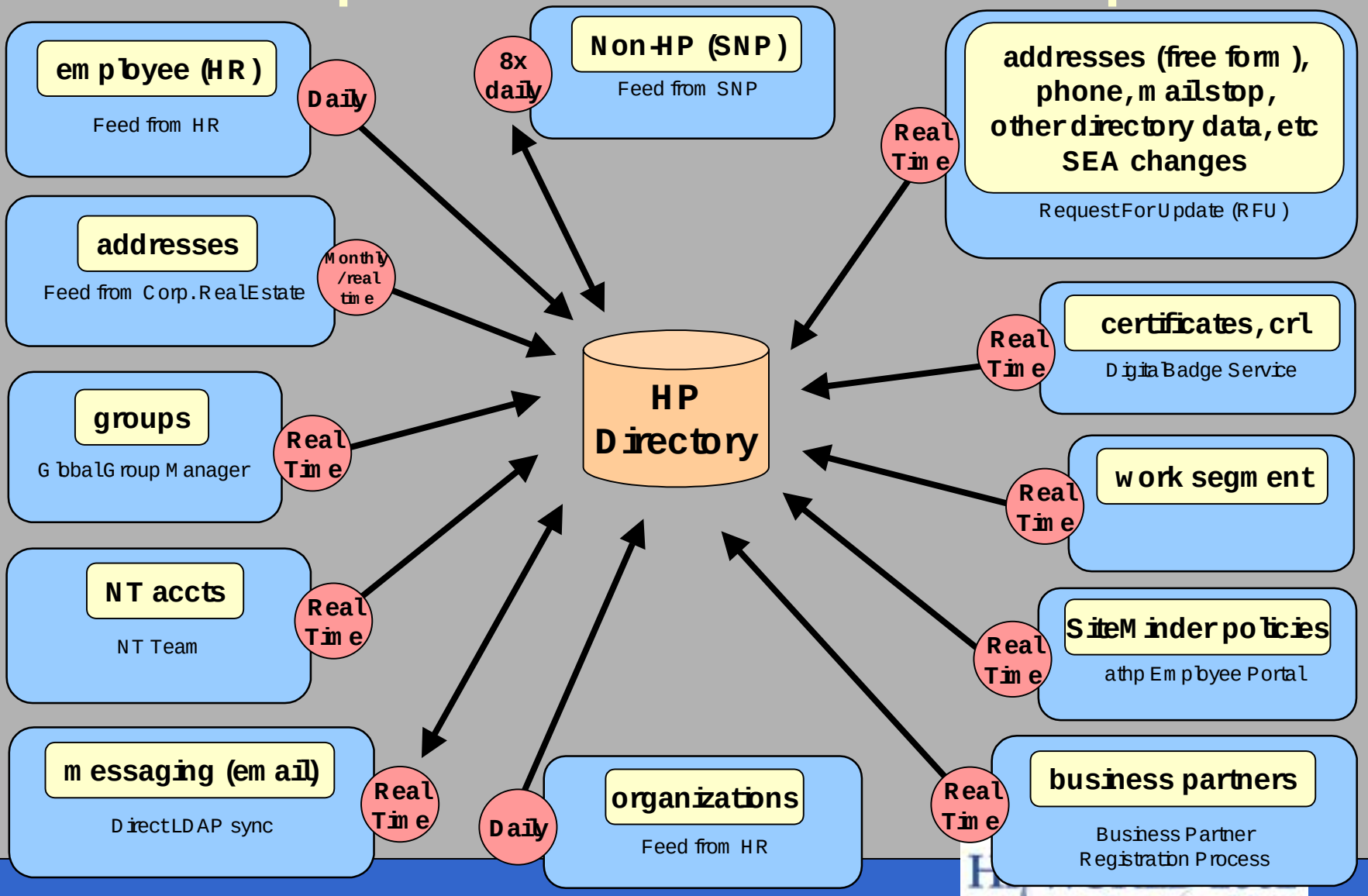
Typical Situation without Directory



Enterprise Directory



Example: HP ED Data Inputs



Example: Distributed to Directory Clients

e-Business Directories

- Key problem in e-business infrastructures is data and process integration across corporate boundaries
- Directory services provide
  - The key technologies to enable transaction continuity across functional boundaries
  - Hold contextual data for transactions
  - Interconnection of individuals and communities
  - Personalization for portals
- Multi-community directories
- Decentralized model – connectivity to other directories becomes primary feature
- Highly adaptive
- May contain fluid populations of
  - Non-trusted members
  - External resources
  - Diverse schemas
- Goes far beyond LDAP
- Market is very immature

e-Business Directories

example:
supply chain synchronization

- Coordinates activities of
  - –Manufacturer
  - –Distributor
  - –Warehouser
  - –Consumer
- Bulk of data is static and not transactional
- Supply chain synchronization

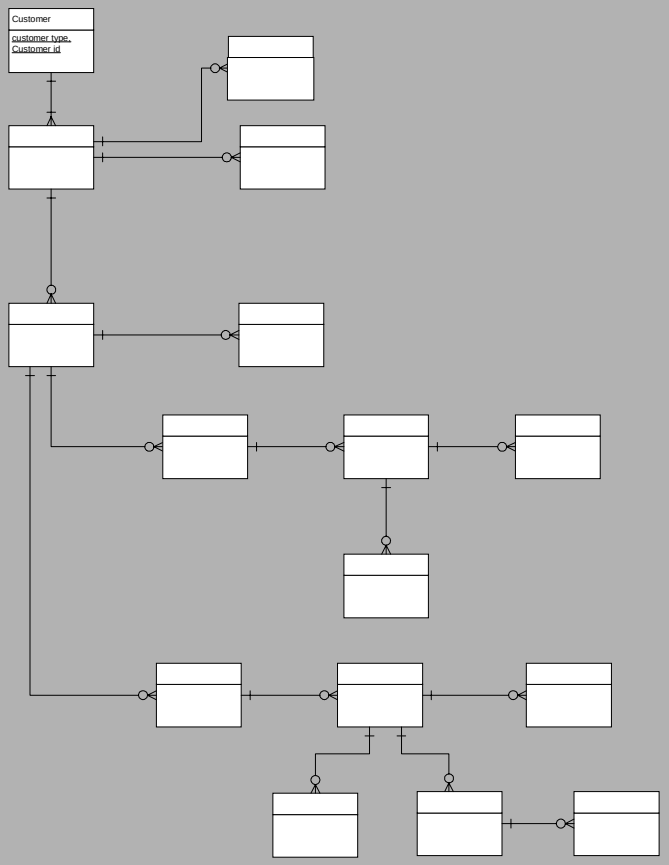
holds data that is of general use to managing the supply chain

- Customer preferences
- Inventory movement
- Products
- Order entries
- Business rules
- etc.

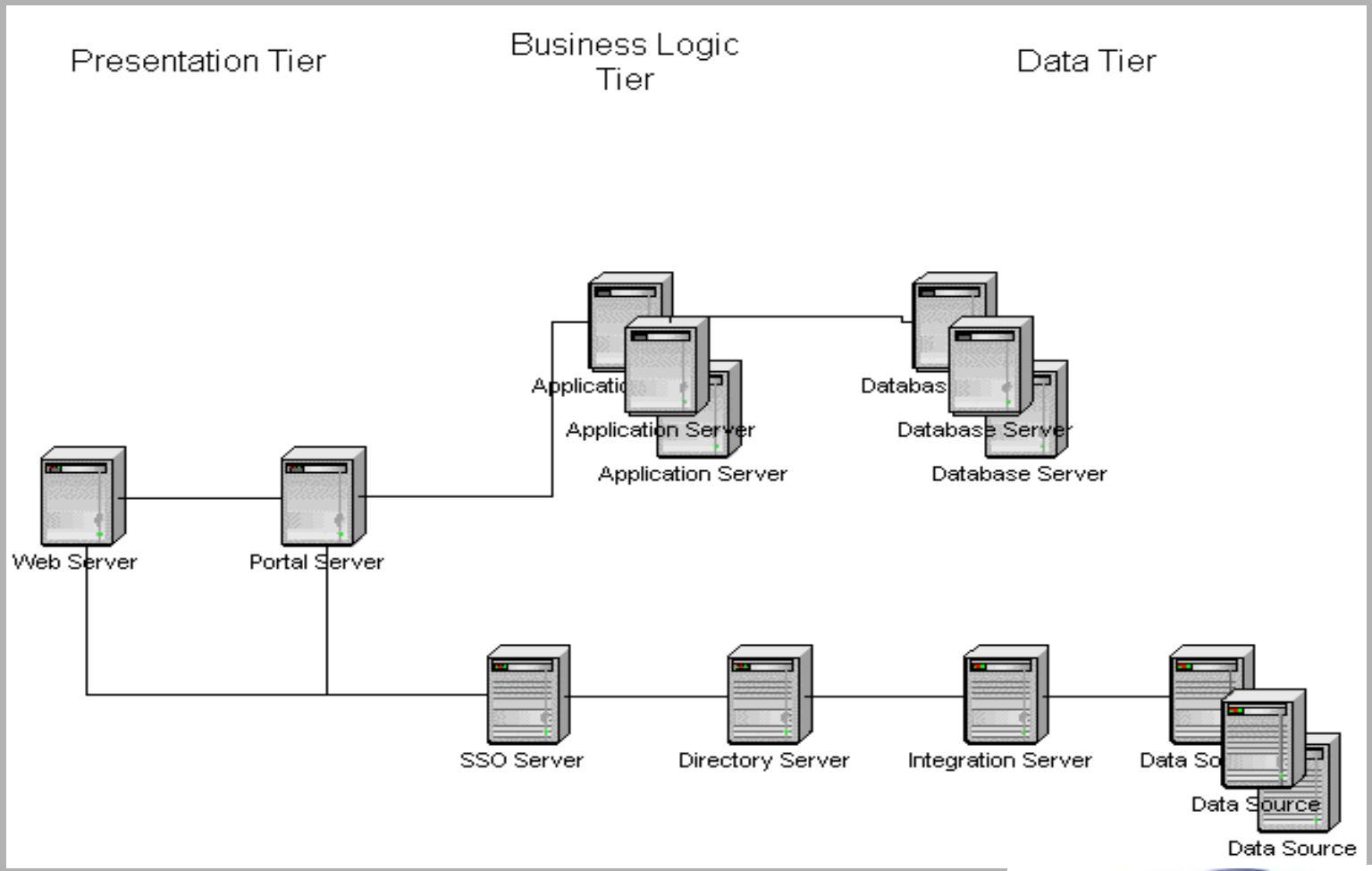
Challenges of e-Business Directory Implementations

- Complexity of data model
- Number of entries (customers)

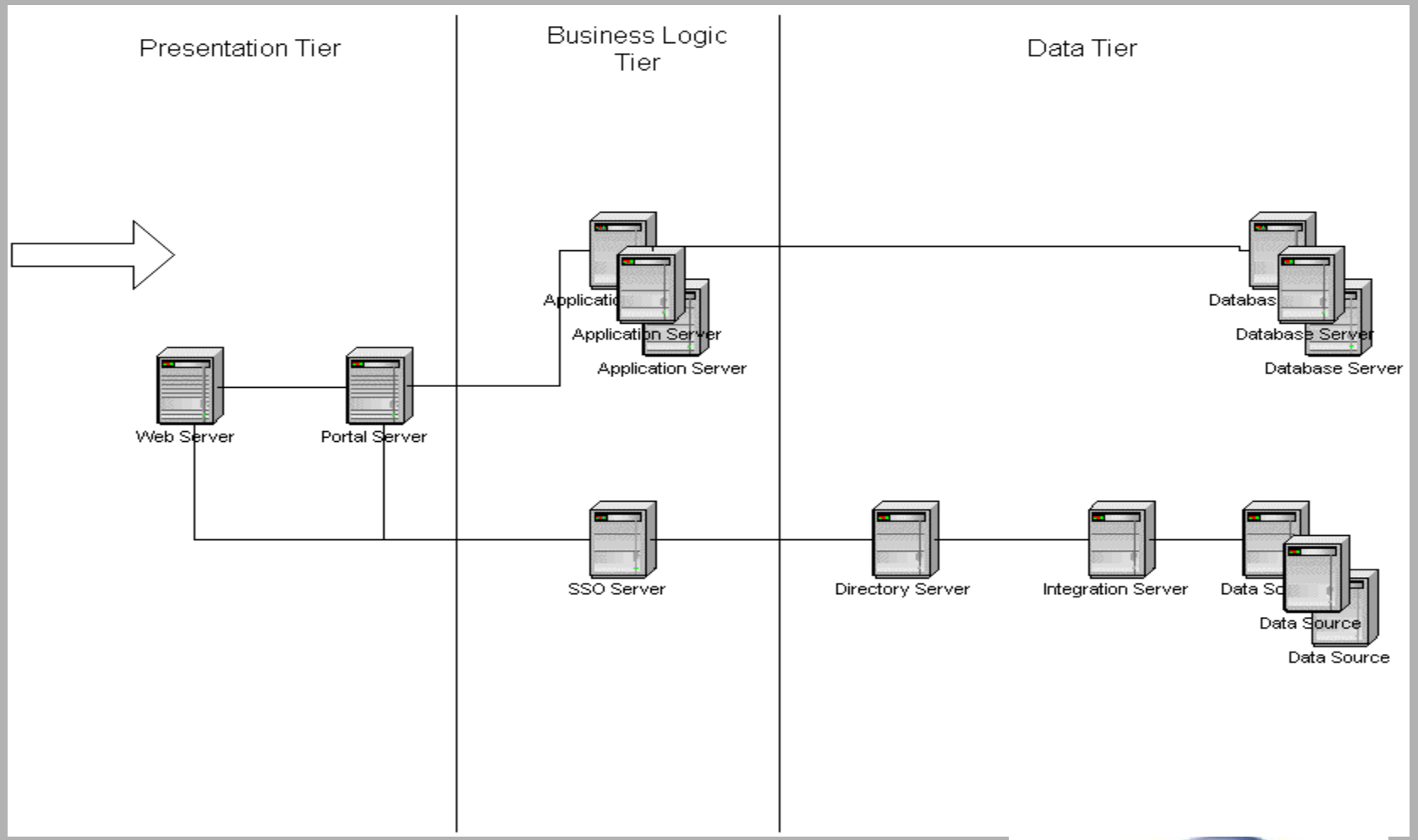
Complexity of Data Model and Business Rules



3-Tier Architecture



3-Tier Architecture – Front View



3-Tier Architecture – Back View