The Directory Marketplace

October 15, 2002

Chris Apple
Principal Architect
DSI Consulting, Inc.

capple@dsi-consulting.net

dsi
CONSULTING, INC

DSI Corporate Overview

- Provides Directory Services and Directory-Enabled IT Solutions to medium- and large-sized organizations
- Founded in 2001 by 3 Novell Alumni:
  - Sandra Harrell – CEO/President
  - Jerry Combs – Chief Architect
  - Mike Saunders – Business Manager
- Broad coverage of the US with locations in: Virginia/DC, Boston, Atlanta, Florida, Oklahoma, California, and Philadelphia
- Average DSI Associate has over 15 years of Directory-Related Experience
- Currently have 10 consultants on staff and growing
- Working relationships with several other Directory-Related consulting shops to augment staff as needed

So

dsi
CONSULTING, INC

Agenda

- What is a Directory? "Sounds simple to me…"
- Problems Faced by IT Managers
- Symptoms of IT Pain
- Directories Provide Relief
- Relevant Directory-Based Solutions
- Directory Technology Trends
- Currently Available Technologies
- What's Lacking?
- What's Next?

What is a Directory?

- A special-purpose, typed data set
- A means of translating one type of information into a different, but associated type of information
- Typically, a directory is read more often than written to
- It is not:
  - A general-purpose database
  - A solution to every data storage problem

So

dsi
CONSULTING, INC

Sounds Simple. Right?

- Well, not really…
- Why?
    - Early stage standards groups and industry consortia tend to create inflated expectations of what a technology will be capable of delivering
    - Inflated expectations tend to result in complicated specifications
    - Complicated specifications? We all know what that means…
    - X.500 and LDAP were not immune
- The Truth?
    - Directories, directory services, and directory-enabled applications can be combined with other technologies to form solutions that solve many of today's IT problems
    - These problems have shaped the current Directory Marketplace

Problems Faced by IT Managers

- Increasing Operations Complexity
- Shrinking Budgets & Forced Staff Reduction
- Uncertainty Over Making New IT Investments vs. "I'll tow the line."
- Grass Roots Adoption of Disruptive Technologies (e.g. Instant Messaging, File Sharing, Distributed Computing Applications)
- Heightened Interest in Security and Disaster Recovery/Business Continuity Planning
- People often have either not enough or too much access to corporate resources at times making it maximally inconvenient and unnecessarily risky for both an organization and its members
- People often cannot find whom to call about what in a timely manner

So

dsi
CONSULTING, INC

Symptoms of IT Pain

- Proliferation of logins/passwords and other identity- and role-related access control information across multiple, inconsistent repositories
- Staff required to administer and manage them increases non-linearly with that complexity
- Helpdesks staffers are overloaded with password reset requests from users who don't (care to) remember many different logins/passwords
- IT security policies are either (practically) unenforceable or non-existent
- It takes entirely too long to set up as well as remove/suspend user accounts and access to other corporate resources
- Corporations have and will be held liable for the actions of their end-users in the absence of detection and/or enforcement of IT policies preventing the use of unauthorized technologies
- Sometimes high-value customers go elsewhere when you can't meet their expectations by marshalling relevant corporate resources quickly

So

dsi
CONSULTING, INC

Directories Provide Relief

- Directory-Related technologies can:
  - Reduce Proliferation of Logins/Passwords
  - Enable Self-Servicing for Password Resets
  - Make Single-Sign-On (SSO) Accessible
  - Establish the Foundation for Identity Management
  - Provide Infrastructure for Role-Based Access Control
  - Enable Quick and Efficient User Account Provisioning
- Deployment of directory-related technologies frees up resources to enable focusing more on the future and less on today's fire drills

Relevant Directory-Based Solutions

- Secure Identity Management
- Single Sign-On for Applications
- Public Key Infrastructure for Secure Communications
- Password Synchronization
- Role-based Access Control
- White Pages/Yellow Pages/Blue Pages
- Employee/User Provisioning

Directory Technology Trends

- LDAPv3 and X.500 have become the dominant open standards
- Active Directory is the Microsoft answer to the questions such standards raise
- Commercially available directory servers Typically Support LDAPv3 alone or both X.500 and LDAPv3
- While X.500 is broader in scope than LDAPv3, it is LDAP that has achieved a broader market adoption as an access protocol
- Whereas X.500 standardizes server-to-server interactions, LDAPv3 considers this problem out of scope
- An effort to standardize such interactions between LDAPv3-compliant servers has stagnated in the IETF

So

dsi
CONSULTING, INC

Directory Technology Trends

- Current LDAP server-to-server interactions are strictly proprietary
- Many Application Servers support LDAPv3 access
- Some Applications support LDAP-redirection of native authentication and/or authorization functions
- Various integration technologies have taken root as a bridge between inconsistent or incompatible information repositories:
  - meta directories
  - virtual directories
  - special-purpose information synchronization tools
  - directory-related markup languages
- Directories are now thought of as a vital and central component to solutions for IT problems rather than a panacea for all information search and retrieval problems

What's Available Today?

- **Directory Servers and Services**
- **Meta Directories**
- **Virtual Directory Technology**
- **Application Servers with:**
  - **Directory Interfaces**
  - **Authentication Re-Direction**
- **PKI/CA Servers and Services**
- **Directory-Related Markup Languages**
  - **DSML**
  - **DirXML**
  - **SyncML**
- **Hosted/Managed Directory Service Providers**
- **Information Synchronization Products**

So

dsi
CONSULTING, INC

Example Mappings of Technology to Solutions

- **Identity Management:**
  - *Directory Server/Service*
  - *Directory Integration Technologies:*
    - *Meta Directory Server (more than likely)*
    - *Virtual Directory (less likely)*
    - **ML*
    - *Information Synchronization Technologies*
  - *Directory-Enabled IT Application Servers*
  - *(Possibly) PKI/CA Services*

  - *Basically, you can call it "The Big Deal"*
- **SSO:**
  - *Directory Server/Service*
  - *Directory-Enabled IT Application Servers*
  - *Authentication Re-Direction (likely)*
  - *Information (Password) Synchronization Products (less likely)*
  - *PKI/CA Server/Service (even less likely)*

What's Lacking?

- *LDAPv3 Server-to-Server Standard(s)?*
- *Cross-Vender LDAPv3 Access Control Model?*
- *Directory Schema Registry*
- *Best Practices for Deploying Directory Technology*
- *Consistency and Maturity of DSML Adoption*
- *Consistency of Directory Integration Methods*
- *Application-Specific Certifications for LDAP*
- *Sufficient Supply of Directory Expertise*

What's Next?

- *Creation, acceptance, and evolution of best practices*
- *Expansion of LDAP certification for specific applications*
- *Convergence on a dominant directory integration methodology*
- *Increased emphasis on solutions involving the use of directory technology and applications*
- *Resolution to LDUP's sluggishness*
- *Possibly XML-based efforts that compete with or replace LDUP*
- *Proliferation of directory-BASED rather than directory-DRIVEN solution offerings*
- *Might SSO actually see the light of day?*

Questions?

Chris Apple
Principal Architect
DSI Consulting, Inc.
capple@dsi-consulting.net