White Paper:

Why and When to Consider ViewDS

Identity Management and XML Directory Services Solution

Why and When to Consider ViewDS

The public, government, and business' need for rapid and accurate searching for information is widespread and growing quickly. Information accuracy, availability, and accessibility are the factors that allow communication and interaction between people, business and government.

ViewDS is a standards-based Directory Server, optimized for high performance searching, approximate matching, and utilizes an elastic schema. The importance of directories is rapidly increasingly and is moving well beyond the corporate electronic directory requirements.

The majority of LDAP Directory Servers available today are simply directories by second nature. Most LDAP servers have been built on other technology, such as Relational Databases or Network devices. ViewDS, however, is a purpose-built directory server, offering superior fundamental capabilities in both traditional (White Pages) and emerging (XML and B2B related) technologies.

The following information is a guide for system architects and application developers to indicate criteria and highlight requirements where ViewDS should be considered instead of lesser capability databases or LDAP directories.

Are People Going to Access Your Directory?

User Presentation and Interface

Presentation and user interaction are **critical** to the success of many applications – e.g. White Page and Yellow Page searches – yet many LDAP directories have no, or inflexible interfaces. ViewDS comes with the optional Access Presence which cuts the cost of implementation by providing built-in-ready-made functionality, customizable for specific customer requirements.

Such functionality includes:

- Organization charts
- Self-service portals
- Alternative Hierarchy Management

- Reporting Interface
- Certificate Management
- Chinese Language Approximate Matching
- XACML Security Policy Administration.
- Role Based Access Control Administration Interface
- Time Based and Attribute Based Access Control

Approximate Matching

Human users won't always be precise in searching a directory; names can be misheard, transcribed incorrectly or shortened; a user may not be familiar with the conventional function or service keywords; an acronym or abbreviation could have been used rather than the full title, etc.

Our resellers constantly find users complaining about the poor results from searching directories based on LDAP directories or relational databases. ViewDS has far superior approximate matching technology to those of its competitors. It supports a range of approximate matching strategies to better support searches by human users.

These include:

- Phonetic matching - e.g. "pane" will match "payne"
- Typing correction - compensates for missing and transposed characters
- Stem matching - e.g. "optics" will match "optical"
- Synonym matching - e.g. "Bob" will match "Robert", "road" will match "street"
- Abbreviation matching - e.g. "NSW" will match "New South Wales"
- Word matching, including word synonyms, word phonetic matching and word typing correction
- Fuzzy logic used to rank and return the best results
- Specialized indexes for rapid evaluation of approximate matches on large databases

Do You Want Your Data to Represent a Real-World Hierarchy?

Organizational Structure and Changes

Entries in a directory are arranged in a hierarchy called the directory information tree (DIT). The directory is most useful when the DIT mirrors a real-world hierarchy, for example, the organizational structure of a company or government.

However, real-world hierarchies can be quite volatile as organizational units within a company are continually formed, dissolved, moved, merged or split. Therefore, directory administrators are often urged to flatten and simplify the DIT to avoid such volatility. In doing so, the directory becomes little more than a simple list of entries, whereas it could have been a valuable resource for managers and staff in understanding the internal organization and operations of their company.

ViewDS is specifically designed to seamlessly support such volatile environments and enables simple and rapid "machinery of government" changes. For this reason, it is an excellent choice for complex hierarchical organizations – e.g. Service Providers, Governments, Defense, Health, etc.

Moves and Renames

Without "Moves & Renames" functionality, large-scale changes in the DIT take more time, more planning and more resources to implement. Many directories only allow leaf entries to be moved or renamed, whereas ViewDS supports instantaneous moves and renames of non-leaf entries in the DIT. Links are automatically maintained despite moves and renames - e.g. "managed by", "manager of" relationships. ViewDS can be configured to enforce various referential integrity constraints.

Do You Need to Search Your Data Intelligently?

Component Matching

Component matching rules (RFC 3687) allow a directory user to match any selected part or parts of attribute values of any complex syntax, for example the syntaxes for storing digital certificates and certificate revocation lists. This allows an application developer to precisely target exactly the entries and attribute values of interest.

Without component matching an application developer may need to resort to scanning the directory or post-filtering large search results to find relevant data, which is both inconvenient and slow. ViewDS supports Component Matching and was the first directory product to do so.

Do You Require XML Based Capabilities?

XML

ViewDS "XED" is the world's first commercial release that extends directory functions for native XML objects. Other directories can store XML data, but only as opaque binary blobs that the directory can neither validate against a schema nor make available for semantically meaningful searching. XED uses XML for the directory protocols, uses XML for the directory data, and allows users to upload schema definitions for their XML data, which the directory uses to validate that data and support semantically relevant search operations. At the same time, it can continue to support existing LDAP and X.500 clients.

For third party XML application developers, a XED server provides an extensible, searchable data repository. The XED server takes care of data validation, data storage, searching, data replication, data distribution, user authentication, access control and the bulk of system administration. This allows the developer to concentrate on the unique features of the new application and complete the application development in less time. Multiple applications can more easily share the data they have in common.

ViewDS XED server allows system integrators to easily merge an existing LDAP or X.500 directory infrastructure with in-house XML-based applications since mappings between the

different formats and interfaces used by XML applications and legacy directory applications are all handled by the XED server.

Is Security or PKI Important to You?

PKI Matching Rules Support

X.509 certificates can be stored by most directories, however few directories support matching rules for the X.509 Public Key Infrastructure (PKI) attribute syntaxes; consequently performance in environments with large certificate revocation lists (CRL) can suffer to unacceptable levels (Asia Pacific reseller EB2BCOM has been asked to provide alternatives for customers suffering these problems even with supposedly high performance LDAP directories.

ViewDS supports the PKI matching rules and component matching for the PKI syntaxes. ViewDS used in PKI applications will process certificates faster and with less effort. For example, a sophisticated UK-based customer found tremendous improvement using ViewDS compared to competitor directories.

Strong Authentication

ViewDS supports strong authentication with X.509 certificates for client-to-server and server-to-server authentication.

Can You Depend on Your Directory?

Scalability

Many LDAP directories have excellent response times with small numbers of entries, but performance suffers as the entries increase. With directories being used to hold more and more information over their lifetimes, scalability becomes an issue. ViewDS was designed to cope with Telco size organizations and is:

- Scalable to tens of millions of entries in a single directory server
- A smaller footprint than others
- Has no restrictions on the number of entries, size or number of attributes, depth of the DIT or the number of connected users

- Has an optimized bulk loader for fast loading of entry sets of all size
- Negligible degradation in load speed between the first and last entries loaded
- Restarts rapidly after power failures regardless of the total number of entries

Continuous Operation

Many applications based on directories are "mission-critical". ViewDS solutions:

- Are designed for continuous 24 X 7 operation
- Have in-built multi-version concurrency control manager allows queries to proceed without being locked out by updates; even in the presence of a very large update operation like the total refresh of a replicated sub tree
- Routine maintenance activities, such as taking backups of the database and check pointing update logs, can proceed without interruption to service. Such activities can proceed even with a heavy update load.

Do You Want a Directory That Will Fit Into Your Existing Environment?

Fit to Other Vendors' Architectures

ViewDS adheres strictly to international standards, and therefore will fit simply as a component into most IT architectures such as Identity Management, including all the major international vendors.