



**VIEWDS**  
DISCOVERY TECHNOLOGY

# White Paper: Why and When to Consider ViewDS

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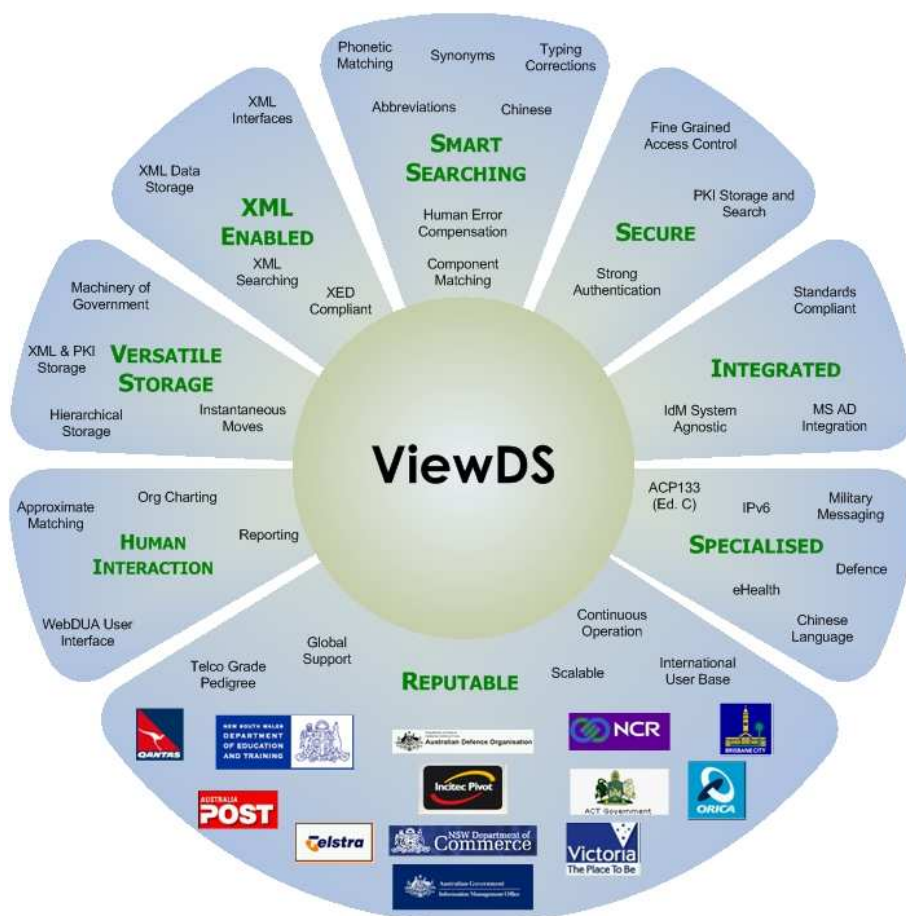
## Why and When to Consider ViewDS

The public, governments and business need for rapid and accurate searching for information is widespread and growing quickly. Information accuracy, availability and accessibility are key factors for enabling communication and interaction between people, business and government.

ViewDS is a standards based Directory Server, **optimised for high performance searching**. The importance of directories is rapidly increasing 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 Relation 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 to 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' optional WebDUA cuts the cost of implementation by providing built-in ready-made functionality, customisable for specific customer requirements.

Such functionality includes:

- Organisation 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 (Dec08).

### 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.

eNitiatives constantly finds 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. "LA" will match "Los Angeles"
- 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?

### Organisational 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 e.g. 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 ViewDS is an excellent choice for complex hierarchical organisations – e.g. Governments, Defence, 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 indeed was the first directory product to do so.

## Do you require XML based capabilities?

### XML

ViewDS (Version 6 XML Enabled Directory) “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 (eInitiatives 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 also supports 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 an order of magnitude 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 organisations and:

- is scalable to tens of millions of entries in a single directory server
- has 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 sizes
- 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:

- is designed for continuous 24 X 7 operation
- has 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 subtree
- routine maintenance activities, such as taking backups of the database and checkpointing 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?

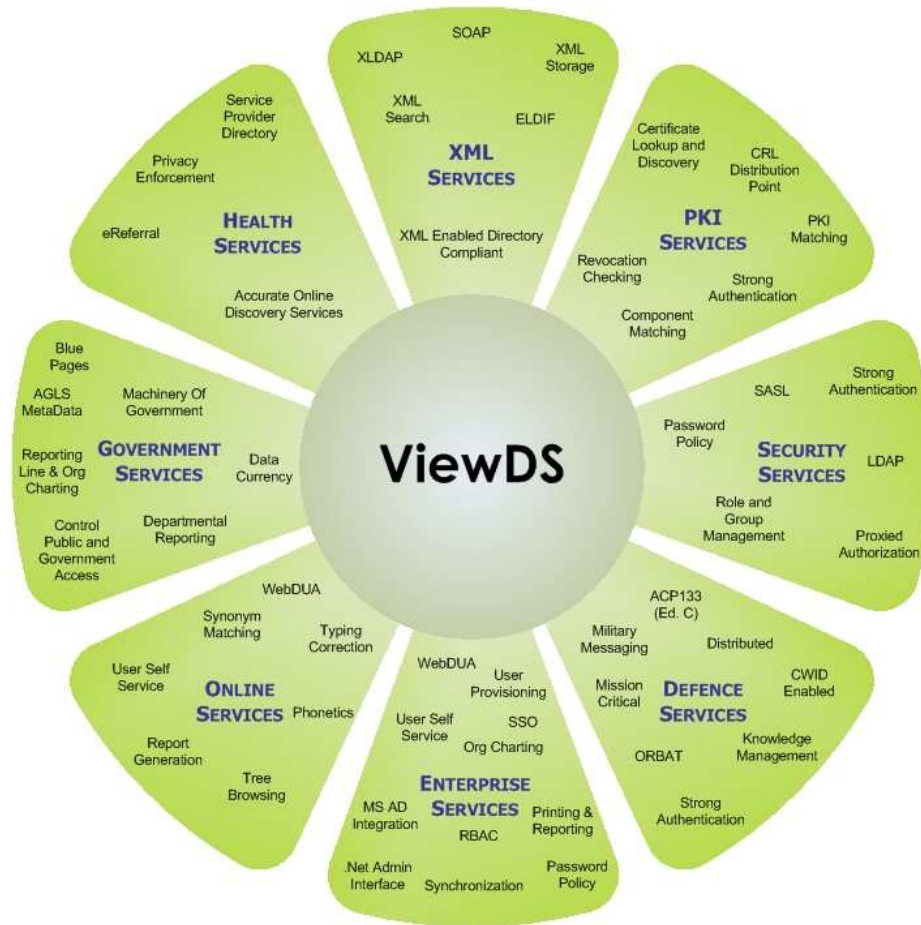
### Fit to Other Vendors’ architectures

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

### Microsoft Active Directory Integration

The Microsoft Active Directory Integration Module is an optional enhancement to ViewDS. Largely preconfigured out-of-the box, it enables ViewDS to function as a presentation layer cache to your existing Microsoft AD infrastructure and complement it with the power of underlying ViewDS technology. Integration will add synchronization, additional data storage capabilities, graphical interfaces, organizational charting, reporting and enhanced searching capabilities to your organization – thus, allowing you to leverage your existing AD infrastructure, whilst providing significant functionality above and beyond what AD has to offer.

## Do you have a specialist need that others are not fulfilling?



## Are you looking for a supported and adopted solution?

### Support & Flexibility

ViewDS is owned, developed, and supported by an independent specialist provider, with its R&D centre located in Melbourne, Australia. This means that we can react quickly to customer needs and customising to meet specific requirements. Our R&D team has a global reputation and recognition.

### User Base

ViewDS has a blue-chip and government user community in Australia, Singapore, USA, and Europe.

Further Information  
 Call +613 9851 8600 or +65 6336 4730  
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