

## **Delivering the Assurance of Conformance and Interoperability**

The Open Group's family of test suites is an essential aid for proper development and maintenance of standards-based products, ensuring conformance of products to industry-standard APIs, application portability and interoperability. The Open Group provides the most reliable, respected, and complete set of API conformance test suites used by major IT software suppliers today.

## **Global Acceptance of The Open Group Certification and Test Products**

The Open Group test suites are recognized by the Open Brand, are recognized by the European Conformance Testing Services (CTS) program. They are also designed to meet NIST acceptance criteria for use in US procurements. Key Open Group, POSIX, ISO and NIST specifications are covered by the same test suite.

## **LDAP 2000 Test Suite - VSLDAP**

VSLDAP is the Open Group's test suite for servers of the Lightweight Directory Access Protocol (LDAP) Version 3. It is part of a portfolio that also includes test suites for UNIX®, CDE, NFS, Sockets, XTI, Motif, and WAP. The Open Group's test tools are essential for proper development and maintenance of standards-based products, ensuring conformance of products to industry-standard APIs and protocols for portability and interoperability.

### **Objectives**

LDAP is a client-server protocol. The VSLDAP test suite verifies the functionality of a server in implementing that protocol when it is operated directly over the Internet Transmission Control Protocol (TCP), and also when it is operated over the Secure Socket Layer (SSL) protocol.

The test suite focuses on the defined protocol rather than on product implementation. Thus, as an LDAP server developer, you retain the flexibility to optimize and differentiate your products in the marketplace for such things as performance and operating environment, while at the same time still providing a standard interface to clients.

### **Intended Use**

VSLDAP is designed for two primary uses:

- to test LDAP compliance by server implementers during product development, quality assurance, and regression testing
- to underpin the LDAP 2000 Brand in which LDAP servers are tested under formal processes.

In addition, VSLDAP may be adapted to test client software development kits (SDKs). Should you choose to do this, The Open Group provides documentation to facilitate modification, but does not support the modified parts of the test suite.

### **Value to Developers**

A number of test suite features are of particular use in troubleshooting problems during development and in regression testing:

- the ability to invoke tests individually
- the ability to select verbose journal file messages documenting test methods
- detailed journal file messages documenting the expected and observed behavior for test failures
- configurability for implementation-specific behavior
- resilience in the face of implementation problems
- fully automated execution.

# VSLDAP

<b>Coverage</b>	<p>VSLDAP operates by sending client LDAP messages to a server and checking the responses. It verifies that the server:</p> <ul style="list-style-type: none"><li>• meets the mandatory requirements for a server of IETF RFC 2251 (Lightweight Directory Access Protocol Version 3), of RFC 2252 (Attribute Syntax Definitions), and of RFC 2253 (UTF-8 String Representation of Distinguished Names)</li><li>• returns referrals and continuation references as described in RFC 2251, and conforms to the mandatory requirements of RFC 2254 (The String Representation of LDAP Search Filters) and IETF RFC 2255 (The LDAP URL Format) when returning LDAP URLs in referrals and continuation references</li><li>• implements the mapping of LDAP over TCP described in Section 5.2.1 of RFC 2251 in which the LDAP messages are mapped directly onto a TCP byte stream</li><li>• conforms to the mandatory requirements for a server of the Secure Sockets Layer Protocol (SSL), Version 3</li><li>• implements a mapping of LDAP over TCP in which the LDAP messages are mapped directly onto an SSL byte stream.</li></ul> <p>In addition, VSLDAP can test implementation by a server of the following optional features of LDAP version 3:</p> <ul style="list-style-type: none"><li>• extensible match</li><li>• notice of disconnection</li><li>• client modification of subschema entries</li><li>• validation of client SSL certificates</li><li>• access to SSL credentials via SASL EXTERNAL.</li><li>• This functional coverage corresponds to the LDAP 2000 Product Standard, defined at <a href="http://www.opengroup.org/regproducts/dim0.htm">http://www.opengroup.org/regproducts/dim0.htm</a>.</li></ul>
<b>Operational Environment</b>	<p>VSLDAP is implemented under the TETware test harness. This is the multi-platform version of the Test Environment Toolkit, a widely used framework for implementing test suites. TETware provides a common environment for test users and developers and allows tests from different sources to be integrated together easily.</p>
<b>Network Environment</b>	<p>VSLDAP is designed to operate over a TCP/IP network.</p>
<b>Host Environment</b>	<p>VSLDAP is designed to operate on Linux systems (Linux version 2.2 with glibc version 6), or on an Intel PC platform. A Java development kit (JDK 1.2) and run-time environment (JRE 1.2) must be provided. An ISO C compilation system (header files, compiler and libraries of support functions) is also required if the customer wishes to modify the SDK component of the test suite.</p>

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