



IBM Tivoli Directory Server

Highlights

- Support hundreds of millions of entries by leveraging advanced reliability and scalability of proven IBM DB2 9 technology and built-in proxy server
- Extend an on demand identity infrastructure to leading business solutions through compliance with LDAP
- Maintain high availability using robust master/subordinate and peer-to-peer replication capabilities, with up to dozens of master servers
- Seamlessly integrate with IBM middleware, identity management and security products, plus leverage open integration with non-IBM offerings
- Offer end users Web-based access to, and the ability to update, “white pages” information
- Flexibly support leading platforms, including IBM AIX, Sun Solaris, Microsoft Windows Server, HP-UX, and SUSE and Red Hat Linux distributions

Gain greater control over enterprise security with an advanced enterprise directory

Enterprise security and identity management are top concerns for most IT departments. Leveraging advanced on demand capabilities, such as compliance management and IT service management, increasingly depends on a comprehensive identity data infrastructure. Today's directories serve as the central identity data repository and a key integration point where identity, security, applications, systems and network management, and other network services all converge to store and retrieve data.

IBM Tivoli® Directory Server helps companies meet today's IT challenges by providing a high-performance Lightweight Directory Access Protocol (LDAP) identity infrastructure. A

powerful, security-rich and standards-compliant enterprise directory, Tivoli Directory Server is built to serve as the identity data foundation for your Web applications and identity management initiatives. It helps enable rapid development and deployment by including strong management, replication and security features.

Enable mission-critical security and authentication

Tivoli Directory Server is built for identity management. It supports role-based and fine-grained access control, plus allows for delegated ownership of entries. Consequently, you can use Tivoli Directory Server to reliably authenticate users and help protect your on demand business environment as you open up your internal business processes to customers, supply chain partners and automated transaction systems.

Flexibly integrate with other applications

Client software development kits (SDKs) for Tivoli Directory Server feature 32- and 64-bit clients so that you can use the directory server with a variety of platforms. Java™ access can be handled through standard JNDI™ interfaces, while a provided Java toolkit helps you address controls and extended operations. In addition to the provided SDK and Java toolkit, Tivoli Directory Server supports access from all standard LDAP clients, including those for Java and C.

With its advanced security capabilities, Tivoli Directory Server helps you:

- Implement self-service and delegated administration by controlling data access down to the individual attribute level.
- Limit access to attributes within an entry, so that users can update a specific number of attributes but only read the rest.
- Securely encrypt the values stored within the directory using the latest encryption algorithms, including:
 - Advanced Encryption Standard (AES)–based encryption.
 - Salted Secure Hash Algorithm (SHA) encryption.
- Offer secure access to directory data by providing:
 - Certified compliance with Common Criteria security standards at Evaluation Assurance Level 4 (EAL4).
 - Secure Sockets Layer (SSL) technology to encrypt data that is transmitted on the wire.
 - Support for PKCS#11 hardware key storage and cryptographic acceleration.
 - Cryptographic modules that have received Federal Information Processing Standards (FIPS 140-2) certification.
- Provide the capability to define global, group and individual password policies.
- Allow delegation of authority to multiple directory administrators with granular administrative roles such as:
 - Password administrator.
 - Server start/stop administrator.

- Set and enforce password policies for logins used by directory server administrators.
- Protect directory data against denial-of-service attacks by using user- and group-specific search limits and identity assertions.

Meet reliability and scalability requirements

When you require 24x7 availability and exceptional performance to meet your global, mission-critical enterprise requirements, Tivoli Directory Server is ideal. It leverages IBM DB2® 9 technology to provide the performance, reliability and scalability needed for an on demand enterprise directory. Consequently, Tivoli Directory Server makes your directory information highly available for important business applications across a variety of operating systems.

Tivoli Directory Server also extends its scalability and reliability by including a front-end proxy server. The proxy server automatically distributes, reads and writes across a number of directory partitions. As a result, it can scale to handle hundreds of millions of entries.

To help optimize availability and performance, the Tivoli Directory Server proxy server also provides fast automatic failover and load balancing

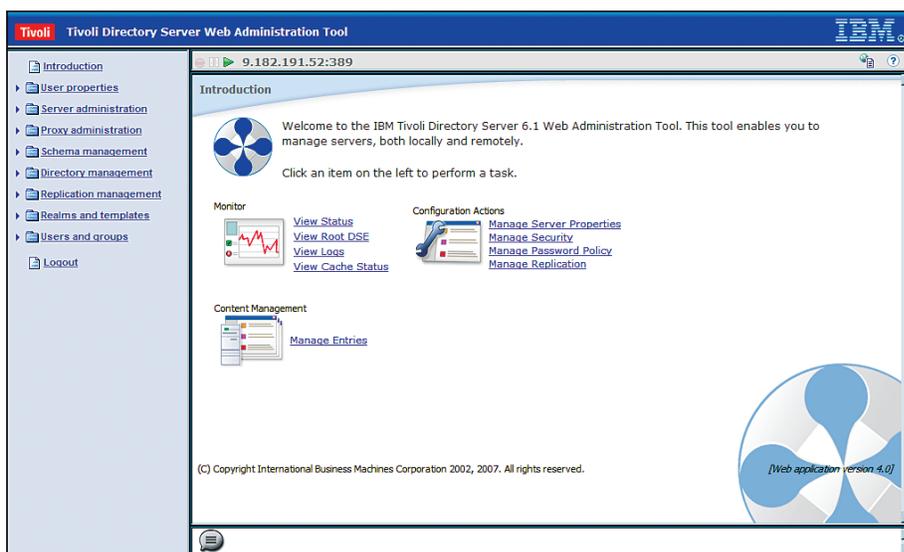
between partitions running on back-end servers, which are transparent to the LDAP clients.

Tivoli Directory Server further enhances scalability by supporting 64-bit server implementations. At the same time, it maintains support for 32-bit implementations to give enterprises great flexibility.

Further maximize reliability with advanced replication

Robust replication options in Tivoli Directory Server not only help enhance performance, but also give you greater flexibility. Tivoli Directory Server supports:

- “Peer-to-peer” replication, which enables you to use dozens of master servers. Replication conflict resolution based on timestamps guarantees data convergence.
- Partial and subtree replication, so that a filtered subset of entries or attributes can be replicated for use in special-purpose directory instances.
- Additionally, Tivoli Directory Server enables multithreaded replication to help improve performance in environments that have a large amount of replication traffic.



Tivoli Directory Server Web administration handles directory server management.

Help optimize flexibility in directory infrastructure and architecture configuration

By allowing you to place multiple instances of the directory server on a single hardware server, Tivoli Directory Server provides great flexibility in configuration. You can also host multiple Tivoli Directory Server instances at different version levels. As a result, you can configure different environments for test and production purposes. Or you can mix directory server versions on a single server.

Other capabilities designed to give you substantial configuration flexibility include:

- Comprehensive and extensible schema — update all schema dynamically, without server restart.
- Plug-in support — comprehensively extend additional server capabilities.
- National Language Support (NLS) — make consoles and documentation available in many languages.

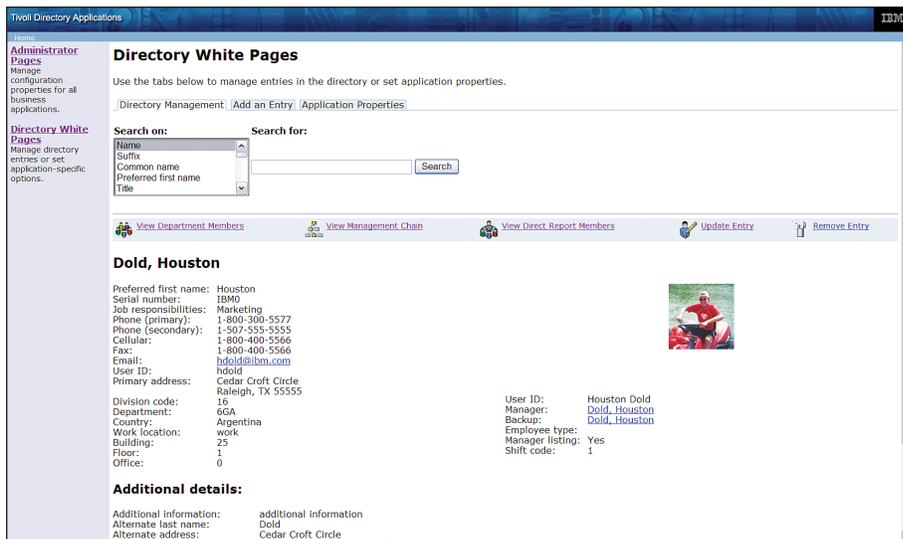
Simplify synchronization with other directories

Tivoli Directory Server helps minimize the administration costs and inconsistencies that accompany manual synchronization of different directories. A built-in application synchronizes Tivoli Directory Server content with Microsoft® Active Directory®. Entries made in one directory are immediately applied in the other. As a result, enterprises that deploy both directories can do so without duplicating administration.

Furthermore, the directory server can automate or eliminate the need for synchronizing passwords with other LDAP directories. Tivoli Directory Server offers pass-through authentication. It can validate passwords with another directory and gives your organization the option of storing validated passwords for improved performance or to migrate to Tivoli Directory Server.

Optimize implementation and flexibility with integration and open approach

To help organizations that use a variety of IBM software, Tivoli Directory Server seamlessly integrates with IBM middleware, identity management and security products. It functions as the



Tivoli Directory Server white pages give the end user access to person and organization information from the directory in a customizable format.

default directory for IBM WebSphere® Application Server, IBM WebSphere Portal, IBM Tivoli Identity Manager, IBM Tivoli Access Manager and IBM AIX® operating system.

At the same time, IBM takes an open approach to directory technology to give you a wide array of choice in your identity provisioning and on demand business applications. Tivoli Directory Server avoids proprietary extensions into the directory that “prefer” IBM provisioning applications.

Offer Web-based white pages to end users

Tivoli Directory Server offers a ready-to-use white pages application, which can also be quickly customized to feature an interface that fits your enterprise’s brand or look-and-feel requirements. End users can use the Web-based white pages application to look up phone numbers, e-mail addresses, organization chart information and other people information within Tivoli Directory Server. Furthermore, end users can maintain person entries to take the administrative burden off IT staff.

Take advantage of additional services and integrations

As part of its comprehensive directory services offerings, IBM offers professional services, including implementation services and identity provisioning. Additionally, you can use IBM Tivoli Directory Integrator — a metadirectory that enables you to synchronize identity data across heterogeneous directories — to help significantly minimize the cost of maintaining discontinuous directory systems.

Tivoli Directory Server at a glance

Supported operating systems:

- Windows Server® 2003 Standard, Enterprise, Datacenter SP1 and R2 (32- and 64-bit)
- AIX 5.2 (Maintenance Level 5 and higher) and 5.3 (Technology Level 1 and higher)
- Red Hat Enterprise Linux® 4 and 5 (32- and 64-bit Intel®, AMD, IBM System z,™ IBM PowerPC® and IBM System i™)
- SUSE Linux Enterprise Server 9 and 10 (32- and 64-bit Intel, AMD, System z, PowerPC and System i)
- Solaris 9 (SPARC) and 10 (SPARC and Windows® Professional XP x64 Edition)
- HP-UX 11i, Version 2 (PA-RISC and Integrity)

Use enhanced manageability features to help avoid problems

Because Tivoli Directory Server is instrumented for Simple Network Management Protocol (SNMP) monitoring of server status, you can easily incorporate it into your broader efforts to help maximize availability. What is more, the directory server maintains audit, change and error logs that help your IT staff quickly detect and prevent potential problems.

Among its enhancements that increase usability and help increase productivity, Tivoli Directory Server offers a Web-

based administration console. Users can perform all data-administration tasks from a remote client.

For more information

To learn more about Tivoli Directory Server, contact your IBM representative or IBM Business Partner, or visit ibm.com/tivoli/products/directory-server



About Tivoli software from IBM

Tivoli software provides a set of offerings and capabilities in support of IBM Service Management, a scalable, modular approach used to deliver more efficient and effective services to your business. Helping meet the needs of any size business, Tivoli software enables you to deliver service excellence in support of your business objectives through integration and automation of processes, workflows and tasks. The security-rich, open standards-based Tivoli service

management platform is complemented by proactive operational management solutions that provide end-to-end visibility and control. It is also backed by world-class IBM Services, IBM Support and an active ecosystem of IBM Business Partners. Tivoli customers and business partners can also leverage each other's best practices by participating in independently run IBM Tivoli User Groups around the world — visit www.tivoli-ug.org

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