

# ORACLE APPLICATION SERVER 10g SECURITY

## KEY FEATURES AND BENEFITS

- **Oracle Identity Management solution provides provisioning and centralized user and access management solution that operates in a heterogeneous environment:** Reduce the administrative complexities of identities across the enterprise with Oracle Single Sign-on.
- **Oracle Http Server provides strong security solutions by enforcing transport level security, certificate based authentication, and hardware acceleration:** The Oracle HTTP Server provides rich, flexible security for Web based applications
- **Oracle Application Server 10g J2EE platform supports the declarative security model while retaining its ability to provide security APIs, like JAAS, to the security developers in your organization:** Develop secure applications quickly and easily
- **The modsecurity plug-in can be used define filters to detect anomalies (including SQL injections) and prescribe appropriate actions:** Oracle's HTTP Server helps eliminate unwanted Web requests and improves the security of Web based applications.
- **OracleAS Web Cache can be configured to cache pages for https protocol requests:** Improve Web based application security performance by using Oracle Web Cache

*As business moves online and is outsourced, businesses must address security concerns in several different categories. Patch management, reducing email spam, eliminating spyware and virus control are quickly transforming into table stakes in business operations. Application security, however, addresses security at an entirely different level. Application security includes thinking through and standardizing on authentication, authorization, integrity, confidentiality, and access control mechanisms across the enterprise. Oracle Application Server 10g (OracleAS 10g), a component of Oracle Fusion Middleware, provides the essential security capabilities and services enterprises require to secure their application deployments.*

### Oracle Identity Management

A key security component of OracleAS 10g is Oracle Identity Management. Oracle Identity Management is an integrated, scalable and complete identity management infrastructure. Oracle Identity Management's functional areas include access and identity management, identity federation, user provisioning, LDAP directory services, virtual directory and web services management. A key feature of Oracle Identity Management is its open, standards-based implementation that supports heterogeneous enterprise environments. Other features include its robustness, scalability, and out-of-the-box deployment support for Oracle products.

### Application Server Platform Security

OracleAS 10g components can communicate with one another over secure sockets layer. Users accessing applications can communicate over https protocol. New with the OracleAS 10g release is the ability to use the new industry SSL protocol standard, TLS 1.0. While TLS 1.0 is based on SSL 3.0, the more tangible benefits for Oracle users using TLS 1.0 are

- Relatively improved efficiencies for CPU intensive cryptographic operations resulting in increased SSL based throughput
- Improved TLS Handshake Protocol that provides increased privacy and integrity for peer-to-peer communication

Since SSL authentication is resource intensive, SSL hardware accelerators provide a way to offload the mathematical computations to the accelerator. This new feature supports the nCipher hardware accelerator card and improves performance.

## ORACLE IDENTITY MANAGEMENT PRODUCTS

### Oracle Identity

**Management** is an integrated, scalable and robust identity management infrastructure that includes LDAP V3 directory services, directory synchronization, access management and a certificate authority.

**Oracle COREid Access and Identity** delivers critical functionality for access control, single sign-on, and user profile management in the heterogeneous application environment.

**Oracle COREid Federation** enables cross-domain single sign-on with the industry's only identity federation server that is completely self-contained and ready to run out-of-the box.

**Oracle Xellerate Identity Provisioning** is a powerful and flexible enterprise identity management system that automates the creation, updating, and removal of users from enterprise systems such as directories, email, databases, and ERP.

**Oracle Web Services Manager** is a comprehensive solution for adding policy-driven security and management capabilities to existing or new Web services.

**Oracle Virtual Directory** provides Internet and industry standard LDAP and XML views of existing enterprise identity information, without synchronizing or moving data from its native locations.

### Certificate Based Authentication

OracleAS 10g supports mutual authentication or server authentication with certificates. Users can use certificates that have been provisioned without using Oracle Wallet Manager as long as they are in the standard PKCS#12 format. The private key and/or certificates can reside in a smart card or a hardware security module that supports the standard PKCS#11 interface.

### Oracle HTTP Server Integration with Oracle Identity Management

The integration is achieved via a standard Apache mode called "mod\_osso" (Mod for OracleAS Single Sign-On). This integration allows an organization to leverage their investment in an enterprise directory and rely on the directory experts to manage users and authorization.

### Mod\_Security Plug In

Oracle HTTP Server 10g Release 2 bundles mod\_security plug in for Apache. This provides a non-invasive method to define filters to detect anomalies (including SQL injections) and prescribe appropriate actions. ModSecurity is an open source intrusion detection and prevention engine for web applications. Audit logs of the POST payload analysis and request filtering is available for further analysis.

### Oracle Web Cache Security

OracleAS Web Cache can be configured to cache pages for https protocol requests. OracleAS Web Cache relies on the Oracle SSL libraries for its SSL services and as a result it supports TLS and AES cipher suites and provides hardware acceleration support. OracleAS WebCache integration with Oracle Identity Management provides it the ability to support client and server authentication with digital certificates.

### Java Security

OracleAS offers the standard Java Security Model services for authentication, authorization and accountability. It delivers user management and administration APIs that enable consistent enterprise deployments. OracleAS 10g uses standard Java Authentication and Authorization Service (JAAS) to provide pluggable authentication and permissions based authorization for all OracleAS 10g components. Oracle supplies two JAAS security providers out of the box:

- XML Security Provider
- LDAP Security Provider

The LDAP provider has been improved in OracleAS 10g directly support 3rd party directories such as Active Directory and iPlanet. Oracle allows organizations to leverage their existing LDAP directories for authentication and authorization.

### Conclusion

Oracle Application Server 10g (OracleAS 10g) delivers a full complement of essential security capabilities and services for secure application deployments.