

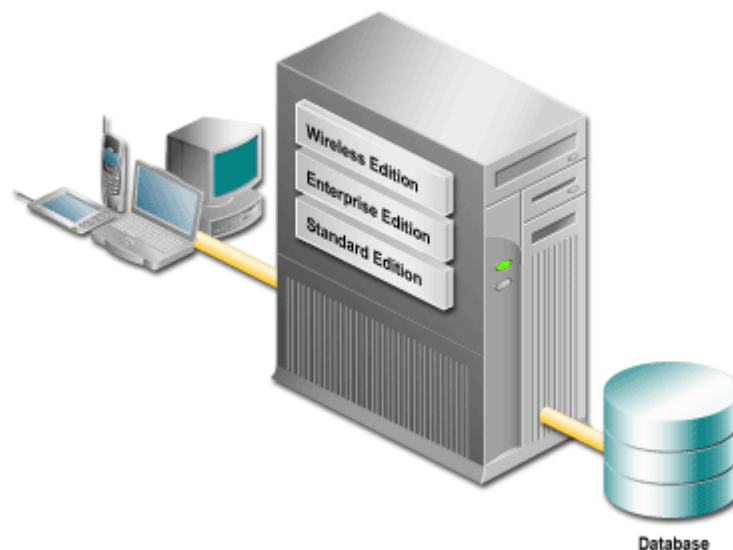
Architecture

- [Standard Edition](#)
- [Enterprise Edition](#)
- [Wireless Edition](#)
- [Services and Components](#)

Oracle9i Application Server Architecture and Com

To provide flexible deployment options, Oracle9i Application Server is available in three versions:

- [Standard Edition](#) is appropriate for Web sites that process a small number of transactions with minimal need for application support.
- [Enterprise Edition](#) is recommended for medium-sized to large-sized applications that handle a high volume of transactions.
- [Wireless Edition](#) provides full enterprise support that includes Oracle Wireless if you need to deliver content to wireless devices.



[Top of page](#)

Standard Edition

Oracle9i Application Server Standard Edition provides you with:

- Standard base infrastructure.
- Unmatched support for J2EE API, which provides powerful development tools.
- Superior Oracle database integration.
- Integration services to connect Web solutions to existing back-ends.

Enterprise Edition

Oracle9i Application Server Enterprise Edition includes all features of the Standard Edition, plus:

- [Oracle Database Cache](#) on the middle tier for faster, more efficient access to content.
- [Oracle Web Cache](#) to improve the performance, scalability, and availability of busy e-business Web sites.

- [Oracle8i PL/SQL](#) for running business logic against data in Oracle Database Cache and the database.
- [Oracle Forms Services](#) for faster development of professional applications.
- [Oracle Reports Services](#) to deliver management reports to thin client applications.
- [Oracle Discoverer 3i Viewer](#) for running and viewing Oracle Discoverer (reports) over the Web.

Wireless Edition

Oracle9i Application Server Wireless Edition includes all features of the Enterprise Edition, plus:

- [Oracle Portal-to-Go](#) to deliver information and applications to mobile devices.

[Top of page](#)

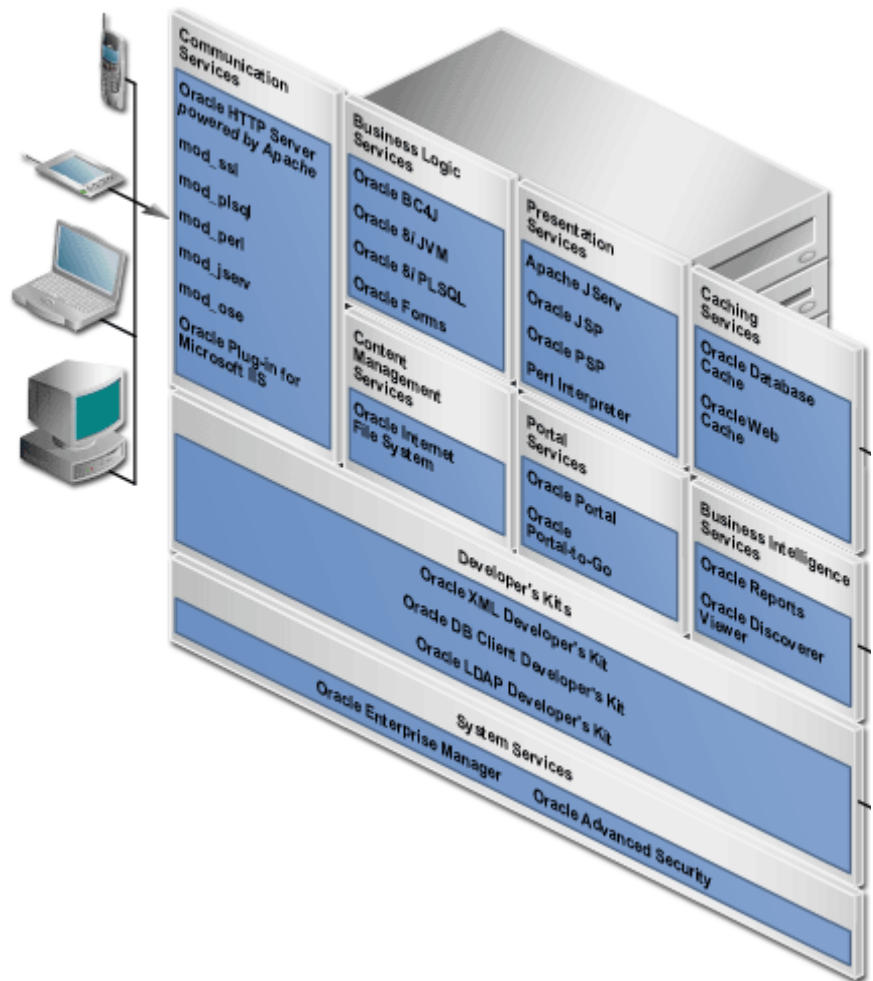
Services and Components

To deliver application hosting, Web content, security, and integration, Oracle9i Application Server includes the following services and components that support the Internet platform:

Services	Components
Communication	<ul style="list-style-type: none"> • Oracle HTTP Server powered by Apache • Oracle HTTP Server Modules (mod) • Oracle Plug-in for Microsoft IIS
Business Logic	<ul style="list-style-type: none"> • Oracle BC4J (Business Component Framework) • Oracle8i JVM (Java Virtual Machine) • Oracle8i PL/SQL (Enterprise & Wireless Edition) • Oracle Forms Services (Enterprise & Wireless Edition)
Presentation	<ul style="list-style-type: none"> • Apache JServ (servlets) • OracleJSP (JavaServer pages) • Oracle PSP (PL/SQL Server pages) • Perl Interpreter
Caching	<ul style="list-style-type: none"> • Oracle Database Cache (Enterprise & Wireless Edition) • Oracle Web Cache (Enterprise & Wireless Edition)
Content Management	<ul style="list-style-type: none"> • Oracle Internet File System
Portal Services	<ul style="list-style-type: none"> • Oracle Portal • Oracle Portal-to-Go (Wireless Edition)
Business Intelligence Services	<ul style="list-style-type: none"> • Oracle Reports Services (Enterprise & Wireless Edition) • Oracle Discoverer 3i Viewer (Enterprise & Wireless Edition)

	Edition)
Developer's Kits	<ul style="list-style-type: none"> • Oracle Database Client Developer's • Oracle XML Developer's Kit (XDK) • Oracle LDAP Developer's Kit
System	<ul style="list-style-type: none"> • Oracle Enterprise Manager (OEM) • Oracle Advanced Security

[Top of page](#)



Communication Services

These services handle all incoming requests received by Oracle9i Application Server. Some of these requests are processed by Oracle HTTP Server and some are routed to other areas of Oracle9i Application Server for processing.

Oracle HTTP Server powered by Apache

As the HTTP entry point to Oracle9i Application Server, Oracle HTTP Server is powered by Apache Web server technology and provides many benefits:

- **Stability**
 - The Apache Web server is the de facto standard for Web listening

- Apache, an open source technology, has been continuously in a large community of developers since its first release.
- **Scalability**
 - Supports a wide variety of platforms.
 - Designed to be very scalable, and can be replicated across many middle-tier machines.
- **Speed**
 - Provides fast response to requests due to compact design of server.
 - Apache can be rapidly reconfigured and reloaded in seconds with a graceful restart.
- **Extensibility**
 - Delegates handling of HTTP requests to [modules](#) (mods) for a functionality not included in the Apache server by default.

[Top of page](#)

Oracle HTTP Server Modules (mods)

In addition to the compiled Apache mods provided with Oracle HTTP server, Oracle support current Internet application technologies to deliver dynamic Web pages. Oracle has enhanced several of the standard mods and has added Oracle-specific

- **mod_ssl**: provides standard HTTPS that is fully supported by Oracle. It handles secure listener connections with an Oracle-provided encryption mechanism through the Secure Sockets Layer (SSL).
- **mod_plsql**: routes PL/SQL requests to Oracle8i PLSQL service, which delegates the servicing of requests to PL/SQL programs.
- **mod_perl**: forwards Perl application requests to the Perl Interpreter that is embedded in Oracle HTTP Server, providing power and speed.
- **mod_jserv**: routes all servlet requests to Apache JServ servlet engine embedded in Oracle HTTP Server; can share servlets across multiple instances and ensures that requests get routed to the same servlet engine.
- **mod_ose (8i)**: delegates URLs to stateful Java and PL/SQL servlets through the Servlet Engine (OSE) contained in Oracle8i. This module keeps session cookies or redirected URLs, and routes requests to the appropriate Oracle sessions.

Oracle Plug-in for Microsoft IIS: you can use Microsoft Internet Information Services (IIS) to directly access PL/SQL and Java Web components stored in an Oracle database. This provides functionality in a Microsoft IIS environment that is supported by Oracle HTTP Server modules, mod_plsql and mod_ose.

[Top of page](#)

Business Logic Services

These services support your application logic.

Oracle BC4J (Business Components for Java): a 100%-Java, XML-powered framework that enables productive development, portable deployment, and full customization of multi-tier, database-enabled applications from reusable business components; applications can be deployed as either EJB Session Beans or Servlet Objects on Oracle9i Application Server.

Oracle8i JVM (Java Virtual Machine): a highly scalable, server-side Java supporting Enterprise JavaBeans (EJBs), CORBA, and database stored procedure achieves high scalability through unique architectural design; commonly running Java and Java services in Oracle9i Application Server and Oracle8i.

Oracle8i PLSQL (Enterprise and Wireless Edition only): a scalable engine business logic against data in Oracle Database Cache (formerly Oracle8i Cache) the database; provides an environment that enables users to use browsers PL/SQL procedures stored in Oracle databases.

Oracle Forms Services (Enterprise and Wireless Edition only): enables user applications based on Oracle Forms technology over the Internet or corporate query or submit data to the database.

[Top of page](#)

Presentation Services

These services deliver dynamic content to client browsers, supporting servlet JavaServer Pages, Perl/CGI scripts, PL/SQL Pages, forms, and business in

Apache Jserv: a 100% pure Java servlet engine fully compliant with the Sun Microsystems Java Servlet APIs 2.0 specification. Apache Jserv works on a 1.1 compliant Java Virtual Machine and executes any Java servlet compliant 2.0. When the HTTP server receives a servlet request, it is routed to mod_jk which then forwards the request to the Apache Jserv servlet engine.

OracleJSP (JavaServer pages): a complete implementation of JavaServer as specified by Sun Microsystems, which extends Java Servlet technology, supports the use of Java calls and scriptlets within HTML and XML pages; combines static template data with dynamic content to create user interfaces; supports component-based development, separating business logic (usually in JavaE) from the presentation. In addition, OracleJSP provides portability between servlet environments, support for SQLJ, OracleJSP Markup Language (JML), external Language Support (NLS), and extended datatypes to work around the limitations of primitive types and wrapper classes.

Oracle PSP (PL/SQL Server Pages): analogous to JavaServer Pages, but using PL/SQL rather than Java for the server-side scripting; includes the PSP Core and the PL/SQL Web Toolkit. Using this service, application developers can separate presentation format from application logic.

Perl Interpreter: a persistent Perl runtime environment embedded in Oracle9i Application Server, saving the overhead of starting an external interpreter. When Oracle9i Application Server receives a Perl request, it is routed to mod_perl, which, in turn, routes the request to the Perl Interpreter for processing.

[Top of page](#)

Caching Services

To reduce the load on the back-end database instance, and to avoid network latency for read-only data, Oracle9i Application Server includes Oracle Database Cache (formerly Oracle8i Cache).

Oracle Database Cache (Enterprise and Wireless Edition only): a data cache that resides on the middle tier, improves the performance and scalability of applications.

access Oracle databases by caching frequently used data on the middle-tier. It also runs stateful servlets, JavaServer pages, Enterprise JavaBeans, and CORB.

Oracle Web Cache (Enterprise and Wireless Edition only): a server acceleration caching service that improves the performance, scalability, and availability of business Web sites that run on Oracle9i Application Server and Oracle8i. By caching frequently accessed URLs in virtual memory, Oracle Web Cache eliminates the need to repeatedly process requests for those URLs on the Web server. Oracle Web Cache caches both static and dynamically-generated HTTP content from one or more application Web servers. Web clients experience faster content retrieval and the load on Oracle9i Application Server is greatly reduced.

[Top of page](#)

Content Management Services

These services make all of your content, regardless of the file type, accessible through a heterogeneous file hierarchy via Web browsers, Microsoft Windows networking, or Intranet. In addition, you can use these services to configure sophisticated file search capabilities, event-triggered alerts, and check-in-check-out functionality to support collaborative projects.

Oracle Internet File System: a file system service that stores files in an Oracle database. To the end user, Oracle Internet File System appears as any other file system accessible through Microsoft Windows networking, a Web browser (using Transfer Protocol), or an e-mail client. Unlike other file systems, Oracle Internet File System stores all files—from Web pages to e-mail, from spreadsheets to XSL documents in the same file system. Users can view file hierarchies through either a Web browser or a Windows interface.

Portal Services

You can use these services to build portal sites that integrate all of your different types of content on a single Web page. Portal sites give your users a single, centralized, and personalized view of relevant applications and data, accessible from both fixed and mobile clients.

Oracle Portal: provides portal services for Oracle9i Application Server. A portal is a common, integrated entry point for accessing dissimilar data types on a single Web page. For example, you can create portal Web pages that give users access to enabled applications, business documents, images, and URLs that reside both inside and outside your corporate intranet.

Oracle Portal-to-Go (Wireless Edition only): a portal service for delivering information and applications to mobile devices. Using Portal-to-Go, you can create custom portal sites that use different kinds of content, including Web pages, custom Java and XML-based applications. Portal sites make this diverse information accessible to mobile devices without you having to rewrite the content for each target device.

Business Intelligence Services

You can use these services to deploy and share business intelligence over your corporate intranet to provide up-to-the-minute information.

Oracle Reports Services (Enterprise and Wireless Edition only): enables the deployment of dynamically generated reports built with Oracle Reports Developer on an intranet, an external company extranet, or on the Internet to retrieve information from the database.

Oracle Discoverer 3i Viewer (Enterprise and Wireless Edition only): a run environment for running and viewing Oracle Discoverer workbooks (reports) that have been created with Oracle Discoverer User Edition. Web authors can use this viewer to embed database information in their sites and publish live reports to Web pages. Users can interact with the query results to show more or less detailed information, to filter results by parameters, or to follow links to other applications.

[Top of page](#)

Developer's Kits

The toolkits included in Oracle9i Application Server contain libraries and tools for application development and deployment.

Oracle Database Client Developer's Kit: contains client libraries for Oracle Database Client libraries: Oracle Java Messaging Service (JMS) Toolkit, Oracle SQLJ and Oracle Java Database Connectivity (JDBC) Drivers.

Oracle XML Developer's Kit (XDK): contains component libraries and utilities to enable applications and Web sites: XML Parser for Java, XML Class Generator, XML Transviewer JavaBeans, and XSQL Servlet.

Oracle LDAP Developer's Kit: contains subcomponents that support clients with Oracle Internet Directory (OID) to develop and monitor LDAP-enabled applications, handle client calls to directory services, encrypted connections, and manage directory services. Includes: Oracle Internet Directory C API, JNDI 1.2 (Java Naming and Directory Interface) Toolkit, Oracle Internet Directory Command Line Tools, Oracle Directory Manager.

[Top of page](#)

System Services

To provide system management and security services, Oracle9i Application Server provides a comprehensive management framework for your entire Oracle environment and network security via SSL (Secure Sockets Layer)-based encryption and authentication facilities.

Oracle Enterprise Manager (OEM): combines a graphical console, Oracle Enterprise Manager Agents, Oracle Intelligent Agents, common services, and administrative tools to provide a comprehensive systems management platform for managing Oracle products.

Oracle Advanced Security: a comprehensive suite of security features to protect enterprise networks and securely extend corporate networks to the Internet. It provides the security of distributed environments, providing data privacy, data integrity, authentication, single sign-on, and authorization.

For detailed descriptions of each service and component, and for information on developing and deploying applications in Oracle9i Application Server, see the *Application Server Overview Guide*.

[Top of page](#)

[Next Theme](#)