

This document contains answers to many of the most commonly asked questions about Oracle Portal. Additional technical and product information about Oracle Portal can be found on [Portal Center](#). In addition, the reader should also be familiar with the [technical and product information for Oracle Application Server](#), especially the Oracle Application Server Technical FAQ and product installation and configuration documentation.

The [OTN Discussion Forums](#) are another valuable information resource for all Oracle products, they include a number of [Application Server and Portal specific forums](#).

Please note that the information in this document is subject to change with new versions of Oracle Application Server.

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1.0 Product Overview

1.1 What is Oracle Portal?

With the shift of applications to an Internet computing model, many information technology departments deployed enterprise applications using fragmented, piece-meal middleware. Middleware complexity represents nearly 42% of IT costs in most organizations. Further, 60% of organizations consider their enterprise application infrastructure an impediment to their ability to meet business requirements.

To solve this problem, Oracle created an entirely new class of systems software, an Application Platform Suite (APS), a comprehensive and integrated, standards-based, enterprise application infrastructure. Oracle Application Server 10g (the third generation of Oracle's APS) offers the industry's most comprehensive and most coherent enterprise application infrastructure. Oracle Portal is a crucial component of this platform. It brings information and services to the user in an intuitive and targeted way that improves your organization's ability to predict and respond to market dynamics, enhance your organization's productivity, and radically simplify your information technology environment. At the same time, it allows you to exploit your existing investments. Today more than 26,600 organizations run their businesses using Oracle Application Server 10g, and more than 7,000

customers globally use Oracle's enterprise portal – Oracle Portal. Regardless of your organization's size, the complexity of your IT infrastructure, or the increasing demands of your business, Oracle Portal can provide the edge you need in today's competitive business environment.

1.2 How does Oracle Portal differ from other portal solutions?

In several important ways:

Most Complete and Best Integrated – Oracle Portal is the only enterprise portal solution that provides the necessary breadth of functionality — content management, document authoring and publishing, portlet-based integration, identity management, systems management, business intelligence, Web caching, and multichannel access — to develop and deploy an enterprise-scale portal solution. Other vendors provide a set of components that you have to integrate, adding complexity and fragility to your portal solution. Oracle integrates these pieces to reduce complexity and speed up portal development and delivery.

Most Productive and Extensible – Oracle Portal is the only enterprise portal solution that provides a complete set of browser-based tools to allow business users to create portals, to add users and content to those portals, and to manage and evolve them without requiring professional developers. A distributed provider framework allows you to deploy portlets anywhere - portlets need not run locally with the Oracle Portal server – and registering a new provider takes only a few seconds and no software needs to be installed. The framework is also ready to work with the J2EE and Web Services portlet standards including JSR 168 and OASIS WSRP.

Most Mission-Critical – Oracle Portal is the only enterprise portal solution that addresses all the elements of performance, scalability, and high availability associated with operating a business-critical component of your organization's infrastructure. It addresses all the aspects of scalability needed by a portal supporting a large user population, including user management, system management, and content management. Several hundreds of customers have deployed enterprise portals with tens of thousands of users using Oracle Portal.

1.3 How is Oracle Portal sold?

Oracle Portal is a component of Oracle Application Server and is included as part of an Oracle Application Server license. To purchase Oracle Application Server, please contact your Oracle sales representative, Oracle reseller, or access the [Oracle Store](#).

1.4 Which editions of Oracle Application Server include Oracle Portal?

Oracle Portal is included in both the Standard and Enterprise Editions of Oracle Application Server and in Oracle Application Server Standard Edition One. It is not included in the Oracle Application Server Java Edition. Oracle Application Server Enterprise Edition is required to take advantage of the following Oracle Portal features:

- Integration with Oracle Application Server Integration
- Full use of Oracle Internet Directory (OID). A restricted use license for Oracle Internet Directory is included with Standard Edition, limiting OID use to Oracle Portal and certain other components of Oracle Application Server.

In addition, mobile pages require licensing of the Oracle Application Server Wireless Option.

1.5 Is the Oracle Database required to run Oracle Portal?

Yes. An Oracle Database (Standard or Enterprise) is required to store metadata and provide needed services. A restricted use database configured for this purpose can be installed as part of the Oracle Application Server installation process or an existing, licensed database may be used. Note that the restricted use database is provided for use with the Oracle Application Server Metadata Repository for storing product metadata only. Storing data other than product metadata (for example, documents uploaded into the Oracle Portal repository or OID being used as a general purpose LDAP directory) requires a full use license of the Oracle Database, either the Standard Edition, Standard Edition One, or Enterprise Edition. For customers planning to install in an existing, licensed database, please see the Certify & Availability link on [Oracle Metalink](#) to confirm that the Oracle Database version is certified for use with Oracle Application Server. In either case, external applications can continue to use earlier versions of the Oracle Database (and other databases) and be accessed through Oracle Portal.

For more information on licensing, see [Oracle Application Server 10g Release 2 Licensing Information](#).

1.6 Does Oracle Portal generate accessible web pages?

Yes. Oracle Portal is coded to meet both Section 508 of the Rehabilitation Act and WCAG 1.0 Double-A guidelines subject to the remarks in the Voluntary Product Accessibility Template. Additional information on Oracle's commitment to producing accessible products can be found at <http://www.oracle.com/accessibility>. The Voluntary Product Accessibility template for Oracle Application Server and Oracle Portal can be found at: <http://www.oracle.com/accessibility/server.html>.

2.0 Availability

2.1 How do I find up-to-date information on product availability and certification by platform?

This information is available on [Metalink](#) under Certify & Availability, and on the [Oracle Store](#), under CD Packs (availability only).

2.2 What documentation is available for Oracle Portal?

The documentation set for Oracle Portal includes the following manuals:

- Oracle Application Server 10g Release Notes
- Oracle Application Server 10g Installation Guide (Platform Specific)
- Oracle Application Server Repository Creation Assistant User's Guide
- Oracle Application Server Administrator's Guide
- Getting Started with Oracle Portal
- Oracle Portal User's Guide
- Oracle Portal Configuration Guide
- Oracle Portal Error Messages Guide
- Oracle Portal Developer's Guide
- Oracle Application Server Upgrade and Compatibility Guide
- Oracle Portal Installation and Upgrade Guide

This documentation is available from the Oracle Portal Documentation page in [Portal Center](#). In addition, please check the [Product Overview](#) page on [Portal Center](#) for regularly updated white papers, technical notes, and FAQs. Context-sensitive and conceptual help is also available throughout the product.

2.3 What's new in the latest release of Oracle Portal?

For a complete list of new features, please refer to the Oracle Portal new features white paper, accessible from the [Product Overview](#) page on [Portal Center](#).

2.4 What are the migration paths to reach the latest release of Oracle Portal from earlier releases?

Upgrade scripts to reach Oracle Portal Upgrade (10.1.4) from earlier releases are now available. For additional information on the process, including overviews, detailed documentation, and links for downloading the upgrade scripts, go to the [Oracle Portal Upgrade](#) page on Portal Center and drill down on the appropriate upgrade target.

3.0 Page Groups, Pages, and Portlets

3.1 What is a page group?

A page group is a hierarchical collection of pages used to organize and publish related content. Page groups also manage and define the behavior of underlying portal objects including page styles, navigation pages, and content attributes, such as perspectives. Each page group can be administered independently, allowing decentralized management of different areas within a portal. For example, a page group containing human resources information for employees can be maintained by the HR department, while the marketing department can manage its own page group for publishing sales and marketing information.

3.2 What is a page?

Portal pages are structured containers for content that are rendered as HTML pages when viewed in a browser, or as mobile XML pages when viewed on a mobile device. A portal site is made up of multiple pages, arranged into page groups. Pages can contain portlets and items.

3.3 How do I create a portal page?

Standard Oracle Portal pages are built using a declarative, browser-based wizard that allows virtually any page structure to be defined. The structure of a page is easily defined by dividing a page into multiple regions; allowing users without any knowledge of HTML to create complex page structures with the click of a button. Region properties control the style, attribute display, and behavior (for example, number of rows and columns of content, and order by and group by criteria) of the items and portlets displayed in the region.

You can also use Java Server Pages (JSP) technology to build a portal page.

3.4 What is a portlet?

A portlet is a reusable web component that dynamically exposes an underlying application or information source within a specialized view. Portlets appear as an area of HTML in a portal page.

3.5 How are portlets created?

Oracle Portal supports three methods for creating portlets:

- **Declarative:** Oracle Portal enables you to develop most, if not all, of your enterprise portal using its wizard-driven, declarative interface. Portlets are automatically generated for portal pages, allowing content managed in Oracle Portal to be published anywhere. Wizard-driven tools are also provided for building dynamic portlets that publish information from databases, Web Services, XML documents, Web pages, spreadsheets, search engines, content management repositories, and other data sources.
- **Programmatic:** The Oracle Portal Developer Kit (PDK) provides a rich set of services for building custom portlets with Java (using the Portal Standard APIs JSR-168, or the Oracle PDK Java APIs), PL/SQL, and other Web-development languages.
- **Oracle Tools:** Oracle tools, including Oracle Reports, Oracle Forms, Oracle Discoverer, and Oracle JDeveloper, have close integration with Oracle Portal through compatibility with Oracle Application Server Single Sign-On and automated features for creating portlets.

Hundreds of pre-built portlets are also available from Oracle and members of the Oracle Partner Network.

3.6 What is an item?

An item is an individual piece of content that resides on a page. Users with appropriate privileges can add items to a page through a browser-based editing interface, or through a WebDAV client. Many different kinds of items can be managed (see [Content Management](#)).

3.7 How do I create navigation bars and banners?

The Navigation Pages feature is used to create navigation bars and page banners. Navigation pages are just like any other page, but they are easily identified in the Oracle Portal repository as reusable objects that can be embedded on any other page to provide pages with a consistent set of navigational elements. Special Navigation Item Types can be placed anywhere on a page to generate the content that often appears on navigation bars and banners, including links to resources and actions (for example, Home, Personal Page, Edit, Customize, Account Information, Page Path) and context specific text (for example, Username, Current Page Title, Current Date).

3.8 What is a page template?

Page templates provide unprecedented control over the appearance of your Oracle Portal site. A template defines layout, style, privileges, and content (including portlets and items). When assigned to a page, the page inherits all of these characteristics from the template. When you modify a template, the changes cascade to all pages associated with the template. Page creators can also selectively override certain template characteristics, if allowed by the template. Each page group can have a default template, which is automatically used by all pages within the group. Page designers can switch a page to use a different template or detach a page from its template to get full control over the page's appearance.

3.9 Can I place portlets on Java Server Pages (JSP)?

Yes. Organizations that have existing Web interfaces built with HTML or Java Server Pages (JSP), or who prefer to develop and maintain their code in Java can access portlets and even build entire portal pages using JSP. Portal developers using Java Server Pages can make full use of the portal infrastructure for functionality like Single Sign-On and object access privileges.

JSPs can be stored and executed from within the Oracle Portal framework, or executed outside of Oracle Portal in a deployment environment of your choosing. Portlets and portal resources are referenced in a JSP with a custom tag library.

3.10 Can I access a portal page from a mobile device?

In addition to standard Web browsers, you can access Oracle Portal pages from wireless clients. Working in conjunction with Oracle Application Server Wireless Option, Oracle Portal automatically transforms the portal page structure to a form appropriate for the smaller screen devices common for wireless clients, displaying any portlets that support a rendering mode that uses Oracle's MobileXML content type. MobileXML is a markup language that hides the differences in markup syntax used by differing wireless clients. Portal's built-in database provider components will automatically generate MobileXML in response to mobile requests. Additionally, the Oracle Portal Developer Kit (PDK) provides APIs that allow coded portlets to detect and respond to mobile requests.

For fine grained control of the page structure displayed on mobile clients, Oracle Portal provides a complementary set of page design tools oriented towards the wireless (small device) experience. Thus, you can build a distinct portal structure for wireless users. Portlet instances can be shared between a mobile portal and its standard desktop counterpart allowing you to present a common set of portlets whose customizations are identical. Therefore, a user who customizes a portlet in their standard portal will see the customizations in the portlet in the mobile portal.

4.0 Content Management and Publishing

4.1 What types of content can be managed by Oracle Portal?

Oracle Portal can manage virtually any type of content. Individual content elements are called items, and items are added directly to Portal pages using Portal's browser-based, self-service publishing wizards. Item types can include:

- Files: Documents of any type (for example, MS Office, PDF, images)
- Text: Text (including HTML) can be added directly to a portal page. A rich text editor allows WYSIWYG editing of HTML.
- Links: Hypertext links to portal pages and items or to any resource that can be targeted by a URL. Special Smart Links automatically generate links to resources, such as the user's home page.
- PL/SQL: PL/SQL script that is executed when a page is rendered.

4.2 Can I create additional custom item types?

Oracle Portal ships with a number of pre-defined item types. Additional custom types can be created, or the supplied types can be redefined to suit your unique content management requirements. Using the browser-based custom type editor, you can:

- Define custom attributes.
- Control the appearance and context-sensitive help for the Add Item and Edit Item wizards for the item type.
- Define custom rendering functions that extend or override the default rendering of the type.

4.3 Can files be managed directly from desktop applications?

Yes. A Web-based Distributed Authoring and Versioning (WebDAV) interface allows file content to be saved or loaded directly from desktop applications like Windows Explorer, Microsoft Office, many HTML editors, and other applications. In addition Oracle's WebDAV client, Oracle Drive, allows right mouse button click directly into Oracle Portal actions such as set properties, check-in, check-out, lock file, view versions, approve, reject from the Windows Explorer. For more information on Oracle Drive, see the [Content Management and Integration](#) page on Portal Center.

4.4 Can edits be approved through a workflow process?

Yes. Users with the Manage Items with Approval privilege on a page can create and modify items on that page, but the modifications are published only after they are approved. The default approver is the page owner. A page group or page owner can define a custom, multi-step approval process at the page group or page level. For each step, the page group or page owner can identify one or more users or groups as approvers. Approval notices can be sent to the users or groups serially (one-at-a-time) or in parallel (all together). In addition, you specify if approval is required from all approvers on the list or any one user on the list.

The status portlet tells item submitters and administrators if an approval pending and when items are approved or rejected. The notifications portlet notifies approvers when an item is awaiting approval.

4.5 Can users edit items multiple times before submitting them for approval?

Yes. A page group administrator can enable the creation of draft items within the page group. When drafts are enabled on a page, users can edit items multiple times and preview the changes before submitting the item for approval.

4.6 Can content go through a staging process, where it is created, edited, and tested on a development site and deployed on a production site?

Yes, the export/import feature of Oracle Portal has been significantly enhanced in Oracle Portal Upgrade (10.1.4) to support staging of content from one or more development sites to a production site. A new overwrite mode allows imported objects to replace their predecessors on the target site, while preserving object relationships and user customizations. In addition, the granularity of export has been improved so that individual pages and other objects can be exported, without having to export an entire page group.

4.7 When should I use an external content management system with Oracle Portal?

While Oracle Portal's content management features can be used to meet many content management needs, there are still a number of reasons why content may be managed elsewhere:

- An organization deploying Oracle Portal may already be managing content successfully in an independent content management system.
- The organization may have specialized content management needs that are better addressed by another product, such as imaging, catalog management, or compliance with regulatory standards (for example, ISO and FDA).
- The organization needs to separate the management and publishing of content to allow the content to be repurposed for multiple applications.

4.8 Are APIs available for the content management features?

Yes, PL/SQL APIs for invoking the content management functionality and views for querying the content repository are available beginning with Oracle9iAS Portal (9.0.2.6). Documentation on the APIs is available in the [Oracle Application Server Portal Developer's Guide](#) and [Oracle Portal PL/SQL API Reference](#) on Portal Center. The APIs are backward compatible with the 3.0.9 content area APIs (except as noted in the documentation). Several new APIs were introduced in Oracle Application Server Portal Release 2 (10.1.4).

4.9 Can the Rich Text Editor be extended or replaced?

Yes, you can tailor the features that are made available to your users. Alternatively, the supplied RTE can be replaced with a 3rd party RTE of your choice. Additional details will be made available on the [Content Management & Integration](#) page on [Portal Center](#).

4.10 How can I extend the out of the box Portal Content Management functionality?

You can integrate custom and 3rd party applications with Oracle Portal's underlying content management features using functionality introduced in Oracle Portal Upgrade (10.1.4) – the Content Management Event Framework (CMEF) - and Oracle Portal PL/SQL APIs. For additional details see the [Oracle Application Server Portal Developer's Guide](#) accessible from Portal Center.

4.11 Can I apply my own CSS to a portal page?

Yes. Page Skins can be used to change the overall look and feel (font size, style, color, alignment, background color, etc.) of item and portlet content on a page. Page Skins are developed in HTML, therefore custom CSS can be referenced in the Page Skin and used to override the look and feel generated from the Portal Style definition.

4.12 Can I apply custom layouts to my item content?

Yes. You can define a custom layout within an item region using a HTML Custom Layout template. The template is an HTML snippet that uses Oracle Portal specific substitution tags to reference the item properties within an item region. When the template is applied to an item region, the items are displayed with the layout as defined by the template. For further details refer to the [Oracle Application Server Portal User's Guide](#) accessible from Portal Center.

5.0 Language Support

5.1 What languages are supported in Oracle Portal?

Oracle Portal supports 29 languages: Arabic, Czech, German, Danish, English, Spanish, Latin American Spanish, Greek, French, Canadian French, Hungarian, Italian, Hebrew, Japanese, Korean, Norwegian, Dutch, Polish, Portuguese, Brazilian Portuguese, Romanian, Russian, Swedish, Finnish, Slovak, Thai, Turkish, Chinese (Simplified), and Chinese (Traditional).

5.2 Can I store translations of my content?

Yes. Translations can be stored for pages and items (the individual content elements that reside on pages). The correct translation will be presented to a user, depending on the language the user has selected for her session. The language to display is determined from either the user's preference store or, if a preference is not defined, from the default browser language setting.

If the user selects a language for which no translation exists, the base translation is returned. That is, the content that was stored under the page group's default language value (a default language can be specified for each page group).

For detailed information on how translations features can be used, please see the Translating Portal Content chapter of the [Oracle Application Server Portal User's Guide](#) accessible from Portal Center.

6.0 Search Features

6.1 How do I search content stored and managed in the Oracle Portal Repository?

Oracle Portal uses Oracle Text to provide advanced searching capabilities against content stored in the portal repository. Documents stored in the portal repository automatically get full text indexed by Oracle Text. Users can search by keyword, by metadata (for example, attributes and categories), or both. Portlets are provided for both search submission and search results. You can customize these portlets to provide a variety of different search experiences, from basic keyword searches to advanced searches on a configurable list of content metadata. In addition, a custom search portlet is available to give page administrators the ability to customize a search portlet for the end user. This portlet also allows you to pre-define a search portlet that renders search results automatically without any user interaction.

6.2 What types of documents can be searched?

Oracle Text supports searches against over 100 document types, including HTML, XML, PDF, word-processing formats, spreadsheet formats, presentation formats, and other common business formats.

6.3 How do I search external data sources?

Oracle Portal also features built-in integration with Oracle UltraSearch. Oracle Ultra Search is an enterprise search engine that provides uniform search-and-locate capabilities over multiple repositories - multiple portal repositories, Oracle databases, IMAP mail servers, HTML documents served up by a Web server, or files on disk.

Ultra Search uses a crawler to index documents; the documents stay in their own repositories, and the crawled information is used to build an index that stays within your firewall in a designated Oracle database.

6.4 Can I use a different search engine than the one included with Oracle Portal?

Yes, several search engine vendors including FAST Search and Transfer and Verity are members of the [Oracle Partner Network\(OPN\)](#) and have integrated their products with Oracle Portal. You can see these, and other partner solutions in the [OPN Solutions Catalog](#).

6.5 Can I develop custom search submission forms and apply custom filtering and formatting to search results?

Yes, a public search API is provided that allows developers to build custom search interfaces, integrate portal search in custom or 3rd party applications, and consume search results in XML. For additional information, see the [Oracle Application Server Portal Developer's Guide](#) accessible from Portal Center.

7.0 Collaboration

7.1 What features are provided to enable the sharing of documents?

A complete document management and publishing environment is built right into the Oracle Portal framework. Documents are stored in the portal repository and managed through collaborative features like check-in/check-out, versioning, multi-step approvals, subscriptions, and fine-grained access control. Users can also manage links, with associated descriptions and metadata, to documents stored anywhere.

7.2 How can I define communities of interest within my Portal environment?

User groups define a collection of users (or other groups) with a common interest or role. The administration of groups can be delegated to any group member(s), allowing each group to manage its own member list. By using the self-service publishing features of Oracle Portal, content can be easily targeted to different groups. For example, you can assign a default home page to each group and direct each group member there automatically upon login. Content metadata can classify content and saved searches against these classifications can be published as channels, which direct group members to content of interest.

7.3 Are portlets available for Microsoft Exchange and Lotus Notes?

Yes. Portlets are available for Microsoft Exchange 2003 and Lotus Notes using Lotus Domino Server 6.x. For additional information on these portlets, see the [Portal Integration Solutions](#) page on Portal Center.

7.4 Are discussion forum and chat solutions available for Oracle Portal?

Discussion forum portlets are available for download from the [Portal Integrations Solutions](#) page on Portal Center. Discussion forum and chat solutions are also available from members of the [Oracle](#)

[Partner Network\(OPN\)](#). Please refer to the [OPN Solutions Catalog](#) for information on solutions provided by Oracle partners.

7.5 What other collaboration solutions can I get from Oracle?

The Oracle Collaboration Suite is an integrated suite of enterprise level applications which focus on managing all of the communications between individuals and teams, the content they create, and the information necessary for supporting them. Oracle Collaboration Suite integrates messaging, calendaring, file sharing, real-time communications, wireless access, calendar and time management, and voicemail and fax service. Using the highly scalable and reliable Oracle database as the foundation, the Oracle Collaboration Suite is the answer for enterprises challenged with reliably managing this unstructured data (for example, email, documents, voice mail, Web pages, real-time collaboration, multi-media, and XML files). Please see the [Oracle Collaboration Suite](#) page on Oracle Technology Network for additional information.

8.0 Personalization

8.1 Does Oracle Portal allow users to customize their view of a portal page?

Yes. Users can be granted one of the following privileges on a portal page.

- **Customization (Full):** A user with Full Customization privileges can add portlets to a page and delete, move, hide, or show any portlet on the page.
- **Customization (Add-Only):** A user with Add Only Customization privileges can add portlets to a page and remove, hide, or show those portlets that he or she has added.
- **Customization (Hide-Show):** A user with Hide-Show Customization privileges can hide or show any portlet on the page.
- **Customization (Style):** A user with Style Customization privileges can apply a different style to the page to customize the page color and fonts.
- **View Only:** A user with View Only privileges can view the content of the page, but cannot add, remove, show, or hide any of that content

8.2 Can users be prevented from customizing certain parts of a page, like the banner or navigation bar?

Yes. Any region on a page can be locked down by the page or template designer to prevent modifications. Page designers can also hide the Customize link on portlet headers to prevent customization of portlets.

8.3 Can users customize individual portlets?

Yes. Any portlet can implement a customization mode that allows users to control the behavior or appearance of the portlet. For example, users can change the heading of a portlet, control the sort order of a list of database records, or change the style of chart displayed in a business intelligence portlet. Changes made by a user are visible only to him or her.

8.4 How can I control the list of portlets a user sees when they customize a Page?

A user only sees the portlets for which they are authorized. For example, only Portal Administrators see portlets like Users, Services, and Providers.

You can also change the structure of the Portlet Repository, which is implemented as a Page Group, to control what users see and how they navigate through the list of available portlets. You can organize portlets into sub pages, and each sub page can have its own access control settings. You can also define access control settings on individual portlets in the Portlet Repository.

8.5 What kind of automatic personalization does Oracle Portal provide?

Oracle Portal's security features can be used to automatically personalize content for different users or groups. Since users can only view and access content for which they are authorized, every user will automatically get a unique version of any page that has multiple security levels. For example, the home page can contain a common tab seen by all users and additional tabs specialized per department. Users in the HR department only see the HR tab, users in the Finance department only see the Finance tab, and so on. The same principle applies to portlets and items.

You can also automatically direct users to a specific home page by assigning them to a default group, and assigning a default home page to that group.

8.6 Can Oracle Portal generate personalized recommendations of content, based on a user's interests and activities?

Oracle Application Server Personalization, an option to Oracle Application Server Enterprise Edition, can be integrated with Oracle Portal to track user activity and to generate content recommendations.

9.0 Integration

9.1 What kind of information can be integrated into my portal? Does it have to come from an Oracle database or an Oracle application?

A wide variety of information sources can be integrated. OmniPortlet and Web Clipping portlets capture and integrate data from multiple data sources, including relational databases, Web Services, spreadsheets, XML, Web sites, search engines, content management systems, SAP systems, and others. These portlets shift the portlet development from information technology (IT) departments to end users, empowering non-technical users to customize portal content and integrate data via self-service interfaces. Detailed information about OmniPortlet and Web Clipping is available at <http://portalcenter.oracle.com/portalttools>, and these portlets are included with the PDK.

Using the rich set of services in the Oracle Portal Developer Kit (PDK), you can leverage the services provided by the J2EE platform to connect your portal to any kind of application using the standard J2EE Connector Architecture (J2CA), or use proprietary APIs to build your connectors. Oracle Application Server Integration, included with Oracle Application Server Enterprise Edition, is a complete Enterprise Application Integration solution that further facilitates the creation of portlets against enterprise applications, including SAP, PeopleSoft, Siebel, J.D. Edwards, enterprise application environments, such as CICS, Tuxedo, and MQ Series, and other databases, including DB2, Sybase, SQL Server, and others.

9.2 What J2EE standards are supported for building portlets?

Oracle Application Server provides the most complete J2EE implementation in the application server market. Any J2EE feature can be used to construct portlets, including JSPs, servlets, EJBs, J2CA, and others. The Oracle Portal Developer Kit (PDK) is compatible with Oracle Application Server Containers for J2EE (OC4J) and uses the latest servlet specifications. In addition to Oracle's own JDBC drivers, Oracle Application Server also certifies the DataDirect JDBC drivers for connectivity to 3rd party databases, including DB2, Sybase, Informix, SQL Server, and others.

9.3 Does Oracle Portal support JSR 168 and WSRP?

Oracle has been an active member of the standards bodies and been instrumental in the process of defining these portal interoperability standards:

- JSR-168: Defines how Java developers should write portlets using standard APIs.
- OASIS WSRP (Web Services for Remote Portlets): Defines the communication protocol between a portal application and the remote portlet.

Oracle fully supports the JSR 168 portlet specification. You can develop JSR 168 portlets using the Java Portlet Wizard, a JDeveloper plug-in. You can also deploy JSR 168 portlets to Oracle's Java Portlet Container or any other vendor's JSR 168 Java Portlet Container. Portlets deployed to Oracle's container are exposed to portals through WSRP, and can be registered against any portal vendor's WSRP compliant portal.

Oracle Application Server Portal Release 2 (10.1.4) supports consuming portlets of any language through WSRP. You can also test the functionality of your portlets on the hosted portal on <http://portalstandards.oracle.com>

9.4 What is the Portal Developer Kit (PDK)?

The Oracle Portal Developer Kit (PDK) is the highly productive framework for extending and integrating applications into Oracle Portal.

The PDK includes the software and samples developers need to build portlets. You can use any programming language to build portlets and we provide pre-built services for Java (100% J2EE-compliant) and PL/SQL. More importantly, you can actually create portlets from existing Java components and Web applications using the PDK without writing additional code. Tight integration with Oracle JDeveloper helps developers to build Java portlets based on Oracle Java PDK APIs or Portal Standard APIs (JSR-168).

The PDK provides a Java Portlet Wizard, an extension for Oracle JDeveloper, to simplify portlet development and enable developers to focus on the business logic not on the APIs or configuration. The PDK is available for online viewing and download from [Portal Center](#).

9.5 Can information be passed between portlets?

Portlets can be connected to produce integrated Web-based applications, even when the portlets publish data from different systems. By defining portlet parameters and associating them with page parameters and events, the page designer can wire portlets and pages together. Selecting content or submitting an event in one portlet can actually drive the content and display of other portlets and control navigation between pages. Portlets can also be wired to page parameters, so that all the portlets on a page respond to a single customization or parameter passed on a page request.

9.6 Can I build portlets with Active Server Pages, Perl, Cold Fusion, or other Web scripting languages?

Yes. Web Clipping allows developers to take any application written in any language and easily create integrated portlets, by taking the URL of an application, parsing the content, and using the PDK-Java framework to create a portlet. This process allows each Show mode of the portlet to be rendered from different applications and/or languages. No changes need to be made to the source application.

It is possible to consume any kind of Web Service using the PDK, so if your application publishes business logic as a Web Service you can easily integrate it into Oracle Portal. Also, WSRP will allow you to register any kind of portlet independently of the technology used to write it.

9.7 Where can I find more information on the portlets and services delivered by Oracle partners?

See the latest news and information regarding Oracle partners on the [Oracle Partner Network \(OPN\)](#) site. From there, you may search for partners delivering Oracle Portal based solutions by using the keyword portal in the search box on the [OPN Solutions Catalog](#) home page.

9.8 How are partner portlets licensed?

Different partners have different business models for their portlets. These include:

- Charging a license fee for use of their portlet
- Providing portlets and underlying services for no fee to increase traffic to their sites
- Providing portlets and underlying services with a subscription or usage fee
- Providing a portlet for no fee to customers who have licensed other underlying software required by the portlet

Please check with the vendor of interest for their specific business practices. See the [Oracle Portal Partner Initiative](#) page on Portal Center for a list of some of the partners that have built solutions for Oracle Portal.

9.9 Can Oracle Files and CMSDK be integrated with Oracle Portal?

Yes, an Omniportlet-based Oracle Files data source is included as part of Oracle Collaboration Suite 9.0.4.2 and allows links to Oracle Files content to be searched and published in Oracle Portal. You can also use Portal URL items to link to content stored in Oracle Files and CMSDK, use UltraSearch to perform federated searches across Oracle Portal and Oracle Files/CMSDK repositories, and use a WebDAV client to copy content between the two repositories.

The Oracle Portal and CM SDK teams are working together to further integrate the two products. In the longer term, more Files authoring and management features will be exposed in Oracle Portal so that users will not have to leave the Portal to author content in an Oracle Files repository.

9.10 Can external content management systems be integrated into Oracle Portal?

Yes, Oracle Portal provides a variety of integration technologies for aggregating and publishing content from any source. These include APIs and WebDAV support for propagating content to the Portal Repository for publishing, and portlets for aggregating content that is published externally to

the portal. OmniPortlet provides a wizard based interface for querying and formatting content stored in external repositories-users see consistent formatting and presentation, regardless of the originating content store or application. Conventional search systems can also be used to locate content and publish it directly to a portal, without requiring portal users to define and submit their own search criteria.

A number of best-of-breed content management products are pre-integrated with Oracle Portal through portlets provided by our partners. These include products from 170 Systems, Documentum, FatWire Corporation, Mediasurface plc, Percussion Software, Pironet NDH, and Tridion. Please see the [OPN Solutions Catalog](#) for a complete list of content management partners.

9.11 What application integration options are available that can help me build portlets against disparate application environments?

Oracle Portlet Factory is a highly productive portlet creation environment for Oracle Portal that simplifies & accelerates the development, deployment, and maintenance of custom and composite portlets that interact with SAP, PeopleSoft and JD Edwards application data. Portlet Factory's ease of use and advanced development features dramatically streamline the entire portlet development process, enabling developers to deliver adaptive, robust portlets. Portlet Factory-powered portlets are dynamic, robust J2EE applications that react automatically to change, and can be further modified by business users in real time, to meet changing business requirements. For additional information on Oracle Portlet Factory, see the [Integration Tools & Technologies](#) page on Portal Center.

Going forward, our direction is to enhance the portlet building experience on top of standard web services and JCA interfaces. We will be providing portlets that are built on top of Oracle Application Server Integration adapters. In partnership with iWay, Oracle Application Server Integration provides standard JCA adaptors for SAP, Peoplesoft, Siebel, J.D. Edwards, and a number of legacy applications environments (CICS, VSAM, IMSTM, IMS/DB, Tuxedo, JMS, and others).

9.12 Can I use Oracle Portal with the E-Business Suite?

Yes, Oracle has certified Oracle E-Business Suite Release 11i with Oracle Application Server 10g Release 2. This configuration is Generally Available for all E-Business Suite customers. Please refer to Oracle Metalink Note 186981.1, Oracle Application Server with Oracle E-Business Suite Release 11i Frequently Asked Questions. A number of 11i portlets are available when registering the Oracle Applications Framework web provider and subsequently can be added to custom Portal pages.

Examples of Oracle Applications Portlets:

- Applications Navigator - Access Applications menus based on user responsibilities.
- Applications Favorites - Bookmark specific Applications links for quick access.
- Applications Worklist - Summary of current workflow notifications.
- Oracle Balanced Scorecard - Display status of strategic and tactical business objectives.
- Performance Manager Viewer - Display business Intelligence Key Performance indicators in graphical and tabular format.

9.13 What integration exists with PeopleSoft and JD Edwards enterprise applications?

PeopleSoft: The use of Oracle Internet Directory (OID) as the backend user-provisioning store was introduced in PeopleTools 8.4.6 and allows a consistent user identity across both the Oracle &

Peoplesoft environments. Starting with PeopleTools 8.4.7, PeopleSoft is implemented as a full SSO partner application for environments running on Oracle Application Server, while for non-Oracle Application server environments an Oracle SSO Server plug-in is available to integrate Peoplesoft applications into the overall Single Sign On experience.

Also starting with PeopleTools 8.4.7, pagelets built with PeopleSoft's Pagelet Wizard are exposed as JPDK compliant portlets. This integration will allow PeopleSoft subject matter experts to easily build pagelets from PeopleSoft application data and then deploy these portlets to Oracle Portal.

JD Edwards: With the 8.9.5 release of Enterprise One, all portlets that are currently exposed via JSR168 will be exposed via PDK-Java. These include: EnterpriseOne Menu, Supplier Self-Service, Employee Self-Service, OET – Object Environment Technologies. A future release will add Supplier Relationship Management and Customer Self-Service.

Custom portlets which interact with JD Edwards applications may be produced using the Forms Design Assistant (FDA). This 4GL style IDE allows for the generation of multiple output formats including Portlets. The Portlets generated are both JSR-168 and PDK-Java based. Given the distributed architecture of the EnterpriseOne portlet implementation, it is possible to expose virtually all application components of EnterpriseOne within the Oracle Portal environment.

9.14 What integration options exist for SAP enterprise applications?

Several options exist for SAP integration. The Oracle Portlet Factory can be used, as described above, to build portlets against SAP environments at any release level. For SAP R3 customers, the OracleAS Data Source Plugin for OmniPortlet for SAP is available. The OracleAS Data Source Plugin for OmniPortlet for SAP makes it fast and easy to create, customize, and deploy portlets that leverage existing SAP business processes and data. Using this plug-in, portlet developers can declaratively create portlets based on any remote-enabled SAP Business Application Programming Interface (BAPI) or Remote Function Call (RFC). It also provides a powerful Search mechanism to look for target Business Objects and BAPI Function Modules in the SAP Business Object Repository.

For SAP customers who have adopted SAP Portal and Netweaver, the OracleAS Provider for SAP iViews is available. The OracleAS Provider for SAP iViews shows a user's SAP iView content within Oracle Portal portlets. The user can personalize the SAP iViews from within Oracle Portal, and the portlets provide for Single Sign-On with SAP Enterprise Portal. The data source allows page designer to select the SAP function (BAPI) to call in a wizard and is integrated with the Oracle Application Server Single Sign On as an external application. This data source has been implemented on top of SAP Java Connector (JCo) framework. The Oracle Application Server Provider for SAP iViews and the OmniPortlet SAP Data Source is available for download from the [Portal Integration Solutions](#) page on Portal Center.

9.15 What's happening with URL Services?

Most URL Services features are now supported in the Web Clipping portlets. It offers an elegant browser-based tool to clip any Web content as a portlet. Furthermore, there is a command line migration tool to migrate URL Services portlets into Web Clipping portlets. For more information on WebClipping, see the [Oracle Portal Developer's Guide](#).

10.0 Portal Architecture

10.1 How can Oracle Portal scale to meet the processing demands of a large user population?

Oracle Portal meets the three critical requirements for scaling performance:

- The underlying architecture is cross-platform, allowing the portal to take advantage of the full range of available hardware resources. Portal administrators can choose the best platform for each portal component, allowing optimization of both performance and total cost of ownership.
- The architecture supports load distribution and parallel execution of portal components across multiple servers.
- The portal implements intelligent caching of dynamically generated pages. Intelligent caching ensures that information remains fresh and timely while minimizing the cost of regenerating content from databases and back-end services. Intelligent caching supports user-level customizations and is also modular. Entire pages or just page components can be stored in a cache and refreshed as necessary. Finally, intelligent caching protects security by ensuring that cached content is only accessible by authorized users.

At the heart of the Oracle Portal architecture is the Parallel Page Engine, a multithreaded servlet deployed on Oracle Application Server Containers for J2EE (OC4J), Oracle's highly scalable J2EE framework. Multiple Parallel Page Engines deployed in a server farm work together to retrieve content from portlet providers, manage caching, and assemble and deliver pages.

Oracle Portal is also fully integrated with Oracle Application Server Web Cache, Oracle's patented caching technology. Unlike legacy cache servers, which only handle static data, Oracle Application Server Web Cache combines caching, compression, and assembly technologies to accelerate the delivery of both static and dynamically generated content. Oracle Application Server Web Cache also provides back-end Web server load balancing, and failover and surge protection features, which ensure blazing performance and rock-solid up-time. With Oracle Application Server Web Cache, Oracle Portal can now serve rich content faster, to more users, using fewer computing resources than ever before.

For more information, please refer to the [Sizing, Performance and Monitoring FAQ](#) available on the [Performance & Sizing](#) page on Portal Center.

10.2 How do I achieve session failover and high availability with Oracle Portal?

Oracle Portal leverages the high availability features of Oracle Application Server 10g and the Oracle Database. Because state is stored in the database and through cookies, a session will persist across any failure except for closing the browser. Oracle Portal is compatible with all the high availability mechanisms provided within the Oracle Application Server. These include, Cold Failover Clusters, Active Failover Clusters, and Disaster Recovery.

For additional information, please refer to the [High Availability](#) page on [OTN](#).

10.3 Can I manage and monitor my Oracle Portal installation with Oracle Enterprise Manager 10g Application Server Control?

Yes. The Application Server Control may be used by administrators to manage the complete Oracle Application Server architecture (including Oracle Portal) via a single management interface.

Through the Application Server Control Portal management user interface you can perform real time monitoring, maintain mid-tier and portal configuration information (including port information), examine detailed log file diagnostics, display historical metric and performance information, and configure alert thresholds and proactive notification mechanisms.

10.4 How does Oracle Portal take advantage of grid computing?

Oracle Portal leverages the grid computing features of Oracle Application Server 10g and Oracle Database 10g to lower IT infrastructure costs and increase software flexibility by efficiently pooling and utilizing hardware resources (CPU, Memory, Storage) available within an enterprise. Specific examples of how Oracle Portal takes advantage of grid computing include:

- Addressing peak loads by leveraging the grid's ability to associate, on demand, additional portal middle tiers (and specifically the servlet-based Parallel Page Engine) with an underlying infrastructure across one or more administrative domains.
- Utilizing the Oracle Enterprise Manager 10g Grid Control (available in Oracle Database 10g Release 2) to monitor the performance of their portal (for example, end user response times and representative transactions) and analyze diagnostic log file messages and other collected metrics over various time periods

10.5 Can I run Oracle Portal with Microsoft IIS or iPlanet listeners?

The Oracle Application Server Proxy Plug-In allows customers to continue to use Sun ONE Web Server Enterprise Edition or Microsoft's IIS while managing their applications with Oracle Application Server. The Proxy Plug-In is a plug-in to the Sun and Microsoft products that redirects requests to the Oracle HTTP Server. Proxy Plug-In is also integrated with Oracle Application Server Single Sign-On.

Please see the [Oracle® HTTP Server Administrator's Guide](#) for more information.

11.0 Security

11.1 How are Oracle Portal users authenticated?

Oracle Portal is a partner application of the Oracle Single Sign-On environment. This allows users to be authenticated once and to gain access to any partner application for which they are authorized, without requiring them to re-enter a user name and password for each application. Oracle Application Server Single Sign-On is fully integrated with Oracle Internet Directory, which stores user information. The Oracle Internet Directory is an LDAP V3 compliant directory and supports the provisioning of both users and groups within a Directory Information Tree (DIT). For additional information on Oracle Application Server Security, see the [Identity Management](#) page on OTN.

11.2 Where are user profiles stored?

By default, the Oracle Application Server uses the Oracle Internet Directory as the user provisioning repository and the point of truth for the single sign-on server authentication check. User and group definitions are defined by standard attribute classes and stored as entries in the directory information tree (DIT). Users and groups may be provisioned through the Delegated Administration Service, exposed via the management/administration portlets of Oracle Portal or via the administration tools

and APIs provided with Oracle Internet Directory itself. For additional information on Oracle Internet Directory, see the [Identity Management](#) page on OTN.

11.3 Where are Access Control Lists stored?

For performance reasons, the Access Control Lists (ACLs), consisting of user and group privileges on Oracle Portal resources, are managed within the Portal Repository. User and group membership, which are applied to these ACLs, are retrieved from Oracle Internet Directory and cached locally within the Portal Repository. User Privileges on the LDAP directory itself are held as Access Control Items (ACIs) within the Directory Information Tree structure.

11.4 Can the Oracle Portal handle single sign-on to legacy applications?

The Oracle Application Server Single Sign-On environment supports Web based applications that delegate their credential verification (partner applications) as well as those which retain their own authentication model (external applications). Legacy applications may integrate as partner applications by use of mod_osso (an Oracle Application Server HTTP Server mod) or by use of the Oracle Application Server Single Sign-On SDK. However, if this is not possible, the external application model allows for the integration of applications with their own credential checks by storing the users individual username/password (in an encrypted password vault) and performing an automated login on behalf of the portal user when the given application is executed.

If the legacy application is not Web based, such as client/server, it is still possible to integrate the application into a single sign-on experience through extensions to the Oracle Application Server Single Sign-On environment. These include the use of meta-frame integration and browser plug-ins.

11.5 Which LDAP servers are certified for use with Oracle Portal?

The LDAP standard defines a method to query information from a LDAP directory, it does not place any constraint on the vendor as to how that functionality is implemented nor exposed. Hence, support for multiple directories inherently requires a lowest common denominator approach, limiting the functionality available to the application. Oracle Portal, like other Oracle products, is certified against the Oracle Internet Directory. This integration allows the Oracle Portal to take advantage of the functionality & scalability of Oracle Internet Directory.

The use of 3rd party LDAP servers such as SunOne, Active Directory, Novell eDirectory, OpenLDAP etc. can be achieved in two ways: (1) using the Oracle Internet Directory's pass through (proxy) mechanism or (2) via synchronization of the directories and associated meta-data. Synchronization of directories is achieved by use of the Directory Integration Platform, a component of the Oracle Internet Directory.

11.6 Does Oracle Application Server Single Sign-On work with any other external authentication servers?

The Oracle application server integrates with 3rd party authentication services via the OracleAS Single Sign-On server. Where third-party access management is to be configured, the OracleAS Single Sign-On server, the third-party access management server, and Oracle Portal form a chain of trust. The OracleAS Single Sign-On server delegates authentication to the third-party access management server, becoming a single sign-on-enabled application itself. Oracle Applications continue to work with the OracleAS Single Sign-On server and are unaware of the third-party access

management server. Implicitly, however, they trust the third-party server. Oracle Application Server has been certified to operate with a number of different security vendors including;

- Netegrity (CA) SiteMinder
- RSA Security ClearTrust
- Softforum SafeSignOn
- Sun Java System Identity Server 6.1 SSO
- Oblix Netpoint SSO. (now part of COREid Access)
- POSDATA ISign

Where there is the need to implement a SSO environment across several vendor's technology stacks, Oracle has the COREid family of products. This family of products allow for the definition of a heterogeneous Single Sign On environment across applications from multiple application/server vendors.

11.7 Can applications built with other Oracle tools take advantage of Single Sign-On?

Like Oracle Portal, Oracle Reports, Oracle Forms, and Oracle Discoverer are partner applications of Oracle Application Server Single Sign-On. Portlets and applications built with these tools can share an Oracle Application Server Single Sign-On session. The use of either mod_osso or the Oracle Application Server Single Sign-On SDK allows any custom developed application, such as a Java Application built in Oracle JDeveloper, to be quickly integrated into the Oracle Application Server Single Sign-On environment.

12.0 Oracle Application Server Product Focus – Portal Specialization

12.1 What is the Oracle Application Server Product Focus?

The Oracle Application Server Product Focus is one of the areas of expertise in which Oracle partners can register when joining the Oracle PartnerNetwork (OPN).

12.2 What is the Portal Specialization?

The Portal specialization is a sub-area within the Oracle Application Server Product Focus that allows Oracle partners to further specify their area of expertise to include Oracle Portal.

12.3 Who should join?

The Oracle Application Server Product Focus is open to all partners who share Oracle's vision for an integrated, enterprise wide application server solution and who want to develop solutions using Oracle's framework. The Oracle framework is used for developing and managing applications, enterprise portals and mobile solutions. Industry leaders are joining the Oracle Application Server Product Focus to provide scalable, reliable, and integrated solutions to their customers.

12.4 What are the Benefits of Becoming a Member?

Membership in the Oracle Application Server Product Focus broadens the reach and enlarges the market available to the partner. Partners are able to enter information about their company, and their products and services in the Oracle PartnerNetwork Solutions Catalog. The Solutions Catalog is the source for information on value-added products and services associated with all Oracle products,

including Oracle Application Server. Having an entry in the catalog allows a partner to reach anyone looking for this information. By collaborating with Oracle, partners add valuable content and applications to the Oracle Application Server framework. At the same time, partners are able to offer their own customers more value by leveraging the content and services provided by Oracle and by other members of OPN.

12.5 How do I Join?

Enrolling in the Portal Specialization is simple. Just follow these steps:

1. Join the Oracle PartnerNetwork. Please see the [OPN](#) Web site for details.
2. Join the Oracle Application Server Product Focus and indicate Portal as your specialization. Please see the [OPN](#) Web site for details.
3. Develop your Oracle Portal related services or products. Use Portal Developer Services and the [Oracle Portal Developer Kit](#) to jump-start your development.
4. Submit an entry for the OPN Solutions Catalog. Please see the [OPN](#) Web site for details.

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