Oracle Application Server 10g – Enterprise Portal
Visualization, Integration, and Collaboration Services to Improve Business Productivity
EXECUTIVE SUMMARY

As enterprise applications evolved from a client/server to an Internet computing architecture and rapidly grew in complexity, many information technology departments deployed enterprise applications using a fragmented, piecemeal middleware infrastructure. The resulting middleware complexity represents nearly 50% of the information technology costs in organizations today. Further, 60% of organizations consider their enterprise application infrastructure an impediment to their ability to meet business requirements. Enterprises are also evolving their applications from being monolithic, closed systems to being modular, open systems with well-defined interfaces. This new application architecture, called service-oriented architecture, represents a fundamental shift in the way new applications are being designed and developed, and the way in which they are being integrated with existing legacy systems and business applications. To solve the challenge of middleware complexity, Oracle created an entirely new class of systems software — an Application Platform Suite (APS) — a comprehensive and integrated enterprise application infrastructure based on service-oriented architecture (SOA).

Oracle recognized that organizations today need a more comprehensive and coherent platform to develop, deploy, and manage enterprise portals. Oracle Application Server 10g, the third generation of Oracle’s APS, offers the industry’s leading enterprise portal solution. Oracle Portal provides a number of services, including (i) a browser-based design environment – to make it easy for business users and developers to create, manage, and evolve enterprise portals, (ii) self-service content management and publishing – to make it easy to create, publish, and share relevant information, (iii) collaborative communities – to facilitate communities of users working together, (iv) multichannel access – to allow users to access information and services at anytime from anywhere, and (v) built-in business intelligence – to make it easy to create executive dashboards with up-to-date business intelligence from across the organization. Oracle’s enterprise portal exploits grid computing to allow services to be deployed on large numbers of low-cost, modular servers and storage with mission-critical performance, scalability, and availability. It exploits an identity management infrastructure to centralize the administration of users, groups, roles, and authorization privileges to streamline user management, reduce support costs, and improve security. And it provides comprehensive monitoring and management using Oracle Enterprise Manager.

Enterprise portals can improve your organization’s ability to predict and respond to market dynamics, it can enhance your organization’s productivity, and it can radically simplify your information technology environment, while enabling you to exploit your existing investments. Oracle’s enterprise portal solution is the most complete and best integrated, the most productive and extensible, and the most mission-critical solution in the market today. Today more than 20,000 organizations run their businesses using Oracle Application Server 10g, and more than 7,000 customers globally use Oracle’s enterprise 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.
**INTRODUCTION**

Sixty percent of organizations today consider their enterprise application infrastructure an impediment to their ability to meet business requirements. This startling statistic points to the most critical problem facing organizations today: How do we make technology responsive to business needs? The promise of the Web was to provide information and applications to users fast and flexibly. Organizations have taken advantage of this capability and quickly deployed dozens (if not hundreds) of enterprise applications and Web sites. As the number of applications grows, so too does the complexity and cost of managing and integrating them. Enterprise portals emerged to bring order out of this chaos by providing a single place to organize and target information and applications to a specific user community. However, enterprise portals have themselves multiplied, leading to even greater complexity and costs.

Oracle recognized that organizations today need a more comprehensive and coherent platform to deploy and manage business applications and enterprise portals. To solve this problem, Oracle created a new class of systems software — an Application Platform Suite (APS) — a comprehensive and integrated standards-based enterprise application infrastructure. The Gartner Group defines an APS as “integrated assemblies of three fundamental runtime technologies: an enterprise application server, an integration suite, and a portal product. In most cases, an APS product consists of more than just its three fundamental components. Development tools, systems management and security, dedicated database, multichannel access, content management, Web services administration, and other extensions enhance the value of an APS, in part by enhancing the power of its component parts and, of particular importance, by enhancing the synergy between them.”

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Oracle Application Server 10g — the third generation of Oracle’s APS — is the industry’s most comprehensive and cohesive application platform suite. It has been designed to exploit two important technology trends — service-oriented computing and grid computing — to offer you the best total value of opportunity.

- **Service-Oriented Architecture** – A software architecture that facilitates the development of enterprise applications as modular business services. Oracle Application Server 10g provides a comprehensive SOA infrastructure to enable you to develop, wrap, orchestrate, provision, manage, secure, federate, discover, and access enterprise applications as services. Service-oriented computing can provide you with a flexible enterprise application infrastructure.

- **Grid Computing** – A software architecture that coordinates the use of large numbers of low-cost, modular servers and storage to act as one large computer. You can start small; you can use low-cost computers; you’ll have less excess capacity; and you can add capacity when you need it. Grid computing can radically lower your information technology costs and reduce complexity.

- **Best Total Value of Opportunity** – Oracle Application Server 10g provides you with the best total value of opportunity: a single application development framework to improve developer productivity, a single cohesive product architecture to reduce middleware complexity, and a single provisioning and management tool to reduce operational and management costs. You can reduce middleware complexity, deliver projects faster, and save costs on hardware, storage, operations, and management.

**BUSINESS CHALLENGES**

Today, every organization is faced with the need to predict changes in the global business environment, to rapidly respond to competitors, and to best exploit organizational assets to prepare for growth. Your enterprise application infrastructure can either help you meet these business imperatives or it can impede your ability to change. To help you, your infrastructure must:

**IMPROVE YOUR ABILITY TO PREDICT AND RESPONSE TO CHANGE**

By improving your organization’s visibility to business events; by enabling you to develop and roll out new business services quickly; by modernizing your legacy systems and applications; and by helping you to optimize business processes in response to market dynamics.

**IMPROVE ORGANIZATIONAL PRODUCTIVITY**

By facilitating better decisions with accurate business intelligence; by helping employees to find the information they need and to share it collaboratively with others; and by providing employees and customers with the information they need when and where they need it.

**SIMPLIFY YOUR INFORMATION TECHNOLOGY ENVIRONMENT**

By being provisioned, deployed, monitored, and managed as a single cohesive infrastructure.

**LEVERAGE EXISTING INVESTMENTS**

By being modular, open, and extensible to allow you to adopt it in a heterogeneous environment without needing to remove or replace your existing systems.
ORACLE’S VALUE PROPOSITION

As the “desktop” for the enterprise application infrastructure, your portal places the information and services critical to driving your organization at the fingertips of those who need them. Oracle Application Server 10g provides comprehensive deployment facilities for service-oriented portals that improve your organization’s ability to predict and respond to market forces.

IMPROVE YOUR ABILITY TO PREDICT AND RESPOND TO CHANGE

Oracle Portal brings together key services from the broader application platform to provide better visibility into your business, integrated and automated processes that can be monitored and optimized as conditions change, and a service-oriented environment that allows you to quickly implement and deploy new capabilities to eliminate inefficiencies and improve productivity.

Get Global Visibility Across Your Entire Business

The first step in dealing with changing conditions is knowing where you are at any point in time, by correlating historical information (exposed by traditional business intelligence tools) with real-time key performance indicators (from process automation systems). Oracle Application Server 10g makes it easy to create targeted business dashboards that expose traditional and real-time business intelligence in an organized and intuitive way. Key capabilities include:

- **Integrated Business Intelligence** – Oracle Application Server provides access to data warehouses and other information repositories for quick analysis of trends. Advanced features support ad hoc querying, reporting, and analysis of enterprise data, and provide the ability to publish high-quality, end-user-facing reports in HTML, PDF, or XML.

- **Integrated Business Activity Monitoring** – Oracle Application Server provides views of critical business events and allows you to monitor critical business processes within your organization to quickly detect and correct inefficiencies. You get both current and historical process execution data and can compare them to key performance indicators of your business to identify and forecast where corrective action may be required.

- **Intuitive Visualization** – Oracle Application Server makes it easy to integrate multiple business intelligence views and key performance indicators into a single intuitive view targeted at specific areas within the organization using browser-based tools. A customization framework also allows end users to refine the interface, and filter the content and data presented to them to suit their individual needs and preferences.

Integrate and Automate Business Processes

Business processes now extend beyond the boundaries of an organization to include customers, partners, and suppliers. To effectively automate and optimize business processes, human interactions with business processes must be intuitively integrated into the working environment of the people involved. Oracle Application Server 10g provides the ability to integrate process notifications and events in context for quick analysis and turnaround by process participants. Key capabilities include:

- **Integrated Business Process Automation** – Makes it easy to publish and filter process notifications and events. User-defined business rules can be easily defined to model, automate, and continuously improve business practices. Both traditional, application-based workflows and e-business integration workflows are supported.
• **Integrated “Context Flows”** – Support rapid decision-making by placing events and notifications in context of critical business information. Data from heterogeneous sources can be easily organized to make it easy for users to find the answers they need.

• **“In-flight” Business Process Views** – Present process information to users, allowing them to determine process status and to quickly identify and resolve bottlenecks.

### Adapt to Changes Quickly

The one constant in today’s fast-paced environment is change. Success is determined by how quickly an organization reacts to changing conditions. Oracle Application Server 10g provides the visibility required to recognize changing requirements, and the flexibility to react quickly to those changes. Key capabilities include:

• **Comprehensive Service-Oriented Architecture** – Makes it easy to quickly build, evolve, and publish Web services using an integrated set of tools. Services can be quickly assembled into “composite applications” to solve business challenges.

• **Business Process Simulation and Optimization** – Makes it easy to define, monitor, and optimize key business processes with model-driven business process automation tools.

• **Self-Service Publishing Environment** – Puts power in the hands of the business user to create, publish, share, evolve, and maintain highly relevant content and information in real time and to make changes quickly as organizational needs change, without needing to wait for professional developers or the information technology department.

### IMPROVE YOUR ORGANIZATION’S PRODUCTIVITY

Eighty-two percent of organizations indicate that improving productivity is central to improving their global competitive position. Oracle Portal provides a comprehensive environment to build, deploy, and evolve targeted community portals to enhance how you collaborate with customers, partners, employees, and suppliers.

**Find what you need — Fast**

Oracle Portal saves you time and money by providing a single secure point of access to find the right information, tools, or people to solve problems. Key capabilities include:

• **Browser-Based Page Design Tools** – Give administrators, page designers, and end users a powerful environment in which to create secure, content-rich portal pages, without requiring programming. Applications, services, and content are easily combined into a single view that can be targeted to specific roles within the enterprise and quickly adapted to changing business requirements.

• **“Context Flows”** – Connect applications and services together in a single, intuitive view, reducing time wasted in finding and navigating to many different disparate applications and information sources.

• **Integrated Search and Publishing** – Delivers secured, relevancy-rated, and specific search results from a large number of data sources, including document repositories, relational databases, IMAP mail servers, Web sites, file systems, and more. Dynamic publishing facilities are integrated with search facilities to automatically publish critical information, eliminating the need for end users to repeatedly perform keyword searches.

"Because the staff can now obtain the latest customer data whenever and wherever they want, our sales operation has become more efficient and effective. Sales reps have immediate access to sales and marketing updates, sales and learning tools, and communications from sales management. As a result, our sales force has become more productive, our customer satisfaction levels have risen both of which translates directly to increased revenues."

Wendell Willis, Digitization and Customer Data Manager, Honeywell Automation & Control Solutions
Collaborate More Effectively

As business relationships have become more geographically dispersed, the need for better, more integrated collaborative tools has become paramount. Oracle Portal integrates collaborative capabilities intuitively into the work environment, allowing users to work — and to work together — more effectively. Key capabilities include:

- **Integrated Content Management, Document Sharing, and Publishing** – Makes it easy to collaborate on working documents and deliverables. For example, users can upload and publish their documents via a browser interface or simply drag and drop files and folders from their desktop. Once loaded, files can be opened, edited, and saved back to the portal from desktop applications like Microsoft Office 2000.

- **Community Portals** – Make it easy to create working environments for targeted collaborative groups and to delegate administration to the community to evolve their environments without waiting for information technology organizations.

- **Cross Geographical Boundaries Seamlessly** – Enables geographically dispersed communities working in multiple native languages to collaborate with each other through integrated multilingual and translation capabilities. The text appearing in wizards, dialog boxes, messages, and help topics, for example, is translated into 29 languages. Content owners can also load any number of translations of their documents.

- **Out-of-the-Box Integration with Industry-Leading Collaboration Products** – Provides extensibility for functions such as email, calendaring, Web meetings, and discussions with support for Oracle Collaboration Suite, and other market-leading products such as Lotus Notes and Microsoft Exchange.

Access Data When and Where You Need

The pace of business is increasing. Users want access to applications, services, and information at all times, no matter where they are. Oracle Portal is wireless-enabled to deliver critical information when and where it is needed, eliminating unnecessary delays. Key capabilities include:

- **Integrated Multichannel Access** – Oracle Portal enables your users access from more than two hundred different kinds of wireless devices, including WI-FI laptops, PDAs, wireless phones, J2ME devices, and PocketPCs. Built-in features automatically transform portal pages for mobile devices, and support the definition of mobile-specific views that can be optimized to individual devices.

- **Mobile Business Alerts** – Oracle Portal enables users to configure notifications, to ensure that they are alerted when key business events occur, through mobile alerts via a variety of channels, including pagers, SMS messaging, and instant messaging.

- **Advanced Wireless Services** – Oracle Portal provides you with advanced wireless capabilities, such as Mobile Personal Information Management (PIM) for collaboration, VoiceXML technology to render your enterprise portal to disabled users who can speak but not read or type, and location services to render highly customized information to users based on their location.

SIMPLIFY YOUR INFORMATION TECHNOLOGY ENVIRONMENT

Enterprise portals need mission-critical services like advanced caching, scalability, security, and identity management. Many portal vendors require you to stitch these pieces together and to maintain this integration work over time. The more pieces you stitch together, the more fragile your enterprise portal is and the more expensive it is to maintain. In contrast, Oracle Portal is part of the broader Oracle
Application Server 10g APS and comes preintegrated with all of these critical components and more. We do the work, so you don’t have to. You save money and have a more robust enterprise portal.

**Simplicity Through a Coherent Application Platform**

Middleware complexity represents nearly 50% of an organization’s IT costs. Oracle Portal, the industry’s best integrated and most coherent enterprise portal, is designed to radically simplify the complexity in your information technology environment. Key capabilities include:

- **Broadest and Best Integrated Facilities** – Oracle Portal provides a number of features “in-the-box,” including content management, search, user and identity management, Web caching, and connectors to legacy systems and enterprise applications. The features are all designed to eliminate the need to integrate a number of products from different vendors with each other in order to create a portal. Oracle Portal lowers development and maintenance costs and reduces complexity.

- **Centralized User Provisioning and Management** – Oracle Portal incorporates centralized user provisioning and single sign-on (SSO) services to ensure that users, roles, groups, and access privileges are defined centrally, streamlining user management, reducing support costs, and improving security. Third-party LDAP directories can be synchronized using built-in metadirectory capabilities. Integration with Windows Native Authentication allows users to use their desktop username and password to identify themselves with the enterprise portal.

- **Enterprise Systems Administration** – Oracle Portal employs a single administration console that eliminates many of the complex management tasks associated with maintaining a multitier environment. Oracle Enterprise Manager (OEM) allows an administrator to monitor data and events, to maintain mid-tier and portal configuration files, and to monitor all components used in the portal environment from a powerful, unified user interface.

**Reduce Cost Through Grid Computing**

Grid computing can lower your hardware and management costs. You can start small; you can use low-cost computers; you’ll have less excess capacity; and you can add capacity when you need it. Grid computing provides automated workload management, and integrated provisioning and management facilities to radically reduce operational and management costs.

- **Industry-Leading Performance** – Portals built using Oracle Application Server 10g take full advantage of Oracle Web Cache, Oracle’s patented, in-memory caching technology, to provide the highest level of performance by minimizing unnecessary regeneration of pages and content.

- **Industry-Leading Scalability** – Oracle Portal takes advantage of Oracle’s Dynamic Workload Manager to scale up systems when capacity runs out; it leverages the replication and delegated administration services of Oracle’s identity management solution to administer large user populations efficiently; and it has partitioning and other services to manage large volumes of content efficiently.

- **Increased Reliability with the Best Availability** – Enterprise portal solutions are mission-critical and must be available at all times. Oracle takes full advantage of the comprehensive clustering and availability architecture within Oracle Application Server and Oracle Database. This end-to-end availability, unique to Oracle technology, allows you to operate your portal with maximum availability and eliminates both planned and unplanned downtime.
LEVERAGE YOUR EXISTING INVESTMENTS

Organizations have invested more than $50 billion over the past eight years in enterprise applications. Enterprise portal solutions must be able to integrate existing applications and information into a single, intuitive interface. Oracle Portal is designed to leverage, and to help you best exploit, your information technology investments without removing or replacing them.

Aggregate All Types of Information — Quickly

Most portal products still require a lot of expensive, expert programming to access data from a variety of systems and publish it in a form consumable by end users. Oracle Portal addresses this problem by providing a robust set of tools, services, and adapters that allow you to quickly find, access, and publish critical information. Key capabilities include:

- **Integrate Information Quickly** – Oracle’s “OmniPortlet” technology allows business developers to use a browser-based, wizard-driven interface to connect to a wide variety of data sources, including relational databases, Excel spreadsheets, XML data sources, Web services, and application adapters, and to apply a visualization that best suits the target audience and context.
- **From a Variety of Information Sources** – Oracle Portal provides an integration platform that works with all major relational databases and offers out-of-the-box connectivity to more than 25 different enterprise applications and legacy systems. It is certified to work with more than 125 different third-party products, providing the industry’s most completely tested and certified interoperability with MS.NET, IBM WebSphere, and SAP Net Weaver to make it easy to adopt within your existing environment.
- **Out-of-the-Box Portlet Catalog** – Oracle Portal offers a growing catalog of partner solutions, including more than 120 ISVs and 400 portlets that provide out-of-the-box integration to a wide variety of leading software products.

Modernize Your Legacy Systems

Oracle Application Server 10g provides extensive capabilities to create and integrate Web services that can bring the capabilities of your existing systems into your new enterprise application architecture. With Oracle Portal, you can publish these services and “wire” them together to create new and highly intuitive composite applications that are tuned to the way your people work. Yet it is modular, open, and extensible to work in a heterogeneous environment and to help you best exploit your information technology investments without removing or replacing them.

WHY ORACLE?

Enterprise portals can significantly improve your ability to predict and respond to changes in your business environment. They can improve your organization’s productivity. And they can simplify your information technology environment, while allowing you to leverage your existing information technology investments. While other vendors continue to make marketing announcements about their enterprise portal offerings, Oracle Portal is the industry’s most widely deployed solution today, with more than 7,000 active customers globally. These customers choose Oracle’s portal solution because it is the most complete and best integrated, the most productive and extensible, and the most mission-critical solution in the market.
• 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. It also provides a large number of simple and easy-to-use mechanisms to integrate information from a variety of data sources, without needing cumbersome manual programming.

• 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.

CUSTOMER PROOFPOINTS

Fiat Auto Argentina S.A

Fiat Auto Argentina, S.A. founded its plant in Ferreyra, province of Córdoba, in 1996. To maintain its competitive position, the Italian company realized a need to optimize its internal processes and decision-making through better use of technology. Fiat sought an integrated solution that would allow it to enter the era of business intelligence quickly and cost effectively. To develop the solution, Fiat turned to Ayi & Associates, an Oracle Certified Partner. Oracle Portal provided a robust and integrated platform to gather critical customer, supplier, and logistics information and to get it to the people who needed it quickly and efficiently.

Fiat has implemented multiple portal projects. The objective of the first project was to provide a single point of contact for customer inquiries. In the past, Fiat’s call center was completely isolated from other parts of the business, and it handled customer inquiries that came over the Internet as well. Using Oracle Portal, Fiat created a Customer Service Management Contact Center as a single point for handling all client communications, regardless of where the communications were generated. Now any customer service representative can access any channel via the portal to solve customer issues. The Contact Center also works proactively to evaluate why prospects targeted in marketing campaigns do or do not purchase a Fiat. Today, with Oracle Portal, Fiat and its distributors have the necessary customer intelligence to better understand client needs and create marketing campaigns targeted to specific consumer segments.

Also through the use of Oracle Portal, Fiat has significantly improved its relationships with its more than 600 national and international suppliers. Each supplier uses a secure password to log onto the portal site www.fiatauto.com.ar to access current accounts, as well as to review delivery programs established by Fiat’s automotive center. An authorized Fiat supplier can order parts and schedule deliveries online, and plan for activities over the coming weeks and months. The portal creates a summary and a corresponding invoice, viewable by the supplier with date of payment due. If ever a defective part arrives, an audible
and visible alert monitors quality control on the production line and also notifies the supplier to correct the problem.

Through the same portal, Fiat’s distributors manage daily operations, handling such diverse activities and processes online as orders for autos and parts, account management, and co-marketing campaigns. The portal also includes a module that manages the entire sales cycle, beginning with the customer’s first visit to the showroom, and creates various strategies based on customer behavior and evolving business activities.

Also part of the portal, a business management scoreboard interfaces directly with Fiat’s data warehouse and helps Fiat manage all of the business logistics for each distributor. Before this implementation, business records were generated and managed in Excel, with more than 60 pages of performance indices and analyses, available only after a week’s delay. Today, the company’s data warehouse allows global, online access to data for fast, efficient intelligent business decision-making. All parties benefit: the customer feels well cared for, the distributors have an agile sales and process management tool, and Fiat can access valuable business intelligence related to customer demand for informed decision-making.

**Emerson Motor Technologies**

St. Louis–based Emerson is the world’s leader in electric motor development and production, manufacturing more than 320,000 electric motors each day. With some 13,000 employees, at 24 plants worldwide, the business has realized that efficient internal communications and standardized self-service applications are key to optimum employee productivity. The company needed to transform its existing intranet from a data repository into a true business productivity tool. To this end, Emerson sought an enterprise-wide portal solution and selected Oracle Application Server as that solution.

The decision to go with an Oracle platform was based on the value of the complete, integrated solution, which included Oracle software, implementation, and maintenance. With an all-Oracle platform, Emerson Motor Technologies was able to leverage its application development resources to deploy both the portal and Oracle’s HR applications at the same time. Emerson thus drove down development and maintenance costs, obtained quicker updates, leveraged common tools and training, and capitalized on superior scalability. “By deploying the portal and the HR software simultaneously, we exploited the single database for both applications, greatly reducing deployment costs,” says Andy Beach, vice president of e-business.

Improving internal communications was a key objective of the portal implementation. In the past, the business relied heavily on email to exchange information, which reduced productivity. The portal now provides a vehicle for centralizing data and for proactively pushing dynamic information to all Emerson Motor Technologies’ users. Because it provides numerous communication channels — including a calendaring system, dynamic banners, and scrolling headlines — the portal also laid the groundwork for improved employee collaboration. Collaboration within groups is further enhanced because division managers directly control the content of their area of the portal. They can tailor information and services to the needs of their respective user communities, thus increasing productivity and streamlining business processes.

The Emerson Motor Technologies portal has also become the platform for multiple cost-reduction initiatives. Applications focusing on reducing the number of suppliers of products and services such as
travel and office supplies can be accessed through the portal. For example, an online travel application lets employees access travel-planning information directly through the portal. In fact, by using the travel application that resides within the portal, Emerson has reduced the number of travel agents needed, resulting in a significant decrease in travel costs. Emerson’s focus on tangible cost reduction allowed them to quickly demonstrate the value of the enterprise portal and to establish it as a critical tool in the day-to-day operation of their business.

SUMMARY AND CONCLUSIONS

While many options and product solutions exist for customers seeking to build an enterprise portal solution, very few offer the right combination of features, technology, and integration capabilities needed for a successful deployment. A careful comparison of these few with Oracle Application Server 10g will show that no other portal product or application platform suite provides a more comprehensive and coherent infrastructure for deploying service-driven portal solutions.