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The Business Value of an On Demand Workplace Software Solution

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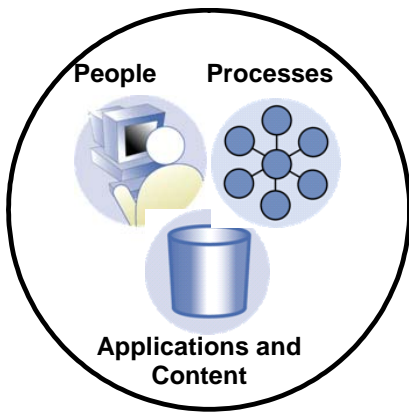IBM Software Services for Lotus

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Executive Summary

Early portals offered a framework where users could find web **applications** from a single entry point. These portals typically functioned primarily as a list of links. Later, **content** was added to the portal to provide access to necessary information while using the applications. While this additive capability enhanced the portal's value, organizations can realize much greater value in creating a 'workplace' where users begin and end their day. Building such a workplace requires more than just access to applications and content. There must be access to people and expertise through **collaboration,** the workplace must enable key **business processes,** and the workplace must appear integrated and personalized for each user's various roles.

A true enterprise workplace solution must allow companies to look at themselves as collections of business processes (financial management, product development) rather than functional departments (marketing, manufacturing or human resources) or simplified user segments such as Business-to-Employee or Business-to-Customer. Many elementary portal initiatives do not attempt this type of enterprise process integration; rather they focus just on providing access into a few departmental silo applications, or cleaning up disparate websites. These types of solutions may achieve some preliminary benefits but they all fall short of the overall goal of providing a workplace for an on demand enterprise.

Technology analysts report the market's desire today to purchase a portal solution with rich, comprehensive, embedded functionality. This need is driven by the business requirement to achieve return on investment (ROI) in months, not years, through having a rapidly deployable set of business relevant capabilities. IBM's experience across multiple real-world customer examples has identified that to achieve real ROI from a portal solution, an On Demand Workplace software solution approach must be taken that focuses on:

Business ROI
- o Improved user ability to access all the resources (applications, information, and people) required to deliver key business processes
- o Streamlined, lower cost delivery of business processes both inside and outside of "the firewall"
- o Help for people to work together more effectively across geographies
- o Embedded collaboration across all of an organization's enterprise applications, content and processes
- o Embedded training within business processes to keep skills current and assure organizational compliance

Technology ROI
- o Simplified purchase, use and deployment of technology
- o Reduced complexity and cost of managing content, applications, infrastructure and standalone tools

Detailed Analysis

Portals provide the user with a single point of access to a wide variety of information and services throughout an enterprise. A portal can deliver not only integrated content and applications but also a unified, collaborative workplace. Indeed, experts agree that portals are the next-generation desktop, delivering e-business applications over the Web to all types of client devices.

Many vendors originally answering the market demand for portal technology took a "best of breed" approach, encouraging either the customer or a systems integrator to perform the customization and integration required to provide an enterprise portal solution. As time progressed, many took their singular focused products, and through acquisition or re-packaging, stated their claim to satisfy enterprise requirements. Most portal products remain at this level of offering.

> Portals rank at the top of software-buying surveys, and corporate interest in this technology continues to grow. But recent data shows that portal projects struggle to find a reason to exist.…To make portals deliver their expected returns, companies should abandon their IT-centric portal mindset, tie portals to specific business processes, and recognize the role portals will play in ushering in the next generation of packaged composite applications.
>
> *"Portal Projects In Search Of A Purpose" Forrester - Laura Ramos – April 23, 2004*

Today, many customers have deployed at least pilot or departmental portals and have struggled with issues that integrating all the applications, content, people and processes inevitably create. Often times the monumental effort of this integration leads companies to scale back portal plans and leave numerous disparate parts of the user's experience outside the portal. Gartner and other industry analysts all report the market's desire today to purchase a portal solution with rich, comprehensive, embedded functionality. This need for a rich integrated solution is driven by the requirement to achieve Return on Investment in months, not years, through having a rapidly deployable set of business relevant capabilities.

A true enterprise portal solution must allow companies to look at themselves as collections of business processes (financial management, product development) rather than functional departments (marketing, manufacturing or human resources) or simplified user segments such as Business-to-Employee or Business-to-Customer. Breaking down boundaries between departments via collaboration and process integration helps ensure efficient operations and supports this goal. Many elementary portal initiatives do not attempt this type of enterprise process integration; rather they focus just on providing access into a few departmental silo applications, or cleaning up disparate websites. These types of solutions may achieve some preliminary benefits but fall short of the overall goal of providing a workplace for an *on-demand enterprise.*

On Demand Enterprise:
*"An enterprise whose business processes - integrated end-to-end across the company and with key partners, suppliers and customers - **can respond with speed to any customer demand, market opportunity or external threat."***
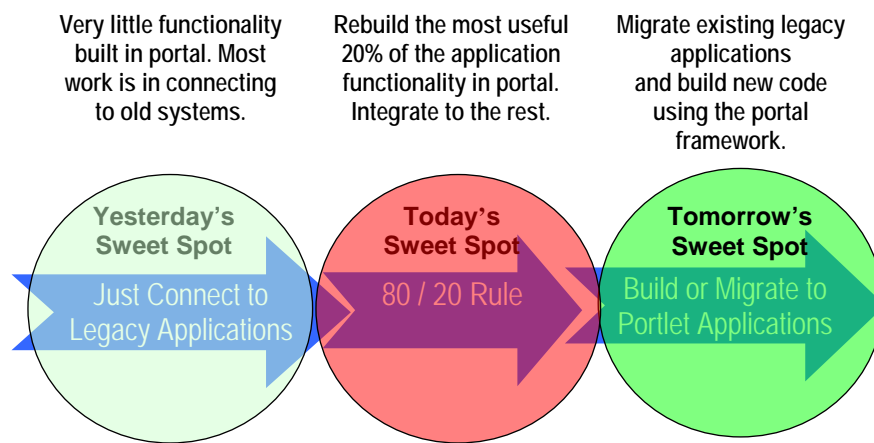

Sometimes an enterprise may only want to experiment with portal technology so they consider first buying a "basic" package for a Phase 1 project that offers only application and/or content delivery before attempting to try something that appears more "complex" like integrating people and business processes. Unfortunately, experience has shown this approach has significant limitations when trying to build a business case justification or return on investment case. By only enabling lower order capabilities such as application or content access, organizations generally fail to show meaningful ROI (because nothing has been transformed in the business processes) and thus projects never makes it past Phase 1 basic capabilities.

Companies have been seeking to improve their business processes via automation support for a long time through different methods. A well-known earlier attempt at business process optimization, Business Process Reengineering (BPR), often failed because organizations had to "rip and replace" the current systems in order to automate the end-to-end processes. This daunting task soon frustrated and failed due to its high cost and disruptive results.

Business integration experts today proffer a different approach which leverages the key business advances made possible via portal technology. This philosophy recognizes the complexity and existing investment in all manner of core business applications. Experts appreciate the realities and propose leveraging a portal solution to integrate in the user interface only the specific underlying systems functions required to perform the business process.

In effect, the portal process integration becomes the "glue" that holds the business process together for the user and enables the user to execute a process across systems. The key to success is found in the depth of portal business process integration capabilities that allow an organization to progress from simple integration to a fully transformed on demand business model.

Can all the barriers be removed in a day? Can all the applications be connected in a week? Of course the answer is no. So, how can companies start to integrate their business processes and show real business return? The results lie in the robustness of the portal toolset and the strategy and tactics organizations use to take advantage of the toolset.

Very little functionality built in portal. Most work is in connecting to old systems.	Rebuild the most useful 20% of the application functionality in portal. Integrate to the rest.	Migrate existing legacy applications and build new code using the portal framework.
Yesterday's Sweet Spot	**Today's Sweet Spot**	**Tomorrow's Sweet Spot**
Just Connect to Legacy Applications	80 / 20 Rule	Build or Migrate to Portlet Applications

The deployment of an enterprise portal typically involves a blend of portal integration methods based on business needs. The "Sweet Spot" today is generally an 80/20 blend achieved through the use of a number of portal integration methods and tools from the simple moving ultimately to on demand.

The highest value integration opportunity is achieved by delivering a true On Demand Workplace portal desktop to users. The On Demand Workplace provides legacy user interfaces converted to portlets and new application development being conducted under portlet tooling and design principles. It incorporates collaboration and process integration as key portal capabilities. The key benefits to adopting this strategy are:

- Users can rely on a consistent user interface across all applications thus minimizing training time and maximizing adoption rates
- Total cost of ownership for new development and for application support has been reduced, for example, due to reuse and sharing of portlets
- Barriers of time, distance, and legacy practices no longer prevent an organization from sharing a unified work experience
- However complex the back-end environment, the individual user does not see that complexity and instead navigates via a personalized, secure, role-based interface to perform all their internal as well as external tasks

A true On Demand Workplace portal solution must contain more than the 'basics' of just information integration, web content management, or application access. It must provide an integrated portal business framework that encompasses the capabilities necessary to truly impact an organization's daily business processes. A key indicator of the potential size of a portal solution's business value for an organization can be found in the solution's depth and breadth of integrated capabilities in the various components of the overall portal business framework.

What is meant by a Portal Business Framework? This framework is used to address the four component areas business users require in order to perform their job. The four areas are:

1. **Information Integration** by delivering a personalized view into a range of web, document, and other information sources, thereby minimizing the problem of too much information, too little information, or information that cannot be found.
2. **Application Integration** by providing a consistent interface to a broad set of applications, thereby increasing usability while decreasing support, training, and maintenance costs.
3. **People Collaboration** by supporting multiple modes of communication, team interaction, and virtual communities.
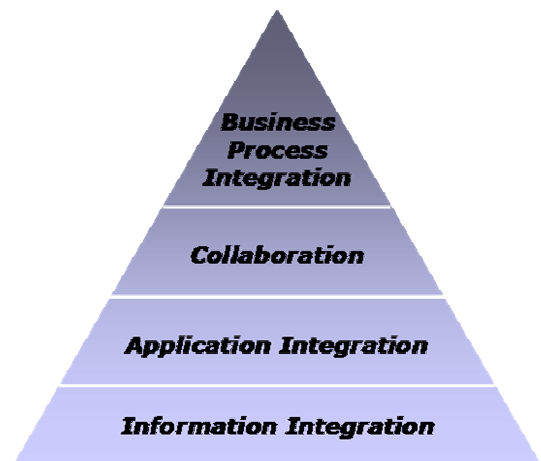
"The year of the content portal was 2001; in 2002 it was application access; in 2003, it was collaboration; and 2004 will be the year of the process portal."

"Expert Portals" – Portals Magazine, April/May 2004.

Support involves providing all the benefits of teamwork and specialization, without the need to be physically co-located.

4. **Business Process Integration** by providing a personalized, choreographed view into the information, applications, and people which users require to effectively understand, decide, and act at different stages of a business process.

It is through these four components that the portal, when properly implemented, provides business value to the organization. The hierarchy of the pyramid is not random.

Information Integration

Companies striving to give users access to all their needed business functions through one portal view face an information integration challenge. The widespread proliferation of data in structured repositories, unstructured repositories, corporate intranets, web sites and other public sources, poses a major information integration challenge. Tools and methods to address access to the information – such as federated search, data mining and basic SQL queries—are at the center for this portal framework issue.

A robust information integration platform should provide several key capabilities[1] in the area of information or content integration:

- *Seamlessly integrate structured, semi-structured, and unstructured data from multiple heterogeneous sources.* Data sources include data storage systems such as databases, file systems, real time data feeds, and image and document repositories, as well as data that is tightly integrated with vertical applications such as SAP, Siebel, PeopleSoft, etc.

- *Support advanced search capabilities and analysis over integrated data.* The integration platform must be "bilingual" meaning it must support traditional SQL relational database queries as well as the newer XML models. Content management systems, for example, employ specialized APIs to manage and query a diverse set of artifacts such as documents, music, images, and videos.

- *Transparently embed information access in business processes.* Enterprises rely heavily on workflow to choreograph business processes. A solid workplace platform must provide a workflow framework that enables user interaction with multiple data sources (content) and applications while understanding that many business processes are inherently asynchronous.
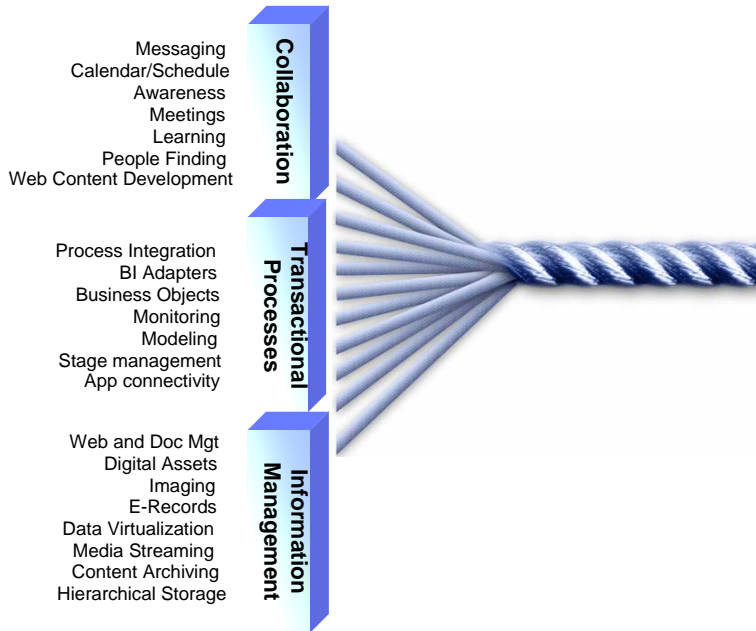
Application Integration

Application integration, in its purest form, means providing for the seamless back-end integration of multiple applications and their data without the user having to access those applications or data directly. Application integration is required to integrate processes across the business and solve the problem of too many disparate applications as seen in the Figure below. Application integration is one of the two fundamental starting points for most

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[1] Source: Architecting Portal Solutions Redbook, pg 336

customers who begin deployment into portal technology to provide one place for employees, customers or suppliers to interact with existing business applications.

Messaging
Calendar/Schedule
Awareness
Meetings
Learning
People Finding
Web Content Development

Collaboration

Process Integration
BI Adapters
Business Objects
Monitoring
Modeling
Stage management
App connectivity

Transactional Processes

Web and Doc Mgt
Digital Assets
Imaging
E-Records
Data Virtualization
Media Streaming
Content Archiving
Hierarchical Storage

Information Management

The ultimate application integration achievement is the merger of many applications into just one application. The dream of having one, and only one, comprehensive and all-encompassing enterprise resource planning (ERP) system, instead of many applications coupled together to deliver that essential business service, has long been the dream. However, the reality is that all large and even most medium sized businesses find themselves delivering multiple applications in order to complete end-to-end business processes optimally. There are numerous applications providing collaboration, numerous applications supporting transactional processes, and numerous applications managing online and offline information. All these individual functions reveal themselves rather unappealingly, as well as their volume and complexity, when the organization wants to start operating from one place – namely the portal.

Initial application *access* can be achieved through the use of ready-to-use portlets or the development of new portlets, thereby making this accumulation of applications accessible through one place. One simple-to-deploy method of application *integration* using an IBM On Demand Workplace Solution is called Click-to-Action.
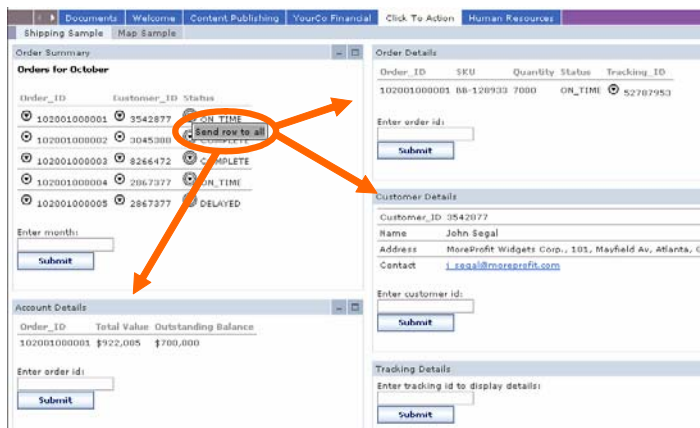
Click-to-Action functionality gives users the benefit of having multiple portlets on the screen communicate with each other without manual user intervention. For example users in a Customer Support role no longer have to cut/paste account numbers or customer IDs from one system/window to another just to get an integrated view of the customer.

There are two other critical points to consider when evaluating the application integration capabilities of a workplace solution:

- ***Support industry open standards and multiple platforms.*** A workplace platform must run on multiple hardware platforms, operating systems, and databases as well as support relevant open standards. This platform, operating system, and database choice enables organizations to achieve the lowest possible TCO by being flexible enough to run on their existing environment and leverage their existing preferred technology vendors.

- ***Be easy to use and maintain.*** Organizations have often pieced together in-house solutions to integrate data and applications over time, and these solutions are costly to develop and maintain. A robust workplace platform should include a consistent programming model and standards-based application development tools to assist administrators, developers, and users in constructing and deploying solutions.
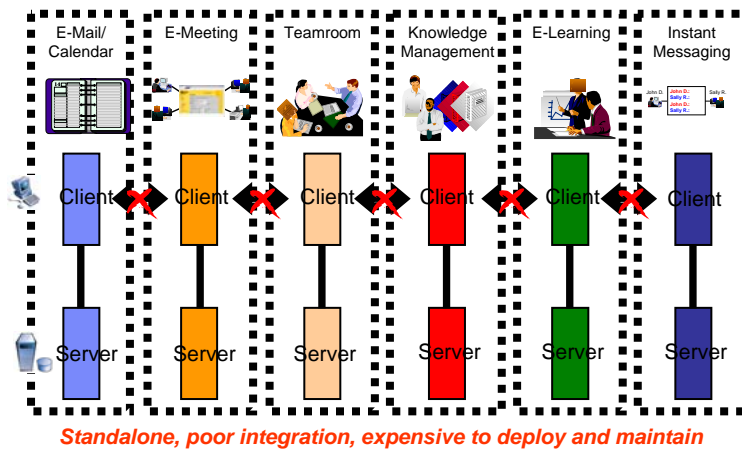
Collaboration

Doing business requires people interacting with people - be they fellow employees, customers, partners or suppliers. Doing business in a portal environment requires that the technology supports the <u>activity of working together</u>, also known as collaboration. Robust collaboration tools, therefore, are a critical component of doing business through the portal.

The portal is the means by which companies may link people to processes and information. People are the consumers of the portal, as the portal provides the means of integration via a consistent user interface to a broad set of applications and content. People demand and require improved usability, and the organization benefits when it utilizes the portal to decrease support, training and maintenance costs.
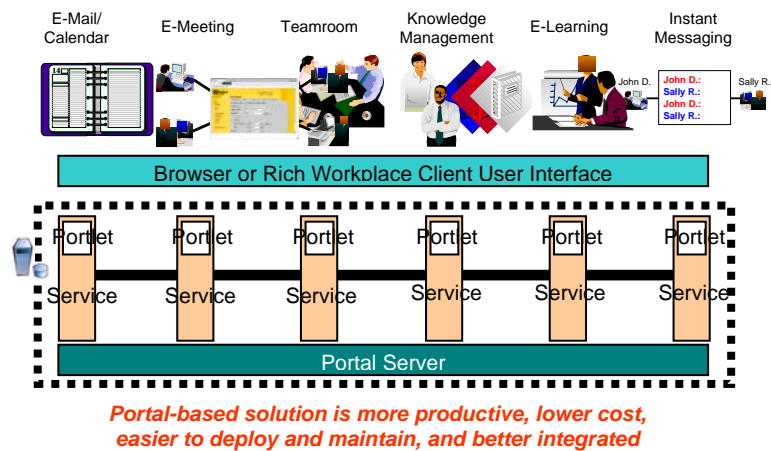
Instant messaging, web conferencing, and online team workplaces are the hallmarks of people collaboration tools. The goal of these tools is to improve user productivity and strengthen relationships with other employees, customers or trading partners. Enhancing productive work relationships in disparate, geographically and culturally dispersed business environments is one of the key challenges faced in many organizations today. The current trend toward offshoring and outsourcing is bringing intense focus to maintaining effective business processes when employees operate from many different locations. Collaboration becomes a key component of portal value to increase the satisfaction of employees, customers, and trading partners by extending and deepening the user experience.

Collaboration is closely tied to the concept of communities. Portals sustain virtual communities, providing the benefits of teamwork and specialization without the need to be physically co-located. Communities foster a sense of camaraderie and team linkage. The concept of communities of practice recognizes the potential of these informal bodies to join together to solve problems and invent better ways of meeting their challenges.

Problem with Traditional Collaboration Solutions

Standalone, poor integration, expensive to deploy and maintain

What's Needed: Integrated Collaboration Platform

Portal-based solution is more productive, lower cost, easier to deploy and maintain, and better integrated

It is easy to understand and appreciate the essential human element in business when there is an unanticipated event, such as a man-made or natural disaster, a plant closing, or a work stoppage. At times like these, business executives demand, "let's put our best people on this." Why not consider putting the best people together - with the most powerful tools - to support the day to day business processes of the organization?

People, who usually represent the largest single investment of an organization, are recognized as the key to an organization's financial viability and competitiveness. An organization's most critical knowledge is not on hard drives; it is between the ears of its people. To leverage the people in a company and deliver their knowledge where it is needed, companies need to bring the human element into the computing infrastructure. However, many businesses historically have put 80% of their resources against the other side of the problem.

The use of collaboration products to enhance people productivity is of course not new. Many organizations have already realized some of the benefits of these applications including traditional electronic mail or messaging, instant messaging or chat, team spaces, document and

web content management systems, web conferencing and online training. However, the portal business workplace provides incredible opportunity to leverage these well known capabilities and provide even more business value.

- Instant messaging, becomes more powerful when embedded into existing applications and enabling the user with "presence awareness" of other users' on-line availability to interact
- People Finder capability takes a basic corporate directory and turns it into a powerful means of connecting resources across a large, geographically disperse organization.
- eLearning can offer just-in-time enablement to make the organization more responsive in times of need and give employees a forum to proactively develop their skills and increase their job satisfaction.
- Collaboration acknowledges the power of people and their personal expertise as the most valuable asset of any organization.

Business Process Integration

People collaborate to get the job done. The organization's "job" can be represented as its high level processes; for example, developing products and services or providing financial management. Those high level processes have historically been broken down into specific functional areas and organizational units, each with its own technical application set. Each application had to manage its own set of rules as well as information. The portal provides the opportunity to bring those applications together. The only question is what strategy to employ to achieve the greatest benefits and return on investment.

Business process integration is defined as the integration of the functional flow of processing between business applications. Business process integration is furthered by the establishment of a unified user interface environment. Business process integration is the difference between multiple disparate applications and the single user experience. It is optimizing the value chain through simplicity and flow-through of required business activities.

Business applications must process some data or event to trigger their operation. Typically, people, directly or indirectly, provide the data for the event. Those applications may connect together then in some fashion to complete an overall business process. In many organizations today, the user is often the 'human portal' having to bridge the various gaps in information, applications and people to complete a successful business process.

Business process integration via the portal offers a number of extremely beneficial traits and behaviors:

- Improved users ability to access the resources required to effectively run the business: applications, business processes, information, and people
- Improved employee effectiveness thru a single point of access: personalized and customized to meet their needs
- Reduced/avoided cost through self service applications and content
- Streamlined access to business processes both inside and outside of company walls
- Improved organizational 'face' to customers, consumers, partners, or suppliers

Achieving business process integration, the highest level of the portal framework pyramid, requires the existence of fully integrated capabilities for delivering information integration, application integration and people collaboration to the user. The customer example below highlights how a business focus can identify key process barriers or pains that the workplace can be targeted to solve. In this case, as in most real world cases, solving real business process issues requires a blend of application integration, content integration, and collaboration to provide the people in the process everything they need to make decisions and take informed actions.
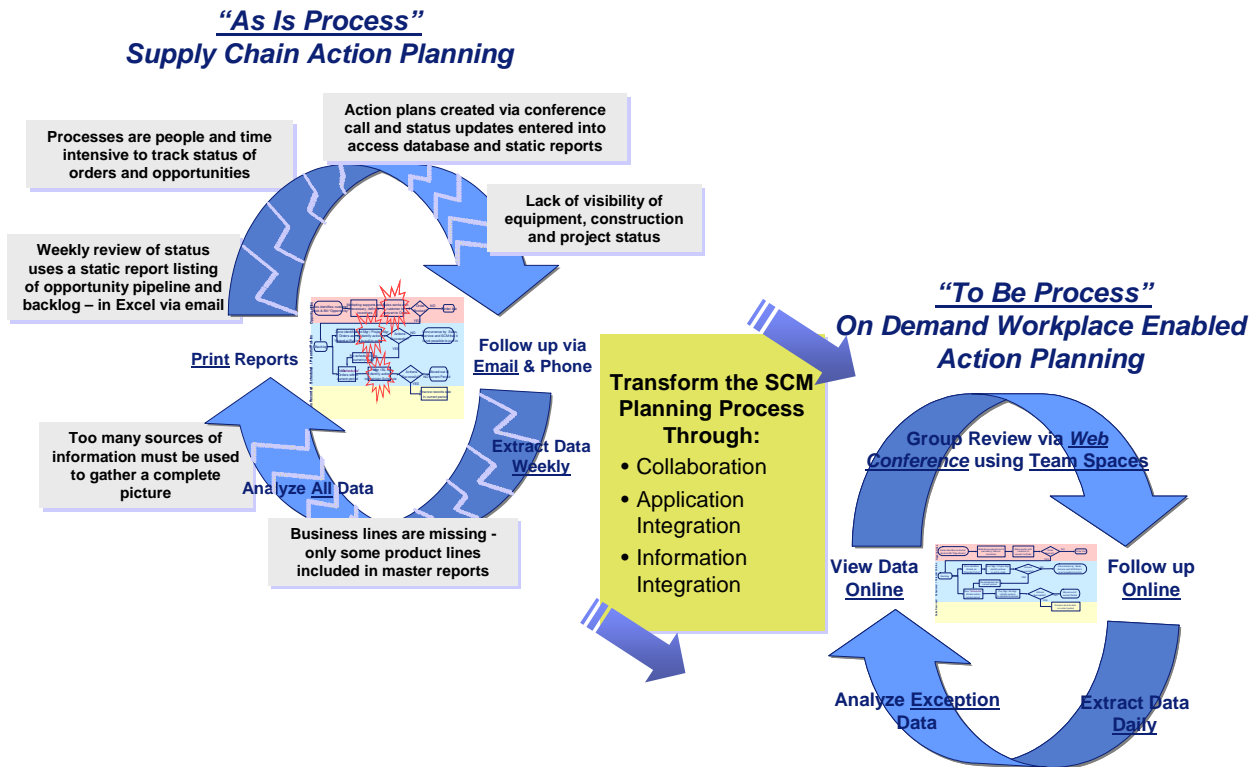
Four increasing levels of workplace integration can be identified. The organization can set goals for simple, moderate, or complex integration or aim for the most valuable level, the on-demand workplace.
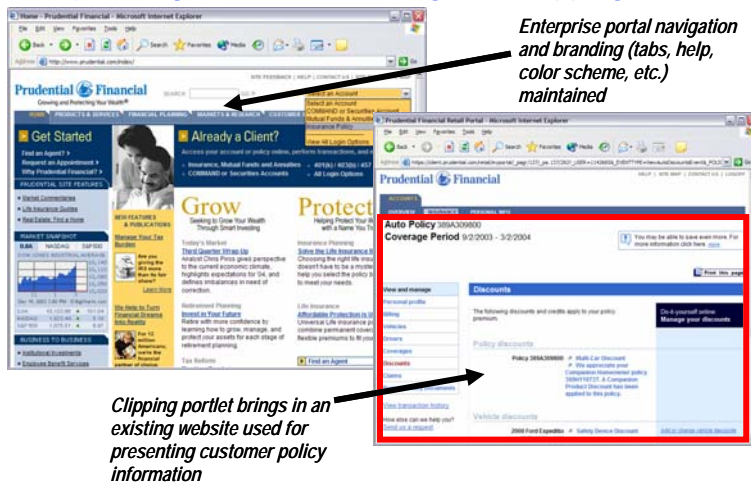
- **Simple integration** is achieved via creating links from the portal to the backend application's native user application. It is the fastest and the least costly to implement, but few efficiencies are gained for the user or the organization as all the existing applications still must be maintained in their current form.
- **Moderate integration** will surface commonly used aspects of the organization's applications via portlets and will take advantage of out-of-the-box portlets that come with the portal package. This level will provide more return on investment than the simple approach, but it comes with a higher cost in terms of new training and risk to user satisfaction since many users will still be "left in the cold" operating those functions which were not exposed in the portal.
- **Complex integration** is where many portal products say they are "done". At this point, the user has access to a wide array of portlets that provide that user

with the ability to perform much of their work from the portal. Single Sign On can achieve secure, role-based authentication to converted applications and comprehensive application functionality has been surfaced in the portal.

- **On Demand** i**ntegration**, is achieved with a true workplace desktop to the organization's users with legacy user interfaces converted to portlets and new application development being conducted under portlet tooling and design principles. However complex the back-end environment, the end user can be shielded from that complexity and instead navigate via a personalized, secure, role-based interface to perform their internal and external business tasks.

Process Integration Level 1: Simple Integration

Simple Integration Method using Web Clipping Portlet

Enterprise portal navigation and branding (tabs, help, color scheme, etc.) maintained

Clipping portlet brings in an existing website used for presenting customer policy information

A simple integration approach establishes the portal as a consolidated starting point to access existing applications or content. Simple integration may be achieved using links (e.g. redirections to various web applications), or via "clipping" portlets to surface an existing website 'as-is' inside the portal. The benefits of this approach are the ease, and subsequently speed, of implementation and low cost associated with that implementation.

The downside from taking the simple path lies in the costs associated with loss of opportunity. No efficiencies are gained from unifying applications since all the applications still must be maintained in their current form. Help desk calls are not reduced. Collaboration is not improved since no collaborative features (for example Presence Awareness) are implemented. Application and process integration, not to mention collaboration, have not been achieved.

Many elementary portal initiatives do not take advantage of powerful collaboration and process integration capabilities; rather they focus just on providing access into a few departmental silo applications or cleaning up disparate websites. These types of solutions may achieve some preliminary benefits but generally provide minimal ROI and do not serve as strong catalysts for further business improvement.

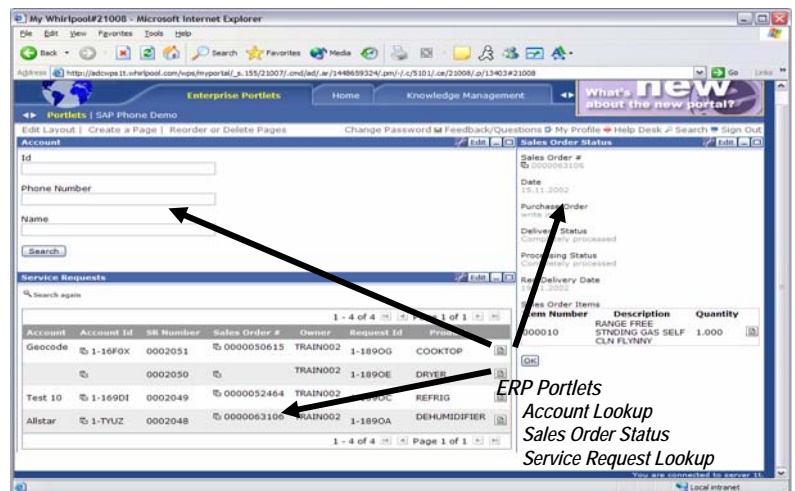## Process Integration Level 2: Moderate Integration

Moderate integration understands that the portal must do more than hand-off users to different URL's; rather the organization identifies key features of backend applications and "portlet-izes" access to those functions. The native application user interface is thus superseded and users get to experience interaction via the portal.

Organizations who wish to take a moderate approach may wish to select applications for exposure in the portal that already have available portlets. Applications such as PeopleSoft, SAP, Siebel and Oracle are just such a few. Customers should also consider the portal technology vendor for their breadth and depth of "ready to use" portlets. By doing so, moderate integration can demonstrate increasing levels of value. Vendors who have a rich toolset for "portlet builders" provide more benefits to the customer than those who do not.

The positive aspects of leveraging a moderate integration approach are:

- Installing "Out of the Box" Portlets are encouraged, thus facilitating rapid releases and updates
- Pre-built portlets can provide a more consistent interface for those large, enterprise applications thus benefiting usability and increasing adoption rates
- "Portlet Builder" tools give an organization's power users the ability to create new portlets without IT support or intervention thus saving time and reducing support costs

Moderate Integration Method using ERP Portlets

ERP Portlets
Account Lookup
Sales Order Status
Service Request Lookup

A moderate integration approach can take an organization further down the path toward achieving real business benefits through a portal. From an application and process integration standpoint, however, moderate integration techniques are limited in that:

- Only specific, selected functions of the application are available in the portal. Many users may still be operating outside the portal with disjointed systems
- The need for new education becomes an added cost to the effort as portal users must be trained on the new interfaces
- A comprehensive understanding of the business requirements must have occurred in order to ascertain that necessary and sufficient application functionality is being surfaced via the portlets and that critical gaps have not been exposed

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Process Integration Level 3: Complex Integration

Achieving what is termed "Complex Integration" is often times the end goal of many portal deployments. Reaching this milestone demonstrates significant savings by bringing together multiple applications under one environment. Total cost of ownership sees significant reductions. The expansion of portal functionality beyond this level only has stopped due to technology limitations of the chosen product i.e. limitations caused by the vendor's product architecture. At the end of a "complex integration" effort, one would typically find:

- A user has an integrated desktop workplace with portal-based application execution, embedded collaboration tools such as presence awareness, and personalized content delivery.
- Single Sign On has been achieved providing secure, role-based authentication to converted applications
- New application functionality has been added to via portal development tools
- The user has access to a wide array of portlets that provide that user with the ability to perform much of their work from the portal
- Some business logic is being executed in the portal and that activity is integrated directly with the backend systems
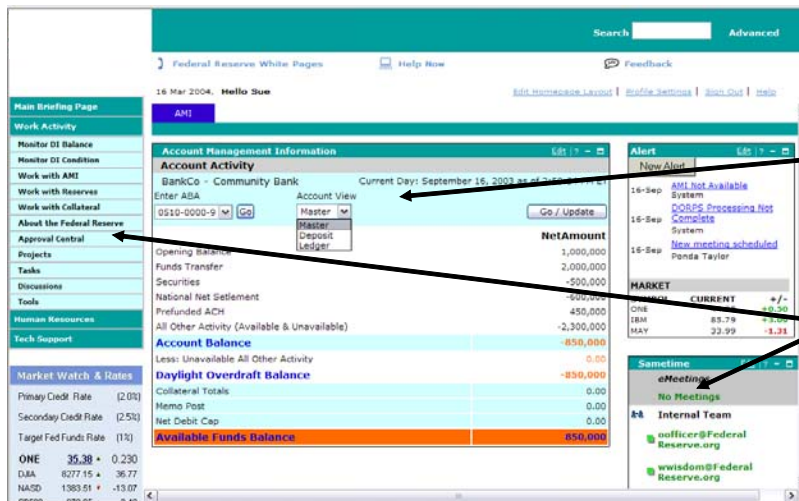
- *Custom Portlet functionality in the portal connects to existing backend mainframe application(s)*

- *Application functionality presented inside overall context of other portal functions (alerts, instant messaging, consistent navigation, etc.)*

Complex integration does not come without its challenges. A thorough knowledge of application development is required as well as adherence to a strong architectural methodology in order to assure robust performance of the integrated applications through the portal. When the technology selected is based on open standards, then the investment in development is one for the long-term and should not become subject to "throw-away" expenses. Portlet dependencies and/or application dependencies can arise during the development that must be considered and treated.

Process Integration Level 4: The On Demand Workplace

Business process integration focuses on improving the efficiency and effectiveness of the processes that run the business by leveraging functionality in the applications and/or creating new processes and services to support changing business needs. Understanding the overall business processes- and being able to manage, monitor and control the processes- is paramount to the success of the solution. When coupled with the portal's collaboration capabilities and implemented using open standards, business process integration culminating in an On Demand Workplace offers the opportunity for the greatest return on investment.

What is the portal's role in business process integration? What is required in order to achieve process integration to an On Demand level? How does the portal help to solve the integration challenge? A key opportunity for the portal is to bring the organization back together and to provide a unified view of the business process for the user. In pursuit of successful business integration, the organization does not "rip and replace" but leverages existing applications in a way that has the lowest level of disruption to the business users' tasks. The portal, as the primary interface mechanism for the user to the processes, has a pivotal role in the success or failure of achieving integration.

There are a number of components to address both technology and people integration issues, and which can be deployed in an incremental manner. Applying these components systematically allows an organization to improve business performance without massive disruption i.e. evolution versus revolution. Some portals can only provide simple, "doorway" access while others can grow and evolve to become the ubiquitous tool for on demand business actions.

Business life that takes place in a portal requires that the portal be a complete and vibrant eco-system. The eco-system must provide for all aspects of life for its population. This means serving an environment for both executives and staff, for IT developers as well as for end users, for administration as well as for line of business.
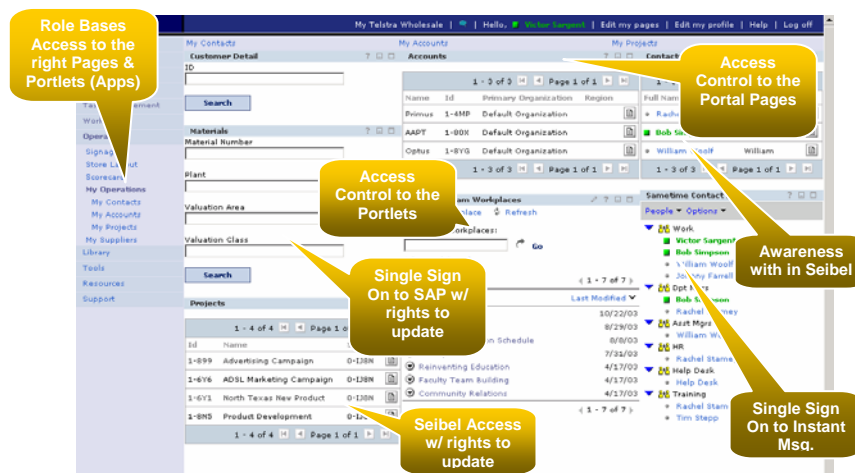
How does one reach this state of "nirvana"? How much effort and at what speed can it be accomplished? These are key questions and challenges. The speed to delivery and extent of business value to be achieved lies in two factors:

1. *Understanding of the organization's processes including business objectives, measurements, process barriers or pains, and costs*
2. *Ensuring the robustness of the foundational portal and workplace technology platform selected to build and support the environment*

Factor 1 will influence the starting point, the approach and the objectives for the portal program's delivery. Factor 2 will determine the return on investment, both short-term and long-term, of this transformation.

ROI of an On Demand Workplace Solution

Deploying a workplace solution that contains rich embedded capabilities for collaboration and process integration can act as a multifold accelerator to increasing the organization's return on investment. Different organizations measure and value return on investment in different ways. IBM leverages a balanced scorecard approach that examines four categories in which workplace value may be measured:
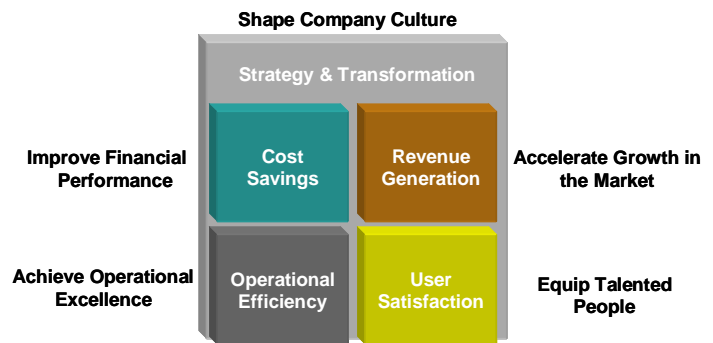
1. **Cost savings** realized by improving financial performance in areas such as
   - Reduction in software, maintenance, deployment and administration costs through activating integrated components versus separate buying and integrating standalone solutions
   - Reduced application development costs and time through reuse of portlets from IBM or customer specific portlet catalog; benefit multiplies over time as portlet catalog grows
   - Reduced training costs for IT staff and users through leveraging a common workplace solution rather than standalone tools with disparate interfaces and development toolsets

2. **Revenue generation** achieved by growth in the market such as
   - Increase in pipeline competitive win rate due to ability to form effective team faster to respond to quote and bid processing
   - Managing increased volume of sales opportunities without increasing headcount
   - Increase in conversion rate on opportunities based on faster customer response time (easier access to people and information)
   - Reduction in business approval cycle times through integrated people finding / expertise location, alerts, and messaging

3. **Operational efficiency** achieved through demonstrated operational excellence such as
   - Improving web content and document reuse, accuracy, and timeliness through linkage of content into business processes

- Reducing content development time through reuse of content across integrated content management, document management, e-Learning, and Teamspace capabilities
- Improving line of business user self service capability
- Reducing IT services time and cost to embed collaborative functions into existing enterprise applications and

4. **User satisfaction** improved through equipping talented people such as
   - Avoiding costs by decreased employee turnover associated with improved employee satisfaction
   - Improved employee responsiveness and internal business controls
   - Improving customer satisfaction indices and resulting customer retention
   - Retaining customers due to innovative technology touch points which speed processes and provide better service

Summary

Portal acquisition and adoption currently ranks at the top of CIO priorities for 2004 and beyond. IBM's On Demand Workplace vision is that the greater business value and return on investment of a portal comes from the higher order capabilities of collaboration and business process integration. The analysts have embraced this broader portal and workplace vision.

A true enterprise workplace solution allows companies to look at themselves as collections of business processes (financial management, product development) rather than functional departments (marketing, manufacturing or human resources) or simplified user segments such as Business-to-Employee or Business-to-Customer. Many elementary portal initiatives do not attempt this type of enterprise process integration; rather they focus just on providing access into a few departmental silo applications, or cleaning up disparate websites. These types of solutions may achieve some preliminary benefits but fall short of the overall goal of providing a workplace for an on demand enterprise.

It is important that organizations understand and apply a business framework to their portal projects in order to grow the portal projects successfully with incremental ROI. By understanding all the components of a portal framework, organizations will not lose sight of all the capabilities a portal can provide even if they only start with the "basics" of information or application access. The IBM business portal framework of Information Integration, Application Integration, Collaboration, and Business Process Integration provides a sufficient foundation to enable business processes across employees, partners, suppliers and customers.

True on demand workplaces are solutions that provide a high level of financial payback. That payback – that return on investment – can be attributed to four strategic areas: reducing costs, increasing revenues, gaining operational efficiencies, and increasing user satisfaction. For each area, the business value may be measured quantitatively (direct, hard benefits), semi-quantitatively (productivity gains, increased efficiency), or qualitatively (indirect, value perception). Executive management, information technology leaders and line of business owners each will measure and weigh the portal business value according to their own top ROI drivers.

For organizations to achieve real ROI from a portal solution, an On Demand Workplace software solution approach must be taken that focuses on:

- Business ROI
  - Improved user ability to access all the resources (applications, information, and people) required to deliver key business processes
  - Streamlined, lower cost delivery of business processes both inside and outside of "the firewall"
  - Help for people to work together more effectively across geographies
  - Embedded collaboration across all of an organization's enterprise applications, content and processes
  - Embedded training within business processes to keep skills current and assure organizational compliance
- Technology ROI
  - Simplified purchase, use and deployment of technology
  - Reduced complexity and cost of managing content, applications, and standalone tools

IBM's On Demand Workplace Software Solution contains the type of robust collaboration and process integration capabilities required to support this business vision.

Appendix 1: Types of Collaboration and Their Value

Customer demand is shifting toward buying integrated capabilities in portal technologies versus standalone products to drive organizational productivity. What facilities can users apply that will enhance their business productivity?

Some often used collaboration tools include:

- **Messaging:** Bring together access for <u>all</u> employees to mail, calendar, and address book without the need to have and maintain traditional desktops.
- **Instant Messaging:** Allows users to send and receive text messages in real time to and from anyone else in a secure environment.
- **Presence Awareness:** Offers users the ability to see if their contacts are on line and accessible.
- **People Finder / Expertise Location:** Allows employees throughout an enterprise to find and connect with each other online quickly and efficiently. People Finder integrates an online directory with **people** links and views that administrators can customize.
- **Team Spaces:** Named spaces that team members use to collaborate via discussion forums and project management capabilities.
- **Document and Web Content Management:** Manages the authoring and delivery process of various forms of content.
- **Web Conferences:** Provides shared visuals and text chat for collaborating with colleagues and customers. Web conferencing tools includes scheduling and other management functions.
- **eLearning Center:** For instructors, develop and manage curriculum. For users, plan, schedule and access courseware. For managers, track employees' progress and assure compliance with training requirements.

The table at the end of Appendix 1, Collaboration Solutions and Tools Matrix, provides a detailed view of how the Collaboration capabilities match up against several of today's key business challenges within organizations.

Messaging

Traditional messaging - the core technology used to send email, schedule meetings, and track to-do lists – can demonstrate new life and new benefits when deployed within the portal environment. Messaging within the portal recognizes and takes advantage of the fact that organizations are comprised of not just one type of user with one style of messaging needs. Rather, portal provides the opportunity to recognize there are different types of users (personalization) with different messaging needs. We identify these as three tiers of users:

Tier 1: Deskless Users, who may need a simple core inbox and personal calendar

Tier 2: Advanced Users, who need more foldering capability and access to group
calendaring plus scheduling workflow

Tier 3: Power Users, who require richer threading and management, offline support and
productivity tools
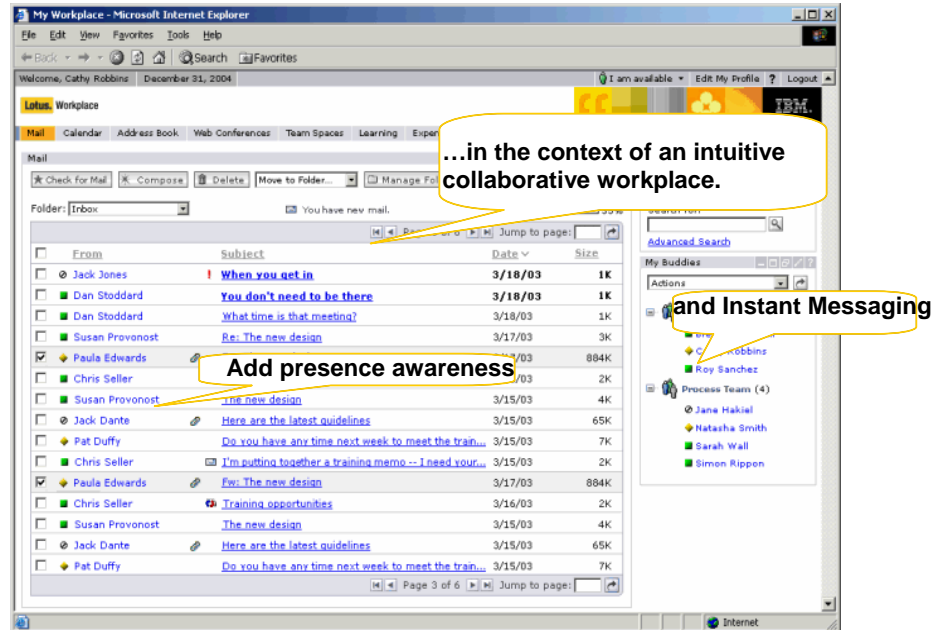
Benefits attained when incorporating messaging into the portal experience can offer more
flexible messaging options are many-fold. They align with the other principal portal benefits
 and include:

- **Productivity Gains -** Better informed workforce through improved communication,
  accuracy and efficiency
- **Simplification** – Combines standalone capabilities into one secure, reliable, easily
  managed platform
- **Cost Saving and Reduced TCO** – Price point that allows previously unserved users to
  benefit from messaging; reduced development cost through reusable business
  components to all classes of users
- **Compliance** – Meeting privacy regulations and ensuring corporate communications are
  disseminated according to necessary rules and regulations

Instant Messaging

Instant messaging differs from email in that its primary focus is immediate end-user to end-user
connection. Instant messaging or "real time collaboration" has matured from a "chat toy" to a
corporate infrastructure tool for meeting critical business demands when the uncertain response
time of e-mail is not quick enough. The problems that instant messaging solves are easily
verbalized from daily use cases:

- You are working on a response to a proposal due at the end of the day. You are trying to craft the exact words to best answer a key client question. Your subject matter expert has traveled to another country and does not have access to a cell phone but is working and on the company network. You must speak with the expert to complete the work by end of your work day so the document can be published.
- You are on a conference call with a client that has a business critical question they need answered immediately to avoid a business process shutdown. You need to get access to your technical experts to answer the question immediately without having to end the conference call, and leave voicemails or emails that may not be returned for hours.

Instant messaging also allows users to maintain a list of people that they wish to interact with. Users can send messages to any of the people in your list, often called a buddy list or contact list, as long as that person is online. Typically, sending a message opens up a small window where you and your friend can type in messages that both of you can see.

Instant Messaging does not limit itself to two people. Multiple persons may be "invited and connected" in to an online conversation just as one may conference in multiple people in a voice conversation. Limitations presented by telephonic equipment are absent in an instant messaging scenario.
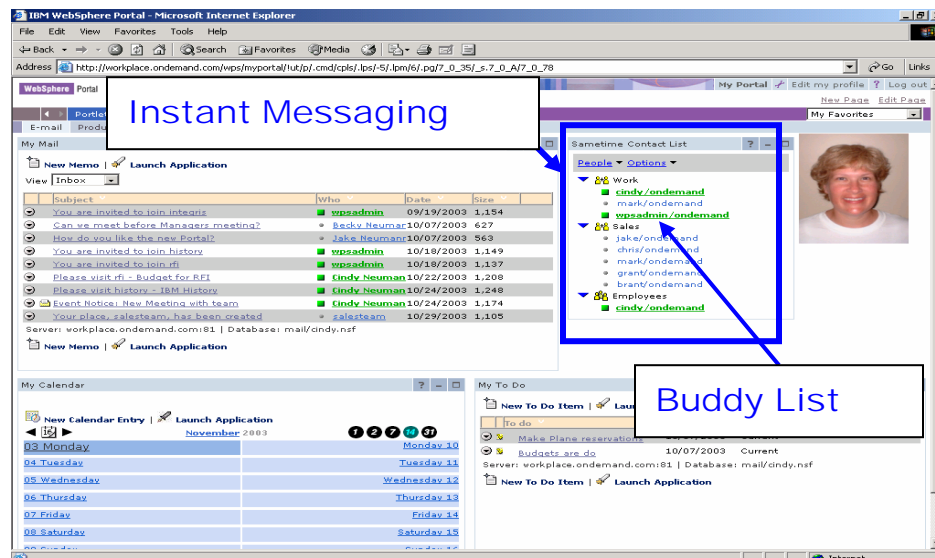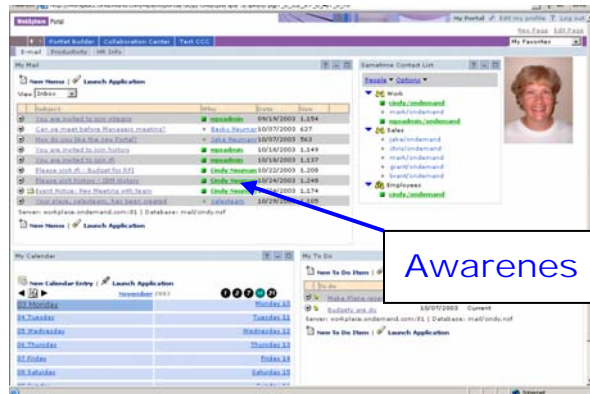

Presence Awareness

Presence Awareness allows portal users to discover if others are available to chat. Also referred to as "people awareness", people's names can be made to appear in portlets as hyperlinks that allow users to contact people with whom they might want to work. Wherever people links appear,

portal users can click the link to display a menu of actions for collaborating (contacting and working) with the person named by the link

Actions might include:

- The person's online status, for example, "I am Active", "I am away from my computer", or "Do Not Disturb"
- Start Chat...
- Send Email...
- Show Profile
- Find Documents Authored By
- Add to Contact List...
- Show Person Record
- Show in Organization View

Presence Awareness is becoming one of the most popular and effective tools offered by the IBM portal solution. Presence Awareness takes advantage of instant messaging, but elevates instant messaging to a higher level by helping to remove the barriers of organizational anonymity. With Presence Awareness, one can reach out beyond one's buddy list to communicate with colleagues whose name and presence online have been identified, as an example, next to a document authored or from an inbox list in a contact field of a Siebel record. Presence Awareness breaks down organizational barriers, thus making not only the individual more effective but making it possible for the organization to respond more quickly and make the workplace more effective.

Team Workspaces

Team workspaces are private, online spaces, in which members of an organization can work together collaboratively. Team workspace technology used to be sold as separate and standalone products from various vendors. That market is disappearing as team workspaces now need seamless integration with document and content Management, and real-time collaboration within the portal. Team workspaces are a major focus on external collaboration, linking suppliers with employees or employees with customers.

Team workspaces differ from the generic concept of workspaces in that they have the following characteristics:

- Designed for a small group that has a high level of trust among members
  Although there is no imposed limit on the number of team-workspace members, teams tend to be relatively small in size comparable to the organization or community at large.

- Designed to be created or deleted easily and quickly

Team workspaces typically have a "short term" mission such as a project. When the project is completed, the need for the team workspace tends to cease immediately. The key is to harvest the intellectual capital before the team workspace is destroyed or removed.

- Team workspaces contain tools that facilitate working in a group
  For example, search email broadcasts, subscription/notification, and document/content management practices are incorporated with other portlet functions.

- Designed to support a user's membership in multiple team workspaces
  Knowledge workers typically may belong to a few primary teams and have a continuing interest in several secondary teams. Users need to be able to "see" all the workspaces to which they belong from one single view.
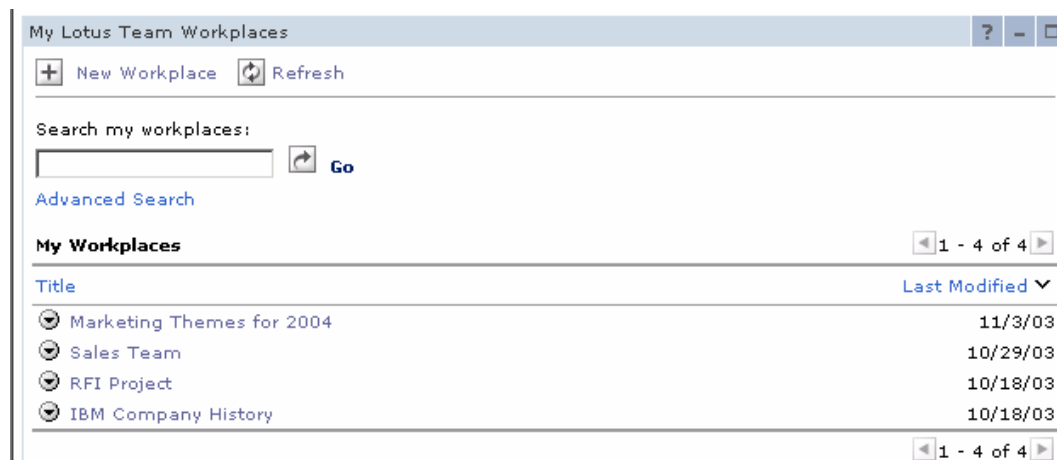
- Designed to support personalization within a team workplace such as "My Pages" or "My Tasks"
  Expediting and increasing the rate for getting the job done means supplying shortcuts for users to invoke whenever possible. Navigation shortcuts are a prime example whereby members can "get to work" faster. This functionality increases productivity by allowing users to efficiently navigate to the information they need, without first opening up each Team Workspace in a separate window.
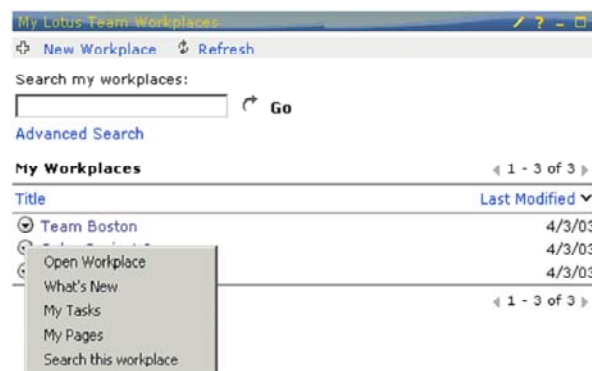
Web conferencing

Web Conferencing, sometimes referred to as e-meetings, allow users to create, view, and participate in online meetings with which they are associated.   Web conferencing tools need to support both meeting attendees and meeting owners. The key benefit for portal users is that all the functions are able to be invoked from within the portal, and do not require launching separate windows and applications to work within the web conference.

By incorporating Web Conferencing directly from the portal, other collaborative tools also come into play. For example, instant messaging and awareness can enrich the meeting experience.

Below is a sample screen of what web conferencing invoked from within a portal can look like as it is presented in an IBM On Demand Workplace:
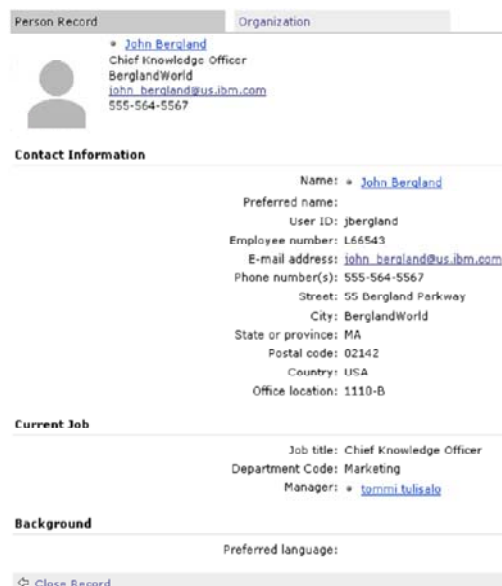

People Finder

How do we find the right people? With the right knowledge? In the right team or department? From within large, geographically dispersed organizations? In real time to support a customer's mission critical business issue?

Most companies maintain corporate phone lists, often by physical location or perhaps by business unit, and sometimes still on paper while others in multiple electronic files. These directories, even when online, often give the requestor only a name, phone number or physical address. However, in today's mobile, global business environment, a physical address or a single contact phone number is rarely enough to make the people-to-people connections required. What is needed is a multi-dimension people and expertise location capability to rapidly identify and connect with the right people in the organization.

People Finder is an online corporate white pages and organizational navigation tool that enables users to view fellow employees' contact information, titles, within the context of an organization's structure. People Finder can be used to help populate the user's Buddy List and can be made aware of online status to assist in collaboration. People Finder also works in conjunction with the other collaborative tools such as instant messaging, e-meetings, and team workspaces to deliver a seamless business experience.

People Finder is one of the "killer apps" in that it facilitates people finding people and collaborating together, all within the context of the enterprise portal.

The deployment of a People Finder tool can range from simple to sophisticated. First, finding people may offer either a simple name search or a more advanced search based on any of the attribute information stored in the person's record. Secondly, results of the search can be presented in such a way as to encourage collaboration and the "personal touch" including a photograph of the person when appropriate:

The Organization Record View is a key component of the People Finder capability. By invoking the Organization Record View, the requesting user has the ability to reach someone in their target's peer group or someone in their target's management chain should their target not be immediately available.

Organization Record View:

Document and Web Content Management

Integrating document and web content management as part of the collaborative portal experience, as opposed to deploying them externally from the portal, provides enhanced business benefits. In this section we will discuss document and web content management from the perspective within the portal.

Document Management

Document Management is defined as a system capable of organizing document production, managing accessibility and distribution of documents and other objects, and overseeing document flow. Every organization has a document management challenge to some degree. Managing documents and information throughout business processes is critical to productivity, effectiveness and increasingly to legal or governmental compliance.

The history of Document Management system implementations that have attempted to encompass all the documents a user may work with on a daily basis is littered with failures and stunted efforts. Companies who tried to implement more structured "document management practices" found themselves succeeding only to a certain degree, typically with "official" documents, or documents that went through a formal "review and approval" process or documents that were owned by a particular department. Many times, because document management was sponsored at the business unit level, companies found themselves with multiple technologies most of which would not talk with one another and whose documents could not be shared. The effect of this lack of user adoption has been that companies find themselves with file systems growing exponentially with volumes of documents that are difficult to reuse or rely upon for accuracy. The file share, with all its duplicates, near duplicates, and orphans often is the defacto document management system.

Portals can address the overwhelming growth of documents that organizations are forced to manage each year by providing a means and environment that "inspires" users to share

document-based information as simply as the file share system. Before portals, each user often became a silo of their own repository of documents. Office applications encouraged this practice: documents were authored and saved to "My Documents" and the business user believed the documents were truly their property rather than the intellectual capital of the organization. Typically though, copies upon copies of the documents still were generated and found homes in email folders or duplicated in shared drives. Many times the simple reason this "inefficiency" occurred was because it was the "easiest" path for the user. It was "hard" to properly tag a document and "file" it away in a separate system. When the document management system is built as a core facility inside the portal, the arguments of "too cumbersome to use daily" are muted.

Web Content Management

Many portal offerings find their roots in the web content management space. The facility for personalization made these vendors' products "portal like" so that with a little marketing and the addition of some application portlets, these vendors were able to offer visually attractive , if not terribly business useful, web solutions. However, web content management systems are not portals.

The act of managing documents and managing the content published onto a web site are each critical components of portal systems.   Both disciplines require the use of version control, security access, and review and approval cycles. Web Content Management (WCM) refers to the lifecycle (creation, approval, publishing, updating and archiving) of the content that goes into a portal. Web Content Management choices impact three significant groups of users: 1) users who need to access and consume content via the web 2) users who author and contribute content distributed via the web and 3) users who must administrate web sites. All three components must be addressed by the portal solution.

When WCM is an integrated capability within the portal, the organization benefits from sharing security schemas, sharing user profiles and permissions, and having direct access to the content stored in the various document and team workspaces. Navigation methods employed by the user are consistent when WCM is integrated inside the portal and is not just another external application. The whole philosophy and premise of bringing together applications in order to minimize Total Cost of Ownership applies to the business case for WCM as part of a common portal framework application environment.

eLearning

Corporate education has undergone massive cultural and technical changes in recent years. From what was singularly traditional classroom-based training, the marketplace is demanding that technology meet more "on-demand" business requirements. eLearning as we define it includes the software, services and content that enable the delivery of learning solutions over the Internet or corporate intranet in either self-paced or live-online formats, and that enable the management and tracking of all forms of learning.

An eLearning management system is defined as a platform designed to handle the management, tracking, delivery and administration of both online and off-line training or learning programs. This includes course catalogs, registration, skills assessment and other functions. Let us see how eLearning benefits can be maximized when deployed as an integrated component of the portal.

Industry analysts agree:
> *"E-learning is critical to the success of individuals, organizations, communities, and economies, and e-learning portals top the list of effective training and educational strategies. E-learning portals offer customization, 24/7 accessibility, convenience and flexibility, cost effectiveness, user-centric learning, and centralized management of knowledge." <u>Demystifying e-Learning Portals</u>, Bray J. Brockbank, e-Learning Advisor magazine.*

When fundamental to the rest of the student's daily business life, the portlet-based student user interface incorporates learning resources into the user's desktop environment, so that learning is available to workers on an online, real-time basis.   With IBM's Portal-based learning management offerings, the portlets, which are normally customized to suit a user's job role, industry, and profile, enable employees to self-manage their learning activities and access learning in a "just in time" fashion. The portlets can be very flexible and can be integrated into the portal experience as desired. Customers can choose to offer a few or a complete set of learning portlets into their portal to support specific learning tasks along with other day-to-day work activities.

eLearning is a critical enabler of improved business performance. Portal has emerged as an equally critical enabler of increased business performance. When both technologies are integrated with a seamless user interface they can address significant business issues for internal and external user communities:

Employee Communities
- Human Capital has replaced physical capital as the source of competitive advantage
- Highly skilled people with the right capabilities are vital to an organization's ability to succeed/compete
- Today's business models are requiring agile employees who can learn continuously
- Many employees possess outdated skills and lack the requisite educational background to effectively perform their jobs
- 50% of an employee's skills are out of date within 3 to 5 years; 60% of future jobs will require training that only 20% of present workers possess

Overall Organization Value Chain
- Learning must reach across the entire corporate ecosystem
- Customer education on products and services is a key differentiator
- Business supplier education for e-procurement and e-markets are part of the virtual supply chain

Keeping in mind that the eLearning system includes not only the enrollment and taking of classes, but also the authoring and assembly of the curriculum content, there are additional

benefits of tying together the document management facilities, the web content delivery services and other collaborative features available within the portal.

Example: The portal is enabled with People Awareness. A learning instructor is updating the eLearning coursework for a class being held the next week. The instructor wishes to connect with a subject matter expert identified through the "People Finder" portlet. Without leaving the portal, the instructor is able to connect with the expert, complete their coursework preparation ahead of time using the document management facilities and authoring tools in the portal, all the while ensuring the organization of quality, accuracy, and compliance.

eLearning is not just a business-to-employee portal play.
> *"Some companies also use e-learning for the education of their channel partners as well as their customers. This provides even more cost savings. The channel partners receive the training faster and with greater consistency than at physical sites, and the customers access information and get answers to questions that previously may have required a call to the help desk. These two e-learning markets - channel partners and customers - will grow 100 percent in the next two years as companies begin to look outward to the education of those who sell and buy their products, using e-learning for time savings and speed to competency."* <u>*Market Overview 2003: Corporate e-Learning*</u>*, Claire Schooley, Forrester Research, Inc., June 23, 2003.*

eLearning can often be a cornerstone of enterprise portal deployments, transcending departmental differences and allowing wider-spread use of the portal technology.

Collaborative Solutions and Tools Matrix

The table below demonstrates how various collaboration capabilities matches to the business challenges.
 "●" indicates a very strong match-up of the tool to meet and satisfy the problem or challenge.
 "○" indicates the tool helps support the requirement, but is not the primary purpose of the tool.

Table 3-2.1

CHALLENGE	COLLABORATIVE SOLUTIONS AND TOOLS							
	PRESENCE AWARENESS	TEAM WORKSPACES	WEB CONFERENCES	INSTANT MESSAGING	PEOPLE FINDER	DOCUMENT & WEB CONTENT MGMT	eLEARNING	MESSAGING
CONQUER THE BARRIERS OF TIME AND SPACE	●	●	●	●	●	●	●	●
AVOID BREAKDOWNS IN COMMUNICATION	●	●	●	●	●	●	●	●
PROMOTE CROSS–FERTILIZATION OF IDEAS	●	●	●	●	●	●	●	●
DEFEND AND PROTECT KNOWLEDGE RETENTION	○	●	○	○	●	●	●	●
IMPROVE COMPLIANCE AND SECURITY	○	●	●	○	○	●	●	●
REDUCE PROJECT EXPENSES AND COORDINATION COSTS	●	●	●	●	○	●	●	●

Appendix 2: Business Value of an On Demand Workplace Solution

So what is the difference in business value between opting for an On Demand Workplace solution that includes completely integrated collaborative and business process integration capabilities versus investing in similar technologies which must be integrated externally or deployed one-by-one in a standalone fashion?

Different organizations measure and value return on investment in different ways. IBM takes a balanced scorecard approach that examines four categories in which Portal value may be measured:
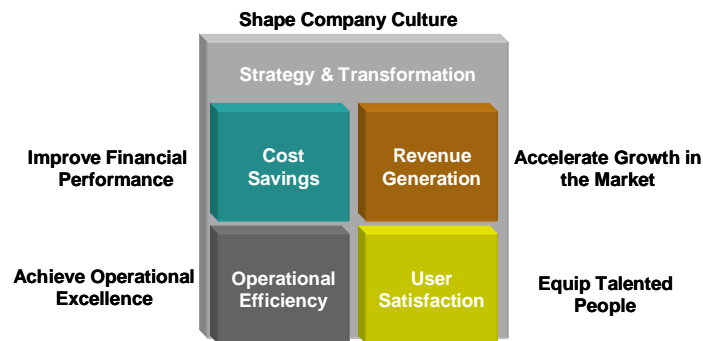
1. **Cost savings** realized by improving financial performance
   Characterized by building applications faster, consolidating procurement of hardware and software, and reducing back-office staff or other administrative costs that can be indisputably identified.

2. **Revenue generation** achieved by accelerating growth in the market
   Characterized by protecting current revenue streams and increasing cross-selling opportunities, collaborating and learning from collective experience, and expanding market share or moving into new markets.

3. **Operational efficiency** achieved through demonstrated operational excellence
   Characterized by maintaining one starting point for communication as opposed to thousands, linking event-based cross-functional processes, and increasing data accuracy.

4. **User satisfaction** improved through equipping talented people
   Characterized by engendering an atmosphere to keep and maintain people and their knowledge, facilitate better job and life experiences, preserve and protect a

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steady and valuable workforce, and gain competitive distinction by enhancing peak performance.

For each of the four areas, we will also model whether the benefits are direct or indirect, meaning that they are measured quantitatively, semi-quantitatively, or qualitatively. Quantitative benefits are considered **direct** benefits; Semi-quantitative and Qualitative are considered **indirect** benefits.

Quantitative Benefits are:
- *Usually associated with pure cost reduction or revenue increase versus improved collaboration & use of organizational knowledge*
- *Shorter term and more easily expressed using standard accounting tools*
- *The best way budgets get approved*

Semi-Quantitative Benefits are:
- *Characterized as productivity gains usually achieved through easier access to information & knowledge sources*
- *Medium term improvements in learning speed or quality and/or improvements in career development agility*
- *Usually a mix of quantifiable usage analytics and qualifiable proxies in the form of user surveys and/or may include before- and- after success stories*
- *Helpful aligning line of business executive goals with tactical plans*

Qualitative Benefits are:
- *Typically used in knowledge intensive organizations*
- *Driving knowledge creation and innovation, and may be deeply complemented by integrating governance or process management i.e. in the portal*
- *Usually have medium-to-long term benefit horizons*
- *Measurable through surveys, anecdotal feedback, or user community satisfaction indices*
- *Helpful aligning with the strategic goals of the business case when senior executive management also supports the business case*

In considering ROI, it is important to remember that different stakeholders have different priorities and may weigh return on investment differently depending upon their role in the organization. Three key stakeholder audiences to which Portal must answer when developing the return on investment business case are:

1. Executive Management including the CEO, COO and CFO
2. Information Technology (IT) and the CIO
3. Line of Business Management and End Users

Thus, we will examine for each of these three stakeholder groups, the top four value drivers for portal and some examples of how an on demand workplace specifically helped companies to achieve their ROI goals.

TOP FOUR PORTAL ROI DRIVERS BY KEY STAKEHOLDER GROUPS

	Executive Management CEO / CFO / COO	Information Technology CIO	Line of Business / End Users
1	Drive Revenue and Cut Costs	Reduce Costs	Simplify User Experience
2	Improve Productivity	Simplify IT	Perform self service
3	Respond to Changing Business Needs	Better align IT to business requirements	Accelerate effective use of business resources across the globe
4	Improve Customer, partner and Supplier Service	Streamline Application Development	Unify People / Teams, Applications, Content, and Business processes

3.1 Cost Savings

Cost savings stands out for the proposition favoring an On Demand Workplace with embedded collaborative and process integration capabilities -- as opposed to acquiring multiple packages from multiple vendors. This argument is especially keen to both the Executive Management and the IT constituencies. An integrated package gives the customer maximum buying power, just as buying at higher volumes tends to reduce the per-unit price. Thus, a cost savings is achieved of the difference between the package price and individually selected items.

What if the capital expenditure for acquiring the components together is the same as purchasing them as one pre-integrated package? Assume we choose to buy the separate or standalone components. What is the next step? We must put them together since, in the end, we do want them to work all together in a portal for our user base. That requires integration effort, and that integration effort costs money, time, and risk. The integration costs, internal and external, must be measured as well as the time delay to perform the work itself. When the collaborative and process integration capabilities are "out of the box", then not only are the "Improve Productivity" goals met for the Executive group, but so is the "Streamline Application Development" for the IT community. The desire to "Perform Self Service" for the line of business users may be another issue satisfied, as that group is able to save costs by taking on the construction and setup of, for example, team workplaces themselves within the portal.

Thus, in a normal vendor-to-vendor competition of portal technology, the more embedded functionality in the product, the lower the total cost of ownership to the acquirer. TCO savings can be seen and measured in the areas of:
- Package acquisition costs (versus multiple packages to be acquired)
- Implementation and development costs (e.g. buy versus build)
- Integration costs
- Maintenance and support costs

3.1.1   Sample Cost Savings Metrics

The following are some example metrics affecting Cost Savings that can be considered when calculating return on investment when acquiring an On Demand Workplace solution versus a portal without embedded collaboration:

- Quantitative
    - Difference in acquisition price i.e. software license price
    - Difference in annual maintenance costs
    - Difference in services costs to deploy
    - Training for IT staff
    - Training for User staff
    - Difference in hardware costs (due to site consolidation and reusable infrastructure components)
    - Telephone/communications cost savings from "knowing" someone is online (instant messaging awareness)
- Semi-Quantitative
    - Reduced user time required for log-in to multiple applications
    - Reduced user time required for searching for an individual with particular set of skills or field of expertise
    - Reduced user time setting up or participating in web conferences with teammates
    - Reduced user time spent distributing information
- Qualitative
    - Established standardized web services architecture for reusability
    - Established common portal infrastructure to support customer portals, kiosk portals, and employee portal

3.1.2   Sample Customer Case: 3M

3M Corporation's portal initiative was part of their overall Six Sigma program and is an excellent example of a company that made its portal business case on cost savings and improving total cost of ownership. 3M is an $18 billion diversified technology company with leading positions in consumer and office; display and graphics; electronics and telecommunications; health care; industrial; safety, security and protection services; transportation and other

businesses. 3M has operations in more than 60 countries and serves customers in nearly 200 countries.

3M's portal targeted their worldwide community of employees and faced the challenge of reducing costs associated with branding thousands of products in different departments. . Both "hard" and "soft" return on investment was realized with hard savings coming from massive reduction of help desk calls and the resulting reduction or non-replacement of help desk personnel. Soft

savings were found when 3M could complete their hiring process of new personnel faster. 3M also used their On Demand Workplace software solution to provide a single communications vehicle inside and outside the organization, realizing savings in mass mailings and other traditionally paper-based communications.

3.2 Revenue Generation

Market opportunities do not wait. The company who can respond fastest, most proactively with a workforce that operates in step has the best opportunity to win. Collaboration tools like Team Workspaces and Presence Awareness help users to transcend organizational barriers of time and distance. But what happens when those tools are only available to some users and not to others? Available only to some applications but not to others? Then delay occurs and that market opportunity may slip away or be taken away by a competitor. Thus, if collaborative tools are inherently present in all facets of the portal because they have been embedded and thus do not require external integration on a case by case basis, the organization can be poised to take advantage immediately of market changes.
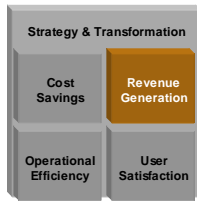
Portals that include collaborative tools can drive innovation, resulting in new products and new revenue opportunities, by transforming and enhancing employee connections. Gartner expresses the value as "Improved Time to Market through Gained Efficiencies" and can also be referred to as "Agility". Efficiencies translate into faster launches from the business side. Creation of a more streamlined and efficient supply chain is one example. Approval processes may be improved when barriers to communication are reduced, resulting again in expediting the revenue stream.

3.2.1 Sample Revenue Generation Metrics

The following are some example metrics affecting Revenue Generation that should be considered when calculating the comparative return on investment sums between portal solutions with embedded collaboration and those without:

- Quantitative
    - Increase in pipeline competitive win rate due to ability to form effective team faster to respond to quote and bid processing
    - Managing increased volume of sales opportunities without increasing headcount
    - Increase in overall online revenue generation based on improved cross-sell, up-sell, and availability
    - Increased pricing accuracy reduces price related errors
    - Tighter trading partner management leading to increased sales and competitive advantage

- Semi-Quantitative

- – Increased conversion rate on opportunities based on faster customer response time (easier access to people and information)
- – Increase in speed to deploy portal with broad set of functions
- – Reduction in business approval cycle timelines
- – Increase in quality and quantity of the supply chain and partner network
- – Shortened time to market for new product introductions and product enhancements
- – Faster integration of new personnel and acquired companies (reduced time to "Day One")
- – More accuracy in selling process and assuring delivery process is less open to flaws (e.g. approvals, terms and conditions, quality reviews)

- ▪ Qualitative
  - – Improved responsiveness to customer inquiries
  - – Increased use of external information & knowledge sources (e.g. competitive capital disseminated more broadly)
  - – Strategic advantage in being first to market with new products
  - – Increase customer satisfaction though reduction in errors

3.2.2 Sample Customer Cases: Cathay Financial Holdings and Miami-Dade County

Demonstrating a business case built around increased revenue can be achieved whether an organization is purely 'for profit' or a public agency.

The flagship company of the Lin-Yuan Group, Cathay Life Insurance leads the industry in terms of the insured amount of policies in force, total assets and total premium. Cathay Life has received the highest satisfaction rating among policyholders and provides customers with a broad range of insurance products and services. Cathay Life's representative offices in Tokyo, Hong Kong and Beijing serve to help the company implement globalization practices and to cooperate with other insurance companies strategically. On a regular basis, these bureaus host financial services and research activities for the latest development of insurance-related issues. To maintain its competitive edge and leadership position, Cathay Life is repositioning itself in the market under a financial holding company. Under its new structure, Cathay Life will integrate its financial services business banking, securities and insurance as well as develop a successful cross-selling platform. By integrating its resources, the company hopes to increase corporate efficiency and productivity. Ultimately, Cathay Life aims to provide customers with the convenience of one-stop shopping for insurance services.

Cathay Life's original system had been in use since 1990. And although the company had worked steadily to enhance system performance, constant revisions resulted in an overall architecture that was extremely complex and difficult to maintain. To meet the new needs created by the establishment of the Cathay Financial Holding Company, and to achieve effective system integration between the new company's different subsidiaries, Cathay Life decided to

establish an enterprise information portal for the Financial Holding Company. This would make it possible to integrate customer data and implement cross-selling activities.

Taiwan's Cathay Financial Holdings built their primarily B2B portal to drive increased revenues and decrease the time for issuing "Letters of Consent". They provided clients with faster, more complete services through the portal. By reducing the need to develop multiple integration interfaces, they were able to shorten their financial products time to market.

"Get online not in line"

As the largest metropolitan area in the State of Florida, Miami-Dade County is often referred to as the "Gateway to Latin America and the Caribbean." Governed by an Executive Mayor and 13 commissioners elected from single-member districts, the day-to-day operations of the government are overseen by an appointed County Manager. More than one million people live in the unincorporated area of the county, with the rest of the population residing in municipalities.

Miami-Dade County wanted to upgrade its existing custom built portal to take its e-government infrastructure to the next levels of functionality and sophistication. The organization decided to invest in a portal infrastructure framework with extensive personalization, e-mail push, language translation, single sign-on, collaboration and content management. With a product tailored to these functions, Miami-Dade County expected development efforts to be quicker and smoother.

By implementing an On Demand Workplace solution, Miami-Dade County now provides a more comprehensive portal to its citizens and can extend more county applications to the public. Miami-Dade County's B2C portal has increased the agency's revenues by an additional $4 million US dollars from the county's now "portal delivered" services over the former "people delivered" services. Specifically, the County succeeded in:

- Conducting business online (pay parking tickets, find jobs, renew library books, make golf reservations, order recycling bins, schedule trash pickups, etc.)
- Giving citizens a single point of government contact
- Providing citizens Web, telephone and kiosk portal access to the workplace
- Making information and services available 24 hours per day, electronically
- Establishing e-government as a revenue producing entity

3.3   Operational Efficiency

"Simplify", "streamline", and "standardize" are the three "S" steps toward achieving operational efficiency and can be measured to justify the return on investment. The corollary to making operations more efficient is to increase productivity.

The following table provides just a few examples of operational efficiency and how the presence of embedded collaboration would improve the ROI business case.

ITEM	SPECIFIC EXAMPLE	WITH EMBEDDED COLLABORATION	WITHOUT EMBEDDED COLLABORATION
Employees and partners work together more efficiently	Improved customer service.	Buddy Lists for expert identification. Corporate people finder.	Must go to multiple locations to find people.
	Streamlined sales execution	Embedded, standardized communications tools for the field, giving sales people and partners the integrated tools necessary to know their customers, their products, their markets and their competition.	Multi-steps, time delays
	Reduced communication costs.	Empower employees, partners and customers to access information and expertise via the portal, rather than by calling a manned help desk.	Multiple applications to learn and access.
IT rolls out applications faster.	Reduced IT costs	Many applications can be accessed through the portal and do not need to be deployed on individual workstations. In addition, providing new methods to access existing applications through Web services and pervasive devices will reduce the need for applications to be redeveloped.	Redevelopment or multiple installation activities required.
	Reducing application maintenance at the desktop.	Less separate maintenance; upgrades are performed "en masse".	Upgrades are made "in step" rather than having to be applied individually, thus causing delay in recognizing value enhancements.

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As we see from the examples in the table, much of operational efficiency gains for the business are generated by actions taken by the IT community.

To the line-of-business user, the goal to "Simplify the User Experience" is a critical means toward achieving operational efficiency. Most companies have developed hundreds, if not

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thousands, of e-business enabled sites for financial systems, HR systems, email, eLearning, and customer service, all in the hope of achieving operational efficiency and driving value to the bottom line. As each new initiative is introduced to "fix" a problem, the larger "problem" of maintaining complex systems becomes even more complicated. An On Demand Workplace solution provides a means to finally give the unified user experience required for true operational efficiency.

3.3.1 Sample Operational Efficiency Metrics

The following are some example metrics affecting Operational Efficiency that should be considered when calculating the comparative return on investment sums between portal solutions with embedded collaboration and those without:

- Quantitative
    - Reduced IT new application development time/cost
    - Reduced IT services time and cost to integrate collaborative functions into existing applications
    - Reduced web site update efforts
    - Reduced content management systems content development time
    - Reduced eLearning system content development time
- Semi-Quantitative
    - Reduced IT resource time spent redesigning applications with line of business users
    - Reduced time spent re-training users because of application nuances
    - Reduced help desk support questions
- Qualitative
    - Improved web content and document reuse, accuracy, and timeliness
    - Improved line of business user self service capability

3.3.2 Sample Customer Case

While there are a number of IBM customers who have used the portal to demonstrate gains via operational efficiency, IBM itself is perhaps the best example. IBM developed an internal On Demand Workplace (known as "w3") to streamline business processes and reduce operational costs. w3 is a scalable workplace that is deployed worldwide to over 300,000 employees providing a global, self-service, personalized business workplace that has returned over $2.3 billion US in operational efficiencies.

The aim of w3 was to provide a single place for employees to locate information and expertise, instantly collaborate with other colleagues irrespective of geography, attend web conferences, take actions using self-service applications and attend online courses all using a common portal framework. The key driver of the On Demand Workplace is investment in employees. IBM wished to reduce the organizational complexities found within large enterprises and enable employees to work with dispersed mobile teams. Another driver was enhanced collaboration between employees and customers, therefore improving customer satisfaction. To provide this

audience-driven flexibility, w3 needed to be a personalized portal that allowed employees to configure information appropriately.

The operational efficiencies that IBM achieved were widespread:

e-HR

- Making Human Resources interactions, like benefit enrollments, self service: $281M
- Increasing self-service travel site adoption from 32% in 2003 to 75% projected by 2005, resulting in over $1M per month savings from transaction costs and airline savings
- Ratio of HR staff to employees moved from 1:59 in the early 1990's to 1:188 in 2002
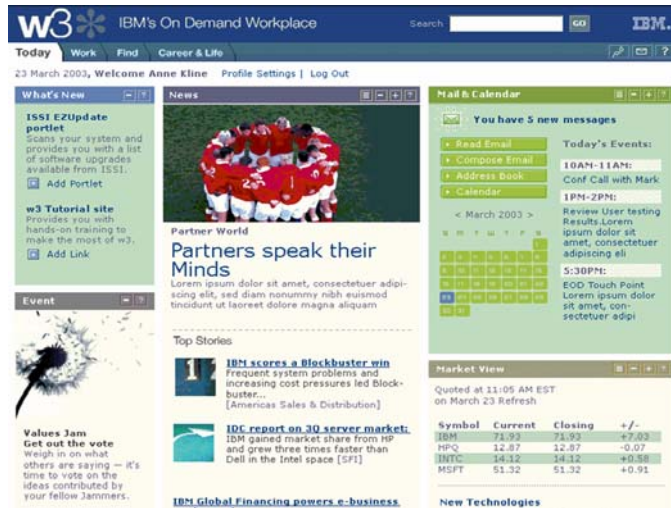
e-Learning

- Cost avoidance of over $284 Million in annual savings through e-Learning versus traditional training models
- 47 percent of training delivered online through the portal by year 2 of the program

eCollaboration

- Allowed for a 72 hour "world jam" collaboration in which 53,000 employees participated and generated 6000 ideas sharing best practices
- $11 million in annual web conference savings
- Globally available collaboration tools and knowledge sources enable IBM researchers to discover and document new ideas so that IBM generated over 3,415 new patents in 2003 with over 30 per cent incorporated into new products within one year of acquiring the patent

e-Customer self-service

- Having access to an on-line "Blue Pages" organizational directory with contact, skills and experience information as well as instant "presence awareness" built in saves two hours per month for each Blue Pages user
- On-line Help facility satisfies 30 % of all help requests where agent calls cost an average of $15 per call

3.4   User Satisfaction

The nature of portals is a user-centric experience. Users and organizations have an expectation that portals will improve their productivity and simplify access to all the applications they must use in the course of daily business.

Users collaborate in multiple ways—some technical, some not; some efficient, some not-- whether they are using a portal or not. Collaboration is defined as "the act of

working together with one or more people in order to achieve something."[2] Within a portal environment, the act of collaboration has identical purpose but the portal architecture can strongly influence how satisfying the collaborative experience will be for the given user.

Working together implies gathering in a team or community structure. Many, if not most, teams and communities are "ad-hoc" structures.   These ad hoc structures are not always represented by formal organizational bounds such as reporting structures, or departmental membership. The collaborators come together because of a situation, and that situation establishes the initial context of the collaboration. For example, a customer issue from a CRM system, or a subject from an email, or a telephone call may inspire the need for collaboration on an issue.

When the event occurs that triggers the need for collaboration, users want and need to "get right on it". If the tools are not at the ready, and easy to access, the experience can become very frustrating. Users want and need to be empowered to make tasks happen without incurring delays. An on demand portal solution can help unify teams, applications, content and business processes. When all this comes together successfully, and the issue is resolved, the users get "job well done" feedback. Often an increase in customer satisfaction occurs due to better, faster, and more human-friendly customer service.

So, what is the difference to user satisfaction between portals that come embedded with collaboration tools and those that do not? Simply stated, the prime differential is in the empowerment the users have at their disposal to act swiftly and productively on the job at hand using all of the people, applications and information of the organization.

3.4.1 Sample User Satisfaction Metrics

- Quantitative
    - Reduced time away from the job
    - Cost avoidance from decreased employee turnover rate associated with improved employee satisfaction
    - Reduced hiring and training costs
- Semi-Quantitative
    - Improved customer satisfaction indices
    - Improved customer retention
    - Improved rate of solving business problems e.g. reduced user time required to request information from multiple internal systems
- Qualitative
    - Retaining customers due to innovative technology end-user touch points which speed processes and provide better service
   - Improved responsiveness and business controls

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[2] Source: Encarta Dictionary

3.4.2 Sample Customer Case: Whirlpool

When talking about user satisfaction, it is important that all stakeholder communities are satisfied. While some portals may satisfy one user group tremendously well, companies must take caution that the satisfaction achieved is not at the expense of another class. Whirlpool is a great example of one company who delivered satisfaction to their targeted four major roles of users:

- New employees (for getting connected)
- Individual Contributors (for optimizing their value-add)
- Managers (for orchestrating improvements)
- Executives (for enhancing strategic value and decision-making)

The Whirlpool portal was centered on the employee experience and focused on developing more effective and informed employees. While Whirlpool had a complex backend of systems, they were able to unify all their intranets under one portal. Local, regional and global personalization gave the Whirlpool employees the message that their uniqueness was valued and would not be ignored even while the company reduced support costs and cut the familiar and sometimes more comfortable "paper based" operations.
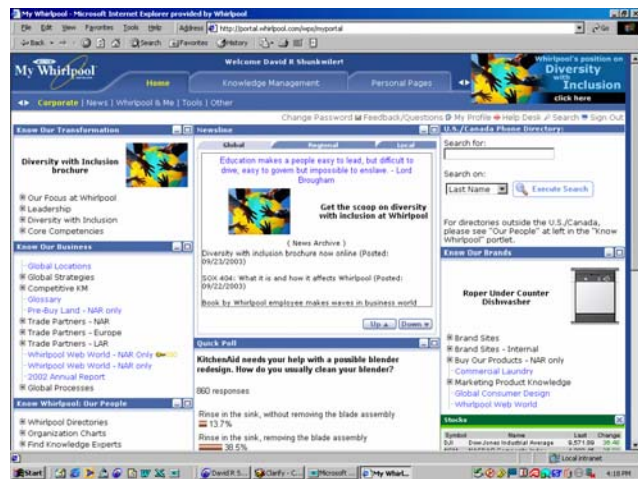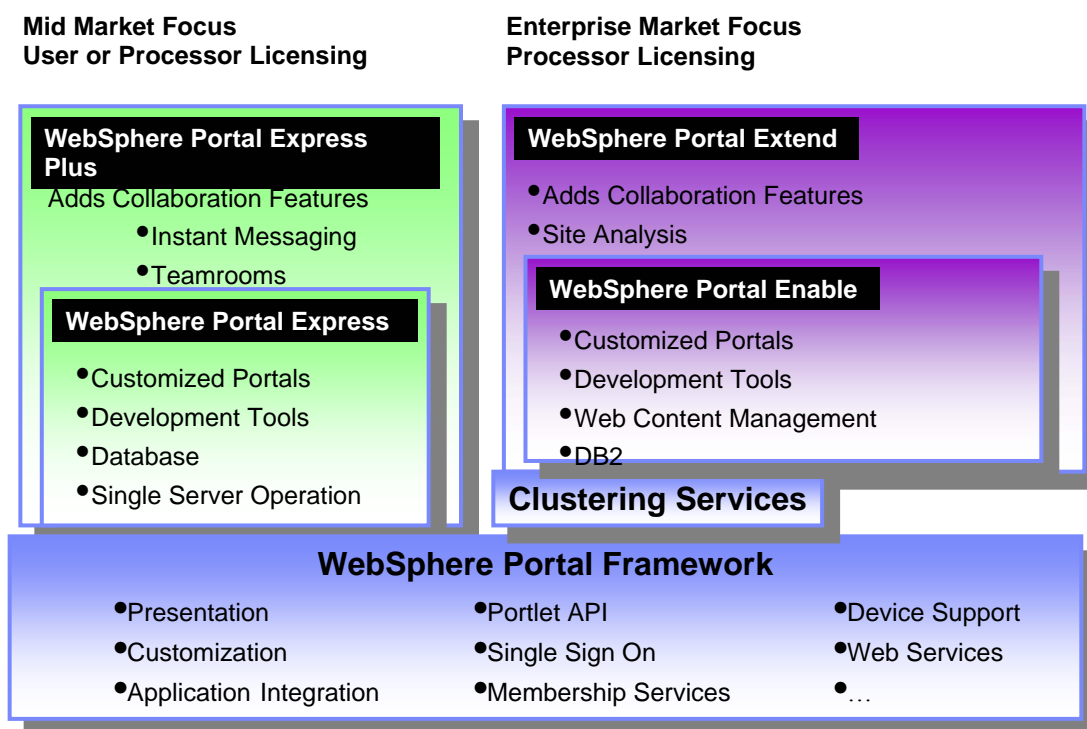
Appendix 3: IBM Portal Offerings Summary

WebSphere Portal provides integrated access to people, applications, processes and information. The products/solutions IBM offers in this space are:
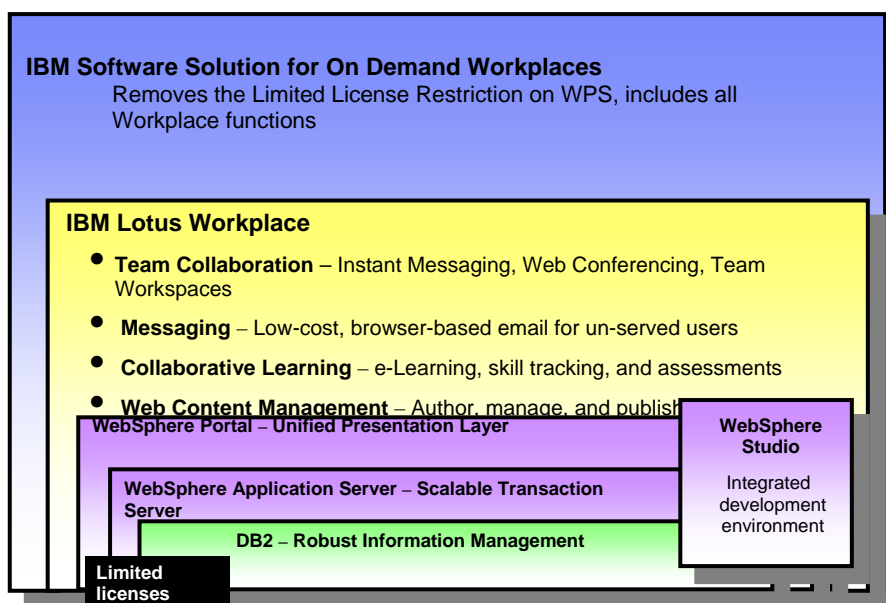
Portal Enable the basic edition of WebSphere Portal for Multi-platforms provides the infrastructure for building highly scalable portals to help simplify and increase the speed of user interaction with personalized information, business processes and applications. With WebSphere Portal Enable you can build a single point of interaction with dynamic information, applications, processes and people but it can not contain collaboration capabilities unless you are licensed for Lotus Workplace or another Lotus product.

Portal Extend includes all of WebSphere Portal Enable features and introduces collaboration capabilities, enterprise search functions and portal usage analysis - to improve productivity, while fortifying customer and trading partner relationships. With WebSphere Portal Extend you can build a single point of interaction with dynamic information, applications, processes and people that contains instant messaging, web conferencing and team workplace capabilities. Other collaboration capabilities can not be included unless you are licensed for Lotus Workplace or another Lotus product.

WebSphere Portal Packaging

Mid Market Focus
User or Processor Licensing

Enterprise Market Focus
Processor Licensing

WebSphere Portal Express Plus

Adds Collaboration Features
- Instant Messaging
- Teamrooms

WebSphere Portal Express
- Customized Portals
- Development Tools
- Database
- Single Server Operation

WebSphere Portal Extend
- Adds Collaboration Features
- Site Analysis

WebSphere Portal Enable
- Customized Portals
- Development Tools
- Web Content Management
- DB2

Clustering Services

WebSphere Portal Framework
- Presentation
- Customization
- Application Integration
- Portlet API
- Single Sign On
- Membership Services
- Device Support
- Web Services
- …

IBM Software Solution for On Demand Workplaces provides a comprehensive set of integrated collaboration capabilities combined with elements of the world's leading business integration platform, IBM WebSphere Portal. With Lotus Workplace you can build dynamic work environments that contain collaborative capabilities/applications as provided by the platform or an existing Lotus product.

IBM Software Solution for On Demand Workplaces
Removes the Limited License Restriction on WPS, includes all Workplace functions

IBM Lotus Workplace
- **Team Collaboration** – Instant Messaging, Web Conferencing, Team Workspaces
- **Messaging** – Low-cost, browser-based email for un-served users
- **Collaborative Learning** – e-Learning, skill tracking, and assessments
- **Web Content Management** – Author, manage, and publish

WebSphere Portal – Unified Presentation Layer

WebSphere Studio
Integrated development environment

WebSphere Application Server – Scalable Transaction Server

DB2 – Robust Information Management

Limited licenses

Appendix 4 - Industry Analyst Review

Industry analysts agree that the delivery of a complete vision is paramount to value. Gartner says the "Smart Enterprise Suite by 2004, will emerge as an aggregation of the functionality offered today by portals, team collaboration support and content management (0.8 probability)." [3]
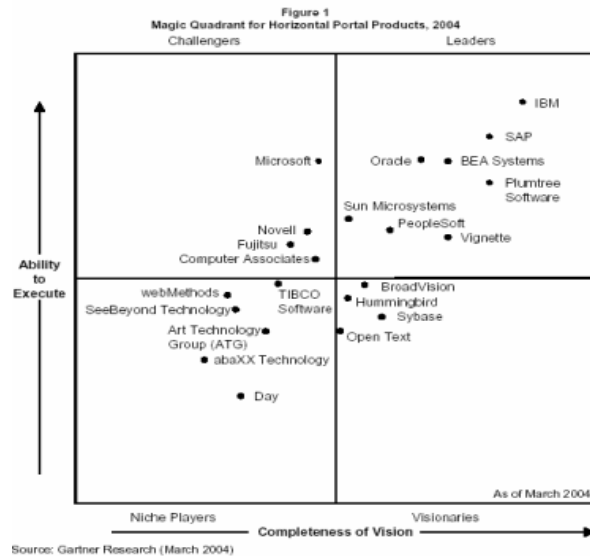

Gartner Group – March 2004

Source: Magic Quadrant for Horizontal Portal Products, 2004 30 March 2004 by Gene Phifer, Ray Valdes, David Gootzit, Kim S. Underwood, Joanne Correia and Whit Andrews"

The Patricia Seybold Group uses the "Bulls-Eye" Chart of measuring the depth and breadth of portal capabilities. [4]

Portal strategists are rationalizing and consolidating their portal platforms in order to lower deployment and support costs at the same time as they improve the levels of functionality and utility these portals provide to their various stakeholder communities….
Underlying the leading portal offerings are a set of technology services that today are packaged in the form of portal platforms. …We believe that you should evaluate today's portal platform choices by focusing on the services that each platform supports. Over time, you'll be able to re-use these services across a variety of scenarios and applications.

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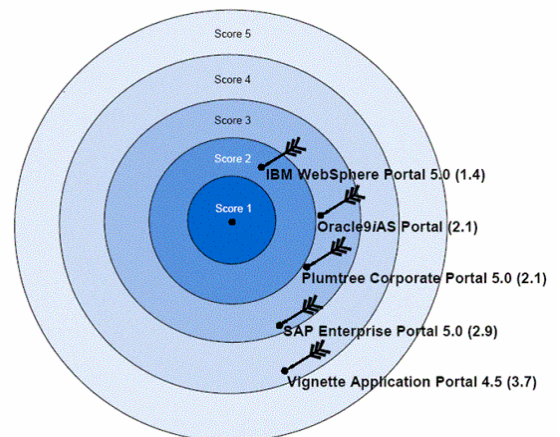
[3] Magic Quadrant for the Smart Enterprise Suite, 2004" 17 May 2004 by Gene Phifer, French Caldwell, Simon Hayward, James Lundy and Tom Eid)

[4] Patricia Seybold. David Marshak, "Who Hits the Target in Enterprise Portal Functionality?" November 6, 2003

About the Authors

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Mr. Ryan has extensive experience partnering with clients to advance their competitive positions by developing and executing business strategies, redesigning business processes, and delivering technology capabilities. Currently the Asia Pacific Leader for IBM's Business Value Assessment for Portal and Workplace Team, he has extensive portal, content management, and document management experience in the financial services, distribution, telecommunications, manufacturing, utilities, and petroleum industries. Prior to this role he was an Associate Partner in IBM Business Consulting Services On Demand Workplaces practice. Mr. Ryan specializes in:

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