

## A Whole New Portal Experience

### What is a Portal?

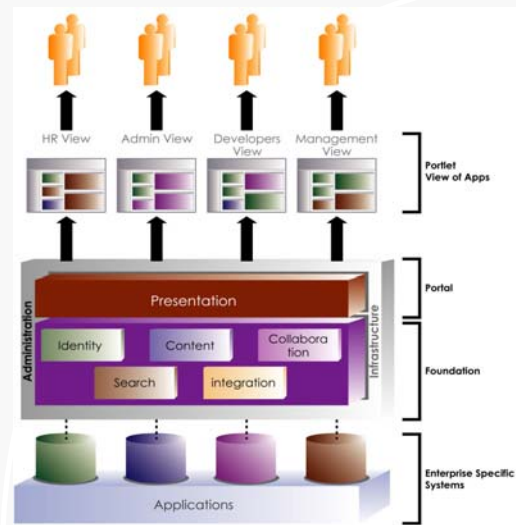
A portal is a web-ecosystem that provides the framework, tools and interface to access and leverage on online resources available in an organization. It allows you to assemble and manage multiple applications and services, in personalizable workspaces through the ubiquitous Web.

META Group states that a portal exists in an “environment that delivers contextually relevant information and services to an individual, whether that individual is a customer, partner or employee”.<sup>1</sup> In other words, providing this context enables organizations to deliver information and processes to a broad range of individuals, thereby helping them to make better-informed decisions and conduct business. This improves efficiency and personal productivity, improves relations with customers and partners, ultimately resulting in enhanced lifetime profitability of customers and improved retention rates. In turn, this reduces customer acquisition costs and cost of sales.<sup>2</sup>

Many believe that portals are finally enabling organizations to deliver on the promise of the Internet.

**Some people confuse portals as normal web fronts. Portals provide many other facilities not available on web fronts. For example, portals provide:**

- A single point of access to find, connect to and leverage on all available online resources within and without the enterprise.
- A suite of services to deploy composite applications within a web-centric ecosystem. These applications may be built up from other applications and are constructed at a lower cost because of the frameworks available within a portal.
- Personalized delivery of information and services according to user profile and rights.
- Collaborative services that contribute and promote user interactions. This improves business efficiency and quickness.
- Unified sign-on across applications.
- Content management services to help an organization leverage on its online content more effectively.
- Integration services with various enterprise applications within an organization. The services from these applications further enhance the value of the portal by promoting collaboration and communication amongst online participants.

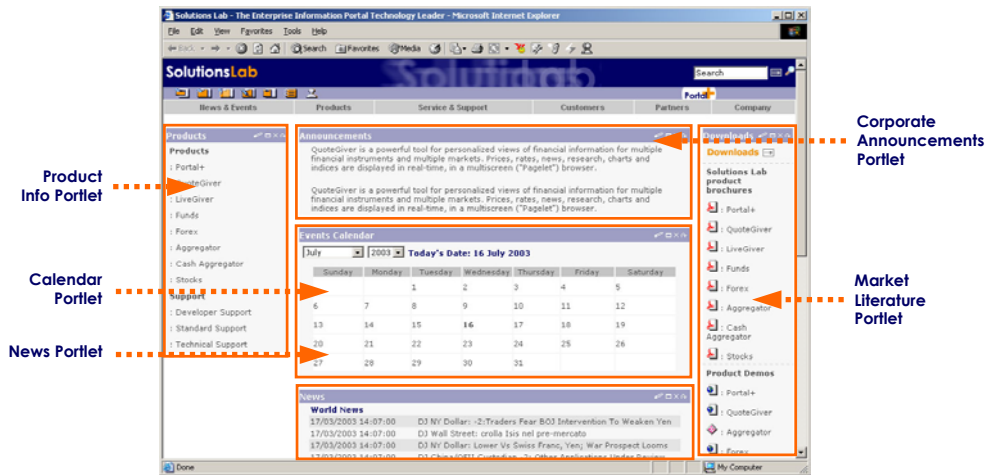


A typical portal comprises of these basic components.

Technologically, portals are increasingly delivering their services via a new user interface paradigm called portlets. Portlets are like windows in a typical desktop environment, except that these exist within a browser. The portlets provides the basic construct for presenting information and functionality from various applications under a single web page within a portal.

<sup>1</sup> Steve Oglethorpe, Sun Journal Volume 5 No. 3, "The Elements of an Enterprise Portal".

<sup>2</sup> Christopher Justice, Strategic Marketing, Vignette, et. al., "CIO Portal Requirements Checklist".



**There are many benefits and advantages in deploying a portal:**

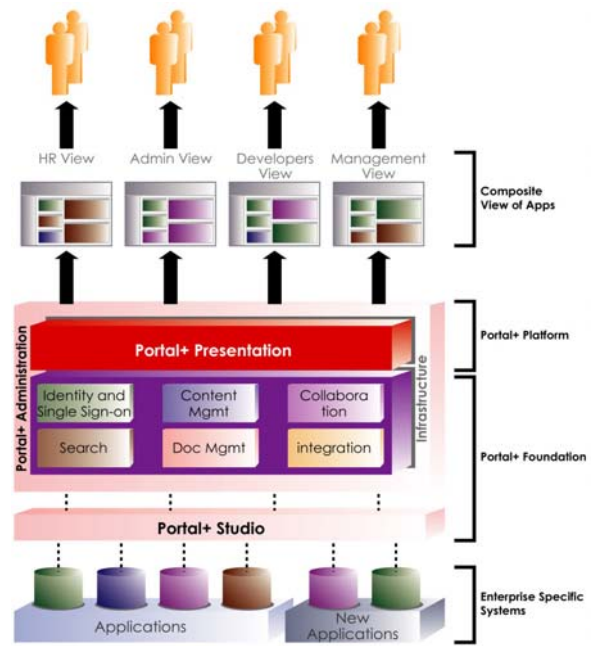
- ✓ A portal aggregates information from multiple sites into a unified view. That makes it easier to leverage on the resulting information to greater effectiveness within the organization.
- ✓ A portal improves productivity and efficiency by providing easy-to-use content and collaboration management services, integrated under one web ecosystem.
- ✓ A portal increases customer retention and satisfaction through a better online experience and business relevancy.
- ✓ A portal promotes better interactions amongst staff, customers and partners.
- ✓ A portal provides the framework to response timely to changes within and without an organization.
- ✓ A B2B or B2C portal help promotes customer interactions and gathers better market intelligence of customer buying patterns.
- ✓ Many studies have shown that a portal increases the ROI of existing applications through better usage, better access, faster reaction time and better productivity, which ultimately results in lower cost of transacting a business.
- ✓ A portal reduces costs of running multiple applications by providing a framework to integrate and leverage in a less costly manner with a quicker time-to-market.
- ✓ A portal inculcates flexibility and lays the innovation foundation to deploy and develop new applications and services.
- ✓ And many others...

With all these advantages, it's no wonder that more and more companies are jumping on the bandwagon of having a portal site.

## What is Portal+?

Portal+ is a next generation portal system from Solutions Lab. It has all the features of a typical portal product plus much more:

- Portal+ allows you to reuse existing applications, not rebuild them, for the portal. Here, we are not merely referring to snippets of codes in a simple application but feature-rich applications like a content management system, forum, email, etc. With Portal+, you can migrate these applications to the portal within minutes!
- Portal+ enables portlet-to-portlet interoperability to automatically provision related information amongst portlets.
- Portal+ allows construction of composite applications by arranging portlets from multiple applications into a single view.
- Portal+ provides patent-pending personalization that treats each portlet within the page as an independent entity.

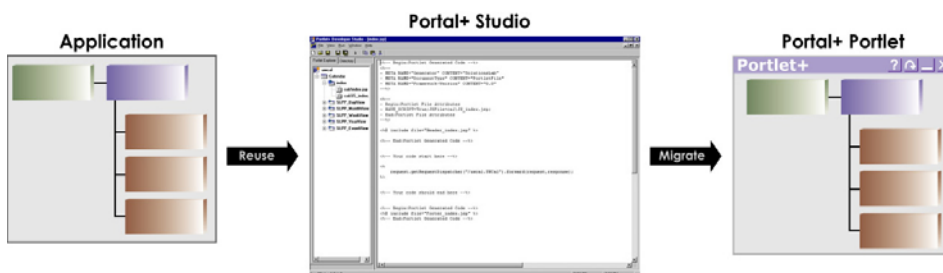


Portal+ is an open environment in which other applications can be easily added.

## Reuse NOT Rebuild

Most portal software provides an extensive set of APIs to migrate existing applications to their portal framework. In addition, these portal products require the application to conform to their program structure and proprietary development methodology. As a result, applications must be re-built to fit into the portal and are locked into its proprietary framework. Take, for example, the case of a web-based content management application. To migrate this application to the portal, you need to construct a servlet for each portlet within the application (and there may be many – one for announcement, one for marketing literature, one for news, one for product literature, etc.) define handlers for each event in the application, rewrite the application to interface to the servlets and change the application to generate new output that is conformant to the portal standards. This is almost a complete rewrite of the application! Consequently, this incurs additional development costs as well as introduce a new variant of the application, which in turn necessitates more maintenance overheads, requires longer time to deploy and is exposed to new programming errors.

With Portal+, we make our Portal+ framework as unobtrusive to the applications as possible. We leverage on existing applications without redeveloping them. We do not impose a new application structure, do not require yet another set of APIs and do not enforce a proprietary development methodology. In fact, we conform to most application standards. We provide a Portal+ Studio that takes in the application and, literally within minutes, migrates the application to work under our Portal+ framework. Once migrated to Portal+, the application automatically enjoys all the services of Portal+.



In Portal+, existing applications are reused using Portal+ Studio.

By adhering to this philosophy, Portal+ helps you:

- **Enhance the value of portal exponentially.** This is because Portal+ imposes very few constraints on the applications. In fact, given the ease of migrating applications over to Portal+, Portal+ encourages the deployment of even more portal applications. Consequently, with more applications under Portal+, the value of the portal increases exponentially.
- **Have the freedom to select the applications** of your choice to put into your portal and not be locked into proprietary applications. This is because Portal+ is open and does not impose any proprietary program structure or development methodology. Therefore, many applications can be deployed under Portal+. As a matter of fact, some of the applications included with Portal+ are migrated from popular 3<sup>rd</sup> party open source applications. We openly encourage you to replace these supplied applications with other applications of your choice.
- **Lower support and development costs.** Portal+ imposes minimal changes to your application, so you do not need multiple variants of the same application – one for a normal web site, another for the portal. Migrating an application to Portal+ is done with mere clicks of the mouse in Portal+ Studio and completed in minutes. Not only that, Portal+ Studio also includes a wizard to develop new Portal+ applications quickly and easily.

### Portlet-to-Portlet Interoperability

A serious drawback in today's portals is the lack of provisioning related information across portlets on the same portal page. You have to manually manipulate the contents of each portlet to display helpful information, and then integrate that information in your own head. Take, for example, a sales force automation portal. When looking up an account, you should not just bring up information about the account, but also the opportunities from the account, history of its activities with the organization, sales report on the account, contact details within the account, etc. In most portals, you need to manually update each portlet (*Opportunity* portlet, *Sales Activity* portlet, *Sales Report* portlet, *Contact Details* portlet, etc.) with information about the interested account. As a result, there's a "proximity but no relationship" problem that limits the usability of the portal.

In contrast, Portal+ portlets are built with the flexibility to interoperate by merely subscribing and getting events based on actions initiated from another portlet. Take the above example again. When you click on a specific account in the *Accounts* portlet, Portal+ automatically sends the event to update the *Opportunity* portlet, *Sales Activity* portlet, *Sales Report* portlet and *Contact Details* portlet to show all opportunities from the account, update the sales activities for the account, show the sales report and list all contacts within the account respectively. All this with only one click on the *Accounts* portlet!

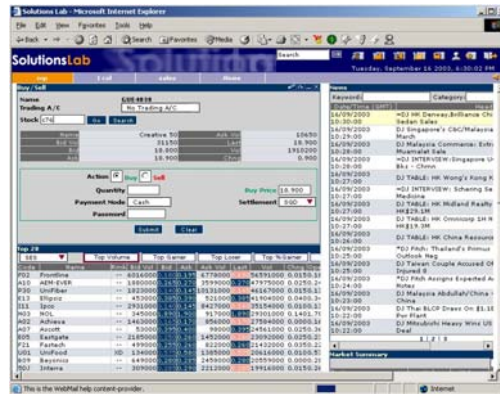
The screenshot shows a web application interface with several portlets. Annotations with arrows point to specific actions and data flows:

- 1. User clicks on specific account in Accounts portlet to get more information.** (Points to a row in the Accounts table)
- 2. Portal+ sends out events to relevant portlets.** (Points to the Accounts portlet header)
- 3. Contacts portlet interprets event and automatically populates with contact information in the account.** (Points to the Contacts table)
- 3. Opportunity portlet interprets event and automatically populates with opportunities tracked with the specific account.** (Points to the Sales Opportunity table)
- 3. Activity History portlet interprets event and automatically populates with the list of transactions done with the account.** (Points to the Sales Activity table)

### Composite Application Display

Given the power of portlet-to-portlet interoperability, it is easy to envisage building composite application on Portal+. For example, on a single page, one can embed a *News* portlet showing the latest news from a news vendor, a *Sales Report* portlet from a sales force automation application, a *Price* portlet from an equity price vendor, a *Buy/Sell* portlet from a trading

application, a *Analyst* portlet from a research application. This page then becomes an online equity trading application. With this feature, Portal+ lays the groundwork for new generation of virtual enterprise applications!



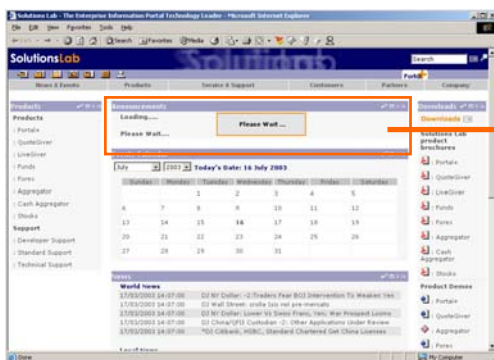
Composite application display enables you to mix-and-match applications into a single view.

### Patent-Pending Personalization

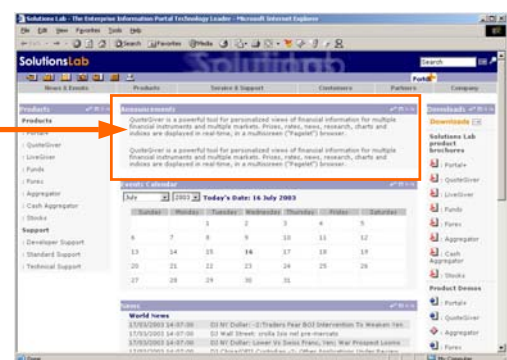
Portal+ uses a patent-pending presentation technology for the browser where each portlet is managed as an independent operating entity.

In contrast, in most portal systems, portlets are table cells within the browser page. Although the portlets look like separate applications within the page, they are really part of the same page and acts and feels like one. Therefore, when a portlet's content is updated or when a portlet is personalized, the entire page is downloaded, incurring a slow response. In effect, all the portlets in the same page are asked to update its content when only one of the portlet's content is changed. This is clearly undesirable and slow. If an error occurs within a portlet, it contaminates all the portlets contained within the page.

In Portal+, each portlet is an independent entity. The portlet can be dragged and dropped anywhere within the browser window. Thus, you can organize your portal page on the fly. Changes to a portlet are compartmentalized within the portlet itself. When a portlet's content is updated, only that part of the page belonging to a portlet is updated and not the rest of the page. This results in a faster response, reduces the load on the overall portal and improves usability of the portal. In addition, if a portlet is contaminated, it only affects that portlet and not others in the same page.



Changes to a portlet are compartmentalized within the portlet and does not affect the rest of the page.



## Other features of Portal+

In addition to the above, Portal+ provides these features:

- **Single Sign-on on Demand.** Portal+ includes a single sign-on framework to reduce the hassle of remembering and logging-in using multiple login IDs and passwords to different applications under the portal. This framework is tuned to minimize the load on the system by logging-in the user only when he uses the application. The framework is also designed to work unobtrusively so that there is no or minimal change to the application.
- **Content Management for self-serving web publishing.** Portal+ provides a self-servicing content management platform to manage online resources in the portal. It includes workflow to control, track, share and locate content published within the portal.
- **Document Repository.** A document repository is where online documents are archived for easy reference. It includes a workflow to route documents for approval before depositing into the repository.
- **Collaborative Applications to exchange information and knowledge.** Portal+ includes a suite of collaborative applications to improve interactions and communication amongst the users of the portal. Furthermore, with our reuse vs rebuild paradigm, it is easy to enhance these applications with even more collaborative add-ons. With the endless stream of collaborative applications available from the net, it is easy to build a strong community with Portal+.
- **Enterprise Search.** Portal+ includes a search framework to locate online resources within the portal. The search extends not only to content management and document repositories but also content within collaborative applications like forum, etc.
- **Multi-lingual ready.** Portal+ user interface is multi-lingual ready. Supporting a new language is merely defining a new language file.
- **Fast performance based on unique caching technique.** Portal+ is designed with the user having an excellent online experience in mind. Hence, Portal+ incorporates a unique caching technique on the browser that caches pages loaded in Portal+. With this capability, the delivery of information is fast and timely, even over a dialup line.
- **Advanced deployment facility.** Portal+ includes an administration tool, Portal+ Admin, that provides a graphical view of objects managed within one or more portal sites. Deploying an application, granting rights to a portlet, etc. are done with mere mouse clicks.

## About SOLUTIONS LAB PTE LTD

The staff at SOLUTIONS LAB is amongst the first in Asia Pacific to specialize in integrating electronic commerce, mobile commerce and voice commerce. As a Company, SOLUTIONS LAB is proud of its technology innovations, and its team of technology experts. Together, the experienced team has achieved services and products that are of world-class quality – especially in the areas of e-business and e-finance. Within a short history, the staff at SOLUTIONS LAB has achieved many accolades. Amongst them include the “2000 Technology Achievement Award” given only to 10 companies in Singapore for their commitment to R&D and exploiting technology to enhance business competitiveness; helping our customer achieve the “Intelligent20 Award 2000” with our products, given to an organization that demonstrates the most effective and innovative use of technology in business; and others. The staff at SOLUTIONS LAB is also one of the first to embark in mobile commerce in Asia Pacific, one of the first to deliver a “live” trading solution using WAP and one of the first to deploy a multi-market trading system across Asia.

## HIGHLIGHTS

- **Reuse vs Rebuild:** Portal+ allows you to reuse, not rebuild, your existing applications within minutes! There is no change in program structure and no proprietary development methodology to follow.
- **Portlet-to-Portlet Interoperability:** In Portal+, portlets interoperate by subscribing to events.
- **Composite Application Display:** Portal+ lays the groundwork for a new generation of virtual enterprise applications where these applications are constructed by arranging portlets from multiple applications into a single view.
- **Patent-pending Personalization:** Portal+ employs a patent-pending personalization technology for the browser. Each portlet within Portlet+ is treated as an independent operating entity.
- **Many others...** Single sign-on on demand, content management for self-serving web publishing, document management, rich set of collaborative applications, enterprise search, multi-lingual ready, unique caching technique, advanced deployment facility, etc.