

PORTALS

What is a portal?

Web History

In its early stages, the Web served as an electronic poster to promote the image of the institution and mainly served as a marketing tool. Institutions competed with each other as to who has the most splashing home page; few of viewed the web as a vehicle for accessing and sharing of information. This emerged during the next stage, when organizations realized that the Web is a perfect vehicle to get information not only to external constituents but could be also extremely useful to communicate procedures, common documents to internal constituents. Extra - and Intra - nets emerged, both displaying static information, one targeted for attracting external constituents to the organization and the other for sharing information inside the institution. As the information posted was static, the problem arose: who is responsible for keeping the information up-to-date and synchronized with other web pages after the initial posting.

Early Portals

The term 'Portal' projected the vision that the web site is an entry point to selected and relevant information in contrast to the 'general Web' where all information is equally accessible. The term portal was quickly accepted and today it is used liberally by vendors and organizations alike to promote their web site beyond the original Intra - and Extra - nets. According to GG it is one of the most abused terms today.

However there is more to portals than web sites with relevant contents:

They go beyond static web pages and require a sign on which then links to some knowledge the organization has collected about the visitor. That knowledge allows portals to be tailored to meet individuals' needs. In addition portals go beyond the delivery of static information and often provide access to services offered by the organization. Beyond that they offer network services such as email and other collaboration tools and these services often interact with other organization specific applications.

Currently the different types of portals can be classified as:

Public portals: Example: Yahoo. Offer wide range of network services such as email, chat rooms and channels of common interest like the weather or stock market. Users can tailor their homepage by selecting from a set of preset channels and they can add their own links or change the appearance of the portal.

Vertical portals focus on a specific industry, and the channels offered are industry specific. For example, an education portal will have channels that provide educational information and services from many resources.

Enterprise portals provide channels for a single organization, such as a University, and the channels offered are perceived to be of value to that organization's customers. The channels offered link to information or services that are mainly hosted at the organization. As each organization has both internal and external constituents they will feature - like with static webs - Intra- and Extra-net portals. Many organizations will replace the

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Window's desktop with their own enterprise portal in the future that will feature services that are commonly used by their constituents.

Portals do not eliminate the former static web pages but will offer those plus information and/or services that are perceived to offer value to the customer.

Portals include network enabling services such as e-mail, chat rooms and calendars that interact seamlessly with other applications. Most portals allow for adding personal links as portal providers realize that users may have other interest beyond the organizational boundaries. Personalization will make the portal more appealing to the user or make it stickier. Many organizations compete now for users to select their portal as the user's homepage. As the web novelty factor has worn off, portals are a means for users to get things done more efficiently and effectively and those portals that offer the best fit, will be selected by the user as their 'home' portal.

To go beyond the organizational definition for a portal one could state:

A portal allows me to enter my own data space, a space where I can view and do what I want to do and not what someone else thinks what I want or should do. At any time I can change the components of the site as my needs for information and/or services change. It is not any longer someone else's homepage, but my own workspace.

How: Portal Functions and Components

A portal is not a single technology, but it brings together a wide range of technologies and enables them to work together for the benefit of the individual. To present users with information and services that are appropriate at any particular time, portals need to be modular and dynamic. At best, organizations can guess appropriate structures and features for various constituents and then leave it up to each individual to 'personalize' his/her portal. In order to achieve that goal a portal has to provide the following components and /or functions

Channels:

Channels are the Portal's building blocks. They are modules that link to or contain snippets of information or services. Users should be given a library of channels from which they can choose. Not to defeat their own interest, organizations will make certain channels mandatory. Different constituent groups or roles will have different default selection of channels with the understanding that many channels are universal (e.g. mail, calendar. Weather,..) and will be available to all groups.

Directory Services:

In order to customize the information for the entering individual, the organization needs to know who the visiting person is. What role does she represent vis-à-vis the organization and what are her preferences and requirements? The more an organization knows about the portal visitor the better it is positioned to present a portal that best meets the individual's needs. Individual information is maintained in the organization directory that also facilitates the signon and the person's authentication. Directory services are critical

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for successful portal deployments. It would go beyond the scope of the portal discussion, but by signing on to the portal, the user should not have to sign on to any application or service accessible through the portal. Having the key to the portal is equivalent to the master key that opens all doors beyond it.

Roles:

As a starting point, organizations will develop default portals for different types of customers such as faculty, students, staff, alumni, parents, future students. These default portals contain information and services that organizations deem to be most attractive to each customer group or role. In addition to providing different channels, the portal design may differ for different roles, e.g.: students prefer other layouts and graphics compared to alumni. Roles determine how the portal looks for different audiences. Information about which role a person has is stored in the organization's directory. Upon signon, it presents the user with a website that features channels and a layout that are most appropriate for the role the user represents vis-à-vis the organization.

Customization: Backend Integration

In addition to linking to the organization's directory, portals become even more powerful where they can draw on the wealth of information and logic stored in the organization's ERP system. Through the logic and data embedded in the ERP system it is not only known who is entering the portal but also what that person has to do or can do. The organization's ERP system has accumulated in its data base valuable information and the ERP system itself contains the logic on how that information should be acted upon. Utilizing that (student cannot register for one course unless she has taken another one) in conjunction with network services allows the portal to deliver intelligent messages to its users.

Next this allows for so called 'smart events': Through electronic mail the ERP system can notify users of tasks they need to perform, take default actions based on agreed rules, or notify them of upcoming events.

The backend information system can be used to deliver information at appropriate intervals or when critical content changed.

Personalization:

Customization may not be sufficient for inducing a person to adapt the organization's portal as his own. Individuals have interest outside the organization and portals therefore need to offer functionality that allow users to personalize their customized portal. At a minimum, individuals should be able add their own links. More advanced portals allow users to change colors, or choose from a library of channels.

Personal Process Management:

As ERP vendors recognized the persuasiveness of the Web, they began to web-enable their applications; this in meant normally: they changed their proprietary GUI forms to web forms. However, the new web enabled applications still followed the same process as the earlier version: the forms and processes of ERP systems were designed to

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optimize departmental processes. Instead of going physically to the department to perform his business, with web enabled applications the user is now visiting the department virtually, but he is still required to visit each office separately. As the user is at the center of the portal, applications need to be not only be web enabled but reengineered with the user at the center. The processes have to be turned upside down , instead of being optimized for the department they now have to be designed to be most convenient for the user. Instead of the user visiting the department's site, the various departments now reach out to the user and offer the right services in the sequence and time most appropriate for the visiting person.

Scenario driven customization: takes users through an entire process. Portal technology allows us to look at a process how the user would perform it and becomes a delivery vehicle for services offered by multiple departments

Why are portals important?

Portal technology for the first time integrates disparate technologies and transforms them to seamlessly serve the user. These technologies include but are not limited to: directory services, organizational applications and/or ERP systems, general network utilities such as electronic mail and calendaring, and information access and delivery. Not any longer are these technologies separate entities run and controlled by various departments but through the portal they work harmoniously together to serve the person entering the portal. The portal is the corner stone of a truly user centered IT environment.

Portals can exploit information assets that were accumulated over years in the organization's ERP systems and convert them into value added services by leveraging the logic of the ERP systems. These services and information are delivered via network tools such as email or calendar. Portal technology can alert users about actions that need to be taken based on information the organization knows about the user. Otherwise known as Business intelligence: based on business rules embedded in the ERP, information is delivered to the right person or actions are taken

With backend integration and single user signon, organizations can now mass customize initial role portals by displaying information and adding services unique to the person. For example, the portal will greet the user by name and if it is a student, display her course schedule. It will remind the visitor of upcoming events or impending actions. But most importantly, it puts the user in control, she can view and act whenever she wants.

The paradigm change initiated through portals include but are not limited to:

Instead of processes optimized for a department they are now optimized for the user

By integrating backend systems with network services the portal delivers value based services in a timely fashion.

The portal becomes a service delivery agent. Network services are used to transform applications into services.

The portal unlocks the data and logic of the organization's ERP system and makes it available to the person entering the portal.

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Portals allow for self-services and eliminate tasks otherwise done by backend office staff while at the same time increasing customer satisfaction with the level of services provided. While in reality the level of services is less – the customer enters her own data, registers himself for a course the level of services perceived is higher.

Universities have a distinct advantage over other organizations when it comes to creating value added portals that users are likely to stay with: Universities more than any other organization have accumulated vast knowledge about their users in their ERP systems. They continue to collect information after graduation. This wealth of information combined with patterns of behavior can be used to deliver information and services to users that are extremely valuable:

For example: As an institution receives notification about a promotion from an alumna, it could suggest an appropriate long distance course that will assist the alumna in her new role and at the same time builds on her past educational history.

When? Future Portals

Portals are a reality today and most organizations have a portal strategy and/or are in the process of implementing a portal. Organizational portals will remain, but eventually portals will become organization independent. As noted earlier, portals are user and not departmental centric. Why should a user choose one organization's portal over another especially where she has a wide range of interest. From a user's perspective, the goal is a workspace that gives me access to information and services that are appropriate for a person at any given time in her life.

To that end, portal technology will continue to evolve and existing technologies have to become organization independent:

Directory and application services that are now linked to an organization will become organization independent. Developments for global directory services are already underway as is evident in the UDDI (Internet-based Universal Description, Discovery, and Integration) initiative. UDDI is the building block that will enable users and businesses to quickly, easily and dynamically find information and services independent from organizational boundaries.

Networking services such as email, calendaring, chat, IP-phones, etc. will be more and more hosted by portal providers such as Yahoo , Netscape or AOL instead by organizations. Standards already in place for email need to be defined and adhered to for calendaring and other networking services. It is simply inefficient for every organization to maintain its own network services and keep up with the changing technology. As individuals go through different life stages, it makes little sense to change e-mail addresses when switching jobs or attending different universities.

Office Automation tools like Word Processing and Spreadsheets need to be freed from the Windows constraints and migrate to selectable channels on a portal. It should be transparent whether they run locally or remote. They need to interface with any PC or network applications through standard APIs such as SOAP.

The portal will evolve into the new desktop that can be personalized in any way the user wishes. It will be transparent where the application or service is running or which organization or department is providing the information or services the user needs to get the job done. The power of the portal is that it represents the next and higher level stage in personal computing, liberating

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the user from the constraints of the PC by providing a truly personalized workspace anywhere, any time and any place.

The new personal It environment will be embodied in a portal that will be

Person Centric

By providing personalized access to systems and information from many organizations plus access to desktop systems as chosen by the user.

Organization independent

Users will not be tied to organizational portals but can build their own by choosing components they like from various organizational portals. Organizations that provide the greatest utility to their customers will have greater presence on personal portals than others

Offer a wide range of library of websites, tools, systems

Use single generic e-mail box to which all messages are forwarded.

Use universal directory for authentication: UDDI

Populate personal calendar from multiple websites (organizations)

e.g.: a former alumni wants his calendar automatically populated with events from his alma mater, events from the organization where he is employed and with events from his community

Allow for creating electronic groups from multiple organizations

Replace the WINDOWS desktop

Have access to a choice of PC or network based applications and systems

Offer of local or remote storage

Allow people to extend use of the Web from Information gathering to perform individual processes: Buy, Learn, services

Relevant Internet Sites:

Note: The descriptions below are copied directly from the cited URLs.

JA-SIG

The Java in Administration Special Interest Group (JA-SIG) is an independent organization designed to increase the flow of information between educational institutions and companies involved in the development of administrative applications using Java technology.

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Today, with the benefit of object oriented technology and Java, we have a great opportunity in higher education to do things better as colleagues. The purpose of JA-SIG is, first, to share our experiences as we build applications with Java, and second, to develop a common infrastructure upon which we can build shareable components. We welcome the participation of both educational institutions and commercial enterprises in this effort.

<http://www.ja-sig.org/>

U-PORTAL

UPortal is a free, sharable portal under development by institutions of higher-education. This group sees an institutional portal as an abridged and customized version of the institutional Web presence... a "pocket-sized" version of the campus Web. Portal technology adds "customization" and "community" to the campus Web presence. Customization allows each user to define a unique and personal view of the campus Web. Community tools, such as chat, forums, survey, and so on, build relationships among campus constituencies.

<http://mis105.mis.udel.edu/ja-sig/uportal/>

UDDI

Discover businesses worldwide that offer the exact products and services that you need. Register the products and services of your own business for others to discover. Or both. Technology and business champions are leading the development and deployment of an open, Internet-based Universal Description, Discovery, and Integration (UDDI) specification. UDDI is the building block that will enable businesses to quickly, easily and dynamically find and transact business with one another using their preferred applications.

<http://www.uddi.org/>