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### Introduction to intranet and portal technology

Aspirations for what the intranet can deliver vary massively within most organizations. At one end, there will be visionaries who see it as a transformative agent that will change the way an organization works and contribute to changing the goods and services it produces. At the other, there will be skeptics who see it as an unnecessary expense and a drain on company time.

This situation is greatly confused by the language of the debate. Practitioners use the broad terms “intranet,” “e-business” and “content” to cover a wide range of applications, concepts and initiatives. In addition, the almost weekly arrival of new products and technology, coupled with vendors’ willingness to rebrand existing products, means there is a great deal of confusion over what products and systems actually do. A degree of clarity in the terms of the debate is essential if organizations are to move forward and fully develop their intranet strategies.

This chapter is designed as a teaching aid to help non-technical managers understand the core applications within their information infrastructure, looking at the range of technologies available to provide and enhance intranets and portals. Many people in the area have responsibility for ongoing delivery of a cost effective intranet or portal, including improving the experience of users and keeping the total cost of ownership to a minimum. However, it’s also the case that many of them aren’t primarily technologists or even from an IT background. Our focus, therefore, is on demystifying the applications that build on desktop and server platforms, use Internet technologies, and provide a framework for network computing. It will not cover the hardware, desktop platforms and server platforms that support intranets and portals. Decisions around these areas – which will impact the function and performance of your intranet – will need to be considered as part of the IT strategy for your entire organization. This chapter focuses on three key areas for intranet development:

- ▶ an explanation of key components and applications that can be combined to deliver an effective intranet/portal;
- ▶ a review of the trends in the development and delivery of technology central to intranets and portals,
- ▶ a sample of applications and their vendors showing their functional coverage.

## Key components of intranets and portals

Defining an “effective” intranet or portal depends on the definition of these terms and the range of functionality that meets the organization’s needs. The working definition of an “intranet” used in this technology review is:

*“A secured network, typically via “firewalls,” internal to a specific organization that is enabled by the use of Internet-derived technologies and communications protocols to use and share information across the organization. It is typically viewed by the user as a secured Web site or access point to a collection of Web sites and applications.”*

As detailed throughout this manual, the terms “intranet” and “portal” are often used in an overlapping fashion. From a technological perspective, a useful working definition to remember is:

*“Portals are Web sites targeted at specific audiences and communities, providing:*

- 1) content aggregation/delivery of information relevant to the audience;*
- 2) collaboration and community services; and*
- 3) services/applications access for the target audience — all delivered in a highly personalized manner”.*

**Gartner Group, 2002.**

As a result, it could be argued that an intranet (a secured internal network) can also be described as a portal if it is sufficiently complex and able to provide relevant content aggregation, personalization and other properties associated with portals. Because the technology can often be hard to visualize, it’s often better to consider it from the perspective of the jobs it can do, rather than the software it is. The range of functionality that an effective intranet or portal is required to deliver can best be pictured using a scenario. A typical scenario might look like this:

*Joe, a communications manager, logs on to the internet site of his firm, Sokaba Engineering Ltd. He scans his personalized latest news, looks up a colleague’s contact details and then accesses the firm’s timesheet application to complete last week’s timesheet.*

*Later in the day, Joe gets an e-mail alert from the R&D team requesting his approval of their news release to be placed on in the latest news section of the intranet. Joe makes some changes and approves the news item which is instantly displayed on the intranet.*

By breaking the scenario down, it's possible to see the range of functionality you might need to provide through your intranet or portal. These can be boiled into a checklist. Typical functionalities could include:

- ▶ Content Management (publishing process)
  - workflow;
  - chunking (condensing text into a short blocks to fit on a single screen);
  - integrated authoring environment;
  - single-sourcing (content re-use);
  - separation of content and presentation;
  - meta-data creation;
  - non-technical, multi-user authoring;
  - powerful linking;
  - multi content delivery capabilities (web site, e-mail, mobile devices).
- ▶ Document management
  - storage;
  - versioning;
  - check-in and check-out;
  - database integration.
- ▶ Portal functionality
  - single sign-on;
  - presentation;
  - personalization;
  - portal framework.
- ▶ Content and application integration
  - application administration (even specific to individual applications);
  - administrator(s) UI;
  - security;
  - remote administrative access;
  - role-based permissions;
  - search capability.
- ▶ Platform and foundation services
  - site development environment;
  - support for processing logic (e.g. for e-commerce engines, product selectors, configurators);
  - integration with other development tools;
  - site architecture blueprint;
  - site-wide reliability & scalability features;
  - site-wide performance management & enhancement features.

In addition to this list, specific tools and applications, such as business intelligence tools and knowledge management systems may be integrated as add-ons or provided out-of the box by vendors. In all, you need to develop a clear sense of what you want the technology to do before entering into dialogue with vendors.

## Development trends for intranets and portals

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In addition to knowing what you want to do, it's useful to understand how applications have developed to provide these functionalities. This will help you understand how you stand in comparison to other companies and make a judgement over the direction of the technology.

### The early days (up to 1999)

- ▶ Document management tools were standalone products accessible only via a desk in the office.
- ▶ Content – mainly text and graphics – was updated, if at all, by developers.
- ▶ Web applications focused on specific challenges, such as personalization, e-commerce, portal functionality, content management, and also providing the basic system administration functionality.

### Recently (2000 – 2002)

- ▶ Web applications are now a “generic” layer providing a broad range of I.T. administration functionality.
- ▶ Products with “platform” aspirations (i.e. to provide most of the Web related functionality) broaden the functional range of their products to include content management, portal and personalization functionality.
- ▶ Add-on products mature to tackle emerging challenges, such as digital asset rights, improved searching, customer/stakeholder contact.
- ▶ Convergence around new standards, such as J2EE, XML.

### Around the corner (beyond 2002)

- ▶ Tighter integration of products to pave the way for broadband services.
- ▶ Transfer of basic “platform” functionality to the operating system and network level.
- ▶ Intranet/portal applications are now likely to extend cross-platform capability, such as reuse of rich (broadband) content across mobile, TV and PC presentation devices

### Tools to support technology selection decisions

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Discussions around products and partners for intranet and portal development can become unnecessarily protracted. Often, different functions come to the table with very different technology needs and clashing arguments about what the intranet requires. Partly, this is from natural office politics – some people have preferred suppliers and existing relationships, some people have bad experiences with technology that they'd prefer not to repeat. It's also often caused by differences in approaches to technology selection and development. For example, HR might have well-established database development processes, IT could have project costing and systems analysis competencies and marketing will hopefully have useful experiences from developing the Internet Web site. Bringing these experiences and competencies into a constructive debate is an essential if you're going to make the right choice for your company, but often a real challenge.

The alternative – of different functions developing their own systems to meet their own section's needs – does cut out a lot of the arguments. However, it can result in non-compatible systems, lack of integration and much greater expense down the line. Redeveloping or scrapping systems because of a lack of compatibility can be a major headache and create significant disruption. For companies that make the investment, the major attraction of implementing a portal is providing access to all information sources in the company. Non-compatible systems will thwart that aspiration.

Your objective in any technology review, therefore, is to try to understand how to piece together existing systems and new products in a kind of technology "jigsaw," ensuring that systems align and information can be access irrespective of its source or repository. This requires consensus-building amongst key stakeholders and a clear understanding of what each product does. In this chapter, there are two tools to help you refine your technology choices:

- ▶ Product and vendor review table – a comparative tool to help you understand the core functionalities of different products currently available on the market.
- ▶ Positioning chart – a comparative tool designed to help participants in the selection process understand the positioning of different offerings.

#### How to use the review table

Figure 1 (overleaf) is a product and vendor review table, showing a number of products providing intranet and portal functionality. The table is designed to help you in discussions with other decision-makers around key technology choices. Positioning tools like the table are particularly useful when trying to establish:

- ▶ Which parts of an effective intranet or portal architecture do you already have installed?
- ▶ Do you need a bespoke or off-the-shelf product?
- ▶ What are the cost implications of a particular software choice?

Figure 1 gives information on some of the products that provide intranet/portal functionality. It should be noted that the table is not exhaustive in terms of the companies listed. The market is still extremely busy and products are emerging all the time. While some of the vendors shown are market leaders, they've been selected for inclusion on the grounds that they could serve as one of the products within your overall technology portfolio. While reputation and size of company can be one factor in your technology decision, it shouldn't be the only one. In addition, the table doesn't detail every add-on functionality of the products listed. Many of these products provide a number of additional features that are of interest to specific audiences – part of your review process needs to address whether you require these.



### EXPERT ADVICE: JAKOB NEILSEN

Technology is seductive. At the moment, many people seem to feel that a technology purchase – be it a portal or content management system – will instantly streamline processes and reduce the burden on managers. However, the reality with these applications is that they require a human element – what they chew on is the material you put into that engine. Look at search engines. They can only show you the document titles that a human has applied, and if people don't write clear titles, or write summaries or add meta-data, the results will be much poorer. Even if people stumble over the thing they want, they won't open it if the description doesn't make sense.

Likewise with content management systems. The same applies to content management systems (CMSs). They require somebody to agree on how the back-end is managed and they need users to stick to those rules. Even if you achieve that, the best CMS in the world won't change the words. The content's value comes from the ideas that are being shared. Users only start to understand this when they start to contribute – adding to the company's knowledge management system.

Even as the technology gets ever more complex, you've got to keep things simple from the employee's perspective. People have to know what's required of them and they have to see how their contribution impacts the business. Intranet practitioners need to understand the technology from both ends: how it works and how it expects users to work.

Figure 1: Review table – products that provide intranet/ portal functionality

Vendor	Product	Technology	Content management
BEA Systems, Inc.	WebLogic Portal 3.5	Portal	
BroadVision, Inc.	One-To-One Publishing 5.5	CMS	✓
Citrix Systems Inc.	Citrix XPS	Portal	
Day Software	Communique 2.6	Platform	
Divine, inc.	Divine Participant Server (acquired from Eprise)	CMS	✓
Divine, inc.	Divine Content Server (acquired from Open Market)	CMS	✓
Epicentric, Inc.	Epicentric Foundation Server 3.5	Platform and Portal	
Documentum, Inc.	Documentum 4i Web Content Management Edition	CMS	✓
Intranets.com	Intranets.com	Portal	
iPlanet (division of SUN)	iPlanet Application Server 1.0	Platform	
Stellent, Inc.	Stellent Content Management System 6.0	CMS	✓

In the tick boxes, grey shaded ticks represent partial functionality for the product shown.

Document management	Portal functionality	Platform and foundation services	Description
	✓		Provides single sign-on and access to aggregated content. Simplifies presentation, personalization, and application integration.
			Provides content management features with strong personalization; integrates with BV's e-business suite of products.
	✓		Provides access to disparate complex applications via single portal interface.
		✓	Robust development environment for enterprise level web site.
✓	✓		Easy to use tool to manage publishing and document repository requirements.
✓	✓		J2EE compliant CMS tool for media intensive, multi user sites.
	✓	✓	Combines portal functionality with provision of rich web development capabilities as a platform for all Web initiatives.
✓			Enterprise-level product with document management and publishing strengths to support compliance related processes.
	✓		Offers up to 20 different out-of-the box intranet modules for SME companies.
		✓	Robust development platforms with tools to develop enterprise scale site including provision of e-Commerce & of business process automation.
✓	✓		Provides functionality to manage & publish documents to various media. Strong integration with various native applications for content creation e.g. adobe acrobat.

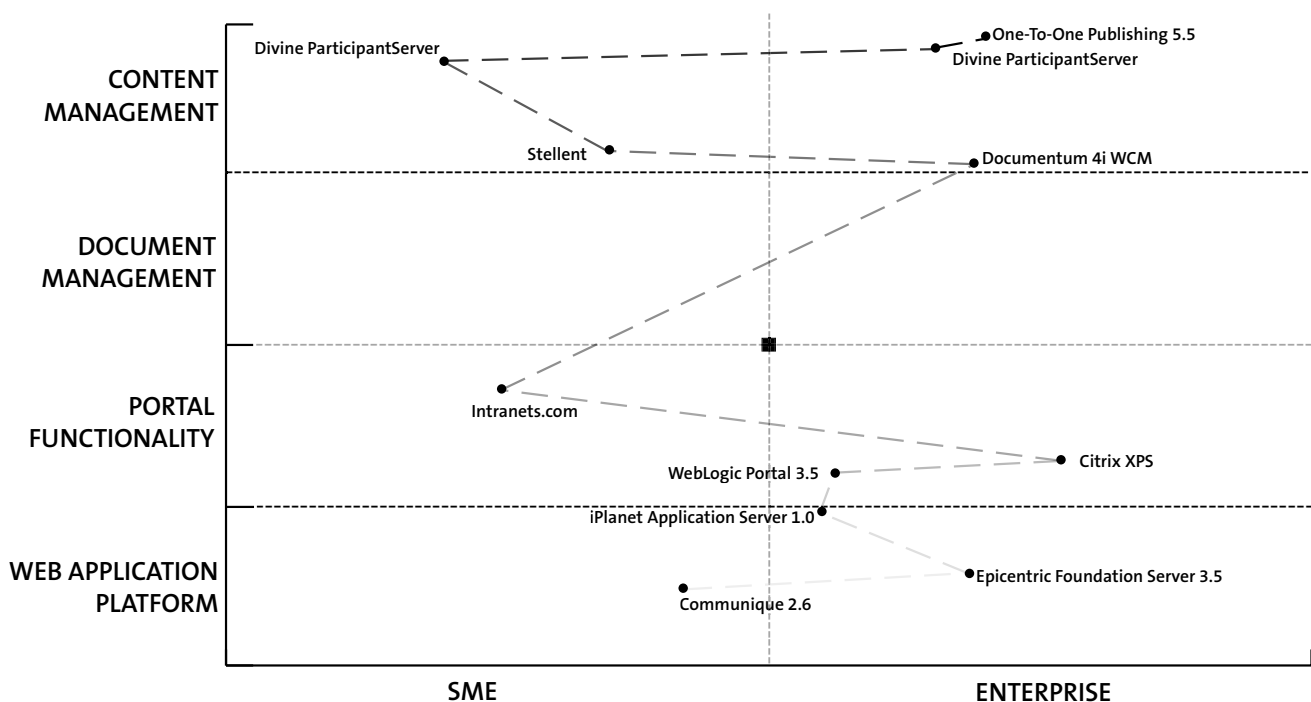
**How to use the positioning chart**

Figure 2 (below) is a tool that will help you understand where the projects analyzed in the review table sit in the market. It combines the “role” of each product (content and document management; portal functionality and Web applications platform) with an indication of their compatibility with different types of organization (from small-to-medium enterprise through to large enterprises).

For example, Documentum provides some content management functionality and, because of its scalability and depth of features, is better suited for a large enterprise. As a result, it is positioned in the top right section of the chart. Products like this may require significant integration expertise and their total cost of ownership reflects the potential value to a large organization being able to leverage its size and assets.

Tools like the positioning chart will provide decision-makers with visual and easily understood information about the products on offer. It can be used to rapidly rule out unsuitable products and focus on those vendors best placed to meet your diverse technology needs.

Figure 2: Positioning chart



## Building a vendor selection checklist

Having ruled out the companies and products that are unsuitable for your needs, you can use the data from the comparison and positioning tools to support the development of your vendor selection checklist. Figure 3 (below) shows some of the basic issues you need to address during the evaluation and selection process. These broad areas can be broken down into questions that highlight the suitability of products and vendors for your initiative. Dealing with these questions is best done in a number of steps:

- ▶ Eliminate unsuitable products early, using basic positioning questions (such as, is the vendor a stable going concern?)
- ▶ Reduce the list further by contrasting literature on the products (product features, available standards, etc.) with your business needs. Remove those that don't align.
- ▶ Once the list is a manageable size, approach vendors should with detailed specific questions about your needs and the products' capabilities.

Figure 3: Sample vendor selection checklist

<b>Ongoing vendor support</b>	<ul style="list-style-type: none"> <li>• Is the vendor a stable business?</li> <li>• Does the vendor operate in your country/location?</li> <li>• Is there after-sales support?</li> </ul>
<b>Product standards</b>	<ul style="list-style-type: none"> <li>• What technical standards does the product need to conform to? (Determined by a combination of relevant industry standards and compatibility with existing technologies).</li> </ul>
<b>Value for money</b>	<ul style="list-style-type: none"> <li>• What is the total cost of ownership over time? This includes the licensing model, upgrades and maintenance associated hardware and software, integration and consultancy costs.</li> </ul>
<b>Suitability</b>	<ul style="list-style-type: none"> <li>• Can the product meet the detailed business requirements?</li> </ul>
<b>Future proofing</b>	<ul style="list-style-type: none"> <li>• What is the developed path of the project? Does this match the ambitions of the firm?</li> </ul>
<b>Ease of implementation</b>	<ul style="list-style-type: none"> <li>• What will be the impact of implementing this product on current critical activities?</li> </ul>
<b>Extensibility</b>	<ul style="list-style-type: none"> <li>• How easily can this product be extended by other third-party products or customization?</li> </ul>