

INTRANET ROADMAP

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Introduction

Welcome to the Intranet Road Map! We hope you find it useful. Over the following pages, you will find a tutorial on the steps needed to create and manage a corporate intranet. These steps are concepts we have found important in our travels as intranet consultants.

These steps are not meant to be the final word on intranet development but should instead serve to spark ideas and conversation within your company.

The Basics

What is an intranet?

An intranet is a private computer network based on the communication standards of the Internet. It is smaller version of the Internet that only the members of an organization can see. Companies can create, within their walls, a manageable, secure version of the World Wide Web. These internal Webs are growing from an explosion in the use and understanding of Internet technology.

Tangible benefits of an intranet

Why build a corporate intranet? Developers will tell you because we can. A better answer is that it is an effective tool to combat the waste of time, effort and materials within an organization at the same time generating new opportunities for collaboration and productivity. For the first time, an organization has the ability to put one, open-standards, thin client (the Web browser) as the interface to their corporate data and business processes.

The tangible benefits, those that executives can wrap their arms around, of intranet creation can be summarized below. A good example of a tangible benefit is the reduction in paper cost from moving processes online. Certain statistics quote that 18% of corporate printed material becomes outdated after 30 days. Imagine, that after 60 or 90 days. Now, imagine if that material were always online and current.

Tangible Benefits

- Inexpensive to implement
- Easy to use, just point and click
- Saves time and money, better information faster
- Based on open standards
- Scalable and flexible
- Connects across disparate platforms
- Puts users in control of their data

Intangible benefits of an intranet

It is not only the removal of paper that leads to organizational benefit. What is done with that information in this new Web-enabled environment has a huge impact. Intranets allow an organization to spend less time on things that bring no value such as chasing down the right information to solve a problem.

Productivity increases as corporate knowledge is more accessible and the data is more accurate. Flexibility in time of delivery of knowledge is gained as information is always a click away. Intranets allow for a place where boundaries are lowered and information exchange is encouraged. This leads to more informed employees with the ability to make better, faster decisions. This in turn leads to better productivity and more time for revenue generation.

Intangible Benefits

- Improved decision making

- Empowered users
- Builds a culture of sharing and collaboration
- Facilitates organizational learning
- Breaks down bureaucracy
- Improved quality of life at work
- Improved productivity

Growth of intranet development

Many have argued that having an intranet is becoming a necessary component of competing in today's marketplace. This type of attitude along with the long list of intranet benefits has led to an explosion of development.

According to [Gartner Group](#), [Forrester](#) and other technology forecasters, corporations spent nearly \$64 billion on intranet hardware, software and related services worldwide in 2000. This number is expected to grow to \$200 billion per year by the end of the decade. This may even be a conservative figure. Currently it is estimated that more than 90 percent of U.S. enterprises – including quite small ones – now have an intranet up and in some stage of evolution.

Uses of an intranet

Intranets can help streamline an organization but what types of applications are being deployed?

Over the next few pages we will offer some examples of applications that can be deployed on a corporate intranet. These are only a small subset of the types of applications that can be developed. Use these lists as a jump start on your own ideas.

Human Resources Intranet

HR departments have been some of the most enthusiastic developers of intranet applications mainly because of the large amounts of paper-based processes that can be transitioned to the Web.

Examples of possible content and applications

- Employee handbook
- Telephone/E-mail directory
- Interactive benefits information
- 401 K tracking
- Employee surveys
- Recruiting/job listings
- Candidate screening applications
- Organizational charts
- Newsletters
- New employee training
- Employee personalized home pages

Read about [Microsoft's HR Web](#)

Sales and Marketing Intranet

In today's very competitive environment, having fast access to accurate information can be crucial for the sales and marketing staff. It can be the difference between making a sale or giving someone time to look elsewhere.

An intranet addresses that issue, providing an environment where product descriptions, sales scripts, marketing analysis and research are all a click away.

Examples of possible content and applications:

- Product demos and scripts
- Pricing charts
- Sales forecasts and reports
- Sales contact management
- Sales lead management
- Market research/search engines
- Sales feedback
- Prospecting
- Press releases

- Sales team collaboration
- Calendars
- Sales multimedia training
- Competitor research

Information Systems Intranet

Many applications are being used to support information system processes. Some applications are used to support the needs of the employee base and some are being extended to partners via extranets turning IS into a profit center.

Examples of possible content and applications

- Software and applications development and delivery
- User documentation
- Technical support and help desk
- Network management
- Information and knowledge repositories
- Internet resources
- Resource scheduling
- Technical/security policies and procedures
- Multimedia-based training
- Intranet FAQs, publishing guides
- Web paging or communications systems

Executive or Corporate Intranet

When building an information system for an executive, it is first necessary to define the nature of the executive's tasks. We can divide the roles of the manager into three categories.

1. *Interpersonal Roles*. Figurehead, leader, liaison
2. *Informational Roles*. Monitor, disseminator, spokesperson
3. *Decisional Roles*. Entrepreneur, disturbance handler, resource allocator, negotiator

Intranets are very effective in assisting the executive in addressing the roles and activities discussed above as well as addressing communication with internal employees and external partners.

Examples of possible content and applications

- Internal departmental information
- External partnering information
- Meeting minutes
- Internal departmental information
- Stock Market analysis/ Stock market tracking
- Business investigation and analysis
- Tax and legal research
- Business metrics
- On line calendars to track personal daily activities

- Groupware applications that a company uses with its outside consultants and/or strategic partners to collaborate on a particular project or product
- Private newsgroups that strategic partners use to share ideas and discuss plans
- Personalized site with links, weather and traffic

Customer Service Intranet

This is one area where many an intranet can find itself peering over the company firewall to directly interact with customers. A good example of how intranets are being leveraged for customer support is the extension of internal package-tracking databases of UPS and FedEx over the Internet.

An intranet or extranet can allow a customer to help themselves or allow support personnel to find an answer faster. Gone are the days of putting a customer on hold while you research the file cabinet for that part number or other solution.

Examples of other possible content and applications

- Customer information entry and update
- Order entry and tracking
- Online information (databases on customers, inventory, supplies)
- Problem entry and tracking
- Customer FAQ's

Finance Intranet

Accounting and finance departments deliver some of the most crucial data across an organization. An accounting intranet creates a centralized, open-standards platform for publishing that information and new interactive method for processing transactions with either internal departments, employees or external partners.

Examples of possible content and applications

- Accounts payable/receivable support
- Payroll
- Intranet commerce, requisitioning system
- Financial reports
- Policies and procedures
- Budgeting
- Asset management
- Expense reports
- Unit reporting and forecasting

Road Map to Success

We have covered what an intranet is and some example applications. We will next move into some of the issues that should be examined when planning and developing a corporate intranet. This Road Map is broken into the following sections:

- Establishing Guidelines
- Establish Platform and Infrastructure
- Invite All to Participate
- Intranet Team

Establish Guidelines

An intranet is not unlike many other business endeavors. Without a plan it is doomed to fail. When beginning to plan an intranet, there are many questions you should ask yourself. These questions will set the tone for how you go about developing your intranet, help you establish guidelines.

Ask yourself the questions below before starting intranet development. We will examine some of these issues as we travel down the road map.

1. What is your business case for building the intranet?
2. Who can publish to the intranet?
3. What types of content can be published?
4. Will content be reviewed by someone in an editorial position?
5. How will content be produced?
6. Is there a structure you want set down for HTML docs? Fonts? Colors? Layout?
7. What legal issues surround the intranet? Logo use? Copyright issues?
8. Who has ownership of applications and content?
9. Are there security concerns for the intranet?
10. Will some intranet content be open to those outside the firewall?
11. How will testing and loading occur?
12. What technologies are allowed for intranet applications?
13. What types of tools can be used for creation of content and publishing?
14. Who will control licensing concerns?
15. Will multimedia be used?
16. What is the impact of the intranet on network bandwidth?
17. Who will monitor network and server impact?
18. Who is responsible for maintenance and backups of intranet data?
19. How will standards and guidelines be communicated to employees?
20. By what standard will you measure the success of the intranet?

Define Intranet Ownership

Although much of intranet development going on at corporations today is a grass-roots effort by individual departments, for it to have its greatest impact on the organization there must be someone in charge.

There should be one person or department within the company that has the final say (or at least makes the final suggestions) on content, technology and strategy. With direction and structure,

the intranet can become more streamlined and controllable providing more return for the corporation.

Many times this leader or owner of the intranet is an executive champion, an intranet team or a steering committee. Define within your organization where the leadership will come from and who will direct the balance of creative development and organizational control.

Establish a Guiding Principle

Too many companies blindly begin the intranet journey without knowing where they are going or why. A few miles down the road, and a company can have thousands of Web pages that are drawing no return for the company.

While we're not huge fans of the dreaded "mission statement," there should be some business case established as to why an intranet should be built within your organization. The business case should state the purpose of your intranet and how goals will be achieved.

To get executive buy-in, include higher-ups in the writing of this principle.

Establish an Intranet Business Model

How will your departments interact with information systems to gain Web sites or Web applications on your intranet? Will they be required to set up their own servers or "purchase" Web server space from IS?

Decisions on how intranet development will be handled must be made from a business perspective. In many organizations, IS is the controller of all Web servers, and all requests must go through IS to set up anything on the network. Other companies have a more open environment.

Some organizations have established that individual departments should outsource their own development and pay for it from their own budgets directly. Other companies have decided that intranet development is paid for from IS where individual departments are "charged back" as applications are built.

Choose a business model that best fits your organization.

Create Publishing Policies

Develop policies on what can go on the intranet and what cannot. These policies should touch on the following areas:

- Who can publish
- Types of content allowed
- Site styles -- suggested look and feel
- Legal issues -- proper use of copyrights and logos
- Ownership of applications and content -- accountability for sites
- Security concerns -- how you should secure your site, extranet concerns
- Logistics for requesting server space, testing and loading -- how to work with IS
- Allowed technologies -- tailor to your network and skills

- Maintenance and content management -- periodic review of content and how to update sites
- Site communications -- how to market sites once up

Once these policies have been set up, communicate them early and often! If everyone knows how to ask for a site, build it and then maintain it, the intranet will work like a well-oiled machine.

Define a Measurement of Success

1000 percent ROI! We have all heard the enormous figures tossed around about intranet development. The truth is that these are just numbers. Ignore these number touted by others and focus on YOUR organization.

Start by identifying the costs of developing and maintaining your intranet full time. Match this up against both the tangible and intangible benefits of the corporate intranet. It will be easier to identify tangible returns (reduction in paper for one) since direct costs are associated. For measuring intangible benefits, such as gains in productivity or corporate culture, try your best to establish one-to-one relationships between your bottom line and various intranet projects.

Perhaps it is not as important for your organization to put a dollar amount of how well the intranet is creating benefit. For many companies, having an intranet is seen as an everyday necessity such as telephone service.

No matter how you decide to measure the success of your intranet, communicate that standard to all involved.

Create a Style Guide

Development of a corporate intranet is normally decentralized across individual departments, each creating its own site and applications. How can a company keep a consistent user experience across these various sites?

This is accomplished by publishing a style guide. While the publishing guide suggests what should be on the intranet, the style guide suggests how it should look. The style guide should suggest or enforce (depending on your corporate culture) standards on the following:

- Font size, color and style
- Default screen size
- Color use for backgrounds and other graphics
- Suggested file size for HTML files and graphic files
- Navigation requirements
- Authoring standards such as headers, footers and comments
- Logo standards

I would suggest creating a Web site on the intranet that promotes these standards. Create a place where publishers can download templates and see examples.

Establish a Site Hierarchy

There should be well-understood, ease of navigation throughout your intranet. This can be established by setting up a site map or hierarchy that flows down from the home page.

When setting up the path of information from your home page, you will need to decide whether you will structure your intranet by organizational department (HR, Marketing) or by functional area (Reports, Forms) or maybe a combination of both.

Establish this early on, and your users will understand where their published sites will fit in and will be able to visualize future intranet growth.

Establish Budgets

Of course an intranet cannot be built without money. You should consider the following costs when planning for intranet development:

- Servers and bandwidth
- People
- HTML development tools
- Application development tools
- Consultants
- Maintenance costs
- Security software and hardware

We will discuss many of these technology costs in the next section of the Road Map.

Establish Platform and Infrastructure

Let's turn our attention to the underlying technology of an intranet and what factors need to be considered in planning development.

Browser Selection

Netscape / Mozilla versus Microsoft; It was the battle of the century. You should not have this type of competition within your organization.

Most companies would rather not roll out and support multiple word processing software or multiple spreadsheet applications. The same holds true for browsers. Evaluate all browsers. Invite representatives from all companies to sell you on the benefits of each. Then choose one.

Doing this will give one less application for IS to support and allow you to tailor your web applications to one interface. A recent study by Zona Research among IT managers concluded that companies can save on average 20% by maintaining a single desktop browser, rather than multiple browsers.

Only one word of caution here: If you have opened your intranet to your partners and vendors (extranet), you may need to develop for both browsers, because you can't control that outside environment.

Develop Access Rollout Plan

Just because your Web server is up and running does not mean everyone in your organization can get to it. This could be caused by a lack of TCP/IP on the desktop, lack of connectivity or perhaps the lack of availability of a browser.

You should develop a plan to roll out access to all desktops that need it. This will require a commitment on the part of information systems to make upgrades to computers and networks where necessary.

This plan should establish the minimum requirements to connect to the intranet and should instruct users on how to request this access. IS should then set expectations on how they will respond to requests.

Select a Security Model

More and more corporations are placing sensitive information on an intranet. A plan should be in place to secure this data. When developing this plan, consider the following threats and responses:

Threats

- Snooping or eavesdropping: the risk of having someone "overhear" data being sent over the intranet.
- User impersonation: the risk of having users gain access by pretending to be someone else.
- Unauthorized access: the risk of having users obtain access to confidential data.

Responses and Questions for your plan

- User authentication: Is there a central DB to bump users up against? Is it LDAP compliant or ODBC compliant? Who would update that DB? If passwords are to be used, how will they be maintained and who will support password requests and updates? If digital signatures are used, how will users get IDs and maintain them across different computers?
- Access control: Once logged in, how will users be tracked through the system? Cookies? Digital signatures? Will these be stored in the LDAP or other DB? How will access controls be managed?
- Data encryption: How will you protect your corporate information from outside access via the Internet? Will you use SSL or a VPN? Is secure e-mail a concern?

Develop this plan and enforce it strictly.

Select a Content Management System

Content is king, not only on the Internet but an intranet as well. Once Web sites are up, systems should be in place to assist publishers in keeping their content up to date. We recommend having this system in place before beginning intranet development.

Content management systems can be bought off the shelf or custom built. No matter how you to decide to acquire a system for your publishers, follow this wish list for what you should ask for:

- Document check-in / check-out
- Versioning
- Content approval workflow
- Open-standards database and template creation
- Database management and file system management
- Dynamic page generation
- Link management
- Document conversion
- User-friendly content authoring
- Personalization
- Access control or built-in security
- Usage analysis

Select HTML Development Tools

Select the HTML development tools that best fit the skill level of your publishers and developers. There are two types of HTML development tools.

- WYSIWYG (what you see is what you get): These tools allow the nontechnical user to create sites without the knowledge of HTML code (ex; Microsoft Front Page).
- HTML editors: for the more advanced user who knows HTML and wants to have more control of the page structure(ex; Allaire HomeSite).

Your company may decide to purchase licensing for both types of tools and roll them out according to skill level. It should be noted that these types of tools are slowly converging into one.

Select a Database Integration Standard

Corporate databases are perhaps some of the most important corporate assets. At some point, you will desire to deliver this data to your intranet.

The standard you select to accomplish this task should reflect your internal database technology strategy. For example, if your company has many types of databases across various platforms, you will need a tool that is very open and flexible. If your organization has one database standard, you may be able to look for proprietary solutions from your database vendor.

Look for integration standards that offer complementary application development tools and have the capability to connect to legacy systems if needed. Examples of tools but not limited to include, [Cold Fusion](#), [Internet Information Services](#), [Application Server and Java](#) and [BlueStone](#).

Select Intranet Traffic Analysis Tools

Who is using an intranet? How are they using it? These questions can be answered through the use of Web metrics.

Purchase software that can analyze your Web log files and issue reports on such metrics as hits, page views, site performance, errors, click throughs, etc.

With this information, you can learn to design sites that deliver greater performance, better navigation and better content. Without this analysis, you will never know what is working on your intranet and what is not.

Examples of Web traffic analysis tools include, [Web Trends](#) and [Hit Box Enterprise](#).

Estimate Server and Bandwidth

An intranet can publish text, audio and video. This has never been capable before across one internal network. Employees can get very excited about the technology and will scream for more and more applications. The administrators of the system must be very careful to make conservative estimates on bandwidth needs.

You may find that server CPU and disk space needs may be less under an intranet than in previous legacy systems, depending on your situation. In general, get the best server you can afford and give yourself room to grow.

Monitor server and bandwidth needs regularly.

Invite All to Participate

Empower your content providers and end-users to take full advantage of your intranet. Everyone within the organization should feel the intranet is affecting their jobs in a positive fashion and should have the ability to make a contribution to its success.

Be sure to promote creativity, encourage feedback, communicate standards and guidelines, and reward extraordinary effort.

Promote Awareness

We want to invite all to participate in intranet creation and use, but how can we make it happen? Many of the same methods used to promote other projects within a company apply here.

- Web fair: an all day or half-day event complete with fanfare, training sessions, prizes and contests.
- Internal advertising: newsletters, posters, broadcast e-mails.
- About the intranet Web site: publish standards and policies, online intranet training, a running ROI meter and recognition of champions.
- Department demos: launch meetings tailored to individual audiences.

Identify Champions

Nothing drives a project like a champion. Find those within your organization who have a desire to drive intranet development. These champions become the people who create ideas, get executive buy-ins and see projects through to fruition.

Most times champions will identify themselves by responding to your call for participation. The key is to recognize them and encourage them to run with their ideas. Champions will be your best asset. Give them the backing they need.

Form Steering Committee

We spoke earlier in the Road Map about leadership and ownership of an intranet. Often times this leadership comes from a steering committee.

This committee should be made up of a diverse group of people from within the company. This does not just mean people from various departments, but people from different levels of the organization.

The committee can be used to set the tone for the intranet: setting standards, brainstorming new ideas and resolving conflicts.

Intranet Team

Many corporations find that forming a team focused solely on Internet or intranet support and development can be of great benefit.

This team deals with the day-to-day support of the intranet. This includes:

- Setup and maintenance of servers
- Support and training of publishers/end-users
- Web site and application design
- Ownership of intranet home page and site hierarchy
- Promotion of the intranet
- Dissemination of standards and guidelines

Identify Team Roles

Present on an intranet team should be the following skills. Pull from new hires or volunteers(champions) to fill out the holes in your team.

- Webmasters
- Application developers
- Graphic artists
- Content providers
- Technical and help desk support
- Marketing
- System architects
- Legal
- Training

Develop Support System

Develop very clear policies on how end-users and content publishers will receive support. End-users will want to know why they cannot connect to the intranet, why their browser is broken or how they can get access to certain restricted applications.

Content providers will need support on HTML creation, application development, testing and loading of new content.

Start by putting frequently asked questions on a support Web site, and then make it easy and streamlined to ask for more personal support.

Conclusion

Thanks for traveling down the Intranet Road Map. We will be adding new sections and content over the next few months.

To sum up consider the following when beginning intranet development.

- *Establish guidelines* -- Set you policies and standards for publishing, style, security, ROI measurement, business model, budgets and intranet mission.
- *Establish platform and infrastructure* -- Define standards for the systems you intend to support, including access, security, content management, development tools, server, and bandwidth.
- *Invite all to participate* -- Create programs to gain the participation of all employees.
- *Intranet team* -- Form a cohesive group ready to take on the day-to-day growth of the corporate intranet.

Good luck!