Intranets

An **intranet** is a corporate **LAN** or **WAN** that uses Internet technology and is secured behind a company's firewall. This "internal network," or **internal Web**, is a network architecture designed to serve the internal informational needs of a company through the use of Web concepts and tools (e.g., easy and effective browsing, search engines, and tools for communication and collaboration).

**OVERVIEW OF INTRANETS**

Managers can use a **Web** browser to access the intranet to view employee resumes, business plans, and corporate procedures; they can retrieve sales data, review any desired document, and call a meeting. Employees can check availability of software for particular tasks and test the software from their workstations. Through screen sharing and other groupware tools, intranets can be used to facilitate the work of groups. Companies also publish newsletters and deliver news to their employees on intranets and conduct online training.

Intranets are fairly safe, operating within the company's firewalls (see Chapter 11). Employees can venture out onto the Internet, but unauthorized users cannot enter the intranet. However, intranets frequently have a secure connection to the Internet, enabling the company to conduct e-commerce activities, such as cooperating with suppliers and customers or checking a customer's inventory level before making shipments. Such activities are facilitated by extranets, as described in Appendix 6A.

According to a Meta Group study (Stellin 2001), nearly 90 percent of all U.S. corporations have some type of intranet. Over 25 percent are using corporate portals that perform functions well beyond just publishing material on the intranet.

Intranet technology is mature enough that its applications have become fairly standard. See case studies at vendors' sites for specific examples. Also see whitepapers.earthweb.com and google.com (search for "intranet case studies"). The material on this book's Web site, prenhall.com/turban (Online Chapter 18) and at cio.com/research/ec/cases.html also are good places to investigate.

**INTRANET FUNCTIONALITIES**

Intranets have some or all of the following functionalities:

- **Web-based database access** for ease of use
- **Search engines**, indexing engines, and directories that assist in keyword-based searches
- **Interactive communication tools**, such as chatting, audio support, and videoconferencing
- **Document distribution** and workflow capabilities, including Web-based downloading and routing of documents
- **Groupware**, including enhanced e-mail, bulletin boards, screen sharing, and other group-support tools
- **Support for computer-based telephony systems**

In addition, intranets usually have the ability to integrate with **EC applications** and to interface with Internet-based electronic purchasing, payment, and delivery applications. They also can be part of extranets, so that geographically dispersed branches, customers, and suppliers can access certain portions of the intranets. These functions provide for numerous applications that increase productivity, reduce costs, reduce waste and cycle time, and improve customer service, as discussed in the following section.

**INTRANET APPLICATIONS**

According to a survey conducted by InformationWeek in 1998, with nearly a thousand responding managers, the information that is most frequently included in intranets is in the form of product catalogs (49 percent of all companies), corporate policies and procedures (35 percent), purchase ordering (42 percent), document sharing (39 percent), corporate phone directories (40 percent), and human resource forms (35 percent) (MCGee 1998). Also included, in lower percentages, were training programs, customer databases, data warehouse and decision support access, image archives, and travel reservation services. These figures are probably much higher today, as intranets have matured over the past few years.

In addition to the many activities just discussed, intranets provide the following capabilities:

- **Search and access documents**. The intranet provides access to information in internal databases that can increase productivity and facilitate teamwork.
Part 3

- **Personalized information.** The intranet can deliver personalized information via personalized Web pages and e-mail.
- **Enhanced knowledge sharing.** The Web-based intranet can encourage knowledge sharing among company employees.
- **Individual decision making.** Employees can make better decisions because they can easily access the right information and online expertise.
- **Software distribution.** Using the intranet server as the application warehouse helps eliminate many software maintenance and support problems.
- **Document management.** Employees can access pictures, photos, charts, maps, and other documents regardless of where they are stored or where the employees are located.
- **Project management.** Most project management activities are conducted over intranets.
- **Training.** A corporate Web page is a valuable source of information for employees. Employee training can be done through online classes over the intranet.
- **Enhanced transaction processing.** Data can be entered just one time into a database connected to an intranet, thus eliminating errors and increasing internal control.
- **Paperless information delivery.** Elimination of paper by disseminating information on the intranet can result in lower costs, easier access to information, less paper to maintain, and increased security.
- **Expense reporting.** Employees can report their expenses after trips and get reimbursed very quickly.
- **Production management.** Production scheduling, inventory control, project administration, and more are conducted over intranets.
- **Employees control their own information.** Employees can manage their fringe benefits (e.g., they can check their annual vacation-day status or change their postal address, tax status, or retirement fund allocations).

When intranets are combined with an external connection (an extranet), the following additional capabilities are possible:

- **Electronic commerce.** Intrabusiness marketing can be done online; selling to outsiders is done via the extranet, involving portions of the intranet.
- **Customer service.** An intranet–extranet combination is used by logistics companies such as UPS, FedEx, and others to enable customers to gather information about product shipments. These companies have found that such applications increase customer satisfaction.
- **Enhanced group decision making, collaboration, and business processes.** Web-based groupware and workflow are becoming part of the standard intranet platform. They are delivered via the intranet and are included as a standard feature of intranet software. They also can be part of the internal supply chain operation.
- **Virtual organizations.** Web technology removes the barrier of incompatible technology between business partners.
- **Improved administrative processes.** The internal management of production, inventory, procurement, shipping, and distribution can be effectively supported by linking these functions in a single, threaded environment (the intranet). These functions also can be seamlessly integrated with interorganizational extranets.

**MORE INTRANET EXAMPLES**

As noted, intranets can be used for a variety of business functions, as shown by the following examples.

- **Business intelligence.** In 2000, Financial Times (FT) Electronic Publishing implemented its online news and information service, FT Discovery, for 10,000 intranet users at KPMG Peat Marwick, one of the Big Five accounting firms. FT Discovery, which is integrated into the KPMG corporate intranet, provides immediate access to critical business intelligence from over 4,000 information sources. For example, Corporate Navigator from Story Street Partners is integrated into the intranet to provide in-depth advice on where to go for information on issues and companies of interest to KPMG.
- **Public services.** The Hawaiian Islands are linked by a state educational, medical, and public services network High Technology Development Corporation (htdc.org). This ambitious intranet provides quality educational services to residents of all the Hawaiian Islands.
- **Corporate information.** Employees at IBM ranked the company’s intranet as the most useful and credible source of corporate information. They use the intranet to order supplies, sign up for fringe benefits, take classes, track projects, and manage their retirement plans. IBM considers its intranet an extremely valuable source of information that helps increase productivity. For example, managers can
post and read information about projects in progress without bothering other employees, making calls, or sending e-mails. IBM employees who telecommute can log onto the intranet from home and conduct work. In May 2001, IBM asked its employees to contribute ideas for solving some current problems. More than 6,000 suggestions were collected over the intranet in just 3 days.

- **Customer service.** At Charles Schwab, 25,000 employees use the intranet (Sch Web) regularly. It helps employees provide better customer service because it makes it easier to respond to customer inquiries. Using search engines, employees can quickly find the answers they need. It is now part of Schwab’s culture to look at the intranet first to find answers. Schwab estimates tens of millions of dollars in savings due to its intranet (Hoffman 2001).

- **Helping troops stay connected.** Web-based collaboration tools were provided free to U.S. troops worldwide by intranets.com. Members of the U.S. forces and their families can use several hosted communication tools to share letters, photos, and other documents.

**INDUSTRY-SPECIFIC INTRANET SOLUTIONS**

Intranet solutions frequently are classified by industry rather than by technology. According to InformationWeek (1998), the top 100 intranet and extranet solutions can be classified by industry as follows: financial services (banking, brokerages, other financial services, and insurance); information technology; manufacturing (chemicals and oil, consumer goods, food and beverage, general manufacturing, and pharmaceuticals); retail; and service providers (construction/engineering, education, environmental, health care, media, entertainment, telecommunications, transportation, and utilities).

**BUILDING INTRANETS**

To build an intranet, a company needs Web servers, browsers, Web publishing tools, back-end databases, TCP/IP networks (LAN or WAN), and firewalls, as shown in Online Exhibit W7A.1. A firewall is software or hardware that allows only those external users with specific characteristics to access a protected network (see Chapter 11). Additional software may be necessary to support Web-based workflow, groupware, and ERP, depending on the individual company’s needs. Security schemes, which are similar for intranets and for the Internet, are described in Chapter 11.

A company may have one intranet composed of many LANs. Alternatively, a company may have several interconnected intranets, each composed of only one or a few LANs. The decision of how to structure the intranet depends on how dispersed the LANs are and what technologies are involved. In building an intranet, network architects need to consider and plan for the functionalities the network will need.

The cost of converting an existing client-server network to an intranet is relatively low, especially when a company is already using the Internet. Many computing facilities can be shared by both the Internet and intranets. An example of this is a client-server-based electronic conferencing software...
module from Pixion (pixion.com) that allows users to share documents, graphics, and video in real time. This capability can be combined with electronic voice capabilities (e.g., Internet telephony).

**KEY TERM**

Intranet

**REFERENCES**


