

50 Ways to Put an **Intranet** to Work

Practical Solutions for Business Intranets

Intranet technologies represent the next major step in the evolution of computing and hold the promise of increasing return on Information Technology (IT) investments. Almost every department in an organization can benefit from an Intranet or Extranet site. To reap the full benefits, organizations must exploit the technological advantages that Intranets and Extranets offer, within the context of sound business planning. This paper is intended to help business managers and information systems professionals lead their companies into a new era of Intranet computing, demonstrating the breadth of opportunities and tremendous value presented by this exciting new technology.

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Executive Summary

Intranets, the next step in information technology, can dramatically contribute to a company's bottom line. That's why a rapidly growing number of organizations are deploying Intranets today. A recent study by Hambrecht and Quist found that 85 percent of Fortune 200 companies are implementing Intranet strategies. Intranets offer both strategic and tactical advantages, including streamlining business processes, improving communications, enhancing collaboration and reducing the cost of information technology ownership. Intranets enable businesses to provide services that would have been difficult and cost prohibitive to implement with earlier proprietary systems.

Intranets are not just for large companies. According to Forrester Research, more than two-thirds of Fortune 1000 companies have developed or are developing corporate Intranets. Fortune 1000 and smaller companies are following the lead of Fortune 200 companies and are implementing Intranets in order to reap the considerable benefits.

Not only do Intranets result in increased productivity, they also make organizations more nimble by enabling them to react quickly to changes in business and technology environments. Intranets can be a cost effective alternative to investing in new systems because they leverage the investment in existing information systems including network infrastructure, workstations, servers and legacy application systems. Industry studies show that Intranets deliver an attractive return on investment (ROI). According to a 1996 International Data Corporation (IDC) report on Intranets, many organizations realize full payback in just 6 to 12 weeks following the deployment of an Intranet.

Virtually every department in a company can benefit immensely with the inherent flexibility and power of Intranets. While early implementations have focused on human resources, marketing and sales functions, other departments in the organization, including engineering, customer service and support, finance and manufacturing and operations can benefit from the advantages that Intranets deliver. IS departments also have much to gain because Intranets can help simplify network management, standardize applications and centralize information.

Intranet technologies, including Web browsers, Web-based databases, groupware, e-mail, ActiveX, Java, streaming audio and video and countless new Web-based business applications represent a major advancement in the evolution of computing. These technologies help solve an on-going problem facing most companies—integrating heterogeneous computing environments made up of diverse hardware and operating systems. Intranet technologies provide a common application development platform and an intuitive user environment that allows organizations to deploy applications much faster and at dramatically lower operating costs. As a result, Intranet technologies are causing a profound shift in how businesses view information management and communications.

According to a recent article in Computerworld Magazine, however, just implementing an Intranet isn't enough. The article finds that, like many new technologies, "an Intranet can go unused unless someone leads users into the surf." It is up to business managers to identify business processes within their areas of responsibility that could benefit from Intranet technology, and to work with information systems (IS) professionals to develop solutions.

This paper presents the business case for Intranets by describing a number of compelling business applications that span a wide variety of functional areas. The paper is intended to help business managers and IS professionals guide their companies toward successful Intranet deployment by demonstrating the breadth of opportunities enabled by Intranets and their strategic implications.

The Business **Advantages** of Intranets

Today's dynamic and fiercely competitive marketplace demands that businesses bring new products to market in ever-shrinking time frames. Slow reaction to changing trends and market conditions puts a company at risk of losing market share, market position, and quite possibly customers. In addition, consumers are demanding higher levels of customer service. In fact, with commodity products, service has become a key differentiating factor. To meet the challenges of this demanding marketplace, businesses must find ways to work more efficiently, increasing their productivity while at the same time controlling costs.

As many companies have already found, Intranets offer a robust solution to the demands of their marketplace. They improve organizational efficiency through streamlined business processes, more effective communication, and a higher level of collaboration. Extended Intranets (Extranets) can broaden the Intranet solution to key individuals outside the company, such as business partners, customers, distributors and vendors. As a result, Intranets and Extranets help tighten relationships with employees, customers and business partners to contribute to an organization's bottom line and increase its competitive edge.

STREAMLINING BUSINESS PROCESSES

Intranets are phenomenally powerful tools to streamline business processes. From decision support, customer service and product engineering to distributed channel operations, sales force automation and executive information systems, business applications based upon Intranets can substantially

improve the efficiency of complex operations. This is possible because Intranet applications are typically much less expensive to develop and deploy, and are much easier to use than applications based upon older proprietary platforms. Benefiting from a universal client interface – the Web browser – Intranet business applications can be deployed and managed from a central location. At the same time, standards-based protocols and development technologies enable separate departments across a company to create Intranet solutions that remain compatible and compliant with company-wide systems and processes.

FACILITATING INFORMATION DISSEMINATION

A key benefit of Intranet technology is the ability to provide up-to-date information quickly and cost effectively to the entire user community. An Intranet puts vital information at the fingertips of employees, regardless of their location or the location of the information. Information disseminated on an Intranet enables a high degree of coherence for the entire company because communications are consistent. A "news" section of an Intranet, for example, can include recent company press releases regarding management strategies, partnerships and new products. A finance section can keep employees informed of vital financial reports and forecasts. A customer section can allow customers to check the status of an order or repair. Vendors can submit invoices online and check procurement status. The possibilities are virtually limitless.

By giving people the ability to access time-critical information, Intranets improve the decision-making process by empowering individuals with the knowledge necessary for faster and better informed business decisions. Intranets allow the centralization of information, making it easier to maintain and keep up-to-date. The benefit to the end user is simplicity and speed of information access. For example, the interactive capability enabled by hypertext links makes it easy for users to gather all the information they need from Web pages quickly, just by clicking on the information they want to view. They don't have to spend long hours searching through arcane directories and servers. Providing instant and secure access to business-critical information saves time and increases productivity, and publishing information online eliminates the production, duplication and distribution costs associated with paper. The result ... significantly reduced costs and increased profitability.

ENRICHING COMMUNICATIONS AND COLLABORATION

Intranet technologies enable teams to share knowledge and information regardless of their locations or time zones. Engineering groups can share research data, design concepts, schedules and other project materials for comments and review during the development process. Training groups can distribute training schedules and multimedia computer-assisted training courses using Web-based technology. Project teams can take advantage of Intranet newsgroups and threaded discussions to communicate issues and solutions, and they can use online chat technology when real-time interaction is required. With Intranet teleconferencing, participants can share conference materials in a variety of formats, including text, graphics, audio and video. As e-mail is already a standard business tool in most companies, its integration with other Intranet technologies is seen as a natural extension of this accepted communications medium.

Intranets—the Next Step in Information Technology

Intranets provide a powerful information technology solution that addresses many of the key issues that IS professionals face. As a result, Intranets provide many benefits to IS departments:

Cost effective. Intranets leverage the existing computing infrastructure, including network and computing hardware, software assets and legacy database systems.

Simplified system integration and growth. An Intranet provides a flexible and scaleable non-proprietary solution for implementation and growth. It enables the integration of a diverse computing environment into a cohesive information network. Because Intranet technology is based on open standards, it is built for growth and it allows the integration of new innovations, such as push technology, middleware, smart devices and next-generation groupware productivity suites.

Easily extended into Wide Area Networks (WANs). Intranets can be expanded into Extranets that serve remote company locations, business partners and customers. These extended networks solve many of the infrastructure issues associated with the topologies of traditional Virtual Private Networks, LANs and WANs, while retaining the security of both information and transactions. External users, for example, can access internal Web sites through secure proxy servers that reside outside the firewall.

Enhanced security. Contrary to some beliefs, Intranets and Extranets can actually improve the security of information because information can be centralized, allowing access to be more tightly controlled. Sophisticated access control, authentication, cryptography, certificate authority and digital signature technologies are readily available for integration into Intranet and Extranet systems.

Minimized application development and deployment costs. Intranet technology creates a single, standards-based platform for application development and deployment. In addition, the Web browser provides a universal application delivery platform and a common, intuitive environment for users. As a result, the IS department can create and deploy new, more robust applications quickly and economically to meet business needs.

Minimized costs of deploying client-server solutions. With traditional client-server technology, database and application logic may be spread across hundreds or even thousands of desktop clients. Intranets, on the other hand, use standard browsers on client desktops. As a result, Intranets eliminate the frustrating and expensive process of developing, deploying and updating client software on every desktop machine each time a new client-server business application is developed, or an existing one is updated. The bottom line is, IS staffs can dramatically cut the client-side costs of client-server applications, slashing the cost of ownership of business applications.

Minimize network management and support costs. Intranets help increase the productivity of network management and help desk personnel. It provides a central point for software distribution and updates, user documentation and online training, and it provides readily available, consolidated information to support personnel. The intuitive nature of the browser interface reduces user support and training requirements with existing as well as new applications, because it maintains the same look and feel across all applications. If desired, users can create and manage their own content (many word processors can save documents in HTML format), freeing up time for IS to perform other, more critical tasks.

Putting Intranets to Work

Although an Intranet offers many business and technological advantages over traditional networks and client-server solutions, research shows that users do not immediately flock to an Intranet “just because it’s there.” According to a recent article in Computerworld Magazine, despite the amount of media coverage given to Intranets, the technology may go unused unless someone demonstrates compelling applications. It is up to business managers and IS professionals, working together, to lead the company to the Intranet. This section includes information to help business managers and IS professionals assume a leadership role in demonstrating the value and problem-solving capabilities of this new technology.

In general, there are five characteristics to look for in identifying business processes that could be vastly improved by an Intranet:

Any business process that involves the production, requisition, distribution and update of dynamic information that has traditionally been published on paper. Examples include employee directories, medical benefits descriptions, product specifications, user manuals, price lists, marketing collateral, financial reporting systems and policies and procedures.

Any business process that involves the consolidation of information from multiple data sources. For example, a retail customer service representative must access and consolidate customer information, order history and product information (description, pricing, availability), and enter sales order information—all while speaking to a customer on the telephone.

Any business process that requires a high level of communication and collaboration between people, especially if they are separated geographically. Today, for example, many engineering projects involve the coordination of multiple development groups scattered in multiple locations. Many companies have field sales offices that need constant, up-to-date access to company information as well as daily contact with the home office.

Any business process that depends on people finding or requisitioning information or products. Examples include reference manuals, internal requisition systems, channel distribution order systems and fax-back systems.

Any business process currently automated by a client-server or mainframe application. This is particularly significant for companies with older legacy systems that need to be brought up-to-date.

This section presents Intranet applications that significantly enhance an organization’s business processes. They are categorized by functional group— sales and marketing, human resources, engineering, customer service and support, finance and accounting, and manufacturing and operations.

SALES & MARKETING

Sales and marketing staffs face a number of challenges. Sales staff challenges include:

- *Keeping the sales personnel and customers apprised of a large volume of continually changing information on products, pricing, services and market environment.*
- *Gathering and distributing sales leads in a timely manner.*
- *Collecting and consolidating sales forecasts and monitoring sales performance.*

Marketing staff challenges include:

- *Managing multiple, interdependent, time-critical projects, such as trade shows, press tours and product launches that may involve multiple groups scattered across wide geographic areas.*
- *Keeping the sales department informed of marketing programs, such as new pricing strategies, trade show participation and special promotions.*
- *Keeping sales and other departments up-to-date on competitive information.*

In addition to the need for a high level of communication between the sales and marketing groups, there is also the need for communication with other functional groups throughout the organization. For example, managers in other functional groups may need real-time access to sales forecasts and sales performance data consolidated at different levels. Marketing and sales managers need access to corporate data, such as manufacturing forecasts and product cost information.

Gathering and maintaining accurate and up-to-date market information requires consolidating data from diverse sources. Much essential product, service and market information is paper-based, making it time consuming and expensive to produce, distribute and update. Further complicating the problem is the fact that competitive and market information changes rapidly, and delays in obtaining it could make it obsolete even before it is distributed.

Collecting and consolidating sales forecast, proposal and performance information in a secure and timely manner is also difficult. Many companies have both direct and indirect sales channels scattered throughout the country and the world. These

channels have various interdependencies. At the same time, each channel has different requirements for reporting and for analyzing forecasts and performance data.

THE INTRANET SOLUTION

Sales and marketing groups can take advantage of Intranets to enhance communication and collaboration with each other as well as with other functional groups, including external resources. The corporate Intranet enables centralized publishing of product, service and marketing information. It also provides quick but controlled access to relevant company databases that contain product or inventory availability data, sales forecasts, performance figures and the customer information knowledgebase. An Intranet is a powerful tool for proposal development as well. Past projects and budgets can be referenced by size, scope of project and resources required to provide critical background information to insure future projects are successful and profitable. As a result, marketing and sales personnel can collaborate more effectively and ensure that the field sales staff, outside contractors, channel partners and distributors and dealers have immediate access to the information they need. The result is higher productivity and reduced costs.

Sales & Marketing Applications

APPLICATION	ADVANTAGES
Product demos and scripts Allow sales force to download product demonstration scripts and sales presentations.	Much faster and less expensive than traditional methods of distributing demonstration and presentation materials. Ensures inclusion of latest features in presentations.
Product information Provides a central repository for employees, customers and business partners to access information such as product availability, price lists, catalogs, brochures, data sheets and specifications.	Ensures immediate access to the most current information. Speeds the distribution of time-sensitive data. Sales reps can obtain delivery information right from the customer's site to help close orders more quickly.
Sales forecasts and reports Sales management disseminates sales goals and performance data over the Intranet. Field sales force has access to the most recent sales and quota information.	Enhances communications among field sales, regional sales management and headquarters. Gives management better tools for tracking sales performance, such as comparing forecasts to actual sales. Helps manufacturing perform more effective production scheduling.
Sales contact management Use a Web-based database to centralize a single sales contact management system that sales reps and business partners can leverage.	Provides a central database accessible by remote sales employees anywhere, anytime. More consistent, timely and accurate tracking system for customer prospect information.
Sales lead management Use e-mail or other groupware applications to distribute sales leads to appropriate reps and channel partners.	Ensures timely collection and distribution of leads to maintain their maximum effectiveness. Enables fast follow-up to maximize close rate.

APPLICATION	ADVANTAGES
Market research Researchers access the Internet to locate market information such as industry trends and competitive products. Information can be published on an internal Web site.	Instant access to a wealth of Internet data improves product planning, marketing strategy development and product pricing. Provides a central source of critical information, including competitive information, changing customer requirements and emerging market trends.
Solicit input from field personnel Distribute questionnaires using e-mail or Web site to gather valuable feedback on products, services and marketing campaigns.	Ensures that products and services meet the needs of the market. Helps tune marketing programs for maximum effectiveness.
Prospecting Sales reps are able to collect information about prospective customers.	Increases productivity of the sales force by providing easy access to in-depth information regarding the prospects in their assigned territories.
Press releases Publish press releases and other company announcements on internal and Internet Web sites.	Faster distribution of corporate communications. Can be archived for historical purposes.
Sales team collaboration Establish newsgroups, online conferences and chat sessions for sales teams that are geographically dispersed.	Increases sales by enabling sales and support reps to coordinate activities for national and multinational accounts.
Calendars Publish schedules and calendars for trade shows, seminars, advertising and PR campaigns and project plans in a central location.	Sales representatives and marketing teams can take full advantage of marketing events in their areas to tighten relationships with customers and help boost sales.
Sales training Provide online training for products, services, industry trends, competition, sales skills and other subjects useful to field sales personnel.	Improves skills and knowledge of sales force in a cost-effective and timely manner. Provides centralized repository for easy access by new employees.

HUMAN RESOURCES

The human resources (HR) staff must address a number of important issues, including:

- *Streamlining the internal and external recruitment process.*
- *Providing an easy-to-use, attractive way for employees to locate, access and understand employment and benefits information, policies and procedures.*
- *Making it easy for employees to enroll in various benefits and programs.*
- *Keeping employees informed about their company.*

Traditionally, HR information has been distributed on paper making it difficult, time-consuming and expensive to keep current. With information changing continually, the HR department must produce and distribute bulky manuals and update them frequently. In some cases, information is obsolete even before employees receive it. In fact, information changes so frequently that many IS departments have been unable to deploy HR application systems on employee computers cost-effectively.

Employees find it difficult to juggle up-to-date benefits and policy manuals and to find the information they need, and managing the constant barrage of updates is time-consuming. When employees have questions, they typically call HR instead of searching through the manuals. This means the HR staff spends valuable time answering routine, repetitive questions, such as, "Which options are available in the health plan?" and "What are the current share prices of the mutual funds in the 401k plan?"

Enrollment is also an issue. Once employees have made their choices, they must wade through tedious forms and deliver them to HR, where the HR staff manually sorts and re-enters the information in a data entry application. As a result, benefits enrollment periods are onerous to employees and require a tremendous effort on the part of HR personnel. During open enrollments, other essential tasks are often put on hold while the HR staff contacts

THE INTRANET SOLUTION

An Intranet creates a single, secure repository for all confidential HR information and processes. It can provide an easy-to-navigate environment that is accessible by all employees, regardless of where they are located or which computing platform they

are using. Access rights for each employee are established by HR, and are typically determined by the level of management of the employee, and the department they are in or their key job functions. The HR staff maintains information online, so updates are fast, straightforward and easy to manage. Employees have immediate access to the latest information. Employees use a simple browser interface to find what they need, so they spend less time searching and can focus on precisely the informa-

tion they need. They aren't overwhelmed by cumbersome manuals, and they save time because they don't have to wade through pages of irrelevant information. To make things even more efficient, employees can enter data online. This data can be automatically integrated into back-end information systems, so it can be validated on input, eliminating errors. In addition, the HR staff does not have to re-enter employee data, freeing up time for other more important tasks.

Human Resources Applications

APPLICATION	ADVANTAGES
Employee handbook Publish personnel guidelines and policies.	Saves the cost of printing, distributing and updating handbooks. Employees have fast access to the most recent policies and procedures.
Telephone directory Publish employee contact information with phone number, e-mail address, title and department.	Online search helps people find information faster. Online contact information is always up-to-date. Operators get fewer calls asking for phone numbers.
Benefits information Employees review personal benefit information and enroll in health and other plans online — selecting the options that they prefer.	Employees have quick answers to benefit information. HR staff spends less time answering routine questions and enrolling employees in benefit programs. Electronic enrollment reduces data entry errors.
401k center Employees review retirement account information online, including investment options, investment performance histories and current rates. They can enroll online in the options they choose.	Increases productivity of HR staff because it eliminates the time required to answer routine and repetitive questions. Gives employees the information they need to make better-informed decisions.
Employee surveys Use e-mail and/or internal Web site to solicit employee feedback on a variety of subjects.	Provides valuable source of ideas. Facilitates tracking of problems and process improvements. Provides rich source of historical data to guide decision-making.
Internal recruiting Post job openings, internal educational opportunities and career development information on Intranet Web site.	Distribution of information is faster than is possible with bulletin boards and memos. Helps retain current employees and promote internal growth.
External recruiting Post job openings, internal educational opportunities and career development information on the public Internet site.	Wide dissemination of information, ensuring large selection of candidates. Fast online response shortens recruiting cycle.
Candidate screening Develop a screening application to analyze resumes automatically for suitability based on key qualifications. The application could route resumes to the appropriate hiring managers and provide a vehicle for coordination between HR recruiters and hiring managers.	Speeds the processing and routing of resumes and helps ensure that hiring managers have the broadest selection of qualified candidates. Increases productivity of recruiters.

APPLICATION	ADVANTAGES
Organizational charts Provide up-to-date organizational charts and information.	Immediate access to dynamic organizational information.
Newsletters Publish corporate and departmental newsletters to communicate a wide variety of information, including recent corporate wins and successes.	Keep employees up to date on corporate activities and critical employee information.
Company calendar Post holidays and special events calendar.	Employees always know where to find this key information.
Employee classifieds Allow employees to publish personal classified ads.	Builds a sense of community among employees.

ENGINEERING

Engineering management faces significant challenges in addressing important issues, including:

- *Enabling developers to take advantage of the wealth of knowledge and expertise available within the organization.*
- *Managing complex development projects involving multiple teams and departments that may be spread across different geographical locations.*
- *Establishing and maintaining effective version control.*
- *Access to online data libraries and repositories.*

The engineering process depends heavily on easy access to a broad library of technical information and resources, usually spread across diverse and changing platforms, teams and geographic locations. In addition to technical information, engineers need access to information from a variety of other functional areas, such as field problem reports from customer service, marketing information that could influence design and quality issues that could be easily corrected by design changes. Accessing and consolidating this information requires significant time and effort. Paper-based information, such as engineering drawings and engineering change orders (ECOs), is cumbersome and costly to distribute and update. Other information may be stored in multiple databases, making it difficult to access and consolidate.

Engineering management must establish, update, consolidate and communicate many interdependent project schedules that are constantly changing. Projects often involve multiple development groups in different locations and time zones. Collaboration and coordination are complex to manage. In-person meetings may be impractical and time differences

often make telephone conferences difficult to schedule. And resource libraries are difficult to synchronize between teams, often resulting in increased QA expenditures and slower time to market.

THE INTRANET SOLUTION

Intranets give engineering departments the technology they need for workgroup communication and collaboration, document and resource control and project management. Engineers can share files easily through the network. Newsgroups, e-mail, chat, groupware and multimedia technologies facilitate communication and collaboration. Corporate Intranets also provide a means of centralizing, consolidating, publishing and updating project information that changes frequently. The engineering department benefits from a dramatic reduction in paper as well as more effective version control. Management can consolidate information that resides on a variety of sources so the engineering staff can take full advantage of the corporate knowledgebase in real time.

Engineering Applications

APPLICATION	ADVANTAGES
Project conferences Conduct project update meetings, design reviews, brainstorming and problem-solving sessions online. Use e-mail, newsgroups and chats among project team members who are geographically dispersed. Use conferencing applications to facilitate interaction (including multimedia capabilities such as graphics, video and electronic whiteboards).	Gives team members a forum for reviewing progress, sharing knowledge, brainstorming ideas and troubleshooting problems, regardless of their geographic location or time zone differences. Dramatically reduces travel costs. Leverages company knowledgebase.
Project documentation Publish current and historic design studies, drawings, 3-D models, and specifications for sharing by project team.	Speeds the updating and distribution of information related to product development resulting in faster time to market.
Project management Provide a central location for team resource assignments, project schedules, action items, task lists and progress reports.	Speeds the dissemination of critical project management information. Increases team effectiveness because participants are aware of assignments, critical schedules and responsibilities.
Engineering change orders Post ECOs in a central location for access by engineering, marketing and manufacturing.	Eliminates the wasteful mistakes and redundant efforts that result when people unknowingly work with obsolete information.
Workflow management Implement groupware applications that provide effective management of project workflow.	Speeds the review and approval process. Enhances version control.
Standards and methodology Provide a central location for design standards and development methodologies.	Ensures consistency and quality throughout the design and development process.
Engineering libraries Establish central repository of code, specifications, objects, tools, utilities, configurations, errors and tasks.	Improves productivity by leveraging existing resources. Improves consistency and quality through reuse.
QA feedback Receive real-time customer feedback through service and support teams.	Improves quality and time to market by accelerating the delivery of customer feedback to engineering and design teams.
Technical papers Post in-process technical papers for review and comment. Publish completed papers for use by all functional areas.	Improves document quality by encouraging input from a broader audience. Provides a valuable source of technical information for engineers and customer service.
Shared development (of products and documentation) Provide central repository for in-process work to enable a sharing of work by development, test, quality assurance, documentation and other groups.	Takes advantage of time zone differences to work multiple shifts each day without requiring overtime. Shortens product and documentation development cycles and allows faster time to market—giving the company a competitive edge.
Prototype applications Make prototype software available for initial review or proof of concept. Place models, drawings and digital video of physical prototypes online.	Centralizes distribution of prototypes for review or discussion. Provides secure environment for confidential information.

CUSTOMER SERVICE & SUPPORT

Because of the key front-line function performed by customer service and support employees, their management is faced with issues including:

- *Empowering service and support representatives to provide fast and effective response to customers, in most cases in real-time while the customer is on the telephone or online.*
- *Giving representatives instant access to up-to-date information, consolidated from multiple data sources.*
- *Providing immediate problem escalation .*
- *Capturing information on the fly and adding it to the appropriate databases and knowledgebases.*

Service and support personnel are the first line of contact and have the most frequent interaction with customers. Each representative may handle a variety of customer calls including inquiries, data updates, operational questions and problem resolution. In most cases, the customer who contacts the support group has a problem and needs immediate help. To ensure fast response, the representative needs a single, easy-to-navigate interface that consolidates relevant information and facilitates easy access. Any delays perceived by the customer directly reflects on the company as a whole and can result in customer dissatisfaction or, even worse, customer alienation.

Customer service representatives need instant access to up-to-date product, company and customer information. Field service and help desk personnel need access to customer problem and service history information for problem solving. This information must be accurate and content-rich, and it must be accessible and at their fingertips while they are interacting with customers. Customer service and support personnel also need to enter data into a variety of databases and knowledgebases, such as order information, problem tracking , escalation and resolution and technical support.

In many cases, customers ask routine questions that do not require personal interaction. These include questions on pricing, product specifications and routine operational questions. Some companies have attempted to provide answers through fax-back and voice-response systems. However, these systems are often lacking in detail, and information is difficult to locate. As a result, these systems are not suitable for delivering timely information, and do not reduce call volume appreciably.

Some organizations use traditional client-server applications which give customer service representatives access to multiple databases. However, each application typically operates independently of the others and is not easily modified. Representatives may have to log in and out of several databases to gather the information they need. Customers become impatient when they have to wait on hold while the customer service representative searches for information. Moreover, client-server systems can be very expensive to operate, maintain and update.

THE INTRANET SOLUTION

Intranets can enable organizations to create information systems that consolidate data from multiple databases or information systems within a single customer transaction. A Web-based application can be developed that enables representatives to use a single query to access multiple databases simultaneously. The application consolidates information in a single, easy-to-navigate window. For example, the application could enable fast access to both a customer database and a knowledgebase of known problems and solutions.

A knowledgebase is well suited for the hyperlinked search and retrieval capabilities associated with Web-based technology. Customer service personnel can easily navigate a large archive of data, which is constantly updated, to find the desired information. Faster access to this data dramatically reduces the time required to complete a customer transaction, so each representative can handle a higher volume of service calls. As a result, many companies find that they can handle a growing customer base without expanding the size of the service and support staff.

The company can also allow direct, yet controlled and secure, access to corporate information by customers, dealers and distributors. These external users enjoy ready access to the information they need without the intervention of service or support staff. This helps reduce the number of incoming calls that require human intervention, so service and support staff can spend more time solving complex problems.

Customer Service & Support Applications

APPLICATION	ADVANTAGES
Online information Provide access to information consolidated from multiple databases (customer, product, RMA, inventory, product manuals and shipping).	Customer service personnel provides better service to customers because they have fast and easy access to the information they need.
Frequently Asked Questions Post answers to routine questions for access by customer service. FAQs could also be made available on the Internet or a secure Extranet for direct access by customers, distributors and dealers.	Enhances customer satisfaction because service reps answer questions quickly and confidently. Answers have been reviewed, tested and approved by corporate. Customers can get answers to many questions on their own—24 hours per day, 7 days per week.
Customer information entry and update Provide online forms for entering and updating information on new and existing customers.	Captures valuable customer data to assist in understanding customer demographics, needs and concerns.
Order entry and tracking Provide availability and shipping information at the time the customer places an order. Provide order status information when customer has questions.	Increases customer satisfaction and speeds the order entry and tracking process.
Problem entry and tracking Provide online forms for entering data regarding customer problems.	Generates a valuable and expanding knowledgebase for faster problem resolution and better service to customers.
Bug fixes Post all bug fixes on public Web site with capability to search quickly. Easy download of software upgrades.	Provides additional information that could offer solutions quickly.
Warranty claims and processing Companies that sell warranted products can provide a self-serve mechanism for customers and/or distributors to make warranty or repair claims.	Enhances customer satisfaction by speeding claim processing. Reduces human and operational overhead.
Problem escalation Provide online flow of information that ensures smooth problem escalation from field personnel to customer service to engineering.	Enhances customer satisfaction by speeding problem resolution. Identifies trouble spots to manufacturing and engineering, and enables proactive design changes to improve product quality.
Training Provide online training on products and customer service tools and techniques to the service and support staff.	Enhances the skills and knowledge of the customer service and support staff.

FINANCE & ACCOUNTING

Challenges facing the finance and accounting department include:

- *Collecting, consolidating and processing financial data from multiple sources.*
- *Making consolidated financial data available to those who need it in a timely yet secure manner.*

Financial data is difficult to gather, update and consolidate because it is stored in multiple databases that are typically spread across multiple functional groups on different computing platforms. The finance and accounting staff must collect sales order information, manufacturing cost and inventory information, development costs and payroll and budget information from other departments. They must also

process transactions such as expense reports, time-cards and purchase orders. To complicate matters, much of the information used by finance and accounting is paper-based.

THE INTRANET SOLUTION

An Intranet provides a secure, central point for collecting and publishing financial information. It also provides a vehicle for online transaction processing, ensuring rapid updating of information and availability of accurate and timely information. As a result, an Intranet enables managers across the company to track financial performance and maintain effective control. Intranets also permit external business partners, shareholders and analysts to have limited access to financial data to build tighter relationships with timely, accurate information.

Finance & Accounting Applications

APPLICATION	ADVANTAGES
Financial reports Publish financial data on a secure, controlled access Intranet Web site.	Makes valuable information available throughout the enterprise while providing security for sensitive or confidential information.
Policies and procedures Establish a central location for corporate policies and procedures related to finance and accounting.	Eliminates the cost of printing and distributing information. Updates and distribution are faster because the information is centralized.
Budgeting Publish historical budgeting data, including projected and actual spending.	Accelerate and improve process for development of new budgets.
Asset management Place complete inventory of current assets online for review and update, allowing managers to assess the current distribution of assets.	Managers can make informed decisions on asset re-deployment and addition.
Expense reports Allow employees to submit expense reports via e-mail or electronic forms on secure Web sites.	Reduces paperwork and costs associated with reimbursing expenses. Validates input to reduce errors.
Unit reporting and forecasting Allow operating units or channel partners to report financial information and forecasts online in a secure manner.	Makes available up-to-date financial information for better-informed decision making.
Accounts payable/receivable support Allow customers and vendors to access payment history and status information.	Faster collection of receivables. Higher level of customer satisfaction. Closer relationships with vendors.
Payroll Allow employees and managers to submit payroll information online, including withholding changes, automatic deposits and time sheets.	Higher level of efficiency in submitting information. Easier and faster for employees and managers to make changes when status changes. Up-to-date payroll information is available for payroll processing, minimizing errors due to out-of-date information.

MANUFACTURING & OPERATIONS

The manufacturing department faces a number of critical issues, including:

- *Coordinating, maintaining and publishing production schedules.*
- *Managing parts and resource supply chain.*
- *Maintaining effective inventory control (including receiving, warehousing and shipping of raw materials and finished goods).*
- *Ensuring quality.*
- *Reducing costs.*

Production scheduling and inventory control are dynamic and involve the integration of information from internal and external sources—supplier information, sales forecasts, allocation requirements, engineering information (including changes and updates), warehouse location tracking and cycling of perishables.

The quality assurance (QA) staff needs to maintain an up-to-date database with diverse information that includes customer service input, data on troubleshooting and returns, and feedback from engineers, manufacturing personnel and inspectors. This enables QA to maintain accurate quality statistics and pass this information on to management.

Cost reduction requires close collaboration among suppliers, manufacturing operations, customer service, field engineering, engineering and purchasing.

THE INTRANET SOLUTION

With an Intranet, manufacturing departments can consolidate data from multiple sources to simplify and speed access. An Intranet provides centralized publishing of manufacturing and QA data. The company can extend its Intranet into an Extranet that includes customers and suppliers and enables them to place orders directly and to receive orders electronically. Extranets also facilitate supply chain optimizations, along with just-in-time and other

inventory control measures that reduce inventories and slash costs.

An Intranet fosters collaboration between manufacturing and other functional groups within the enterprise. This helps in identifying product problems, incorporating design changes, enhancing productivity and improving inventory control. The result is reduced costs and higher margins.

Manufacturing & Operations Applications

APPLICATION	ADVANTAGES
Part order/requisition system Enable customers, dealers, or distributors to order new or replacement products or parts.	Replaces costly call centers, part catalogs and fax-back systems with convenient, secure, self-serve order system.
Production schedules Publish production schedules for access by management and manufacturing personnel.	Ensures that key personnel have instant access to critical scheduling information that may be constantly changing.
Supplier coordination Enable suppliers to enter part or resource availability, prices or status for the benefit of downstream production.	Reduces costs by improving visibility into upstream resource availability and cost. Improves time to market by optimizing configuration and production.
Bills of materials/recipes/formulas Establish a central location for up-to-date bills of materials or recipes used for producing products.	Eliminates waste and rework that results from using obsolete specifications to produce items.
Inventory control and warehousing Track raw material inventory requirements, locations and movements, expiration dates (perishable items) and QA status.	Reduces inventory costs by enabling the company to minimize on-hand inventory. Eliminates waste due to lost items or perishable items that have expired.
Lot control Maintain lot-related information and track inventory usage to satisfy government regulations or company quality assurance requirements and warranties.	Reduces costs through more effective quality control. Enhances customer satisfaction by enabling proactive problem identification related to defects in raw materials.
Quality assurance Maintain and/or review quality assurance statistics. Facilitate Quality Improvement Programs.	Provides quality information to help the company improve manufacturing processes and redesign products in a way that improves quality and reduces overall costs.
Inquiries Provide access to a variety of information related to manufacturing processes.	Enables manufacturing and other personnel to obtain information quickly on when items were shipped or received, QA status, production statistics and other essential manufacturing information.

Conclusion

Intranets, the next major step in the evolution of information systems, are changing the face of business. They help empower employees in an enterprise to better perform their tasks by solving their day-to-day business problems through enhanced communications and collaboration and accelerated information dissemination and access. The result is tighter relationships with customers, employees and business partners, which translates into increased revenues and profits. Because Intranets leverage the existing information system infrastructure, they deliver these benefits in a cost-effective manner.

By applying Intranet technology, businesses are better equipped to respond to change necessitated by growth, and by the continual shift in market conditions and competition. Intranets have a synergistic effect in that they provide the link that ties together not only disparate information systems but also the members of the organization. In summary, Intranets act as the catalyst that accelerates the attainment of key business advantages by helping companies dramatically improve their overall performance and competitiveness.

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