



Whitepaper
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Extranets

Contact: Mark Femal, Lead Technical Analyst
Phone: 920-954-0807
FAX: 920-954-0992
E-mail: mark.femal@beantree.com
Internet: <http://www.beantree.com>

Overview

An extranet is an interconnection of data and Internet Protocol (IP) based resources of multiple Local Area Networks (LANs) via the Internet. In deciding whether an extranet is needed, running an intranet over an existing data network might need to be considered. Extranets can also be considered as merely an extension of an existing intranet. It is incorrect to conceptualize an extranet as password-protected areas on the Internet. Extranet applications typically:

1. Run on or accessed by an IP network either using a Virtual Private Network (VPN) or the Internet.
2. Be accessible from the Internet by encapsulation security measures and made available to known extranet business partners.
3. Should support Internet technologies, communication protocols, interfaces and standards.
4. Should be written in a platform independent development language like C++ (requires client compilation) or Java (requires the Java Virtual Machine) that support reusable objects.
5. Make use of open exchange protocols such as Extensible Markup Language (XML).

When considering the implementation of extranets, the business model should split content, services, and access management into three groups based on:

1. Publicly available content and applications
2. Community content requiring access limitations but not application integration applications that require integration with community servers and other extranet partners.

Advantages

The premise behind the use of an extranet is that they may improve relationships with business partners. Distinct advantages include:

- Direct collaboration on projects might mean shorter time to rollout products.
- Customer self-service may make a more cost effective solution.
- Extranets may bring more business partner loyalty.
- Processes may become more streamlined with more interaction between suppliers and customers that can lower inventories, improve customer service and shorten cycle times.
- Extranet applications can be cost effective, relatively familiar, and potentially reach more customers, suppliers and business partners.



Security

Security should be a main consideration when deploying an extranet. An information security statement of understanding should be first and foremost in the implementation of an extranet. Important points may include:

- Nondisclosure agreements. Contractually controlling the information pertaining to mutual audits, partnerships, and certain business processes.
- Network performance. Statement of understanding offering no guarantees regarding availability and reliability.
- Downstream liability. It could be possible for an organization to aid a potential hacker either knowingly or unknowingly through the improper configuration of resources.
- Third parties. The legality of purchasing contracts governing third parties like outsourcing personnel, external audit firms, and contractors should be covered.
- Bilateral audit. Each party should examine each other's sites either directly or indirectly periodically.
- Security policy. An additional section within an existing information security policy should explicitly cover information interchange.

A potential option for ensuring that transmissions are secure between extranet connections would be to deploy a VPN between all business partners of the extranet. An advantage for a VPN is that they operate transparently to the applications running on the extranet. Because this technology is relatively new, interoperability problems exist with multi-vendor solutions.

A major consideration in the implementation of a VPN comes from the fact that many companies have implemented RFC1918 IP addressing schemes. Historically, this is due to the limited addressing space on the Internet and the number of companies that have wanted to implement Internet connectivity. With organizations trying to connect two networks addressed similarly the routing of information between the two becomes difficult. The difficult process of readdressing or having some type of address translation in place could solve this.

Applications

Companies looking to implement an extranet might want to focus on applications that already have an Electronic Commerce (EC) foundation. Examples of where extranets are used include:

1. Mobile moves Electronic Data Interchange EDI to an extranet.
2. The Automotive Industry Action Group is setting up an extranet-based application to suppliers of Chrysler, Ford and GM, including CAD/CAM, Email, EDI and file transfer.
3. FedEx Business Link allows merchants to place package-shipping orders or inquire about order status.
4. Banc One allows customers to view images of the latest checks that have cleared.
5. Prudential Healthcare worked with internal and external users to pilot an extranet to provide Netscape, its customer, with access to healthcare benefits information.
6. MCI is considering offering customers the ability to start, stop and change their telecommunications services themselves.
7. Raytheon has a system by which partners have access to engineering drawings or account costs from their mainframe through a browser.
8. Compaq is planning on rolling out with an extranet that companies can link into to get information on setup and maintenance of complicated back-end applications like SAP's R3.

Intranets are not Extranets

Intranet applications differ from extranet applications with regards to the scope of the information delivered. Intranets are typically for publishing content which employees may use by reducing printing and distribution costs as well as ongoing maintenance costs. Potential subsets of this information can be secured and be useful to customers, suppliers and business partners. For instance, product announcements and specifications may have value



to customers looking to get information on competitive features and product improvements. Systems such as inventory, order processing and accounting can also be useful to customers.

Management

The management of Internet, intranet or extranet services should fall under a specific control group. This group would setup and enforce the policies and procedures related to the information and applications made available. This group should consist of people from IS, corporate communications, and the individual business units. Content management, including revision control and content approval processes, should be implemented as well as the periodic “human” re-auditing of information.

Costs

World Wide Web and application hosting costs are based on both fixed and variable costs. Fixed costs include the server, Internet connection speed, data storage, and amount of data retrieved. The variable figure is based on the amount of change to a web site. The latter could represent a 20 to 30 percent cost increase.

Web Deployment	Avg. Associated Costs
Passive Web site	\$3,600 - \$7,200
Basic Electronic Commerce web site	\$40,000 - \$96,000
Transaction processing sites (database interaction)	\$200,000+

Ziff-Davis recently conducted some surveys regarding intranets, extranets and e-commerce with so-called Fast-Track companies because of their more aggressive deployments of technologies. Thirteen percent of those companies are already spending \$1 million per year on intranets, ten percent are spending at least \$1 million on extranets, and nine percent are spending more than \$1 million on e-commerce. Ninety three percent are using internal resources to deploy intranet/extranet applications, sixty three percent are hiring contractors and sixty percent are using packaged software.

With regards to satisfaction, companies with larger deployments tend to be more content than those with smaller implementations. Sixty eight percent are satisfied with their ROI on intranets, 38 percent are satisfied with their return on their extranet and 26 percent with their return on e-commerce investments. Seventy three percent are increasing their intranet spending. Seventy five percent say they'll have from seventy five to one hundred percent of their employees linked into their intranets within the next 12 months. Sixty six percent say they'll increase spending on extranets. Twenty six percent currently allow employees or partners to execute transactions over their extranets; sixty percent are either planning to support them or beginning the roll out.

Additional Information

Beantree was founded in 1999 to meet the needs of the growing electronic economy by constructing reliable Internet applications. As a Beantree customer, you can expect us to meet your demands and deliver sophisticated, Internet-based enterprise class services to your suppliers, strategic partners, and customers.

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