Essentials of Enterprise-IM

Secure Messaging and Presence Systems

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Abstract

Efficient communications are a necessary ingredient for any successful corporation. Over the past decade traditional paper oriented communication through memos and documents has been replaced by the widespread use of email within businesses. The growing popularity of Instant Messaging for personal use has created interest by corporations to apply the same technology for improving business communications. The emergence of Enterprise Instant Messaging promises a revolution in communications within corporations and between businesses. The Sonork Enterprise Instant Messenger (EIM) is designed to meet the special requirements of communication and collaboration within corporations and companies wishing to exchange instant messages, files, presence and other data with other companies for business purposes.

The Ten Essential Elements of the Enterprise Instant Messenger

When a corporation recognizes the need to deploy an Instant Messaging solution, there are ten important areas to consider when selecting a program product. Unlike public instant messaging networks that are geared for entertainment purposes, the Enterprise Instant Messenger (EIM) must conform to a higher standard in ten critical areas.

Consisting of two components, Sonork EIM has been developed to meet and exceed standards in the ten critical areas. The Sonork EIM Server establishes a central point for user presence, message and data transfer. An enterprise solution will require at least one Sonork EIM server and perhaps more when necessary to support large diverse populations of users. The Sonork EIM Client application executes on each user's personal computer to present a unified and consistent instant messaging environment. The EIM client connects to an EIM server to effect authentication and request/perform instant messaging services.

To meet the rigorous requirements for industrial strength corporate usage, an EIM system must satisfactorily meet all ten requirements.

1. Scalability

The issue of scalability becomes very important as a business and its communication needs expand. Sonork EIM satisfies this requirement by providing the concept of server sets. As usage and load on message servers increases, the load is dispersed by the addition of more Sonork EIM servers to meet the demand. The Sonork EIM dynamically detects the presence of new servers and applies a heuristic load-balancing algorithm to optimize the distribution of message traffic.

To offset maximum connection limits imposed by the operating system, Sonork EIM employs a proprietary UDP datagram protocol. By providing a reliable packet transfer protocol using UDP, Sonork can minimize resource utilization per server processor and allow logical connection counts far greater than possible using conventional TCP/IP. Through the use of advanced session management at the logical level, Sonork can further reduce server workload by dynamically establishing peer-to-peer connections between users. This feature allows messages and files to be transferred directly between cooperating users without incurred additional overhead on EIM servers.

2. Ease of Use

An important aspect in any EIM choice is ease of use. It must be simple to install, configure, and maintain servers. More importantly, operation of the client application component must be simple and intuitive. Difficult to use or inefficient user interfaces contribute to increased internal support requirements for an organization. Sonork EIM provides a simple and intuitive user interface which heavily employs timesaving capabilities inherent in the Windows environment such as drag and drop. Drag and drop capability is used to enhance many frequent operations in both the client application and server configuration. For example, transferring a file to another user is as simple as grabbing the file with the pointing device, dragging it over the recipient's name, and dropping it.

3. Extensibility

For a system to evolve its use and value in a dynamic corporate environment it must be highly extensible. Every business is different, with different ways of performing critical functions. It is impossible to design a program product to anticipate specific aspects of functionality and needs for all businesses. The best way to provide a solution to this problem is to construct a system that can evolve and be extended by the people using it. Sonork EIM satisfies this requirement by providing flexibility in defining company specific information and extension to easily implement new functionality.

The EIM Administrator can define company specific information maintained and available to the system. This information is stored in the EIM database to extend the standard set of user attributes to include additions that are of specific interest to the enterprise (social security number, employee numbers, department, job classification, etc).

Sonork EIM includes powerful tools to automate and customize the operation of the client IM platform. This feature allows the enterprise to implement custom solutions to business problems by automating portions of the client messenger and the inclusion of new services that operate between users.

Sonork EIM Server operation can be tailored to meet specific requirements by the use of customization hooks for unique authentication, event handling, and encryption requirements. Sonork EIM makes extensive use of relational database technology for the storing of configuration parameters, operating logs, and messages. This opens the system to unique customization through the use of database access by powerful system extensions can be locally implemented inhouse to meet special requirements. An example is the generation of messages to EIM users by inserting the messages directly into the Sonork message database tables.

4. Security

The Chief Information Officer (CIO) or other responsible officer for a business will rank security as perhaps the most important consideration when selecting an EIM program product. Networks are especially vulnerable to malicious attacks intended to disrupt businesses or inflict permanent damage. Security measures must take into consideration the risk of attacks to the system but also the vulnerability to misuse and accidents. A number of EIM products are offered as hosted solutions. This abdicates control and responsibility of essential security from the corporation and entrusts implementation and enforcement of security to a third party. This is an unacceptable alternative when the efficient and reliable operation of EIM is crucial to the internal operation of a corporation.

Sonork EIM is designed to be installed and operated by IS (Information System) Departments as an internal service. This empowers the IM Department to exercise maximum control over all aspects of secured operation of the EIM. The location of the EIM, behind the corporation's firewall, protects from outside attacks. But whether located within a firewall or exposed to the Internet, Sonork EIM includes controls to prevent unauthorized access and denial of service attacks. Messages, files and data exchanged between users are encrypted to prevent unauthorized viewing. Authentication and use of centrally managed profiles prevents misuse of certain system features by groups of users or on a user basis. This feature is important to control use of the system at any granularity through server based administrator control.

5. Persistence

Frequently the exchange of messages or files is likely to occur when the recipient of the message or file is not actively connected to the EIM. Any acceptable solution must allow the persistence or messages and/or files after they have been send but not yet received by the recipient.

Sonork EIM fully supports this type of persistence as a standard feature. As information is exchanged under Sonork, comprehensive chronological logs are maintained for individual conversations between users. This log always exists on the user's personal computer to render a seamless dialog of information exchanged between users. It can also be recorded, optionally, at the server. Server message logs permit the review of message traffic between users to detect security breeches or abuse of corporate messaging facilities.

6. Performance

An important aspect for any communications system is performance. A system that appears sluggish or prone to be slow at various times is unacceptable to the efficient exchange of messages, data and ideas between people. Poor performance is never tolerated long before the benefits of usage lags. The preferred EIM solution must be consistently fast at all times.

Sonork EIM uses 'state-of-the-art' algorithms and techniques to optimize system throughput. A proprietary scheme of thread management prioritizes work within the server to maintain fast response times for message traffic while relegating long running activities, not requiring immediate response, to lower priority threads. Extensive use of intelligent caching optimizes data base access and data availability. Selectable uses of UDP and TCP/IP message transfer protocols are used to improve bandwidth in congested systems and minimize connection overhead. Sonork EIM uses a highly optimized binary protocol for message exchange. This guarantees the lowest network bandwidth with least processing overhead.

7. Integration

The value and usefulness of any EIM solution is measured by its ability to integrate with existing corporate systems. Any business has ultimate goals which are reflected in the computing systems devised to achieve those goals. When implementing an EIM solution, the ideal is to select a product which complements and has the ability to integrate existing system into it's operational fabric. Achieving a tight integration of business processes with communication activities enhances effective communication within an enterprise.

Sonork EIM leverages off the proven and well-known web technologies as the mechanism to achieve tight integration. Through central server controls, the administrator can define web resources that become easily called as entities from the messaging client. This provides a common communications-centric interface where existing web applications can be combined

with the instant messenger client application. This can also be considered another technique in extensibility to the client-messaging platform. Legacy systems that are HTTP based can be easily combined with the client application and the server authentication and permissions procedures.

8. Presence

When people share a common tool for collaboration, an important feature is the ability of knowing when persons are available to communicate with. To be useful, the EIM system should provide visual feedback to indicate when persons are online and their status. There are times when someone will be connected to the EIM system but unavailable (away from desk) or busy (not wishing to be interrupted by unsolicited messages).

Sonork EIM provides extensive presence indicators that show the users online status. Presence can be easily changed between various states at any time. Visibility states (whether a person appears online depending upon states) are controlled through a simple user interface. A user can also block message from certain users and controls whether arriving messages appear immediately or are kept in a non-visible state until requested.

9. Accountability

Any EIM system must provide facilities to monitor its operation, gather performance metrics, and usage auditing capabilities. It should maintain logs of system activities and messages sent between users.

Sonork EIM provides simple tools to inspect and scan system logs. Content can be filtered to reduce views of information to only desired information. Message logs can be searched based upon differing criteria such as date/time ranges, string pattern matching, and specific operations (all file transfer operations for example).

10. Reliability

A successful EIM solution must be highly reliable. System outages result in monetary losses to the corporation. Frequent system failures defeat the usefulness of a corporate EIM solution.

Sonork EIM as been deployed in thousands of sites and is proven as a reliable and effective instant messaging engine. Designed for robustness and implemented using the latest development technologies, Sonork EIM is the fastest and most reliable product available in the marketplace.

Conclusion

Sonork EIM is designed with specific attention to the ten critical requirements for Enterprise Instant Messaging services.

