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Secure Easy IM: Technical Overview

Secure Easy IM utilizes a client/server architecture enabling diverse computers, operated by different enterprises to instantly and securely interchange data over the Internet.

The *Secure Easy* IM Client is a stand-alone Java application that can interchange data (files) with other *Secure Easy* Clients via the *Secure Easy* Servers. The Client requires no user interaction and is controlled by a properties file containing a list of commands.

The Server maintains Instant Mailboxes, known as *iBoxes*, used by the Clients to send/receive files. The iBoxes provide for addressing, asynchronous messaging, & Partnership Management. The Server also provides Tracking and Reporting functions.

File transfer sessions are always initiated by the Client via a call to a Secure Easy Server on TCP/IP port 2181. IANA (Internet Assigned Numbers Authority) has registered and approved port 2181 for use by the Eforward Protocol (Eforward is the underlying protocol used by Secure Easy IM). The Eforward Protocol, itself, only uses TCP and will operate on the Internet, VPN's, Frame Relay, and PPP.

Sending and Receiving Files

Files are sent within seconds of being deposited in designated Send Folders/Directories. When the *Secure Easy* Client is instructed to send files, it initiates a TCP session on port 2181 and sends a login to the Server. If the login is accepted the files are transferred to the Server. Successful transmissions are positively acknowledged, and the session is then closed.

To receive files the Client initiates a TCP session on port 2181 and sends a login to the Server indicating that this is a receive session. Upon acceptance of the login, waiting files are transferred from the Server to the Client. Successful transmissions are positively acknowledged, and the session is then closed.

Instant Receive

A Client may instantly receive messages sent to it by using the Instant Receive Option. The Client controls this option by notifying the Server that it is listening for a notification message on a notification port. When a file is sent to the listening Client's iBox, the Server immediately sends out a short notification message to the Client. No data is transferred via the listening port nor does the Client respond through the listening port. Rather the Client immediately initiates a Receive Session to retrieve the file. The notification port number is typically determined automatically by the Client; however, if the Client is operating behind a firewall, a specific port can be identified by the Client. The firewall can then be configured to allow an incoming Notification Message to pass through to the Client without compromising security. Alternately, send and receive sessions may be invoked via a scheduler, shell script file cron file or bat file. The Client may be setup as a Service under Windows and configured to poll for messages on a fixed schedule and/or listen for incoming notification messages.

Integration

The Client can optionally pre and/or post process sent/received files by running Java classes resident in the *Secure Easy* Class structure. The Client can also be embedded in other applications through a Java API.

High Security

An iBox may be classified as a High Security iBox. In this case, data passing through it is automatically encrypted using the AES (Advanced Encryption Standard) cipher specified by NIST in the draft FIPS (Federal Information Processing Standards) Publication for AES announced February 28, 2001. Symmetrical Keys are used providing much stronger encryption that that provided by PKI. Key exchanges between Server and Client are automatic using a patented key exchange process. All data including the login data is encrypted.

Administration

A web based browser interface is provided to Administer *Secure Easy*. Using a Browser, the user may create iBoxes, propose/approve trading relationships, track messages and obtain reports on usage.

Third Party VANs and Alternative Protocols

Trading Partnerships may be established with Partners using third party VAN's. This is done through the *Secure Easy* Global Exchange facility which enable the user to identify the VAN and define the standard Sender/Receiver ID's (including Qualifiers if appropriate) recognized by the VAN.

Partnerships may also be set up with Partners using alternative protocols, e.g. FTP, sFTP, FTPs, AS/1, AS/2, smtp.

Summary

Secure Easy provides a simple, easy to use, reliable, point-to-point data interchange facility between applications operating on diverse computers. Unlike other Internet protocols, a high order of security is maintained because control is maintained solely by the Client eliminating access by outside intruders.

Secure Easy IM is an implementation of eforward which was approved and registered in 1999, created by Greg Pringle.

RE: Application for port-number

Subject: RE: Application for port-number
Date: Tue, 24 Aug 1999 16:06:14 -0700
From: "IANA" <iana@ISI.EDU>
Reply-To: <iana@iana.org>
To: <greg@flagship.com>
CC: "'iana'" <iana@iana.org>

Greg,

We have assigned port number 2181 to eforward with you as the point of contact.

Thank you.

Josh Elliott, Administrator

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Internet Assigned Numbers Authority (IANA)
4676 Admiralty Way, Suite 330
Marina del Rey, California 90292

Voice: (310) 823-9358 x12
FAX: (310) 823-8649
email: iana@iana.org
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