E-mail concepts

You depend on electronic mail (e-mail) as an essential business tool. The i5/OS operating system uses protocols, like Simple Message Transfer Protocol (SMTP) and Post Office Protocol (POP), to make your e-mail run smoothly and efficiently on the network.

Distribution methods

These additional e-mail concepts discuss other e-mail distribution methods:

- **Multipurpose Internet Mail Extensions (MIME)**

  MIME is a standardized method for organizing divergent file formats. SMTP is limited to 7-bit ASCII text with a maximum line length of 1000 characters. MIME was developed to support more advanced file types, such as rich text, images, and audio or video files. MIME encodes files of binary type data to appear as simple SMTP data, using headers to distinguish different file types within the message, before sending the message with SMTP. The mail client then receives the message and decodes it to the proper file types by interpreting the MIME headers to read the file.

- **S/MIME**

  Secure/MIME is a secure version of the MIME protocol that allows users to send encrypted and electronically signed mail messages, even if users have different mail programs.

- **AnyMail/400 framework**

  All incoming mail from SMTP for local users (users with mail accounts on this system) is processed by the AnyMail/400 framework. The mail server framework is a mail distribution structure that allows the distribution of e-mail. The mail server framework calls exit programs or snap-ins to handle specific mail types.

- **Systems Network Architecture distribution services (SNADS)**

  SNADS is an IBM® asynchronous distribution service that defines a set of rules to receive, route, and send electronic mail in a network of systems. In this topic, SNADS refers to a user profile

in which the **Preferred address** is set to **User ID/Address**. The preferred address tells the mail server framework what fields to use in the system distribution directory for the address.

Simple Mail Transfer Protocol

Simple Mail Transfer Protocol (SMTP) is the protocol that allows the operating system to send and receive e-mail.

SMTP is essentially the end-to-end delivery of mail from one mail server to another. There is a direct connection between an SMTP sender (the client) and the destination SMTP receiver (the server). The SMTP client keeps the mail at the sender until it transmits and copies it successfully to the SMTP receiver (server).

SMTP on this operating system supports the distribution of notes, messages, and ASCII text documents. SMTP can support formats other than plain text by using the Multipurpose Internet Mail Extensions (MIME) protocol. MIME is the Internet standard for sending mail with headers that describe the contents of the mail messages to the receiving client. These messages can contain video, audio, or binary parts.

About SMTP e-mail delivery

In order for e-mail to reach its destination, SMTP must be able to deliver it to both the correct host and user ID that resides on that host. Suppose that mail is sent to bobsmith@mycompany.com.

First, SMTP checks to see if the e-mail addressee (bobsmith) is a user on the local server. If SMTP determines that it is not, SMTP forwards the e-mail to the next host server. The next host might or might not be the final host. SMTP determines the name of the host from addressing information that is found in the SMTP protocol.

SMTP then resolves the host's address by using either the Domain Name System (DNS) server or the local host table. The host name is what people use as a part of their e-mail account (mycompany.com); the IP address is what SMTP uses to find the correct mail server to send mail to (192.1.1.10).

1. The IPv6 addresses are ignored when the SMTP server looks up the host name addresses in the local host table.

2. If any DNS servers that are configured have IPv6 addresses, then all DNS servers configured must support recursion to resolve e-mail domains for which the configured servers are not an authority.

   These topics relate DNS to SMTP:

- Domain Name System domain setup
- Mail and Mail Exchanger (MX) records

   For inbound e-mail, the SMTP server first converts the destination host name into an Internet Protocol (IP) address. Because of the aliasing function, the server can have several host names. Therefore, the SMTP server uses the sockets interface to determine if the IP address is one of those used by the interfaces for the local host.