By* Services User's Guide

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mohsen.banan.1.byname.net

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Published by Neda Communications, Inc.
3610 164th Place SE
Bellevue, WA 98008 USA
http://www.neda.com/
info@neda.com

Who to contact

For more information about this document or its contents, please contact:
Neda Communications, Inc.
Phone: 1+(425) 644-8026

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Chapter 1

Introduction

This document describes communication services offered by Neda Communications, Inc. and focuses on the means by which they are accessed.

There are numerous services available to the Neda PCCS user. This paper focuses on Messaging and Information Services.

1.1 Basic Concept

Usualy email addresses have the form of ”someName@someDomain.com”. This provides the user with one single mailbox. The problem is that when the person uses that mailbox for various purposes. For example to subscribe to various mailing lists, participate in usenet groups, for work, for family, for play. Over time he gets on all kinds of ”spam” lists.

The common traditional way of dealing with this problem is to use inbox sorters and various filters to get rid of spam and to priorotize incoming messages based on the originator or the subject.

We think there is a better way of dealing with this.

The idea revolves around providing multiple mailboxes and addresses that the user can use depending on the nature of his/her use of email.

For example, you would use one address for personal use and a different one for work related activities.

The ”by name service” make your name be part of the traditional domain part and provide various ”selectors” such

- fax@John.Doe.u.byname.com
- personal@John.Doe.u.byname.com

By having multiple ways to represent yourself, you have the control over incoming messages without having to use the mail sorter or any other filters.

The ”by name service” is also related to the ”by number service”. For more information on the ”By Numbaer Service”, please visit Neda Numbering Plan web site.

Here are the list of possible addresses that you can have:

```
lists
fax
personal
```

```
vendors
public          @John.Doe.u.byname.com
work
pager
etwp
emergency
```

The “u” represent the Duplicate Resolver. This resolver is to distinguish between two or more John Doe.

1.2 Examples

Let’s take the case of “John Doe the Road Warrior” who spent most of his time outside the office. He relies a lot on his pager, his fax machine, and does a lot of email for work and personal use. On an average day, Mr. Doe receives about 70 emails or more. Let’s see how the “By Name Service” can help him to solve the problems.

- When he participate in the newsgroup or usenet groups, he uses the “public@John.Doe.u.byname.com” address. Most of the “spam” will also be directed to this email address.
- For work, he gaves his colleagues his “work@John.Doe.u.byname.com”. That way, he knows that the incoming emails that he gets are work-related email which might be important for him.
- For personal use, John Doe uses the “personal@John.Doe.u.byname.com” address. His family, relatives, or anybody that are important are given this email address.
- The “emergency@John.Doe.u.byname.com” is used for emergency or urgent situation only. Obviously, this email is very imprtantant to him.
- For bussiness transaction, he may use the “vendors@John.Doe.u.byname.com”. For example, if he bought some equipment from a company, he will give the vendor this email address for any problems or questions.
- For the Neda Enhanced Two-Way Paging (ETWP), he uses “etwp@John.Doe.u.byname.com”
- For fax purposes, he can use “fax@John.Doe.u.byname.com”
- To page him, someone can use the “pager@John.Doe.u.byname.com” address.

Clearly, John Doe can eliminate the headache of sorting the emails by using the “By Name Service”

1.3 About This Service

The architecture for the Messaging Services is based on the client-server model. The architecture provides for a variety of forms of message origination and message delivery. The architecture is a critical mechanism for delivery of all kinds of messages.

The intent of the service is to allow a mobile user access to electronic messaging services from a variety of devices. Users who utilize mobile communicating devices have available to them a number of ways to access computing services. Neda strives to allow for the mobile user to chose which device makes the most sense for each user. For example, it may be easier for the user to use a laptop and a modem, or it may be easier to use a cellular telephone. The user’s device is the user’s responsibility. The mailbox server, message transfer, transport and routing services are offered by Neda. Directory Services are a shared responsibility.

While the workstation could be viewed as an Internet host in the sense that it must implement IP, nonetheless it is not expected to contain the user's mailbox. It is important for the mailbox to be on an "always up" machine. A user's workstation may be frequently powered down or otherwise unavailable as an SMTP server.

The currently available Messaging Services from Neda include Enhance Two-Way Paging (ETWP), Internet Mailbox services, Internet Mail delivery services, Interactive Voice Response, Pager Gateway, and Fax Gateway; all integrated together.

Figure 1.1 illustrates this.

1.4 About Neda Subscriber Services

Neda's two-way paging service is for demonstration purposes only – Neda is not a traditional paging service provider. Neda is a technology developer.

This Subscriber Services is targeted towards:

- CDPD modem manufacturers and palm-top manufacturers interested in implementing two-way paging capability based on open protocols into their devices. Although, this announcement primarily focuses on WindowsCE, Neda's ETWP device side implementation is very portable. It has already been ported to: Unix, Win-NT, Win-95, Win-3.x, DOS and Tern's embedded CPU board.
- Those interested in providing subscriber paging services (e.g., CDPD service providers).
- ISP's interested in providing value-added two-way paging services.
- Corporate messaging service providers and Intranet administrators interested in incorporating two-way paging services into their internal back-bone services.
- Vertical market system integrators interested in providing specific solutions on top of two-way paging (e.g., dispatch, emergency professionals).

1.5 At a Glance

- Supported Client Environment:
  - Netscape Communicator
  - Emacs
- Services
  - Email Submission and Retrieval
  - Email to Fax Gateway
  - Email to Pager Gateway
  - Two-Way Paging
  - Voice Response Interfaces
- Directories
  - White Pages accsess through:
    * finger

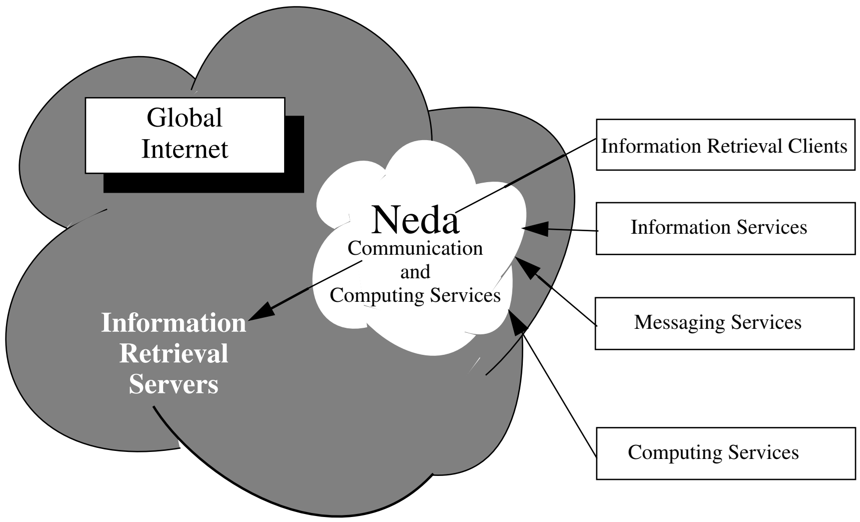

Figure 1.1: Neda Client and Services Environment

    * whois
    * ph

- News (Usenet, ...)
- Mailing List
- Web Accsess
- Shell Access
  - emacs
  - LaTex
  - Pine

1.6 Messaging Services

Neda PCCS provides the following messaging services:

- Enhance Two-Way Paging (ETWP)
- Mailbox Access with POP
- Mailbox Access with IMAP
- Mail Deliver with SMTP
- E-mail to Fax Gateway
- E-mail to Pager Gateway

1.7 Information Services

Neda PCCS provides a variety of information services for subscribers. There are many services in limited use at this time, but the primary service for new subscribers is the White Pages Directory Services.

1.7.1 White Pages Directory Services

Since e-mail and directory services are so closely linked, it is often thought that they should be completely integrated. This, in fact, is often the case. Eudora, for instance, can be configured to offer a complete directory service, including phone numbers and physical addresses. However, there are still going to be many instances where you will want to retrieve information about a person for reasons other than e-mail. Perhaps you need a phone number, physical address, a pager number or even simply how to correctly spell their name. For these, and many other reasons, there are some tools that offer ”people information” or white pages directory service.

The White Pages Directory Services are available through the following clients:

- ph
- finger
- whois

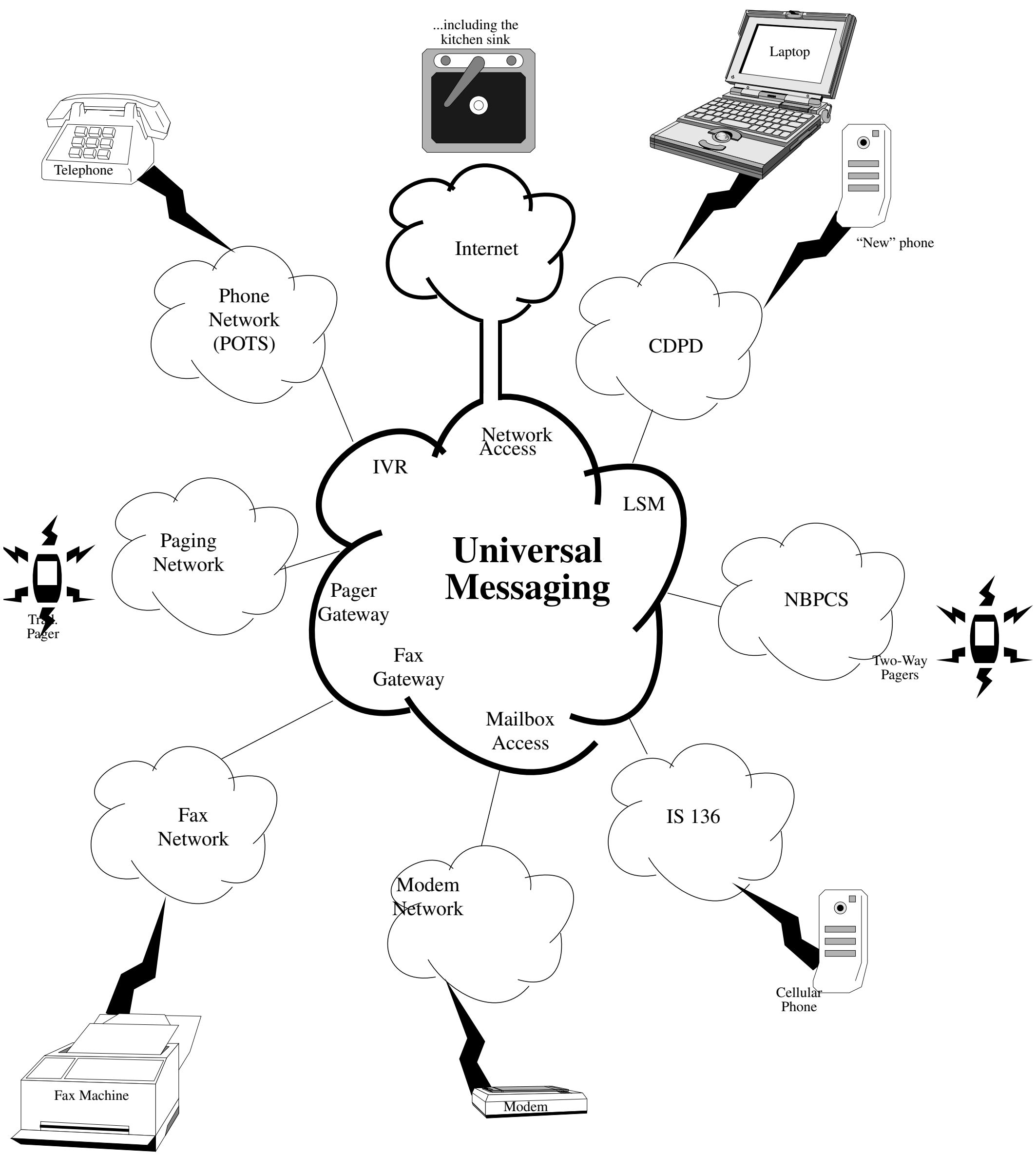

Figure 1.2: Universal Messaging

1.8 Web Access to Subscriber Services

Neda PCCS subscriber services are also available through the Neda Communications World Wide Web site. You can send messages using the Web site, and modify your subscriber profile.

1.9 Subscribing to PCCS

You must subscribe to Neda PCCS to access services. When you subscribe, you are assigned a subscriber ID. To subscribe to Neda PCCS, complete the subscription form in Appendix A and submit it to Neda Communications. For more information about PCCS or this document, please contact:
Neda Communications, Inc.
Tel: +1 425-644-8026
Fax: +1 425-562-9591
E-mail: info@neda.com

Chapter 2

Road Map

This document will give you an overview of Neda Personal Computing and Communication Services including the description of communications services that are offered by Neda Communications, Inc.

In the next chapter (chapter 2), you will be introduced to ll of the services that are available to the Neda PCCS user. This chapter will list all of the messaging services, information services, and web access to subscriber services provided by Neda.

Chapter three will give you the information needed for the connection to the internet. This chapter will include the phone number to connect to the terminal server, the router address, DNS, domain name, etc. In addition to that, this section will also explain how to access through CDPD and other ISP.

The next chapter will guide you to accessing Neda PCCS. It will give you detail example for using e-mail services and IVR system.

Chapter 5, 6, and 7 contain information for the user with different environment. Chapter 5 is specific for Windows CE client environment, chapter 6 is for the Netscape user, and chapter 7 is for the emacs client environment.

Finally, chapter 8 will describe how various Neda Messaging Services can be accesses. It will give you the information of the protocols that are used for access to Neda PCCS.

For subscribing to the Neda PCCS, you can used the Subscriber Form in Appendix A. Fill out the form and the mail it to Neda Communications, Inc. For more detail information, see chapter 2.

Appendix B is the Service Reference. This section include the IVR Address reference and the address formats.

Appendix C is the Terms and Conditions of Use. It is important to read this section before you subscribe to Neda in order to avoid any misunderstanding between Neda Communications, Inc. and the subscriber.

Chapter 3

Neda Numbering Plan

The objectives of this document is to define a name and numbering plan which will be able to uniquely identify all of the mailboxes which a Neda subscriber may have, based on digit-based addressing.

For more information, please visit the ByNumber Messaging Services (http://www.bynumber.com)

Chapter 4

Neda By Name Service

This document explains how the By Name Service can be used for various purposes in dealing with email.

For more information, please visit the Neda By Name Service document

Chapter 5

Accessing Neda Personal Computing and Communication Services (PCCS)

Before you can access Neda PCCS you must register with Neda Communications. To register, complete the subscription form in Appendix A and submit it to Neda Communications. If you need assistance in completing the subscription form, contact Neda Communications:

Neda Communications, Inc.
Tel: +1 425-644-8026
Fax: +1 425-562-9591
E-mail: info@neda.com

5.1 At A Glance

- Mail Submission Server : smtp.neda.com
- IMAP Server : imap2.neda.com
- White Pages Server : wp.neda.com
- FTP Server : ftp.neda.com
- WWW Server : www.neda.com
- Fax Server : fax.neda.com
- Pager Server : pager.neda.com
- POP Server : pop.neda.com
- Message Server : msg.neda.com
- NNTP Server : nntp.neda.com
- NS Server : ns.neda.com and ns2.neda.com

5.2 Using Enhanced Two-Way Paging

One of the primary services offered by Neda Communications is wireless messaging, using the Enhance Two-Way Paging (ETWP) protocols.

The wireless messaging provided by Neda Communications allows you to send and receive standard e-mail messages using a wireless device. The wireless device can be any computer outfitted with a CDPD modem, including the HP 200 Palmtop computer. To access the Neda services, the CDPD device must by activated. When you activate the CDPD device with your provider, you are assigned an IP address. You must install and configure the TCP stack as instructed by your provider. Once the CDPD device is configured, and connected to the Internet, you can install and configure the ETWP client.

The ETWP client must be properly installed and configured for the Neda Communications message center. Neda offers the Submission and Delivery Plus (SDP) for Windows client for wireless messaging. SDP for Windows includes a mail user interface, and allows the client to send and receive messages using ETWP. For detailed information on SDP for Windows, contact Neda Communications.

5.2.1 Sending ETWP Messages

When you send an ETWP message, the client uses the ETWP protocol to submit the message to the ETWP Message Center at Neda Communications. The message is then forwarded to the appropriate destinatation.

You can send e-mail messages using ETWP to any valid Internet e-mail address, including other ETWP users. The destination is specified as localname@host.domain. When you send a message to an Internet e-mail address, the message is forwarded from the ETWP Message Center to an e-mail gateway.

5.2.2 Receiving ETWP Messages

When you subscribe to Neda Personal Communication Services, you select an ETWP nickname. Your ETWP address to receive e-mail messages is nickname@etwp.neda.com, where nickname is the name you selected. Internet e-mail messages sent to this address will be delivered to your ETWP device.

Any Internet e-mail client can send messages to your ETWP address. For example, if your nickname is ford, any Internet user can send a message to ford@etwp.neda.com to send a message to your ETWP device.

Because the ETWP messages are sent using wireless communication, and you must pay for each wireless connection, you probably do not want to use ETWP as your primary e-mail address. One way to use ETWP is to configure your standard e-mail client to forward only certain messages to your ETWP address. For example, you can configure your standard e-mail client to forward only urgent messages to your ETWP address.

5.3 Accessing a POP Mailbox

The POP mailbox service is not available to the public at the time of this printing. Contact Neda Communications for the current status of POP mailbox services.

5.4 Accessing an IMAP Mailbox

The IMAP mailbox service is not available to the general public at the time of this printing. Contact Neda Communications for the current status of IMAP mailbox services.

```
From: Mohsen Banan <mohsen.neda.com>
To: Mohsen Banan-Pager <873456@pager.neda.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

You will get this plain text email as alphanumeric page
```

Figure 5.1: An Example of Person-to-Pager Message

5.5 Using SMTP for Mail Delivery

The SMTP service is not available to the general public at the time of this printing. Contact Neda Communications for the current status of SMTP services.

5.6 Using the E-mail to Fax Gateway

User Agents can be used to originate plain-text faxes.

Plain text e-mail can be sent as fax by sending a message to:

`[name]/[phone-number]@fax.neda.com`

where [name] is the recipient's name and [phone-number] is the recipient's fax number.

For example one could send a fax to the author of this document by sending an e-mail to:

`Mohsen/2065629591@fax.neda.com.`

5.7 Using the E-mail to Pager Gateway

User Agents can be used to originate pages to numeric and alphanumeric pagers.

A page can be sent to an alphanumeric pager by sending a message to:

`[pager-company-phone-number]/[pin]@pager.neda.com.`

Where [pager-company-phone-number] is the phone number of the paging system's access unit (e.g., 1-800-SKY-MEMO) and [pin] is the recipient pager's PIN number.

For example you could page me by sending a message to:

`18007596366/1882263@neda.com.`

Figure 5.1 illustrates this.

Chapter 6

Netscape Client Environment

This chapter assumes that you have a network connection to neda.com and a mailbox with Neda. If you are not connected to the Internet, see Chapter 2.

For any of the messaging services, you will need an IPM (Inter-personal Mail) User Agent to send messages. Netscape package offer services, as well as messaging and have been tested with Neda's Communication Services.

Any user agent utilizing the POP or IMAP protocols will work with Neda's Messaging Services. See Chapter 6 for more information on the messaging protocols and Neda's Communication Services.

6.1 Browsing the Web

You need to download the Netscape Communicator software which is available on the Netscape Web Site.

Typically Neda Subscribers set their "Home Page" to be www.subscribers.neda.com. You can do so, by:

1. Open the Netscape Communicator by double-clicking the Netscape icon on your desktop.
2. Click on Edit and then Preferences.
3. Enter "http://www.subscribers.neda.com" in the home page box.

6.2 Sending and Receiving Email

At this point, we assume that you already has the Netscape installed. In order to sending and receiving e-mail using Netscape, you need to configure your preferences.

1. Open the Netscape Communicator by double-clicking the Netscape icon on your desktop.
2. Click on Edit and then Preferences.
3. Make sure that "Mail an Groups" is expanded, if not click on "+".
4. Under Identity, type in :
   - Your name : your full name
   - email address : yourname@neda.com

5. Under Mail and Groups, click on Mail Server.
6. Enter the information for the incoming mail.
   - Mail server user name : yourname
   - Outgoing mail server : smtp.neda.com
   - Incoming mail server : pop.neda.com
   - Mail server type : POP3

Chapter 7

Emacs Client Environment

The complete documentation for Emacs Client Environment can be obtained from Neda's web site (http://www.public.neda.com
This *Emacs Office Environment (EOE)* is available in these formats:

- (HTML) : http://www.public.neda.com/emacs/eoEnv/index.html
- (PDF ¡187 KB¿) : http://www.public.neda.com/emacs/eoEnv/main.pdf
- (Postscript ¡187 KB¿) : http://www.public.neda.com/emacs/eoEnv/main.ps

Chapter 8

Protocols Used for Access to Neda PCCS

This section describes how various Neda Messaging Services can be accessed. Access mechanisms described in this section reflect the current state. This document will be updated as these access mechanisms are updated.

Neda Messaging is built around openness. We emphasize and promote ”Mainstream Networking”. Openness is achieved through use of publicly available standards.

Simple Mail Transfer Protocol (SMTP) [RFC-821], the native Internet Mail protocol, is used as the backbone to interconnect most e-mail environments in the Internet. The samething holds true of Neda Messaging Services.

8.1 Messaging Protocols

The following lists the pertinent Messaging RFCs:

- Internet E-Mail Format (RFCs 822, 1049)
- Addressing and Routing (RFCs 920, 974, 1034, 1035)
- Transfer protocols (RFCs 821, 976)
- Enhancements to the basic service (RFCs 1341, 1342, 1421, 1422, 1423, 1424)
- Interoperability with X.400 (RFC 1327)

Figure 8.1 illustrates this.

8.2 Service Access Requirements

Access to Neda messaging services is through a set of well defined interfaces. Most of these interfaces are standard protocols. This section enumerates the specific requirements that a host should meet to gain access to Neda messaging services.

8.2.1 Access to POP Server

The intent of the Post Office Protocol (POP) is to allow a user's workstation to access mail from a mailbox server. It is expected that mail will be posted from the workstation to the mailbox server via the Simple Mail Transfer Protocol (SMTP).

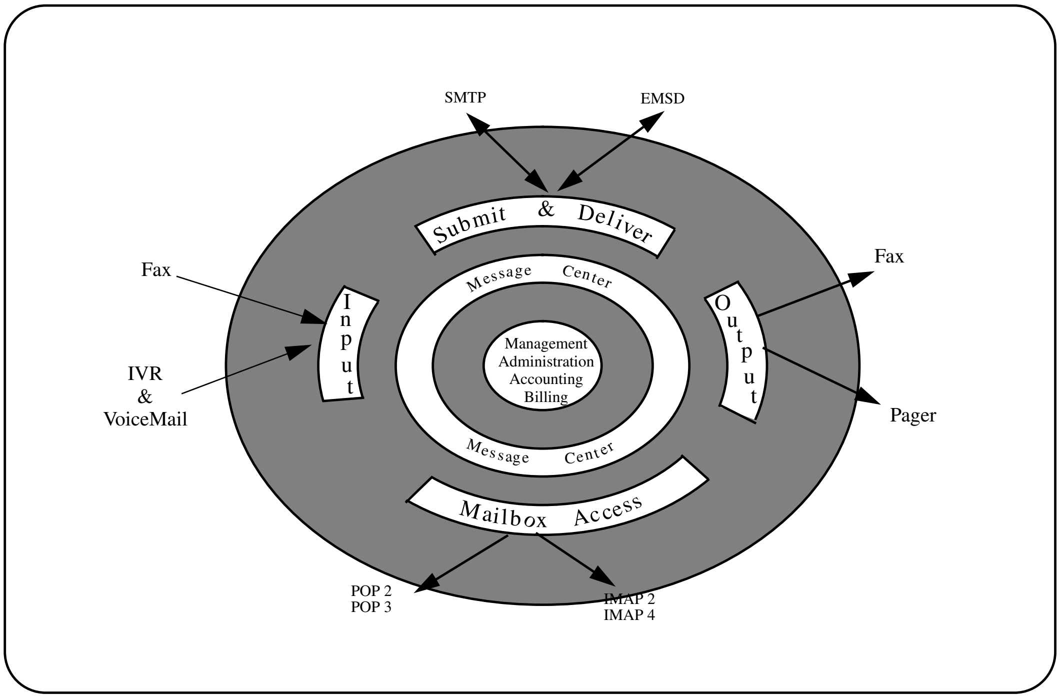

Figure 8.1: Neda Messaging System View

Neda offers a POP Server access, so the user only needs to be responsible for implementing a POP Client. Some examples of POP mail clients are PC Eudora and Z-Mail.

Neda POP service users should conform to RFC-1460 [RFC-1460].

Messages should be submitted to Neda Messaging services by using SMTP, RFC-821 [RFC-821]

8.2.2 Access to IMAP Server

IMAP2 is the "glue" of a distributed electronic mail system consisting of a family of client and server implementations on a wide variety of platforms, from small single-tasking personal computing engines to complex multi-user timesharing systems. Although different in many ways from the POP, IMAP2 may be thought of as a functional superset of POP.

Like POP, IMAP2 specifies a means of accessing stored mail and not of posting mail; this function is handled by a mail transfer protocol such as SMTP (RFC 821).

Neda offers an IMAP Server access, so the user only needs to be responsible for implementing a IMAP Client. An example of an IMAP mail client is PINE.

Neda IMAP service users should conform to IMAP-2, RFC-1176 [RFC-1176].

Messages should be submitted to Neda Messaging services by using SMTP, RFC-821 [RFC-821] IMAP4 will be supported in future.

8.2.3 SMTP

SMTP provides mechanisms for the transmission of mail; directly from the sending user's host to the receiving user's host when the two host are connected to the same transport service, or, when the source and destination hosts are not connected to the same transport service, via one or more relay SMTP-servers.

SMTP comes with all UNIX and UNIX-like (e.g. Xenix) operating systems. It is also available as a WinSock application.

Messages should be submitted to Neda Messaging services by using SMTP, RFC-821 [RFC-821]

8.2.4 Multi-Media Messages

Refer to the Neda Computing and Personal Communication Services - Overview document.

Appendix A

Subscribers Form

Form to be filled by a new subscriber

Full Name:

Postal Address:

City: State: Zip: Country:

Phone Number:
Area Code - local number

Fax:
Area Code - local number

International Phone Number:
Country Code - Area Code - local number

Pager:
Provider
Number

Requested LSM Nickname:

Preferred "Reply To" Address:

Preferred "From" Name:

LSM Device IP Address:

To be filled by Neda

Neda Subscriber ID: —

Figure A.1: Subscribers Form

Appendix B

Services Reference

B.1 IVR Address Reference

When sending messages using the IVR System, you must identify your request using the following address format:

B.2 Address Formats

The following addresse are used with Neda PCCS:

```
E-mail to fax:          [name]/[phone-number]@fax.neda.com
E-mail to pager:        [pager-number]/[PIN]@pager.neda.com
Internet e-mail:        [subscriber]@neda.com
LSM e-mail:             [subscriber]@lsm.neda.com
White Pages database:   wp.neda.com
SMTP Host Address:
POP Server Address:
IMAP Server Address:
```

```
 _______________________________________________________
 | SAT |              Sub-Address                | AUS |
 -------------------------------------------------------
    |                                                |
    |                                                |
    |                                                |
    |                                                |
    |                                                |
 ___|_________________________________    ___________|_________
| # | Sub-Address Type Definition |      | # | AUS Definitions  |
|---|-----------------------------|      |---|------------------|
| 1 | Reserved                    |      | 0 | Default          |
| 2 | Subscriber                  |      | 1 | E-Mail           |
| 3 | Subscriber Error Correction |      | 2 | Fax              |
| 4 | International Phone         |      | 3 | Pager            |
|   | Numbering Plan              |      | 4 | Voice Mail       |
| 5 | Subscriber Assigned         |      | 5 | ETWP             |
|6-9| Reserved                    |      | 6 | Physical Delivery|
-----------------------------------      | 7 | PocketNet        |
                                         | 8 | Reserved         |
                                         | 9 | Emergency (all)  |
                                         ------------------------
```

Figure B.1: IVR System

Appendix C

Terms and Conditions of Use

See By* AUP and SLA.