American Messaging Services Network Interface Guide

SMTP (E-Mail)
SNPP and
WCTP

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Overview

The requirements of delivering automated wireless messages and alerts over paging networks has prompted the need for reliable and relatively easy access to paging networks by software developers. This document is intended to provide a brief description of the preferred method of interfacing to the American Messaging Service's network. There are three supported methods for sending an automated message to a American Messaging paging customer:

- SMTP (E-mail)
- Simple Network Paging Protocol (SNPP)
- Wireless Communications Transfer Protocol (WCTP)

A fourth method of sending messages to a American Messaging paging customer is via the MyAirMail.com website. However, it is not recommended for use by automated (server-to-server) communications.

The easiest connection to implement, SMTP, also has the lowest reliability of delivery and security.

The preferred method of sending messages and alerts to American Messaging paging customers is through our dedicated connection protocols: SNPP and WCTP. These connection methods provide a greater level of security and provide near-instant feedback that the message has been received by our network. The following chart illustrates the features and benefits of sending a message to our network using each of our supported connection methods, including the MyAirMial.com website.

	SMTP	MyAirmail I Website	SNPP	WCTP
Quick and easy (E-mail/Web)	✔	✔		
Guaranteed delivery to American Messaging's Network		✔	✔	✔
Secure connection to American Messaging's Network (HTTPS)		✔		✔
Reduce delays to American Messaging's Network caused by imternet e-mail servers		✔	✔	✔
Automated alerts from your network	✔		✔	✔
Ability to track the delivery status of a message sent to a 2-way paging device		✔		✔

The following sections describe in greater detail how each of the network connections can be accessed.

Throttling and Pacing

It is important to recognize that using any of the methods described in this document to send messages over the American Messaging network can cause problems if the process is automated and operates without boundaries. For example, if a piece of software is written to send a page whenever a server is down, and this program sends 50 pages a minute to the American Messaging network until the problem is resolved, then this software is unnecessarily burdening the American Messaging network. Therefore, it is incumbent upon the software developer to ensure that some throttling or pacing algorithm is included in their software to keep the messaging velocity at a reasonable rate.

Maximum Character Length Requirements

It is important for the message sender to know whether or not the American Messaging device can receive alpha-numeric messages and what the character limit of the paging device is. The absolute maximum character length is 500 characters for Assured Messaging pagers, 240 characters for text (alpha-numeric), and 24 characters for numeric (display) pagers. The network, therefore, truncates the message based upon the maximum character length as defined above and by the maximum number of characters a paging device can receive, whichever is smaller. Consequently, it is best if the originator of the message keep the character length within the limits defined by the paging user.

SMTP (E-Mail)

Because e-mail relies on public Internet e-mail severs for delivery, American Messaging Services cannot guarantee that our paging network will receive all messages sent via SMTP. Additionally, we cannot guarantee the security of e-mail messages delivered over the public Internet. In general, without specific security settings and delivery confirmation, the Internet can be a hostile environment for sending critical information. Therefore, American Messaging Services does not recommend using SMTP for critical message delivery.

Sending a message through e-mail may be an acceptable solution, however, if ease of use or rapid implementation outweigh potential Internet and e-mail server delays, and the unreliable, non-secure nature of the Internet.

There are several e-mail addresses (domain names) that can be used to send messages to a American Messaging paging device. The different domain names control what parts of the e-mail message are sent to the pager (i.e., "From", Subject, Date and Message Body). The two most commonly used e-mail domain names are described below. All of the domain name alternatives with examples are provided in Appendix A.

Send the Message Body Only

To send the contents of the e-mail message body only, the e-mail should be addressed to:

[pager-number/alias]@alphapage.myairmail.com

Where "pager-number/alias" is the paging owner's ten-digit paging number (or alias if the pager owner has registered an alias name at myairmail.com, e.g.,
"john.doe@alphapage.myairmail.com")

Send the From, Subject fields, and Message Body

To send the contents of the entire e-mail (including the From, subject, and message body), the e-mail should be addressed to:

[pager-number/alias]@msg.myairmail.com

Where "pager-number/alias" is the paging owner's ten-digit paging number or MyAirmail alias.

SNPP

The Simple Network Paging Protocol (SNPP) is one of the two recommended methods of connection to the American Messaging paging network for automated (server-to-server) connections, software clients, and customers requiring time critical delivery of messages. While the protocol is simple to use, it is not very "user friendly". Additionally, SNPP requires the use of Port 444 which is not typically open or allowed by all enterprise firewalls.

An additional benefit of the SNPP protocol is its ability to provide confirmed reception by the American Messaging paging network. Note, this is **not** a confirmation that the pager has received the message, rather this is confirmation that the American Messaging paging network has received the message. Because American Messaging cannot guarantee that a pager is within a coverage area, turned on and functioning properly, there is no guarantee that a message will be delivered to the paging device once it has been received by our network.

The following sections describe how to connect to the American Messaging paging network via SNPP. See Appendix B for messaging examples utilizing an SNPP connection.

For a complete copy of the SNPP Request For Comment (RFC) visit the Internet FAQ Consortium's RFC archive at http://www.faqs.org/rfcs/rfc1861.html.

American Messaging Network SNPP Address

snpp.myairmail.com port 444

SNPP Commands Supported

Level	Command
1	PAGEr <pager ID>
	MESSage <alpha or numeric message>
	RESEt
	SEND
	QUIT
	HELP
2	DATA
	LOGIn <loginid> [password]
	LEVEl <ServiceLevel>
	COVErage <AlternateArea>
	HOLDuntil <YYMMDDHHMMSS> [+/-GMTdifference]
	CALLerid <CallerID>
3	none

WCTP

The Wireless Communications Transfer Protocol (WCTP) was designed to simplify the transmission of alphanumeric and binary messages from automated, server-based systems to and from 2-way devices. WCTP is the most preferred method of connecting to the American Messaging paging network by third-party servers and software clients. This is because WCTP provides certain features, including the highest level of security, not presently supported by SNPP.

WCTP and XML

WCTP was developed based on widely accepted Internet protocols and standards including HTML and XML. You should be familiar with these standards before attempting to implement a WCTP connection to the American Messaging paging network. Furthermore, we have not implemented the entire suite of commands and controls associated with WCTP version 1.2 or later, so you should read this document carefully to ensure that your desired implementation is supported by our network.

Because WCTP uses XML as its communication language, WCTP operations must be formatted in accordance with the XML 1.0 specification. This requires that all operations be "well-formed" and "valid" according to the WCTP Data Type Definition (DTD file specified by American Messaging Paging Solutions). The meaning of well formed and valid is described in the XML specifications (see http://www.w3.org/XML for more information on XML and well formed and valid operations).

Firewall and TCP/IP Ports

Additionally, since WCTP rides on HTML, you can connect to our network using port 80 through the Internet. Moreover, if you need a secure connection, you connect using SSL through port 443. Both of these ports a generally open through most enterprise firewalls, which should allow developers to implement a solution without changing corporate firewall settings.

Benefits Over SNPP

In comparison to other protocols such as SNPP, WCTP is more robust but more difficult to implement. Our implementation of WCTP requires that your solution act as a WCTP client to our WCTP host. There are some standardized clients available that will communicate using the WCTP protocol.   However, because of WCTP's flexibility and rich feature set, custom applications can exploit it capabilities far beyond what an off-the-shelf application will provide.

In addition to providing a secure connection to the American Messaging paging network, using WCTP enables you to obtain responses from 2-way paging devices, provided that the original message was sent via WCTP. Note, your WCTP client is required to "poll" our WCTP host for any expected response(s). WCTP is the only supported connection method that enables full 2-way communications between our paging devices and your servers.

Supported WCTP Operations

Please visit our website, http://americanmessaging.net/paging/wctp for the latest WCTP information and operations supported by the American Messaging paging network. Additionally, our WCTP DTD file, which contains the definitions of our supported operations can be found here:

See Appendix C for our messaging examples utilizing a WCTP connection, and visit http://www.wctp.org for the latest information on WCTP.

Appendix A: E-Mail Messaging FAQ

E-Mail Messaging Alternatives

The following are the e-mail address (domain name) alternatives. Examples of these are provided below. ([pager-number] is the subscriber's ten-digit American Messaging number).

1. [pager-number]@myairmail.com

    This domain name sends the "From:" field and the "Subject:" field along with the message body of the e-mail. Using this domain will also send a time stamp, which is in the central time zone of when the email system received the message and is in the following format: (Received 03/12 02:39 PM).

2. [pager-number]@alphapage.myairmail.com

    Using this domain name delivers only the body of the e-mail to the paging device.

3. [pager-number]@sender.myairmail.com or
    [pager-number]@pager.myairmail.com

    Sending e-mail using either of these domain names includes the "From:" field in the message along with the body of the e-mail.

4. [pager-number]@subject.myairmail.com

    Sending e-mail using this domain name includes the "Subject:" field in the message along with the body of the e-mail.

5. [pager-number]@msg.myairmail.com

    This domain names sends the "From:" field and the "Subject:" field along with the message body of the e-mail.

6. [pager-number]@notify.myairmail.com

    This domain name sends the "From:" field and the "Subject:" field, but **not** the body of the e-mail.

E-Mail Messaging Options (Switches)

When using the myairmail.com domain name, you can also add "switches" to the Subject line of the e-mail to deliver precisely the information you want. Switches must adhere to the following rules:

- Switches may be used with any e-mail domain name described above
- Switches must be located on the Subject line
- Switches may be in any order
- Switches may be mixed with the Subject-line text
- Switches may be combined
- There must be white-space (space or tab) before and after a switch

The following are the switches available for use with the myairmail.com domain name (examples are provided below):

Switch	Name	Description
-a	From	Include the e-mail "From:" field
-s	Subject	Include the e-mail "Subject:" field
-m	Message	Include the message body of the e-mail
-c	Count	Include a date stamp and word count

E-Mail Messaging Examples

If Paul Revere wanted to remind John Larkin of the wireless messaging code they had agreed to use from the bell-tower, he could send one of the following e-mails depending on what information he wanted John to receive. (John's pager number is 617-555-1212.)

Example 1: From and E-Mail Body

> From: paul.revere@minutemen.gov
> To: 6175551212@sender.myairmail.com
> Subject: Bell-Tower Signal
>
> John,
> One if by land, two if by sea.

John Larkin would receive the following on his pager:

> paul.revere@minutemen.gov
>
> John,
> One if by land, two if by sea.

Example 2: E-Mail Body Only

From: paul.revere@minutemen.gov
To: 6175551212@alphapage.myairmail.com
Subject: Bell-Tower Signal

John,

One if by land, two if by sea.

```
John,
One if by land, two if by sea.
```

Example 3: From and Subject

From: paul.revere@minutemen.gov
To: 6175551212@notify.myairmail.com
Subject: Bell-Tower Signal

John,

One if by land, two if by sea.

```
paul.revere@minutemen.gov
Bell-Tower Signal
```

Example 4: From, Subject and E-Mail Body

> From: paul.revere@minutemen.gov
> To: 6175551212@msg.myairmail.com
> Subject: Bell-Tower Signal
>
> John,
>
> One if by land, two if by sea.

or

> From: paul.revere@minutemen.gov
> To: 6175551212@myairmail.com
> Subject: Bell-Tower Signal **-sa**
>
> John,
>
> One if by land, two if by sea.

```
paul.revere@minutemen.gov
Bell-Tower Signal

John,
One if by land, two if by sea.
```

Example 5: Subject, E-Mail Body and Date/Word Count

> From: paul.revere@minutemen.gov
> To: 6175551212@myairmail.com
> Subject: Bell-Tower Signal **-s -c**
>
> John,
>
> One if by land, two if by sea.

```
Bell-Tower Signal
April 18 (8)

John,
One if by land, two if by sea.
```

Appendix B: SNPP Examples

The following examples illustrate a connection to the American Messaging network via SNPP. The gray box is the user input screen, and the text that is in *italics* is information input by the user (or an automated program). The remaining text in the gray box constitutes the responses from the American Messaging SNPP server. The rounded box illustrates what would be received on the paging device.

Example 1: SNPP Level 1 Connection

> *telnet snpp.myairmail.com 444*
>
>
> 220 American Messaging SNPP server vers 1.0 ready at Wed Jun 9 10:14:29 1999
> *PAGE 9725551212*
> 250 Pager ID "9725551212" accepted, Msg will not be delayed
> *MESS Important meeting at 2pm today. Call me. -Julia*
> 250 Message ok
> *SEND*
> 250 Message 928941332 queued for processing
> *QUIT*
> 221 OK, goodbye

The American Messaging owner would receive the following on their pager:

```
Important meeting at 2pm today.
Call me.  -Julia
```

Note: the American Messaging SNPP server responds with a message confirmation (tracking) number if the message was received successfully by the network. In the example above the line that shows this confirmation is, "250 Message 928941332 queued for processing".

Example 2: SNPP Level 2 Connection

```
telnet snpp.myairmail.com  444


220 American Messaging SNPP server vers 1.0 ready at Wed Jun  9 10:44:38 1999
HOLD 990611133000 -0500
250 Message for next PAGEr will be delayed until Fri Jun 11 13:30:00 1999
PAGE 9725551212
250 Pager ID accepted, message will be delayed
DATA
354 Begin input; end with <CRLF>'.'<CRLF>
REMINDER:
Tee Time at 2pm
Course: TPC at Las Colinas
.
250 Message ok
SEND
250 Message 928943201 queued for processing
QUIT
221 OK, goodbye
```

Even though the connection was made on Wednesday, the "HOLD" command will delay the delivery of the page. Therefore, the American Messaging owner will receive the following page on their pager at 1:30 pm on Friday.

```
REMINDER:
Tee Time at 2pm
Course: TPC at Las Colinas
```

Appendix C: WCTP Examples

Following is an example of a WCTP message being submitted to the server

```
<?xml version="1.0"?>
<!DOCTYPE wctp-Operation SYSTEM "http://wctp.myairmail.com/wctp/wctp-dtd-v1r1.dtd">
<wctp-Operation wctpVersion="wctp-dtd-v1r1">
 <wctp-SubmitClientMessage>
   <wctp-SubmitClientHeader
     submitTimestamp="2003-11-14T04:30:53">
     <wctp-ClientOriginator
       senderID="betauser"
       miscInfo="betapassword"
     />
     <wctp-ClientMessageControl
        notifyWhenDelivered="true"
        allowResponse="true"
     />
     <wctp-Recipient
        recipientID="2148169898"
     />
   </wctp-SubmitClientHeader>
   <wctp-Payload>
     <wctp-Alphanumeric>
       This is a test
     </wctp-Alphanumeric>
   </wctp-Payload>
 </wctp-SubmitClientMessage>
</wctp-Operation>
```

Following is an example of the response after the submission

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE wctp-Operation SYSTEM "http://wctp.myairmail.com:80/wctp/wctp-dtd-
v1r1.dtd">
<wctp-Operation wctpVersion="wctp-dtd-v1r1.dtd" wctpToken="x224">
      <wctp-SubmitClientResponse>
            <wctp-ClientSuccess successText="Message Accepted" successCode="200"
            trackingNumber="1784193744"/>
      </wctp-SubmitClientResponse>
</wctp-Operation>
```