

# **Installation and Operation Manual**

## **SNPP Application on the Open Java Server**

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## 1 Introduction

SNPP is an acronym for Simple Network Paging Protocol. It is a protocol for sending messages to paging systems, both one and two-way. SNPP provides a simple way to implement a connection between the Internet and a paging terminal.

The SNPP output module consists of the SNPP application software installed on an Open Java Server (OJS). The SNPP application converts incoming messages from for example Unite, or System 900, into the SNPP protocol before sending them to an external system.

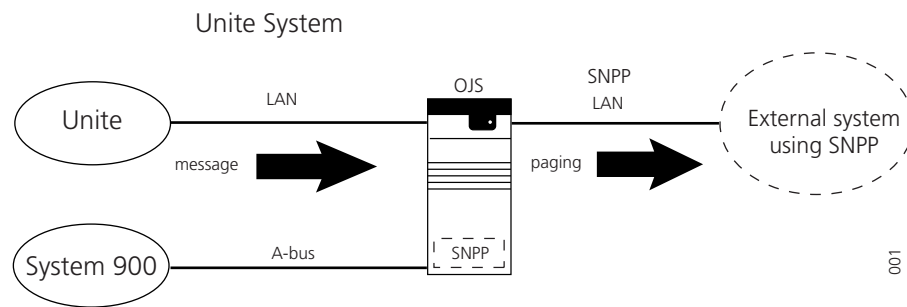


Figure 1. A paging is addressed to an external system via an SNPP interface. The SNPP application receives the message, converts it and then sends it to the addressee.

### 1.1 Abbreviations and Glossary

- FTP: File Transfer Protocol:  
A protocol to transfer and copy files over the internet.
- SNPP: Simple Network Paging Protocol:  
This is a standard protocol for sending messages between paging systems, both one and two-way. It provides a simple way to implement a connection between the Internet and a paging terminal.

### 1.2 Functionality

An incoming message is put into the application's internal queue. The application can store 100 messages at a time. The converted message will be sent to the external system, and a response code will be sent back to the sending module.

The response codes the SNPP application sends on completed paging to the module that sent the message can either be a success or failure response. See [2 Protocol Mapping](#) on page 2.

## 2 Protocol Mapping

The SNPP application software sends completed response code for the completed delivery of a paging, either by success or failure condition. The response is sent to the module that the paging was sent from.

### 2.1 Unite Communications

#### 2.1.1 Protocol Options Adaptation in Runtime

The SNPP specification is divided into three levels of service. The first (Level1) contains 6 commands that all must be implemented by the server to support basic SNPP functionality. This level contains only functionality to send simple messages without confirmation or delivery receipts.

The second level (Level 2) adds another 8 commands such as a subject, multiple line messages, delayed delivery etc. Only one of these commands (multiple line messages) are mandatory.

The third level (Level 3) adds 11 commands for two way communication. This can be yes or no replies, multiple choice replies or fully textual replies as well as delivery receipts.

**Note:** If the level 2 command DATA is not supported, the MESS command shall be used instead. For more information, see [Appendix A: SNPP Command](#) on page 9.

#### 2.1.2 Status Codes

200	Message sent successfully
320	Congestion, try again
400	Unknown error
410	Message not understood
420	Address unknown
430	Deleted, to old

**Example – Completed 200**

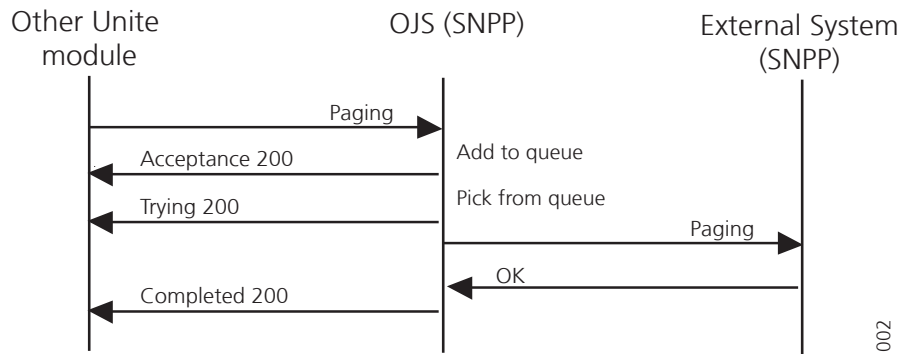


Figure 2. A paging is successfully sent.

When the paging is successfully sent to the addressee a completed success code is sent back to Unite.

**Example – Internal Queue Full 320**

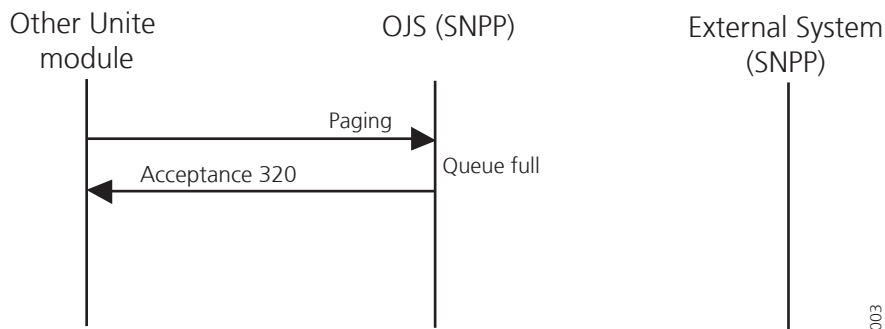


Figure 3. The internal queue is full.

If response code 320 is sent back the internal queue is full. Resend the message, a completed 200 code is returned after successful delivery.

**Example - Completed 430**

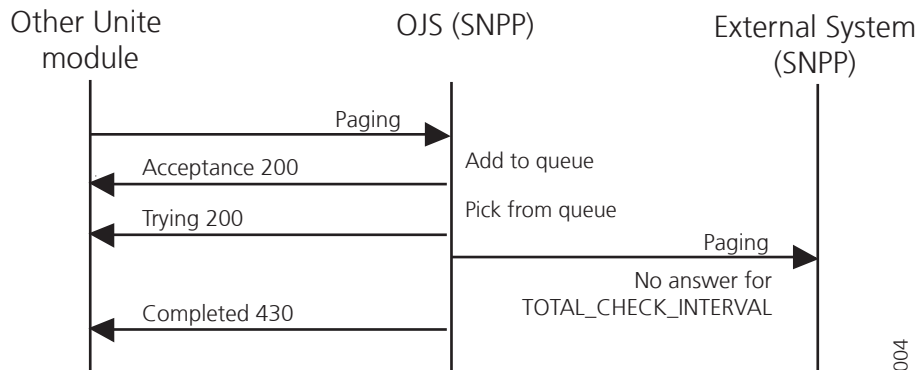


Figure 4. A paging failure on delivery to an external system.

For some reason the paging did not reach its destination. A failure code (430 Deleted, too old) is sent back to Unite.

### 3 Installation

See also *Installation and Operation Manual Open Java Server (OJS), TD 92185GB*.

#### 3.1 Configuration

- 1 Open the *configuration.properties* file. In the *configuration.properties* file you have to set up the parameters for the serial communication on SNPP.

##### Parameter Settings:

Property name	Default value	Description
OUTPUT_TYPE	TCP	Server connection, TCP. Only TCP connection is supported.
IPADDRESS	xxx.xxx.xxx.xxx	The IP address of the external system.
IPPORT	444	TCP port
STATUS_CHECK_INTERVAL	60000	Used in two-way communication. Time between two status checks. Time in ms (default 1 min.).
TOTALCHECK_INTERVAL	300000	Used in two-way communication. Total time interval for an answer. Time in ms (default 5 min.).
CONTINUOUS_CONN	false	- Close connection after sent message. - Decides whether or not the connection shall stay open after sent message. If this is set to true, the final QUIT will not be sent. The client will then keep the connection continuously alive.
SERVER_QUEUEING	false	Messages are not queued in the external system. If set to true, the external SNPP server allows messages to be queued. <b>Note:</b> If set to false, the external system is told not to queue but this is ignored if NOQUE command is not supported.
CRLF_TERMINATE	false	Some servers requires that the request terminates with \r\n.
PROMPT_TEXT_SUPPORT	false	If set to true, when an Interactive Message (IM) is received with only one option and a Prompt text, then this is sent with RTYP TEXT.

- 2 Change the IP address to what the external system is using.
- 3 Save the settings.
- 4 To make the OJS into a SNPP output module, the file *configuration.properties* must be uploaded together with the *.class* files to the OJS FTP area. See [3.2 Uploading the SNPP Application software to the OJS](#) on page 5.

There are more parameters that can be changed, see the *configuration.properties* file.

### 3.2 Uploading the SNPP Application software to the OJS

The SNPP application must be uploaded to the OJS FTP area.

- 1 Log in as: ftpuser  
Default password: changemetoo
- 2 Open the client directory.
- 3 Upload the SNPP application to the OJS.
- 4 Restart the application from the OJS administration page. The restart is accessed on <http://xxx.xxx.xxx.xxx/apprestart> (xxx.xxx.xxx.xxx is the IP address of the OJS). The user ftpuser can be used.
- 5 Perform a functionality test of the uploaded application.

## 4 Requirements

### Open Java Server (OJS)

- Software version 2.23 (recommended) or later, minimum 2.21.
- Additional licence (OJS-LT) is needed to be able to receive messages from Ascom messaging systems and transmit it to the external system.

See also the *Data Sheet Open Java Server (OJS)*, TD 92186GB.

### PC Software

- For FTP, Microsoft Internet Explorer 6.0 or later

### External System

- SNPP Server

### Optional Requirements:

### Enhanced System Services, ESS:

- Number Planning, software version 2.00 or later

## 5 Limitations/Concerns

- The SNPP application can handle up to 5 messages per seconds, which means that in practice the communication limit is set by the external system.
- Max. 100 messages can be stored in the SNPP application.

## 6 Local Modifications

To adapt to different systems, it might be necessary to make modifications in the source code. The complete source code is available together with the SNPP application. |

**Note:** The application software is available free, to be used with the hardware (including licenses) indicated in the release notes and according to instructions in included manuals. Ascom Wireless Solutions will accept support responsibility for the version available in the download container, any changes in the software will void this responsibility.

## **7 Related Documents**

Data Sheet, Open Java Server (OJS)	TD 92186GB
Installation Guide, ELISE2	TD 92232GB
Installation and Operation Manual, Open Java Server (OJS)	TD 92185GB

## 8 Document History

	Date	Description
B	071011	A reference that no longer exists is removed (chapter 6).

## Appendix A: SNPP Command

Commands available in the SNPP specification as well as the commands utilized by the application.

SNPP Command	Used by SNPP Out	Fallback Command	Mandatory in server
<b>Level 1</b>			
PAGEr	x		x
MESSage	x		x
RESEt			x
SEND	x		x
HELP			x
QUIT	x		x
<b>Level 2</b>			
DATA	x	MESS	x
LOGIn			
PAGEr			
LEVEL			
ALERt			
COVErage			
HOLDuntil			
CALLerid			
SUBJect	x	MESS	
<b>Level 3 (Two Way Extensions)</b>			
2WAY	x	Ignore	
PING			
EXPTag			
NOQJueeing	x	Ignore	
ACKRead			
RTYPE	x	Assume MULTICHOICE or YESNO mode	
MCREsponse	x	Failure to send IM	
PAGEr	x		x
SEND	x	Failure to send IM	
MSTAtus	x	Failure to send IM	
KTAG			