How to create Internet Access Configuration messages for the Nokia 9210 Communicator

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1. INTRODUCTION

Internet Access Configuration messages help the end user to get the most of the device as quickly as possible. The purpose of this document is to describe how to create *Internet Access Configuration (IAC)* messages and how to send them.

2. FURTHER INFORMATION AND SUPPORT

Internet Access Configuration message syntax is based on *the Smart Messaging Specification 3.0.0, Nokia Mobile Phones, 2000*. The document is available from the Forum Nokia Web site at http://www.forum.nokia.com/, Messaging section.

The syntax for Wap settings is based on the *WAP Over-the-air settings specification*, available from the Forum Nokia web site at http://www.forum.nokia.com/, Messaging and WAP sections.

The Nokia 9210 Communicator Remote Configuration Guide document describes remote configuration of the Nokia 9210 Communicator in general. The document is available from the Forum Nokia Web site at http://www.forum.nokia.com/, Product Support section.

For details on what Internet settings mean, please refer to the *Setting Up Dial-In Service* document, available from the Forum Nokia web site at http://www.forum.nokia.com/, Product Support section.

3. CREATING INTERNET ACCESS CONFIGURATION MESSAGES

3.1 Background

The syntax for configuration messages is based on the Smart Messaging specification 3.0.0. The Smart Messaging Specification 3.0.0 presents the whole set of configuration messages but the Nokia 9210 Communicator does not support all of them. At the moment configuration messages can be used to configure 3 settings on the Nokia 9210 Communicator: Internet Access Point, Mail settings and Short Message Center number setting. A single configuration message may configure only one of these. Short Message Center number setting does not exactly belong to Internet access configuration, but it is a part of the Smart Messaging specification's Internet Access Configuration syntax and that is why the Short Message Center number setting is described in this document.

At the moment, the only way to transfer a configuration message to the Nokia 9210 Communicator is over the GSM Short Message Service. Transferring the configuration messages over HTTP (on the Web) or as e-mail attachments is not supported yet.

The Nokia 9210 Communicator is a WAP device and as such all smart messages should be sent to WDP ports, as specified in the Smart Messaging specification. If this is not possible, keyword headers (also known as compatibility headers) can also be used. NBS port numbers, on the other hand, should not be used.

The IAC message syntax is from Smart Messaging Specification 3.0.0 with the following deviation. The Notify text field in the basic Internet configuration message is now optional, not mandatory. Hence, the first line of the definition now reads:

<iap-message> ::= [<iap-compatibility-header>][<notify-text>] <info-body>

IMPORTANT! The configuration message format should be followed precisely. Even minor deviations, such as an extra carriage return, can cause problems.

3.2 Parameters of the Internet Access Point (IAP) message

Internet Access Point message can be constructed by a set of parameters. Here is a list of those parameters and explanation what are or what could be the values of them. The parameters can be in any order and none of the parameters is mandatory except the name of the access point. Please note terminal or access point may set some restrictions to some parameters. See also informative examples in Examples section.

Iname: The name of the access point settings. The maximum length is 50 characters. (Mandatory)

Itel: Defines the IAP phone number which consists of common telephone numbers and characters: "1", "2", "3", "4", "5", "6", "7", "8", "9", "0", "+", "-", "#", "*", "W", "w", "P", "p"

Iuid: Username of the user. The username consists of any character in currently used character set except linefeed. The maximum length is 50 characters. The access point side may set some restrictions for username.

Ipwp: Information whether to ask for a password. The value must be "Y" or "N".

Ipwd: The password of the username. The password consists of any character in currently used character set except linefeed. The maximum length is 20 characters. The access point side or terminal side may set some restrictions for password.

Iini: Modem initialization string required for the access point. The maximum length is 50 characters**.**

Iip: The predefined TCP/IP address. The parameter defines static IP address if it exists. The IP address consists of four decimal number values in range [0...255], separated by ".", for example: "123.123.123.123".

Idns1: The TCP/IP definition for primary name server IP address. The IP address consists of four decimal number values in range [0...255], separated by ".", for example: "123.123.123.123".

Idns2: The TCP/IP definition for secondary name server IP address. The IP address consists of four decimal number values in range [0...255], separated by ".", for example: "123.123.123.123".

Imsk: The TCP/IP definition for network mask IP address. The IP address consists of four decimal number values in range [0...255], separated by ".", for example: "123.123.123.123".

Idgw: The TCP/IP definition for default gateway IP address. The IP address consists of four decimal number values in range [0...255], separated by ".", for example: "123.123.123.123".

3.3 Parameters of the Mail settings message

Mail settings message can be constructed by a set of parameters. Here is a list of those parameters and explanation what are or what could be the values of them. The parameters can be in any order and none of the parameters is mandatory. Please note terminal or access point may set some restrictions to some parameters. See also an informative example in Examples section.

Mname: The name of the internet access point to be used. If this is not defined, the default access point will be used. NOTE! The some internet access point must be created with an IAP configuration message prior to setting Mail settings. The maximum length is 25 characters. The access point side or terminal side may set some restrictions for IAP name.

Muid: The remote mailbox username. The username consists of any character in currently used character set except linefeed. The maximum length is 100 characters. The server side or terminal side may set some restrictions for username.

Mpwd: The remote mailbox password. The password consists of any character in currently used character set except linefeed. The maximum length is 25 characters. The server side may set some restrictions for password.

Madr: The user's email address where the mail has been sent (what does this mean – needs to be reworded?), also shown as a reply path. The email address is RFC 822 based, for example: "name@host.domain". The email address consists of any character in currently used character set except linefeed. The maximum length is 100 characters. The server side or terminal side may set some restrictions for email address.

Mrcv: Remote mailbox host address – either an IP address or a host name (of a computer with POP3 or IMAP4 support to mailboxes). In case of IP address the IP address consists of four decimal number values in range [0...255], separated by ".", for example: "123.123.123.123". In case of hostname a host name consists of any character in currently used character set except linefeed. The maximum length of a hostname is 100 characters. The server side may set some restrictions for hostname.

Msnd: IP address or host name of the computer being used to send e-mail (a computer with SMTP support). In case of IP address the IP address consists of four decimal number values in range [0...255], separated by ".", for example: "123.123.123.123". In case of hostname a host name consists of any character in currently used character set except linefeed. The maximum length of a hostname is 100 characters. The server side may set some restrictions for hostname.

Mpro: Defines the protocol being used to fetch the mail. The value must be "IM" or "im" for IMAP4 and "PO" or "po" for POP3.

3.4 Parameters of GSM Short Message Service Center number setting message

GSM Short Message Service Center number setting message is constructed by two parameters. The parameters are listed below with an explanation of their values. The parameters can be in any order. See also an informative example in Examples section.

Sname: The name of Short Message Service Center. The name consists of any character in currently used character set except linefeed The maximum length is 25 characters.

Stel: Defines the GSM Short Message Service Center phone number which consists of common telephone numbers and characters: "1", "2", "3", "4", "5", "6", "7", "8", "9", "0", "+", "-", "#", "*", "W", "w", "P", "p"

3.5 Please note

When configuring Internet access, the configuration messages should *only* configure the set of parameters that are crucial for the correct operation of the Internet access point. Some configurable features are user settings by nature and do not affect the operation of the Internet access point. Such settings should generally not be configured remotely.

Only use the smallest number of settings that you can. If a setting is not required, leave it out for maximum compatibility between different implementations, unless the product-specific documentation mandates its use.

Service providers are recommended to take field length limits into consideration when designing the configuration and setup of their devices. If a field identifier is present, but the value of that field is left empty, then the empty value will be updated in the device; check for empty field values.

For security reasons, passwords should not be sent in the configuration messages.

4. EXAMPLES

4.1 About the examples

The first three of these examples are from the Smart Messaging specification 3.0.0 Appendix A. Some of the examples have been edited a little. For more information, please refer to Smart Messaging Specification 3.0.0.

The first four message examples are typed in regular text and use keyword headers (compatibility headers) instead of WDP headers. These messages can be sent like normal SMS messages from the Nokia 9210 Communicator or other similar device.

It is also possible to send the messages using WDP headers and hex coded data. This means that all characters must be encoded to hex values and the header data is different and longer. It is not possible to send this kind of message from the Nokia 9210 Communicator. The last example shows how to encode the hex coded Internet Access Point message.

4.2 An example with minimum information to setup an Internet Access Point (IAP)

```
//SIAP11
Iname:Company_access
Iuid:Username
Ipwd:secretpwd
Itel:+123456789012345
```

This message defines an Internet access point named Company_access and adds it to the Internet access point list. The username for this new access point is "Username″, the password is "secretpwd″ and the phone number to call is "+123456789012345".

4.3 Typical situation for an Internet Access Point (IAP)

```
//SIAP11
Iname:Company
Iuid:User
Ipwd:secret
Itel:+123456789012345
Iip:123.123.123.123
Idns1:123.123.123.123
Idns2:123.123.123.124
```

This message defines an Internet access point named Company and adds it to the Internet access point list. The username for this new access point is "User″, the password is "secret″ and the phone number to call is "+123456789012345". The IP address will be set as: 123.123.123.123, the Primary Nameserver as the same and the Secondary Nameserver as: 123.123.123.124.

4.4 Typical mail service information

```
//SIAP11
Mname:Company_access
Muid:Username
Mpwd:secretpw
Madr:Username@serv.provid.net
Mrcv:imapserver.provid.net
Msnd:smtpserver.provid.net
Mpro:IM
```

The message requires that the Internet access point Company_access exists. The username is
"Username" and the password is "secretpw". The defined settings are e-mail address (Madr),
receiving host (Mrcv) and sending host (Msnd). Also the mailbox protocol is defined to be IMAP4
(Mpro set to IM).

4.5 GSM Short Message Service Center (SMSC) number setting

```
//SIAP11
Sname:Operator
Stel:+1234567890
```

This message will configure the SMSC number to be +1234567890. The name of this SMSC
setting is Operator.

4.6 Hex coded Internet Access Point message

The message content is:

```
Iname:TestAccess
Itel:+12345
Iuid:userID
Ipwd:password
```

The following is a hex dump of the message.

```
49 6E 61 6D 65 3A 54 65 73 74 41 0D 0A 49 74 65
63 63 65 73 73 6C 3A 2B 31 32 33 34 35 0D 0A 49
75 69 64 3A 75 73 65 72 49 44 0D 0A 49 70 77 64
3A 70 61 73 73 77 6F 72 64 0D 0A
```

In the example there is no mandatory header information in the beginning of the message. The
header includes a lot of mandatory information for example the receiver's phone number,
receiver's and sender's WDP port number, concatenation information (in the case of concatenated
SMS). A possible header for the example could be:

```
51 00 0C 91 21 43 65 87 09 21 00 F5 A7 42 06
05 04 15 7F 00 00
```

More information about hex coded messages can be found in the FAQ of the Messaging section of the Forum Nokia web page (http://www.forum.nokia.com/).

5. SENDING INTERNET ACCESS CONFIGURATION MESSAGES

Internet Access Configuration messages can be sent like normal SMSs. The message must be typed as explained in the previous section. The linefeeds and are very important (see figure 1). After the message has been typed it can be sent to the receiver. If everything goes correctly the receiver's phone gets the message and displays a message like "Configuration message received". After that the receiver can accept the settings and save them to the phone's memory.
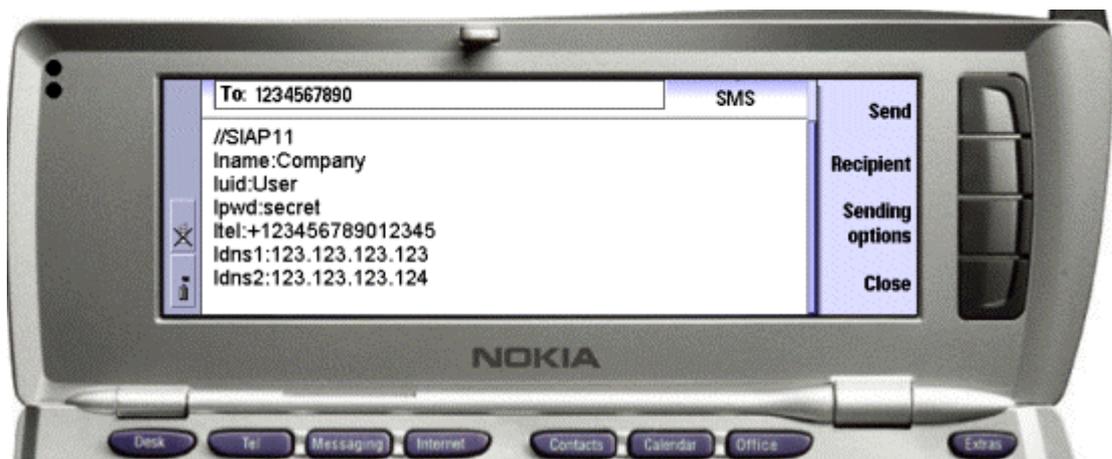
Figure 1. Sending an Internet Access Point message (see the example *4.3 Typical situation for an Internet Access Point (IAP)*)