

RoHC Profile Decompression Configuration Mode Commands

The RoHC Profile Decompression Configuration Mode is used to configure RoHC (Robust Header Compression) Decompressor parameters.

Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Important The availability of commands, keywords and variables in this mode are dependent on platform type, product version, and installed license(s).

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accept-delayed-pkts

Accepts delayed packets

Product

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

`[ default ] accept-delayed-pkts`

default

Returns the command to its default value of disabled.

Usage Guidelines

This command helps reduce packet loss during context repair.

Example

Use the following command to enable the system to accept delayed packets:

`accept-delayed-pkts`

context-timeout

Ensures that no expired contexts are used for data compression.

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

`context-timeout` *`seconds`*
`default context-timeout`

default

Returns the command to its default value.

seconds

Specifies the context timeout value (in seconds) as an integer from 0 through 100.

Default: 20

Usage Guidelines

The RoHC stack should periodically clean up expired contexts and release memory in case there is no data activity for the call on this context. The context cleanup period is internally calculated to be set to half of the value of the context-timeout value. This will ensure that no expired contexts are used for data compression.

Example

The following command sets the context-timeout parameter to 30 seconds:

`context-timeout 30`

crc-errors-fo

Sets the limits for when a NACK message is sent while in the FO (First Order) state. A NACK is sent whenever CRC errors are detected within a specified number of packets.

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

`crc-errors-fo-k` *`num_errors`*
`crc-errors-fo-n` *`num_packts`*
`default crc-errors-fo-k`
`default crc-errors-fo-n`

default

Returns the command to its default value.

crc-errors-fo-k *num_errors*

Specifies the number of received packets that trigger the sending of a NACK as an integer from 1 through 10.

Default: 1

Important *num_errors* must be less than or equal to the value specified with the **crc-errors-fo-n** command.

crc-errors-fo-n *num_packts*

Specifies the number of packets to check for CRC errors as an integer from 1 through 10.

Default: 1

Usage Guidelines Use this command to set the parameters that trigger sending a NACK message when in the FO state.

Example

To configure a NACK to be sent when 4 out of the last 10 packets have CRC errors when in the FO state, use the following commands:

```
crc-errors-fo-k 4
crc-errors-fo-n 10
```

crc-errors-so

Sets the limits for when a NACK message is sent while in the SO (Second Order) state. A NACK is sent whenever CRC errors are detected within a specified number of packets.

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Command Modes Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-rohcprofile-profile_name-decomp)#
```

Syntax Description

```
crc-errors-so-k num_errors
crc-errors-so-n num_packets
```

```
default crc-errors-so-k
default crc-errors-so-n
```

default

Returns the command to its default value.

crc-errors-so-k *num_errors*

Specifies the number of received packets that trigger the sending of a NACK as an integer from 0 through 10.

Default: 1

Important *num_errors* must be less than or equal to the value specified with the **crc-errors-so-n** command.

crc-errors-so-n *num_packets*

Specifies the number of packets to check for CRC errors as an integer from 1 through 10.

Default: 1

Usage Guidelines Use this command to set the parameters that trigger sending a NACK message when in the SO state.

Example

To configure a NACK to be sent when 4 out of the last 10 packets have CRC errors when in the SO state, use the following commands:

```
crc-errors-so-k 4
crc-errors-so-n 10
```

do show

Executes all **show** commands while in Configuration mode.

Product All

Privilege Security Administrator, Administrator

Syntax Description

```
do show
```

Usage Guidelines Use this command to run all Exec mode **show** commands while in Configuration mode. It is not necessary to exit the Config mode to run a **show** command.

The pipe character **|** is only available if the command is valid in the Exec mode.

Caution There are some Exec mode **show** commands which are too resource intensive to run from Config mode. These include: **do show support collection**, **do show support details**, **do show support record** and **do show support summary**. If there is a restriction on a specific **show** command, the following error message is displayed:

```
Failure: Cannot execute 'do show support' command from Config mode.
```

end

Exits the current configuration mode and returns to the Exec mode.

Product All

Privilege Security Administrator, Administrator

Syntax Description **end**

Usage Guidelines Use this command to return to the Exec mode.

exit

Exits the current mode and returns to the parent configuration mode.

Product All

Privilege Security Administrator, Administrator

Syntax Description **exit**

Usage Guidelines Use this command to return to the parent configuration mode.

max-jitter-cd

Sets the upper boundary of jitter expected on the communication channel between the RoHC compressor and decompressor. The value is in milliseconds.

Product PDSN

Privilege Administrator

Command Modes Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-rohcprofile-profile_name-decomp)#
```

Syntax Description

max-jitter-cd *no_ms*
default max-jitter-cd

default

Returns the command to its default value.

no_ms

Specifies the upper boundary jitter value (in milliseconds) as an integer from 0 through 999999999.

Default: 150

Usage Guidelines

Use this command to specify the maximum amount of jitter to expect on the channel between the RoHC compressor and decompressor.

Example

The following command sets the maximum jitter value to 100 ms:

max-jitter-cd 100

nack-limit

Sets the number of unsuccessful decompressions allowed before a NACK is sent.

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Privilege

Administrator

Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-rohcprofile-profile_name-decomp)#
```

Syntax Description

nack-limit *limit*
default nack-limit

default

Returns the command to its default value.

limit

Specifies the number of unsuccessful decompressions allowed as an integer from 0 through 20.

Default: 0

Usage Guidelines Use this command to set the maximum number of unsuccessful decompressions before a NACK message is sent.

Example

The following command sets the number of unsuccessful decompressions allowed to 10:

```
nack-limit 10
```

optimistic-mode-ack

When this command is enabled and a type 2 IR-DYN packet is successfully decompressed, an optional ACK is sent in U-mode.

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Command Modes Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-rohcprofile-profile_name-decomp)#
```

Syntax Description **`[ default | no ] optimistic-mode-ack`**

default

Returns the command to its default value of enabled.

no

Disables the sending of the optional ACK.

Usage Guidelines Use this command to enable and disable the sending of an optional ACK in U-mode when a type 2 IR-DYN packet is successfully decompressed.

Example

To enable the sending of the optional ACK, enter the following command:

```
optimistic-mode-ack
```

To disable the sending of the optional ACK, enter the following command:

```
no optimistic-mode-ack
```

optimistic-mode-ack-limit

Sets the number of packets for which to send ACKs.

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

optimistic-mode-ack-limit *num_pkts*
default optimistic-mode-ack-limit

default

Returns the command to its default value.

num_pkts

Specifies the number of packets for which to send ACKs as an integer from 0 through 20.

Default: 3

Usage Guidelines

Use this command to set the number of packets to send the optional ACK for when a type 2 IR-DYN packet is successfully decompressed.

Example

Enter the following command to set the number of packets to send and ACK for to 6:

optimistic-mode-ack-limit 6

Use the following command to set the number of packets to send an ACK for back to the default of 3:

default optimistic-mode-ack-limit

piggyback-wait-time

Specifies the time in milliseconds to wait for a feedback packet to be picked up as piggybacked feedback by the associated compressor.

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

`piggyback-wait-time` *`m_secs`*
`default piggyback-wait-time`

default

Returns the command to its default value.

m_secs

Specifies the time (in milliseconds) to wait for a feedback packet to be picked up as an integer value from 0 through 1000.

Default: 80

Usage Guidelines

Use this command to set the time in milliseconds to wait for a feedback packet to be picked up as piggybacked feedback by the associated compressor.

Example

The following command sets the wait time to 120 ms:

```
piggyback-wait-time 120
```

preferred-feedback-mode

Specifies the preferred feedback mode to use between the compressor and the decompressor

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

```
preferred-feedback-mode { bidirectional-optimistic | bidirectional-reliable
 | unidirectional }
default preferred-feedback-mode
```

default

Returns the command to its default setting of bidirectional-optimistic.

bidirectional-optimistic

This mode is similar to the Unidirectional mode, with the exception of a feedback channel used to send error recovery requests from the decompressor to compressor.

This is the default mode.

bidirectional-reliable

Reliable mode makes extensive use of a feedback channel to avoid packet loss from context invalidation. A secure reference model is used instead of the optimistic approach used in the other modes. With the secure reference model, the confidence of the compressor depends on acknowledgements from the decompressor for every context updating packet.

Periodically the compressor sends context updating packets repeatedly until an acknowledgement is received from the decompressor.

unidirectional

Packets are sent in only one direction, from the compressor to the decompressor.

Usage Guidelines

Use this command to specify the preferred feedback method to use between the compressor and the decompressor for the current RoHC profile.

Example

Use the following command to set the preferred feedback mode to bidirectional-reliable:

```
preferred-feedback-mode bidirectional-reliable
```

rtp-sn-p

Specifies the value of p in RTP SN (RTP Sequence Number) calculation. Least Significant Bits (LSB) encoding is used for header fields whose values are usually subject to small changes. With LSB encoding, the k least significant bits of the field value are transmitted instead of the original field value, where k is a positive integer. After receiving k bits, the decompressor derives the original value using a previously received value as reference (v_ref). The scheme is guaranteed to be correct if the compressor and the decompressor each use interpretation intervals as follows:

- In which the original value resides
- And in which the original value is the only value that has the exact same k least significant bits as those transmitted.

The interpretation interval can be described as a function:

f(v_ref, k). Let f(v_ref, k) = [v_ref - p, v_ref + (2^k - 1) - p]

Where p is an integer.

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Command Modes Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description **`rtp-sn-p`** *`value`*
`default rtp-sn-p`

default

Returns the command to its default value.

value

Specifies the number the value of p in the RTP SN calculation as an integer from 0 through 999.

Usage Guidelines Use this command to set the value to use for p when performing the RTP SN calculation.

Example

The following command sets the RTP Sequence Number integer "p" value to 100:

`rtp-sn-p 100`

rtp-sn-p-override

Allows an override of p in RTP SN calculation. This is disabled by default.

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Command Modes Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description **`[ default | no ] rtp-sn-p-override`**

default

Returns the command to its default value of disabled.

no

Disables overriding p in RTP SN calculation.

Usage Guidelines

Use this command to allow an override of p in RTP SN calculations.

Example

The following command enables the override of p in the RTP SN calculation:

```
rtp-sn-p-override
```

rtp-time-stride

Sets the time interval used for one TS (RTP Time Stamp) stride. This value is used when timer-based encoding is enabled.

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-rohcprofile-profile_name-decomp)#
```

Syntax Description

rtp-time-stride *time*
default rtp-time-stride

default

Returns the command to its default value of 20.

time

Specifies the time interval to use as an integer from 0 through 999999999.

Default: 20

Usage Guidelines

Use this command to set the time interval used for TS STRIDE when timer-based encoding is enabled.

Example

The following command sets the time interval to 1000:

```
rtp-time-stride 1000
```

rtp-ts-stride

Amount by which TS (RTP time stamp) is incremented. This is used for Scaled RTP TS encoding.

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

rtp-ts-stride *time*
default rtp-ts-stride

default

Returns the command to its default value of 160.

time

Specifies the time interval to use as an integer from 0 through 999999999.

Default: 160

Usage Guidelines

Use this command to set the amount by which TS is incremented.

Example

The following command sets the time increment to 1000:

```
rtp-ts-stride 1000
```

sliding-window-ts

Computes jitter as described in RFC 3095,[4.5.4]

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Privilege

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

`sliding-window-ts` *`size`*
`default sliding-window-ts`

default

Returns the command to its default value of 4.

size

Sets the size of the sliding window. *size* must be an integer from 1 through 1000.

Default: 4

Usage Guidelines

Use this command to set the size of the sliding window used to compute jitter for the current RoHC profile.

Example

The following command sets the sliding window size to 500:

`sliding-window-ts 500`

total-jitter-ipv4

Specifies the total jitter experienced after the decompression for IPV4.

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

`total-jitter-ipv4` *`time`*
`default total-jitter-ipv4`

default

Returns the command to its default value of 270.

time

Specifies the time interval to use (in milliseconds) as an integer value from 0 through 999999999.

Default: 270

Usage Guidelines Use this command to set the jitter limit after decompression in ms.

Example

The following command sets the jitter after decompression limit to 900 ms:

```
total-jitter-ipv4 900
```

total-jitter-ipv6

Specifies the total jitter experienced after the decompression for IPV6.

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Command Modes Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-rohcprofile-profile_name-decomp)#
```

Syntax Description

```
total-jitter-ipv6 time
default total-jitter-ipv6
```

default

Returns the command to its default value of 580.

time

Specifies the time interval to use (in milliseconds) as an integer from 0 through 999999999.

Default: 580

Usage Guidelines Use this command to set the jitter limit after decompression in ms.

Example

The following command sets the jitter after decompression limit to 900 ms:

```
total-jitter-ipv6 900
```

use-clock-option

Controls usage of the RoHC clock option. The clock option informs the compressor of the clock resolution of the decompressor. This allows the compressor to estimate the jitter introduced by the clock of the decompressor when doing timer-based compression of the RTP timestamp.

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Administrator

Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

`[ default | no ] use-clock-option`

default

Returns the command to its default value of enabled.

no

Disables use of the RoHC clock option.

Usage Guidelines

Use this command to enable and disable the use of the RoHC clock option.

Example

The following command enables RoHC clock option usage:

`use-clock-option`

The following command disables RoHC clock option usage:

`no use-clock-option`

use-crc-option

Controls usage of the RoHC cyclic redundancy check (CRC) option. The CRC option contains an 8-bit CRC computed over the entire feedback payload, without the packet type and code octet, but including any CID fields,

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

`[ default | no ] use-crc-option`

default

Returns the command to its default value of enabled.

no

Disables use of the CRC option.

Usage Guidelines

Use this command to enable and disable the use of the RoHC CRC option.

Example

The following command enables RoHC CRC option usage:

`use-crc-option`

The following command disables RoHC CRC option usage:

`no use-crc-option`

use-feedback

Controls use of the feedback channel. A feedback channel sends error recovery requests and (optionally) acknowledgments of significant context updates from the decompressor to the compressor.

Product

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Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

`[ default | no ] use-feedback`

default

Returns the command to its default value of disabled.

no

Disables use of the feedback channel.

Usage Guidelines Use this command to enable and disable the use of the RoHC feedback channel.

Example

The following command enables RoHC feedback channel usage:

```
use-feedback
```

The following command disables RoHC feedback channel usage:

```
no use-feedback
```

use-jitter-option

Controls usage of RoHC jitter option. The jitter option allows the decompressor to report the maximum jitter it has observed

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Command Modes Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-rohcprofile-profile_name-decomp)#
```

Syntax Description **`[ default | no ] use-jitter-option`**

default

Returns the command to its default value of enabled.

no

Disables use of the jitter option.

Usage Guidelines Use this command to enable and disable the use of the RoHC jitter option.

Example

The following command enables RoHC jitter option usage:

use-jitter-option

The following command disables RoHC jitter option usage:

no use-jitter-option

use-reject-option

Controls usage of RoHC reject option. The reject option informs the compressor that the decompressor does not have sufficient resources to handle the flow.

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

[default | no] use-reject-option

default

Returns the command to its default value of disabled.

no

Disables use of the reject option.

Usage Guidelines

Use this command to enable and disable the use of the RoHC reject option.

Example

The following command enables RoHC reject option usage:

use-reject-option

The following command disables RoHC reject option usage:

no use-reject-option

use-sn-not-valid-option

Controls usage of the RoHC SN not valid option. The sn-not-valid option indicates that the SN of the feedback is not valid. A compressor must not use the SN of the feedback to find the corresponding sent header when this option is present.

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

`[ default | no ] use-sn-not-valid-option`

default

Returns the command to its default value of enabled.

no

Disables use of the sn-not-valid option.

Usage Guidelines

Use this command to enable and disable the use of the RoHC sn not valid option.

Example

The following command enables RoHC sn not valid option usage:

`use-sn-not-valid-option`

The following command disables RoHC sn not valid option usage:

`no use-sn-not-valid-option`

use-sn-option

Controls usage of RoHC sn option. The sn option provides eight additional bits of SN (Sequence Number, usually the RTP Sequence Number.)

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Command Modes

Exec > Global Configuration > RoHC Profile Configuration >

configure > rohc-profile profile-name *profile_name* **> decompression-options**

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-rohcprofile-profile_name-decomp)#`

Syntax Description

```
[ default | no ] use-sn-option
```

default

Returns the command to its default value of enabled.

no

Disables use of the SN option.

Usage Guidelines

Use this command to enable and disable the use of the RoHC SN option.

Example

The following command enables RoHC SN option usage:

```
use-sn-option
```

The following command disables RoHC SN option usage:

```
no use-sn-option
```