



subject: **Connectionless Hop Count feature for SMDS ICI networks**

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PRODUCT DOCUMENTATION NOTICE

This memo introduces a connectionless hop count feature for SMDS ICI networks.

The current SMDS architecture prevents looping PDUs by using the screening tables on the trunks. The aim of this feature is to provide a more robust way to drop looping L3PDUs in an ICI network. The feature is going to implement a hop count on L3PDUs. Looping PDUs do not occur in non-ICI BNS-2000 networks.

The hop count will be a field configured on a node basis via the **enter/change node** command. This will allow flexibility in optimizing the value. The default value for the hop count field will be "none". It is recommended that the MAXIMUM CLNS HOP COUNT parameter be set to the total number of SMDS nodes in the network, to ensure that all nodes can be accessed from every other node in the network. The number of hops configured can be between 3 and 99.

The new feature is configured in the **enter node** or **change node** commands. The prompt appears as follows:

```
MAXIMUM CLNS HOP COUNT [3-99, none: +(none)]:
```

The prompt directly follows:

```
MAXIMUM HOP COUNT PER CALL [3-99, none: +(none)]:
```

The **verify node** command output is altered to display the CLNS HOP COUNT field.

A new alarm is issued when a looping PDU is detected that identifies both the source address (SA) and destination address (DA) in the PDU.

```
*9104B MODADDR=<MOD#> MODTYPE=TRKT3[I/S]  
REPORT ALARM: hsmaint: Maximum CLNS hop count exceeded  
SA=<source address> DA=<destination address>.  
CLASS=<22> TASKID=<2>  
Rec act: Investigate source address for possible problems.
```

Note that this feature drops any looping PDU that occur in the network but does not clear the source of the problem. A continuous source of looping PDUs will still cause a degradation of the network eventually. The source provided by the SA should be investigated to prevent a continuous injection of looping PDUs. After the source of the looping PDU is corrected the node should be monitored for further alarms in case there are other looping PDUs, since the alarmed condition will only indicate the first occurrence of a looping PDU within the same 5 minute interval and thus possibly miss other possible looping PDUs.

This PDN modifies product document Data Networking Products Command Reference, CIC ID 255-100-234, Issue 2, pages 4-72, 4-75, 4-77, 4-79, 4-81, 4-89, 4-92, 4-96, 4-98, 4-100, and 4-102 and Data Network Products Message Reference, CIC ID 255-100-210, Issue 6, page 2-486.