

Binary for Linux – MTP3

Release Notes for V5.00

1. Overview

This is the first full release of the software since V4.03. It is a major release introducing support for MTP Restart Procedures. It also includes ANSI SLS rotation as defined in T1.111.5 and increases the capacity of MTP3 to support 4096 routes and 256 links.

The MTP Restart Procedure is used when the local signalling point or adjacent signalling point recovers from network isolation. This functionality is relevant to any system connecting to the signalling network via signalling transfer points which support restart procedures or to any dual systems.

This release also improves load sharing across links in a link set for link sets with more than eight links in them.

In addition this release addresses a potential problem in dual systems concerning the synchronisation of route status on recovery of the inter-chassis link when of the order of 128 routes are configured.

This release is backward compatible with the previous release.

2. New Functionality

2.1 MTP Restart Procedure

Restart procedures are intended to allow time for recovering signalling points to synchronise their routing tables and ensure sufficient links are available before allowing signalling traffic to restart. Procedures are defined for the restart of the local signalling point and for the restart of adjacent signalling points.

This release is the first to support a per link set configuration option to allow both local and adjacent restart procedures to be enabled for the concerned link set. If enabled then the system operates as described in the following paragraphs. To support these procedures new event indications are sent to layer management to indicate when local and adjacent restart procedures have both commenced and completed. These indications are defined as additions to the MGT_MSG_MTP_EVENT message. Restart procedures use a number of timers which are configurable. These have been added to the existing timer configuration message as defined below.

2.1.1 MTP LINKSET Configuration Option

The following configuration option has been added to the MTP_MSG_CNF_LINKSET flags field.

Bit	Meaning
3	This bit is used to determine whether or not to enable MTP Restart procedures for this link set. 0 – Restart procedures are not enabled on this link set. 1 – Restart procedures are enabled on this link set.

2.1.2 Restart Management Event Indications

The following event codes have been added to the MGT_MSG_MTP_EVENT message

Value	Mnemonic	Parameter	Description
17	MTPEV_LCL_RST	0	Local Restart Commenced
18	MTPEV_ADJ_RST	linkset	Adjacent Restart Commenced
19	MTPEV_LCL_RST_CMP	0	Local Restart Complete
20	MTPEV_ADJ_RST_CMP	linkset	Adjacent Restart Complete

2.1.3 Local Restart Procedures

Local restart procedures commence when the first link set with the restart option enabled becomes available. Restart requires at least 50% of the links configured within link sets with the restart option to be active before restarting traffic and at least one Traffic Restart Allowed (TRA) message to be received. Once these conditions are met TRA messages are generated and restart procedures complete.

ANSI restart procedures include a period of forced isolation for a few seconds during which links are prevented from coming into service. Should this functionality be required then the normal layer management methods should be used to deactivate the links for this time.

2.1.4 Adjacent Restart Procedures

Adjacent Restart Procedures start when a link set with the restart option enabled comes into service and the local system is not restarting itself. MTP generates a TRA message and then waits to receive a TRA message from the peer before allowing traffic to be restarted.

Note: Generation of Route Set Test messages continues during local or adjacent restart. This should not impact system operation.

The use of restart procedures is recommended for inter-chassis link sets on dual systems. This will help a restarting system to come into service with the route status synchronising cleanly to the correct state.

2.1.5 Restart Timer Configuration

The MTP_MSG_CNF_TIMERS message has been extended as shown below. Default values applicable to restart procedures are shown after the timer name in brackets and in units of 100ms.

MESSAGE HEADER		
FIELD NAME		MEANING
type		MTP_MSG_CNF_TIMERS (0x7317)
id		0
src		Sending module id
dst		MTP3 module id
rsp_req		used to request a confirmation
hclass		0
status		0
err_info		0
len		66
PARAMETER AREA		
OFFSET	SIZE	NAME
0	2	version - Must be set to zero.
2	2	Timer T1
4	2	Timer T2
6	2	Timer T3
8	2	Timer T4
10	2	Timer T5
12	2	Timer T6
14	2	Timer T7
16	2	Timer T8
18	2	Timer T9
20	2	Timer T10
22	2	Timer T11
24	2	Timer T12
26	2	Timer T13
28	2	Timer T14
30	2	Timer T15
32	2	Timer T16
34	2	Timer T17
36	2	Timer T18 (ITU) or T23 (ANSI) (200)
38	2	Timer T19 (ITU) or T29 (ANSI) (600)
40	2	Timer T20 (ITU) (600)

42	2	Timer T21 (ITU) or T25 (ANSI) (300)
44	2	Timer T22 (ITU) or T20 (ANSI)
46	2	Timer T23 (ITU) or T21 (ANSI)
48	2	Timer T24
50	2	SLTC Timer T1
52	2	SLTC Timer T2
54	2	Timer T101
56	2	ANSI Timer T22 (200)
58	2	ANSI Timer T24 (200)
60	2	ANSI Timer T26 (120)
62	2	ANSI Timer T27 (30)
64	2	ANSI Timer T28 (10)

2.2 Increased route capacity

This release adds support for an increased number of routes and associated resources as summarised in the table below.

Number of Links	256
Number of Linksets	64
Number of Routes	4096

It is recommended that customers using large numbers of routes should have at least twice as many messages configured in their GCT environment as they have routes. The number of messages in the GCT environment may be set using the 'NUM_MSGS' command in the system.txt file as documented in the 'Software Environment Programmer's Manual'.

2.3 ANSI SLS Rotation

ANSI SLS Rotation is now supported for Eight bit ANSI systems as defined in ANSI T1.111.5. These procedures requires link set selection to be made using bit Four of the SLS and for the lowest Five bits to be rotated.

To enable this functionality bit Seven (0x0080) of the MTP3 extended options field should be set in the MTP_MSG_CONFIG (0x7303) message.

3. Changes

3.1 Local Inhibit Statistics

The reporting of Local Inhibit statistics had not previously been working. This has been fixed in this release and works as documented in the MTP3 Programmer's Manual.

3.2 Dual System Inter Link

When a dual system inter-link comes into service route status information is transmitted to the partner. If more than 128 routes are configured then this information has the potential to flood the layer 2 link transmit buffer causing some of these messages to be discarded. This release prevents this by reducing the rate of message transmission over a short period of time.

3.3 Load sharing across links in a link set

Previously link sets with more than eight and less than sixteen links may be unevenly loaded when all links were available. Now links will be fairly loaded across all links.

Dialogic
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Binary for Linux – MTP3

Release Notes for V5.01

1. Overview

This is a maintenance release to correct two areas of behaviour in MTP Restart procedures.

The release is fully backward compatible with the previous release.

2. Changes

2.1 MTP Restart T18 Timer

Timer T18 is used in ITU systems supporting both the STP function and Restart procedures. It is used to limit the time spent waiting for adjacent signalling points to send TFP messages. This timer is also used when the system is configured as part of a Dual Resilient system because the synchronisation of routing information between partner MTP instances mirrors the operation of an STP. This timer was being started erroneously when the system was not part of a Dual system. This release of the system resolves this issue.

2.2 MTP Restart Adjacent Signalling Point Available

The previous release allowed adjacent signalling points to become available to MTP Users prior to the end of Restart procedures. This is not the correct behaviour and has also been corrected. The adjacent signalling points will be made available at the same time as routes via STPs at the end of restart procedures.

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Binary for Linux – MTP3

Release Notes for V5.02

1. Overview

This is a maintenance release to correct two areas of behaviour in MTP Restart procedures.

The release is fully backward compatible with the previous release.

2. Changes

2.1 MTP Restart of Adjacent Signalling Point

When the adjacent signalling point restarts, routing of MTP User messages to the adjacent signalling point is now only permitted once restart is complete. Previously routing was allowed as soon as the link set became available.

2.2 MTP Restart and Route Set Test

During local or adjacent restart Route Set Test messages should not be generated to or from the restarting signalling point. Previously Route Set Test was started as soon as the link set became available irrespective of whether Restart procedures were enabled. Now Route Set Test is not started until restart is complete.

Dialogic
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Binary for Linux – MTP3

Release Notes for V5.03

1. Overview

This is a maintenance release to correct two areas of behaviour in MTP3 Timer configuration.

The release is fully backward compatible with the previous release.

2. Changes

2.1 MTP3 Restart Timer Default values

The default values used for timers associated with MTP Restart procedures have been moved to the middle of their permitted range. This includes correcting the value used by ITU timer T21 which had previously used an invalid default value of 30 seconds. The default value of T21 is now set to 64 seconds. This will not affect customers explicitly configuring timer values in MTP3.

2.2 MTP3 T1 Default value

Since V5.00 release, the default value for timer T1 (time controlled changeover) was incorrectly set to three seconds. This will not affect existing systems that explicitly configure timer values using the previous format of the timer message with length 64 Bytes. The default value of T1 is now set to 1 second.

Detail of the timer configuration message, MTP_MSG_CNF_TIMERS (0x7317), is provided in the release notes for V5.00 release.

Note: In the previous release, if the new format of the timer message with length 66 Bytes is used then the value used by T1 will be overwritten by the value used by ANSI_T27.

Dialogic
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Binary for Linux – MTP3

Release Notes for V5.04

1. Overview

This release implements several parameters that were defined in the Link Statistics message (MTP_MSG_R_LK_STATS) but not implemented.

It also fixes the default value of ANSI Traffic Restart Waiting Timer T28 and an issue with the configuration of Pseudo DPC routes.

The release is backward compatible with the previous release.

2. Changes

2.1 MTP_MSG_R_LK_STATS – Read Link Statistics Request

Three previously unsupported measurements have been added to the link statistics report using existing fields in the MTP_MSG_R_LK_STATS message: Remote inhibit duration, link failed duration, and RPO duration. In addition the calculation of local inhibit duration has been corrected.

2.2 ANSI Traffic Restart Waiting Timer T28

The default value of the ANSI Traffic Restart Waiting timer has been changed from 1 to 10 seconds to align with the ANSI specification.

2.3 Pseudo-DPC Default Route configuration

When a Default Route with a pseudo point code is configured, the Route Set Test procedure is automatically disabled (rather than requiring the user to explicitly disable it in the configuration message).

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