

**RcPAX Network System**

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**TESTABN**

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**EM Reference Manual**

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**Keywords:**

RcPAX, RC5000 MegaSwitch, RC5000 Network Switch, EM, TESTABN.

**Abstract:**

Description of EM Operations for TESTABN.

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## 1. Introduction

This document describes the Entity Management (EM) Operations for the "Test Answer Back from Network" Software Entity of the RC5000 MegaSwitch and the RC5000 Network Switch.

The EM operations described are implemented by TESTABN version 3.3.

Later versions will normally be backward compatible.

The kernel EM Operations are described in:

- RcPAX Operating System
- Entity Management Kernel
- EM Reference Manual
- PN: 99001421

and are therefore not described in this document.

None of the EM operations use the non-standard status bits (11-16).



## 2. Survey of all EM Operations.

### Operations

| <u>Number</u> | <u>Name</u>                   |
|---------------|-------------------------------|
| 0             | testabn request survey        |
| 1             | run midi testabn module       |
| 4             | set event bit mask            |
| 5             | get event bit mask            |
| 6             | get stat survey               |
| 7             | order events                  |
| 8             | set new netid                 |
| 10            | get testabn stream survey     |
| 11            | counterorder events           |
| 12            | set net news                  |
| 15            | set snoop criteria            |
| 16            | start input dump              |
| 20            | stop input dump               |
| 24            | set functional mode           |
| 25            | get functional mode           |
| 28            | reset req. on a stream        |
| 32            | disconnect module as DTE user |
| 36            | clear request on a stream     |
| 55            | read em zone a                |
| 59            | read em zone b                |
| 63            | read em zone old to new       |
| 67            | read em zone mask             |
| 71            | read program version          |
| 75            | read incarnation parameters   |
| 79            | read snoop criteria           |

### Events

| <u>Number</u> | <u>Name</u>       |
|---------------|-------------------|
| 31            | connect stream    |
| 35            | stream cleared    |
| 249           | snoop event       |
| 253           | trace event       |
| 254           | exception event   |
| 255           | events-lost event |



### 3. Control Operations.

#### 3. 1. set new netid (8)

##### Request and Answer data

| <u>Field name</u> | <u>Datatype</u> |
|-------------------|-----------------|
| new net dnic      | num16           |
| new net version   | num16           |
| new net name      | text-fix        |
| new net site      | text-fix        |
| new net operator  | text-fix        |

##### Function

No help text for this operation

##### Parameters

###### new net dnic

Min-max: 1000-7999

Std: 2383

###### new net version

Describes X.25 version by year of release by CCITT

Min-max: 1980-1992

Std: 1980

###### new net name

Describes the name of the public network defined by the owner(s)

Max chars: 21 Std:

###### new net site

Describes the name of the test site

Max chars: 21 Std:

###### new net operator

The name of the net operator (i.e. owner)

Max chars: 21 Std:

### 3. 2. set net news (12)

#### Request and Answer data

| <u>Field name</u>        | <u>Datatype</u> |
|--------------------------|-----------------|
| net news line first line | text-fix        |
| net news line last line  | text-fix        |

#### Function

No help text for this operation

#### Parameters

##### net news line first line

First line in net news is the second last line in the info menu

Max chars: 80 Std:

##### net news line last line

Second line in net news is the last line in the info menu

Max chars: 80 Std:

### 3. 3. start input dump (16)

#### Request and Answer data

None.

#### Function

No help text for this operation

### 3. 4. stop input dump (20)

#### Request and Answer data

None.

#### Function

No help text for this operation

### 3. 5. set functional mode (24)

#### Request data

| <u>Field name</u>   | <u>Datatype</u> |
|---------------------|-----------------|
| new functional mode | num8            |

#### Answer data

| <u>Field name</u>        | <u>Datatype</u> |
|--------------------------|-----------------|
| previous functional mode | num8            |

## Function

sets the functional mode of the whole module.

## Parameters

### new functional mode

Functional mode distinguishes between normal terminal conversational mode (functional mode =0) or fixed test mode (functional mode >0).

In fixed test mode the test is started immediately without any selections from the test menu.

Mode 1 =echo packet test

Mode 2 =black hole test

Mode 3 =test line

Mode 4 =test char packets

If adding 20 to the fixed tests, they are interruptable by interrupt-packets, which normally force logout.

Min-max: 0-255 Std: 0

### previous functional mode

## 3. 6. reset req. on a stream (28)

### Request and Answer data

| <u>Field name</u> | <u>Datatype</u> |
|-------------------|-----------------|
| stream number     | num8            |
| diagnostic code   | num8            |

## Function

Sends a reset request packet on a selected communication stream through the DTE, with a selected diagnostic code.

Diagnostic code 128 is recommended.

There is a HARD WAIT in the present implementation.

## Parameters

### stream number

The number of the communications stream on which a reset is performed

Min-max: 0-255 Std: 255

### diagnostic code

The diagnostic code sent to the remote end user

**diagnostic code**

The diagnostic code sent to the remote end user

Min-max: 0-255 Std: 128

**3. 7. clear request on a stream (36)****Request and Answer data**

| <u>Field name</u> | <u>Datatype</u> |
|-------------------|-----------------|
| Stream number     | num8            |
| Diagnostic code   | num8            |

**Function**

Sends a clear connection request packet on a selected communication stream, with the select diagnostic code.

Diagnostic code 128 is recommended.

**Parameters****Stream number**

The communication stream on which the clear packet is sent.

Min-max: 0-255 Std: 255

**Diagnostic code**

The diagnostic code sent to the remote end user.

Min-max: 0-255 Std: 128

## 4. Sense Operations.

### 4. 1. get functional mode (25)

**Request data**

None.

**Answer data**

| <u>Field name</u> |
|-------------------|
| mode              |

| <u>Datatype</u> |
|-----------------|
| num8            |

**Function**

No help text for this operation



## 5. Statistics Operations.

### 5. 1. get stat survey (6)

#### Request data

None.

#### Answer data

| <u>Field name</u>          | <u>Datatype</u> |
|----------------------------|-----------------|
| no of active streams       | num16           |
| no of free streams         | num16           |
| total no of calls          | num16           |
| no of calls to last stream | num16           |

#### Function

No help text for this operation

#### Parameters

##### no of active streams

"No of active streams" gives the number of currently active users.

##### no of free streams

"No of free streams" plus "No of active streams" gives number of possible streams.

##### total no of calls

Gives the number of calls to the testabn module, including the currently active call.

##### no of calls to last stream

Gives the numbers of calls to the last stream in the testabn module. If this value is "big", the number of streams is probably too small.

## 5. 2. get testabn stream survey (10)

### Request data

| <u>Field name</u> | <u>Datatype</u> |
|-------------------|-----------------|
| stream number     | num16           |

### Answer data

| <u>Field name</u>       | <u>Datatype</u> |
|-------------------------|-----------------|
| stream number           | num16           |
| number of calls         | num16           |
| calling dte             | text-fix        |
| stream state            | num16           |
| test state              | num16           |
| transmitted packets     | num16           |
| received packets        | num16           |
| interrupt packets       | num16           |
| number of resets        | num16           |
| number of lost packets. | num16           |
| connect time.           | hex-df20        |

### Function

No help text for this operation

### Parameters

#### **stream number**

the stream number to be examined.

Min-max: 1-65535 Std: 1

#### **number of calls**

Number of calls to this stream

#### **calling dte**

X.121 address of last called dte

#### **stream state**

Ordinal of stream state

#### **test state**

Ordinal of stream test state. If "stream state" is other than "perform test state", then "test state" is undefined.

#### **transmitted packets**

Number of packets transmitted. This connection only.

**received packets**

Number of packets received. This connection only.

**interrupt packets**

Number of interrupt packets received. This connection only.

**number of resets**

Number of resets. This connection only.

**number of lost packets.**

Number of lost packets. This connection only.

**connect time.**

Time of connection.



## 6. Old Event Ordering Operations.

### 6. 1. set event bit mask (4)

#### Request data

| <u>Field name</u>  | <u>Datatype</u> |
|--------------------|-----------------|
| bits to be updated | bit16           |
| new values         | bit16           |

#### Answer data

| <u>Field name</u> | <u>Datatype</u> |
|-------------------|-----------------|
| updated mask      | bit16           |

#### Function

No help text for this operation

#### Parameters

bits to be updated

Std: 11111111 11111111

new values

Std: 00000000 001 00000

### 6. 2. get event bit mask (5)

#### Request data

None.

#### Answer data

| <u>Field name</u>     | <u>Datatype</u> |
|-----------------------|-----------------|
| actual event bit mask | bit16           |
| actual event bit mask | bit16           |

#### Function

No help text for this operation



## 7. Transmission Events.

### 7. 1. connect stream (31)

#### Event data

| <u>Field name</u>       | <u>Datatype</u> |
|-------------------------|-----------------|
| stream number.          | num8            |
| calling dte addr length | num8            |
| calling dte addr        | text-fix        |
| facility length.        | num8            |
| 1. facility byte        | num8            |
| 2. facility byte        | num8            |
| 2. facility byte        | num8            |
| 3. facility byte        | num8            |
| 4. facility byte        | num8            |
| 5. facility byte        | num8            |
| 6. facility byte        | num8            |
| 7. facility byte        | num8            |
| 8. facility byte        | num8            |
| 9. facility byte        | num8            |

#### Function

No help text for this operation

#### Parameters

**stream number.**

number stream from the dte.

**calling dte addr length**

Number of bytes used from the calling dte address.

**calling dte addr**

X.121 address of the calling dte.

**facility length.**

Number of bytes in facility field.

## 7. 2. stream cleared (35)

### Event data

| <u>Field name</u> | <u>Datatype</u> |
|-------------------|-----------------|
| stream number     | num8            |
| xmit packets      | num16           |
| recv packets      | num16           |
| interrupt packets | num16           |
| number of resets  | num16           |
| packets lost      | num16           |

### Function

No help text for this operation

### Parameters

**stream number**

**xmit packets**

Number of transmitted packets from this connection.

**recv packets**

Number of received packets from this connection.

**interrupt packets**

Number of interrupt packets received in this connection.

**number of resets**

Number of reset on this stream in this connection.

**packets lost**

Number of packets lost on this stream in this connection.



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