

**CEM User
Release Notes
Release 19990509
9 May 1999**

NOTICE TO CEM USERS

As time goes on, RTS/CEM testing to provide error-free backwards-compatibility becomes increasingly difficult. Therefore, TYX Corporation very strongly recommends that CEM Users recompile and relink their CEM Modules after installing a new version of the RTS.

Overview

1.1 Enhancements

- 1.1.1 CEM Error Message Buffer Size increased.
- 1.1.2 CEM-to-RTS Decimal Values edited to remove trailing zeros.
- 1.1.3 CEM Model changed from Model 1 to Model 2.
- 1.1.4 CEM Model 2 - CEM-to-RTS Text Data Values delimited by DEL Character.
- 1.1.5 CEM Model 2 - RTS-to-CEM Information Messages.
- 1.1.6 CEM Model 2 - RTS-to-CEM Device Addresses Information Message.
- 1.1.7 CEM Model 2 - RTS-to-CEM ATLAS Statement Information Message.

1.2 Problem Reports

None

Detailed Description

2.1 Enhancements

- 2.1.1 CEM Error Message Buffer Size increased.

Prior to this Release, the CEM Error Message Buffer limited Error Messages to 40 Characters. Additionally, the CEM Kernel did not check for overflow when copying an Error Message into the Buffer.

With this Release, the CEM Error Message Buffer limits Error Messages to 79 Characters. Additionally, the CEM Kernel copies only the first 79 Characters of an Error Message into the Buffer.

- 2.1.2 CEM-to-RTS Decimal Values edited to remove trailing zeros.

Prior to this Release, CEM-to-RTS Messages containing Decimal Data Values with trailing zeros were formatted as (for example) "12.340000000".

With this Release, CEM-to-RTS Messages containing Decimal Data Values with trailing zeros are formatted as (for example) "12.34".

2.1.3 CEM Model changed from Model 1 to Model 2.

Model	Definition
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0	<p><u>UNIX Systems</u> URTS Version 19990310 3.9.10 and earlier.</p> <p><u>MS Windows Systems</u> WRTS Version 19980714 3.9.7 and earlier.</p>
1	<p><u>UNIX Systems</u> CEM Model 1 not defined for UNIX Systems. UCEM Modules built with RTS Version 19981111 3.9.8 and later CEM Files do have access to the new CONNECT, DISCONNECT, OPEN and CLOSE Non-ATLAS Actions. However, only the DISCONNECT Non-ATLAS Action has any real significance to UCEM Modules; it serves as notification that the UCEM Module is about to be terminated.</p> <p><u>MS Windows Systems</u> WRTS Version 19981111 3.9.8 and later. New capabilities:</p> <p style="padding-left: 40px;">Loading of WCEM DLL as part of WRTS processing associated with loading ATLAS Test Program.</p> <p style="padding-left: 40px;">If requested, unloading of WCEM DLL as part of WRTS processing associated with unloading ATLAS Test Program.</p> <p style="padding-left: 40px;">Access to CONNECT, DISCONNECT, OPEN and CLOSE Non-ATLAS Actions.</p>
2	<p><u>All Systems</u> RTS Version 19990509 3.9.11 (this version) and later. New capabilities:</p> <p style="padding-left: 40px;">CEM-to-RTS Text Data Values delimited by DEL Character.</p> <p style="padding-left: 40px;">RTS-to-CEM Information Messages.</p>

2.1.4 CEM Model 2 - CEM-to-RTS Text Data Values delimited by DEL Character.

Prior to this Release, CEM-to-RTS Messages (responding to RTS-to-CEM Fetch Requests) containing Text Data Values used ASCII Space (SP) Characters as Value Delimiters. To allow the Value itself to contain SP's, PTE read all Characters up to the LF. This design worked correctly only when a single Text Data Value was requested.

With this Release, CEM-to-RTS Messages containing Text Data Values use ASCII Delete (DEL) Characters as Value Delimiters.

Note DEL's are currently (and were previously) used to delimit Text Data Values in RTS-to-CEM Messages.

2.1.5 CEM Model 2 - RTS-to-CEM Information Messages.

Prior to this Release, there was no defined general purpose syntax for RTS-to-CEM Messages that could be used to transfer information from the RTS to the CEM Kernel in a backwards-compatible manner.

With this Release, the syntax of an RTS-to-CEM Miscellaneous Information Message is defined as follows:

MI { *KeyWord:Label=Data* } . . .

where: **MI** is a literal that identifies a Miscellaneous Information Message.

KeyWord represents a string that identifies the type of information.

: (colon) is a literal and separates *KeyWord* and *Label*.

Label represents a string that identifies the type of data.

= (equal sign) is a literal that separates *Label* and *Data*.

Data represents a string that defines the data value.

{ and } (braces) are not physically within the Message; they are only used for grouping within the syntax definition.

. . . (ellipsis) is not physically within the Message; it is used to indicate "one or more times" within the syntax definition.

If the CEM Kernel receives an MI Message that contains an unrecognizable *KeyWord* (as would happen if the RTS was a later version than the CEM Module), the CEM Kernel will quietly ignore the Message.

2.1.6 CEM Model 2 - RTS-to-CEM Device Addresses Information Message.

Syntax **MI { *Keyword:DeviceName:DeviceAddress* } ...**

where: *Keyword* is **MTA**, **MLA** or **MSA**.

DeviceName is the name of the Device as it appears in the Bus Configuration File.

DeviceAddress is the address of the Device as it appears in the Bus Configuration File.

This Message is sent to the CEM Kernel immediately after the CEM Kernel has responded to the RTS request for the CEM Module Version String. The CEM Kernel transfers the information to all appropriate entries in the **DevDat []** Table. The CEM Module thus has all Device Addresses whenever an **INTERFACECLEAR** Non-ATLAS Action occurs and whenever a **RESET** ATLAS Action occurs, regardless of whether or not a particular Device / Channel has been addressed to talk or listen.

Note Controller Addresses are not yet available. This limitation is expected to be addressed in the near future.

2.1.7 CEM Model 2 - RTS-to-CEM ATLAS Statement Information Message.

Syntax **MI { *STM:Label=Data* } ...**

where *Label* and *Data* are one of the following for the ATLAS Statement:

Label is **MN** and *Data* is the ATLAS Module Name.

Label is **LN** and *Data* is the Line Number.

Label is **SN** and *Data* is the Statement Number.

Label is **VB** and *Data* is the ATLAS Verb.

This Message is sent every time the RTS interprets a **DEV AIL**.

Note This information is not currently available to the CEM Drivers. This limitation is expected to be removed in the next RTS Release.

2.2 Problem Reports

None