

INTRODUCTION

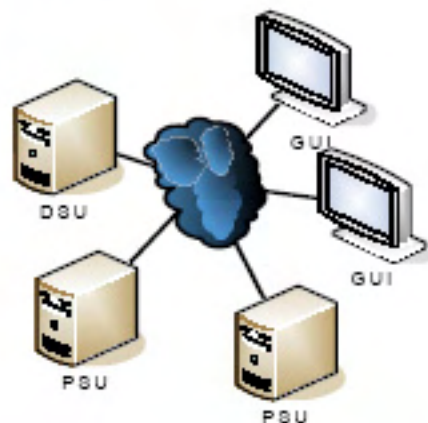
The Comtech Monitor And Control System (CMCS) provides management of Comtech EF Data equipment including modems, transceivers, up and down converters and redundancy switches. It constantly monitors the health of devices under management and provides a user-friendly interface for reviewing or modifying device configuration. CMCS software scales for managing networks of any size and accommodates network growth.

FEATURES

- Scalable for any sized network
- Permits the addition of new Comtech EF Data devices
- Software on one PC or distributed on multiple PCs
- Four Layer Architecture:
 - Graphical User Interface (GUI) Presentation
 - Database Services Unit (DSU) – provides data storage and acts as a communications hub
 - Polling Service Unit (PSU)– manages separate polling cycle for each serial port
 - Device Specific Objects (DSOs) – contains the specific device parameters
- Supports Comtech EF Data equipment
- Centralized SQL Database Storage
- Always On monitoring

FOUR LAYER ARCHITECTURE

CMCS uses a highly scalable, four layer architecture with software components that can be distributed across multiple IP-connected PCs as needed, or loaded on a single PC for smaller networks.



Graphical User Interface (GUI)

The GUI provides interactive access to the network with five main display components, which are described and illustrated on page 2:

- Title Bar
- Network Topology Tree
- Device Header
- Device Specific Display
- Software Connection Status

Database Services Unit (DSU)

Acting as a central communications hub, the DSU simultaneously supports as many as 20 GUI clients and Polling Services Units. When the DSU is launched, it reads configuration information from the database managed by the Microsoft SQL Database Engine (MSDE). All network configuration details in the database tables are constantly updated as device parameters change. A separate Device Specific Object is instantiated in memory for each physical device under management.

The Database tables hold the network topology information and error logs (for errors generated by the physical device's firmware). If a device has statistical gathering features that are enabled, these entries are also recorded in the database.

Polling Services Unit (PSU)

On one side, the PSU interfaces with the DSU, and on the other it manages a separate polling cycle for each serial port. This arrangement minimizes traffic to the DSU because only changes in configuration or status are transmitted.

Device Specific Objects (DSO)

The code necessary for working with a particular model of equipment is part of a DSO and is accompanied by all of the data relative to a particular device. The Polling Service is constantly checking each device and updating its copy of the DSO as necessary. Changes to a DSO are then forwarded to the DSU that both acts as a central repository for the DSOs and provides intelligent forwarding to all logged in GUIs.

PLATFORM REQUIREMENTS

Required Software	Microsoft Windows 2000 Professional or XP Professional operating system
PC Hardware	Microsoft Windows 2000 or XP supported CPU (Pentium 4 with ≥ 2.0 GHz clock speed) 512 MB RAM (or greater) 40+ GB of Local Hard Disk space CD Rom Drive 100BaseT NIC or faster 1280 x 1024 or greater graphics resolution (See the Installation Guide for multiple PC installation information.)

DEVICES CURRENTLY SUPPORTED

Modems	CDM-550T CDM-570L CDM-600 CDM-600L SLM-7650
Transceivers	KST-2000 CSAT
Converters	DT-4503 Down Converter UT-4505 Up Converter



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Graphical User Interface (GUI)

A Device Specific Display is presented based upon the particular device selected and provides access to the device's control and monitor parameters and any event logs or statistics.

A Title Bar at the top of the window displays the communications channel opened and displays the full path name when a specific device is selected.

The Device Header appears when a specific device is selected beneath the Network Topology Tree and reports circuit ID information entered into the device.

Date and Time	Minimum SDRs	Average SDRs	Maximum Tx Power Increase	Average Tx Power Increase
6/26/2004 1:32:32 PM	Loss	15.0	0.0	0.0
6/26/2004 9:02:27 AM	Loss	15.0	0.0	0.0
6/26/2004 9:52:25 AM	15.0	15.0	0.0	0.0
6/26/2004 9:42:25 AM	15.0	15.0	0.0	0.0
6/26/2004 9:32:25 AM	15.0	15.0	0.0	0.0
6/26/2004 9:22:25 AM	15.0	15.0	0.0	0.0
6/26/2004 9:12:25 AM	15.0	15.0	0.0	0.0
6/26/2004 9:02:25 AM	15.0	15.0	0.0	0.0
6/26/2004 8:52:25 AM	15.0	15.0	0.0	0.0
6/26/2004 8:42:25 AM	15.0	15.0	0.0	0.0
6/26/2004 8:32:25 AM	15.0	15.0	0.0	0.0
6/26/2004 8:22:25 AM	15.0	15.0	0.0	0.0
6/26/2004 8:12:25 AM	15.0	15.0	0.0	0.0
6/26/2004 8:02:25 AM	15.0	15.0	0.0	0.0
6/26/2004 7:52:25 AM	15.0	15.0	0.0	0.0
6/26/2004 7:42:25 AM	15.0	15.0	0.0	0.0
6/26/2004 7:32:25 AM	15.0	15.0	0.0	0.0
6/26/2004 7:22:25 AM	15.0	15.0	0.0	0.0
6/26/2004 7:12:25 AM	15.0	15.0	0.0	0.0
6/26/2004 7:02:25 AM	15.0	15.0	0.0	0.0
6/26/2004 6:52:25 AM	15.0	15.0	0.0	0.0
6/26/2004 6:42:25 AM	15.0	15.0	0.0	0.0
6/26/2004 6:32:25 AM	15.0	15.0	0.0	0.0
6/26/2004 6:22:25 AM	15.0	15.0	0.0	0.0
6/26/2004 6:12:25 AM	15.0	15.0	0.0	0.0
6/26/2004 6:02:25 AM	15.0	15.0	0.0	0.0
6/26/2004 5:52:25 AM	15.0	15.0	0.0	0.0
6/26/2004 5:42:25 AM	15.0	15.0	0.0	0.0
6/26/2004 5:32:25 AM	15.0	15.0	0.0	0.0

Network Topology Tree displays the network configuration in hierarchal manner using groupings of devices established by the user. Each layer in the hierarchy is color coded to summarize the status of all the devices or containers it represents.

Software Connection Status is a summary display of the overall health of the network (both the devices being monitored and the actual CMCS software components).



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