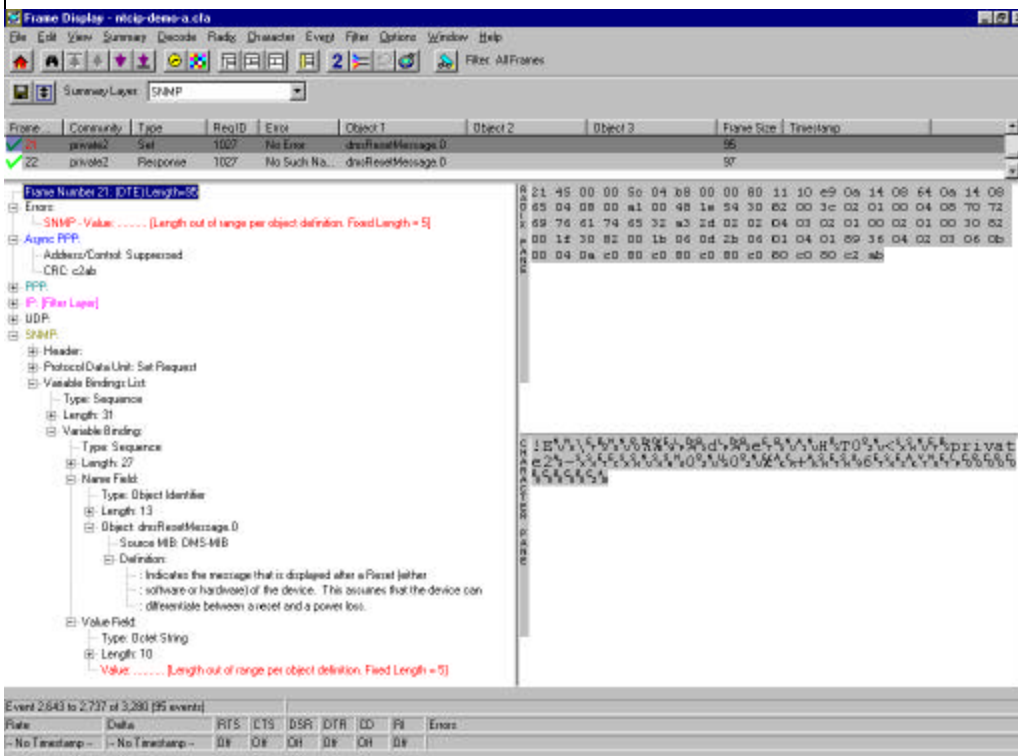
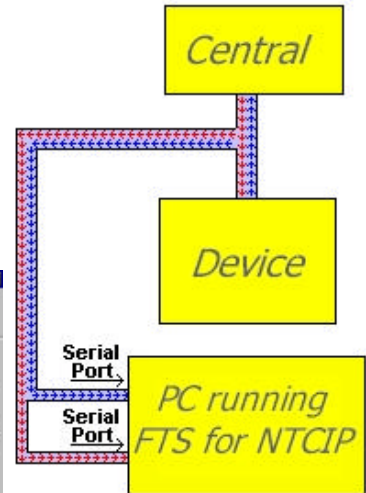


FTS™ for NTCIP™

A Protocol Analyzer for NTCIP Communications

Inspect and debug NTCIP systems simply and easily using the *FTS for NTCIP* software running on any Windows-based system.

Introducing *FTS for NTCIP*, a protocol analyzer for the NTCIP™ family of protocols. *FTS for NTCIP* allows a user to monitor the live data streams sent between a central system and its field devices by listening to both sides of the communications channel. For serial links, this is accomplished through a special connection, as shown to the right; for Ethernet, it is accomplished with a standard Ethernet Card (NIC). There is even special software provided (Spy) that allows the user to monitor information exchanged through an internal modem.



FTS for NTCIP is an indispensable tool for NTCIP development, integration, and testing. The software allows the user to quickly identify and debug problem areas through various displays and features. This reduces R&D expenses and troubleshooting time for NTCIP equipment and systems.

The *FTS for NTCIP* feature set includes real-time data capture, timestamping, filtering, and error analysis. The product's truly differentiating attribute is its

ability to fully decode data frames on the link between an NTCIP central system and field controller—at the bit level. This full decoding capability enables NTCIP product developers, system integrators, and field service personnel to rapidly detect and isolate even the most minute and intermittent problems associated with their product designs, even in live systems.

A Jointly Developed Product from Two Industry Leaders

Frontline Test Equipment is a proven supplier of serial data protocol analyzers, having shipped over 25,000 since 1988. Their base product was enhanced by **Trevilon Corp.**, an industry leader in the development of ITS Standards, especially in the area of the NTCIP. This key partnership has produced a high-quality, user-friendly, and reliable NTCIP protocol analyzer at a reasonable price.

FTS for NTCIP is a member of the award winning Frontline Test System product family.

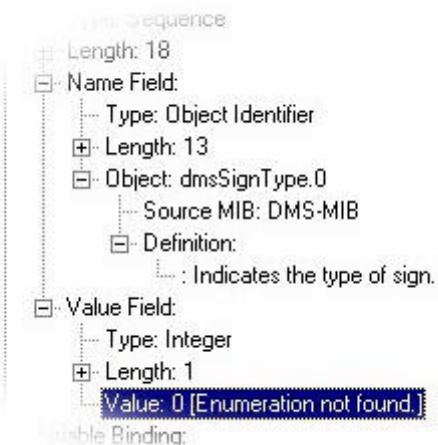
Summary Displays for Each Frame

The user is able to quickly sift through large amounts of data using the Summary pane of the Frame Display window. Each frame received is displayed on its own line appropriately shaded to indicate the sender of the message.

Any frame with a detected error has its frame number highlighted in red. The user is able to select a variety of different summary displays depending on which level of the communications stack is of interest at the time. And of

course standard search features are provided to allow the user to sort the frames based on any summary field and to search for errors and/or user defined search terms occurring in either the byte stream or decode.

| Frame No. | Comm... | Type | Req ID | Error | Object 1 |
|-----------|----------|----------|--------|----------|---------------------------|
| 1 | private2 | Get | 2 | No Error | dmsSignType.0 |
| 2 | private2 | Response | 2 | No Error | dmsSignType.0 |
| 3 | private2 | Get | 3 | No Error | dmsSignAccess.0 |
| 4 | private2 | Get | 4 | No Error | vmsCharacterHeightPixe... |
| | private2 | Response | 4 | No Error | vmsCharacterHeightPixe... |
| | private2 | Get | 5 | No Error | dmsNumPermane... |



Detailed Decodes

The biggest benefits in the software are in the detailed decodes. Each field of each frame is decoded with an English description in a tree structure. Selecting a field will automatically highlight the associated bytes in the binary, hex, and ASCII views of the data stream.

For objects within the message, this design goes one step further by translating the object identifier into its name (e.g., dmsSignType.0 in the figure) and then presenting the user with the reference of where this object is defined and its definition. Finally, the value of the object is range-checked against its formal definition and properly formatted for viewing, which includes displaying the names/meanings of enumerated values and using a traditional time format for globalTime. Any errors discovered in the decoding process are shown in red with an explanation. This translation allows the user to concentrate on the task at hand rather than constantly referencing source materials and introducing human errors into the process.

Supported Protocols

NTCIP Subnet Level

PMPP-232, PPP-232, Ethernet, PMPP-FSK via Spy feature

NTCIP Transport Level

T2 (Null), Internet (UDP/IP and TCP/IP)

NTCIP Application Level

SNMP, STMP*

NTCIP Information Level

Preconfigured with Global, ASC, DMS, and ESS. Ability to compile any MIB to recognize new data objects as needed.

System Requirements

Windows 95/98/Me/NT/2000 desktop or laptop PC

For serial data capture, two available serial ports**

For Ethernet data capture, an Ethernet port

For internal modems, Spy software (provided)

* STMP decodes are not supported in prerelease version

** PC and PCMCIA cards may be purchased separately to increase the number of serial ports available on the machine.

A Generalized Data Analyzer as Well

In addition to outstanding protocol decode features, *FTS for NTCIP* is also a full-featured serial data analyzer that supports detailed low-level byte-by-byte analysis of the data stream.

**Download the *FTS for NTCIP* demonstration
version now from either:
<http://www.fte.com> or <http://www.trevilon.com>**



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