Observer® DICOM

Protocol Analysis for the Medical Industry

Network Instruments® teamed up with electronics and engineering powerhouse Siemens to co-develop an extension module for Observer to decode and analyze the interaction procedures for medical/technical equipment that utilizes DICOM (Digital Imaging Communications in Medicine standard).

About DICOM

The DICOM standard is a specification for packet structure, as well as a communication definition for exchanging data between medical equipment. DICOM relies on industry standard network connections (TCP/IP) and, because of this reliance, is an efficient method for communicating digital images from diagnostic devices to display systems. DICOM is used for CT and MR, including nuclear medicine, ultrasound, computed radiography, digitized film, video, capture, HIS/RIS information, and connections between networked hardcopy output devices.

Observer's Role

The development of a decoder module for a protocol analyzer based on a standard Microsoft platform (PC or notebook) addresses the need technicians have to carry an affordable, portable DICOM diagnostic tool. Observer's easy to use interface combined with added DICOM decoding capabilities provides a quick and efficient troubleshooting tool, which technicians can utilize to pinpoint malfunctions in networked medical environments.

Networks commonly have problems and/or configuration issues that can cause downtime, some of which may be DICOM-related problems. For example, new network installations or network additions in such environments often produce system malfunctions and hardware mismatches. These malfunctions can be due to ongoing network traffic problems or even incompatible systems from different vendors causing communication failures. Observer DICOM provides the technician or administrator with visibility into both general (network) and specific (DICOM) communications to quickly identify problems and speed troubleshooting–maximizing network performance.

Functionality

Display

Observer's DICOM protocol decode and packet view is shown in three ways:

1. **PDUs of DICOM Upper Layer Protocol:** Observer's packet summary window shows captured PDUs of DICOM Upper Layer Protocol in order of appearance. Selected PDUs can then be decoded and displayed.
2. **DICOM Messages:** Command and data messages are sorted, and selected messages are decoded and displayed. Because the raw data and decodes are displayed simultaneously, they can be compared line-by-line.
3. **Raw Data TCP Packets:** The DICOM data within the TCP packets is displayed in Hexadecimal.

Decode

DICOM Upper Layer, command and data are decoded. Decode of private data elements is also possible through a user-defined text file.

Error Display

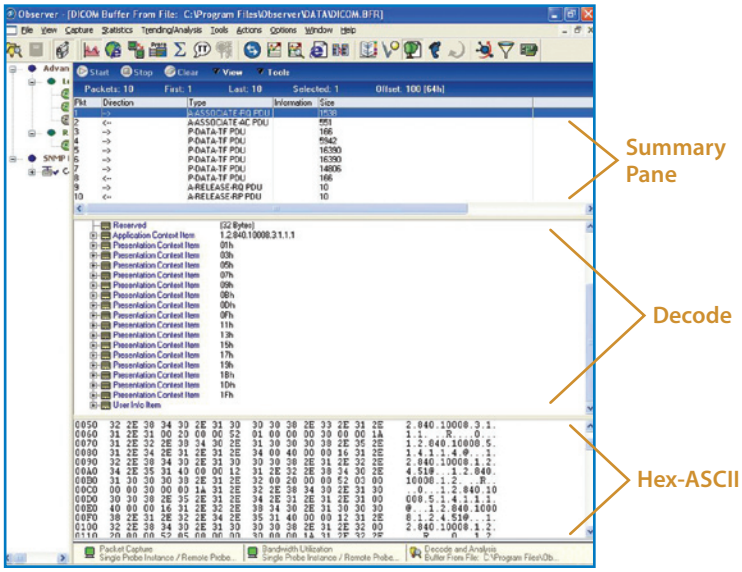
Type check of single data elements.

System Requirements

For DICOM system requirements, go to www.networkinstruments.com/dicom.

Licensing

Observer DICOM is licensed for one PC (or one laptop) on one LAN at one site. If Observer DICOM is to be loaded on additional PCs or laptops, a separate license is required for each device.



DICOM Decode Screen

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