

## WISTOM Network Monitoring System

### The complete optical layer monitoring solution for your entire DWDM network

*WISTOM Network Monitoring System (WNMS) is a powerful monitoring tool that, together with WISTOM optical layer monitors, supervises the status of key optical parameters in your DWDM network.*

By distributing WISTOM units in critical nodes in your DWDM network and connecting them to WNMS you will get instant access to the optical layer with one software. Key parameters for each monitored channel as well as historical information is easily accessible through an optimized interface.

WNMS displays the network as a comprehensible map where the current condition and any anomalies are clearly indicated. WISTOM units, ports and channels are named by the user to obtain intuitive overviews. Detailed information such as power, wavelength and OSNR for each channel, can easily be displayed by clicking on a node. Also, a high resolution spectrum can be displayed for extensive analysis of any link.

Alarms, channel data and the full spectrum are logged to files at configurable intervals, or automatically when alarms occur. The collected data is used for trend analysis, report generation and detailed examination of failure processes.

Due to the unique WISTOM platform and an optimized software design, WISTOM and WNMS forms a powerful solution for cost-effective and reliable optical layer monitoring in today's as well as in future DWDM networks.

#### Key features

- Detailed information and analysis
- Comprehensive network map overview, displaying the condition of the optical layer in real-time
- Alarms and warnings indicate anomalies
- Advanced logging of alarms, channel data and full spectrum graphs
- Alarm acknowledgement procedures for user interaction and fault processing
- Email and SMS alerts
- Advanced log analysis

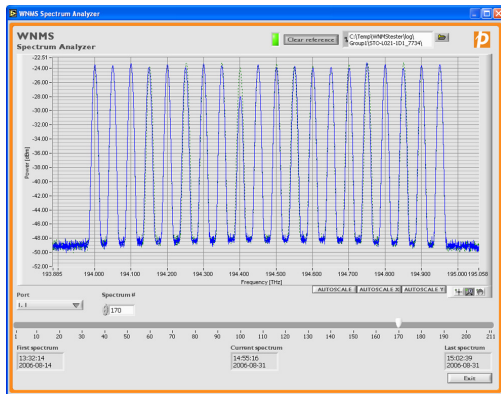
#### Applications

- Optical layer monitoring for the entire network
- Key values and customized reports verifies QoS and SLAs
- Long-term trend analysis
- Effective fault localization
- Proactive instead of reactive fault management

WISTOM is a high performance optical layer monitor that measures power, frequency and OSNR for up to 2048 DWDM channels in eight different fibers. It is aimed for applications in DWDM long haul and metropolitan area networks.

Any channel deviating from normal conditions is reported within milliseconds. Spectral characteristics, such as power, central frequency and OSNR of each channel are monitored and reported. The long term drift of these parameters can be tracked and analyzed, thus providing input for network tuning and resource allocations.

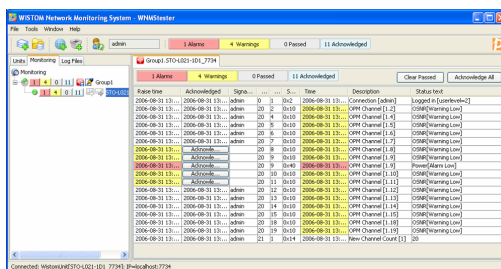
With WNMS, WISTOM now becomes the ultimate tool for monitoring the optical layer in DWDM networks. Installed in critical nodes and used as a portable measurement instrument, WISTOM paired with WNMS will avoid as well as help to resolve problems throughout the network.



Browse spectrum history to study trends and intermittent problems.



Detailed channel analysis.



Alarms are comprehensible displayed, and acknowledgement procedures enable proper fault processing.

## OPTICAL LAYER MONITORING

Number of WISTOM units	1 – 50+
Monitoring capacity	1–16 fibers/unit 2048 channels/unit
Surveillance (alarms)	Power; frequency, OSNR, lost/new channel
Measured channel parameters	Power; frequency, OSNR, FWHM
Other parameters	Total power in spectrum
Detection time	10 ms (typical)
Alarm latency	50 ms (typical)

## FUNCTIONS

Network map	User editable and with alarm status
Alarm overview and summary	Yes
Alarm actions	Indicators, spectrum log, email, SMS
User-defined naming of entities	WISTOM units, ports and channels have individual names
Detailed alarm information for each node	Time-stamped alarms, alarm information, acknowledgments, history
Alarm acknowledgement procedures	Time stamps and user ids track processing
Access to detailed information	Real-time spectrum and channel data for each node
Data storage	Alarms, channel power; frequency and OSNR, total power; spectrum graph
Log / storage interval	10 ms to 1000 hours
Time stamp resolution	1 millisecond
Automatic connection and reconnection to WISTOM units	Yes
Log analysis	Filtered alarm logs, channel data plots, spectrum browser; total power graphs

## PLATFORM

WNMS client platform	Windows 2000/XP/Vista
Communication protocol	TCP/IP
Data storage	Tab separated ASCII