PTP 820 Network Management System (NMS)

About
PTP 820 NMS is a comprehensive scalable Network Management System for managing large-scale wireless backhaul networks. It enables cost-effectively managing thousands of network elements and increasing your operational efficiency.

Performance
Supports up to 20K network elements
Current and historical performance views
Collection of G.826, Ethernet, ACM, and Analog data

E2E Service Management
Automatic discovery of E2E services on elements
E2E Ethernet and TDM service provisioning
Service alarms
Alarm-to-Service correlation
Service creation wizards

Network Topology & Discovery
Automatic network element & topology discovery
Hierarchical tree and map views
Topological links view
IPv6 support

Operational
Element SW download and upload
Element configuration backup and restore
Northbound Interface
Open SNMP support
Auto configure trap managers, NTP
Scheduled auto-discovery and configuration (backup)

Fault Management (Alarms)
Full life cycle and customization
Alarms template for PTP 820 NMS alarms
Alarm forwarding to Northbound OSS
Fault severities
Active and historical alarms
Acknowledging/Unacknowledging alarms
Up to 1000 traps per minute

Configuration
Connection templates defining communication between network elements and PTP 820 NMS
Element hardware, software, and transmission inventory
Ping, traceroute, and CLI script broadcast

Security
User and Group account administration
Resource Permissions, Action permissions
Audit logging
Import of user profiles
RADIUS client support
Network element secure access (HTTPS, SFTP)
SNMPv3
User password rules and expiration
Secured CLI broadcast

Operating system
Solaris 10, 11
Windows 2016
Database: Oracle 11g R2 64-bit, 12c; or PostgreSQL 9.4.x
Redundancy
Server high availability
Database high availability
Supports Windows and PostgreSQL
Supports both 1+1 and 2+2 HA configurations

GUI
Hierarchical tree views
Hierarchical map views
Table views
Configuration views
Filtering, sorting, drill-down
Alarm visualization
Table exporting
Predefined & customizable perspectives
  o Alarm
  o Discovery
  o Topology
  o Ethernet services
  o TDM services
  o Security audit
  o User management
Web UI for administrative tasks
  o Database administration wizards
  o License administration wizards
  o Task log, server log
  o High availability monitoring

Reports
Performance monitoring reports
  o Interface performance reports:
    Ethernet radio, E1/DS1, STM1/OC3
  o Radio
  o Radio Ethernet
  o RMON
  o TDM trails
  o SFP optical power
  o Traffic queue
  o Input voltage
  o Performance overview, performance details

Inventory reports
  o Frequency Change Report
  o Full Link Report
  o Network Element Report
  o Radio Report
  o Licensing Report
  o Versions Report
  o SFP Inventory Report
  o Serial Numbers Report
  o HW, SW, Transmission inventory

Alarm reports
  o Alarm log
  o Current alarms
  o Alarmed elements
  o Alarm frequency

Report scheduling

Standards
General
  o TMF608 MTNM information agreement

Fault Management
  o ITU-T X.733 alarm reporting function
  o ITU-T X.734 event report management function
  o ITU-T X.735 log control function

Performance Management
  o ITU-T G.826 end-to-end error performance
  o ITU-T G.784 SDH management

Network Elements Support
All Outdoor:
  o PTP 820C, PTP 820C-HP, PTP 820S, PTP 820E

Split Mount:
  o PTP 820G, PTP 820F
  o RFU-A, RFU-C, RFU-D, RFU-E, RFU-S
### Supported Link Configurations

<table>
<thead>
<tr>
<th>Feature</th>
<th>PTP 820G</th>
<th>PTP 820F</th>
<th>PTP 820C</th>
<th>PTP 820C HP</th>
<th>PTP 820S/E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1+0 Radio link</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>1+1 HSB Radio Protection Groups</td>
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<tr>
<td>2+0 Radio LAG groups</td>
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<td>✓</td>
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<tr>
<td>2+0 Radio LAG groups with XPIC</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>2+0 XPIC groups</td>
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<td>✓</td>
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<tr>
<td>Multi-Carrier ABC (Multi-Radio) N+0 groups, where N can be 1 through 8</td>
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<tr>
<td>Multi-Carrier 2+0</td>
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<tr>
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<tr>
<td>1+0 Radio link space diversity w/wo LAG or XPIC or LAG+XPIC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
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</table>