

# Tellabs® Panorama™ Integrated Network Manager (INM)

## Panorama INM Overview

### Introduction

The Tellabs Panorama INM offers a complete management solution for the Tellabs® 1000 Multiservice Access Platform (MSAP), the Tellabs® 1100 Multiservice Access Platform, the Tellabs® 1000 Voice Gateway (VGW) and the entire portfolio of Tellabs ONUs and ONTs. This will allow the Network Operator economy of scale across all Tellabs' access systems for better year over year OpEx savings (e.g. reduced hardware cost, reduced software cost, less training and less support).

Panorama INM provides an easy-to-use Graphical User Interface (GUI) and online help utility, enabling users to accomplish complex network element activities through simple point-and-click operations. It also features client-server architecture and is available for both Solaris™ and Windows® operating environments. Panorama INM hosts a suite of North Bound Interfaces (NBI) that enables the Network Operator to automate back-end office operations and further reduce the cost of business.

Benefits for the Network Operator include the ability to proactively monitor the status of the end-to-end network, network view immediately identifies issues or alarms, real-time knowledge of network status eliminates surprises and the support of automatic discovery of the deployed network elements. Ultimately, this allows the Network Operator to reap the rewards of improved customer satisfaction by taking proactive actions to assure the health of the access network.

The feature-rich Panorama INM offers full Fault, Configuration, Accounting, Performance and Security (FCAPS) capabilities, such as:

- Fault Management (i.e. Alarms, Diagnostics & Troubleshooting)
- Configuration Management (i.e. Provisioning & Upgrades)
- Automation Management (i.e. OSS, Backups & Restorations)
- Performance Management (i.e. Reporting Generation & Inventory Management)
- Security Management (i.e. User Roles & Access Controls)
- Inventory Management



Figure 1: Tellabs Access Solutions Target Applications

## Fault Management - Alarms & Troubleshooting

Fault Management speeds the identification and fix of network problems. Troubleshooting minor errors is a proactive means of preventing customer services effecting events. Panorama INM gives quick visual identification of alarms and show severity in many different views. It stores data continuously allowing activities, events, and alarms to be recorded over time easily. This function also provides an audit trail of useful information for root cause analysis.

The fault management functions allow personnel to drill down into alarm detail and add alarm tracking notes. This process is streamlined with filtering, sorting, event log and aging capabilities. Panorama INM can also be integrated with customers' third party fault management systems.

In the unfortunate event that a problem was started by human error, Panorama INM provides that visibility so that training can be provided to make sure that human error does not occur again. Furthermore, troubleshooting is simplified for user with built in hot links to relevant technical documentation.

Ultimately, with this fault, alarm and troubleshooting capabilities be leveraged, the Network Operator can reduce number of truck rolls by discovering root cause with Panorama INM proactively without dispatching additional personnel.

## Configuration Management - Provisioning & Upgrades

Configuration Management is very important for flowing consistent and accurate network changes. Panorama INM allows for centralized management of software upgrades and global provisioning. It allows end-to-end profiles to be defined, and saved, based on services offered to customers, and then quickly point and click to assign such profiles to specific customers. This pre-defined controlled process reduces errors by enforcing validation rules. This global configuration can also be applied to cross-connects .

System software upgrades can be most efficiently managed through Panorama INM. By managing them centrally the Network Operator can be assured that all systems across different regions are running on the most current full-featured software loads. And these upgrades can be remotely pushed down to multiple systems simultaneous with little to no support in the field.

System hardware upgrades can also be streamlined by pre-provisioning slots in preparation for receiving new hardware. This saves the Network Operator time and thus money for minimizing the need for outside plant personnel. Telco can shorten time to revenue by simplifying service delivery.

Network Operators will benefit by using their most skilled technical staff to define these global configurations, pre-provisioning and/or upgrade parameter that all staff access nationwide. Then regardless of skill set, Panorama INM colored font and dialog boxes alerts personnel when a service effecting change is forth coming.

## Automation Management - OSS, Backup & Restoration

In the above Configuration Management section we discussed reducing human interaction, and now in this Automation Management section we will outline the elimination of human contact for the greatest operational savings. Panorama INM Automation Management allows for machine-to-machine integration by leveraging the Network Operator's internal OSS systems. With northbound interfaces such as TL1, and SNMP, Panorama INM can provide automated flow-thru OSS provisioning, OSS Alarm identification, OSS Alarm notification, schedule network element backups and Panorama INM backups.

the Network Operator can benefit from scheduled backups by capturing configurations and data base info regularly. With automation in place, the Network Operator can scale efficient and effective practices across networks, equipment & people. It also influences corporations' ability to achieve "Skillset reduction" across workforce and thus lower labor cost. And with automation at its roots, it can reduce mission critical redundant tasks effectively to zero dollars.

## Performance Management - Report Generation and Inventory Management

Performance Management provides regular snapshots of the health of the overall network. By capturing the performance data and generating useful reports, the Network Operator can be assured that their networks are running smoothly. These reports can be scheduled and automatically generated.

This is key to traffic management and monitoring the network utilization at the ports, cards, transport and uplinks of the access network. Once a baseline is established, threshold alarms can be set to identify when ports, cards, transport and uplinks are reaching their statistical ceilings. Along with the statistics, reports can be produced that show cross connects, profiles, configurations, software and hardware so that the Network Operator can identify optimal performance and replicate elsewhere.

The Inventory Management is also very important to the Network Operator. It allows for tracking of the entire network element's hardware. It can show used and un-used cards, slots and capacity. This can help with identifying effective utilization of hardware and where network elements can support next generation broadband services like 25 Mbps HSI service and IPTV/VoD services. This allows the Network Operator to gain a quick view effectively utilized and under-utilized assets across geographically diverse regions. There are quantifiable benefits in capturing and repurposing these assets where they can generate better revenues for the Network Operator.

Not only can performance and inventory reports be used to proactively identify systems for capacity upgrades, they can also be used to report any state PUC or internal corporate broadband commitments.

Effectively, Panorama INM performance management, inventory management and report generation allows Network Operator employees to always have pertinent network information at their finger tips and focuses them on revenue generating tasks, and not mundane report generation and completion.

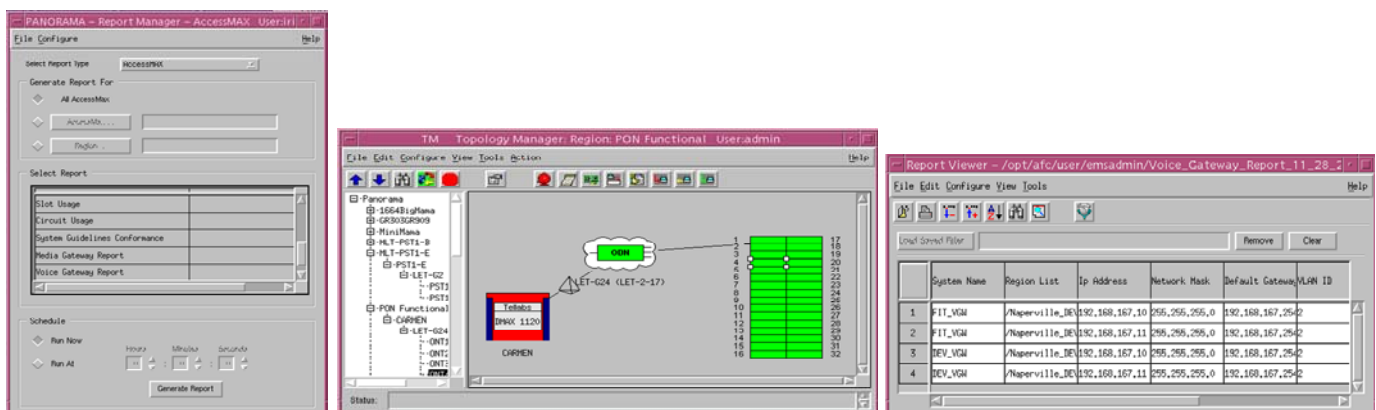


Figure 2: Performance Management and Inventory Management Report

## Security Management - User Role & Access Control Administered Centrally

Security Management is essential for defining the user roles and actions users can take. Simply stated, Panorama INM allows you to define a hierarchy of roles and then associate role to users. Users then access Panorama INM through a log-on menu screen that captures their user names and user passwords. At its core, Panorama INM utilizes the strongest security functionality built into Solaris, Windows, IPv4, IPv6 and IPsec. This security management provides the Network Operator with an insurance policy against the unfortunate event of a rogue employee attempting to access the network for malicious purposes or seemingly an unqualified employee overextends their technical aptitude.

## Panorama INM Business Case

Automation of globally flowing services results in fewer steps to provisioning services, and ultimately leads to operational savings for the Network Operator. Panorama INM user-friendly GUI and keystroke reduction reduces the chances for human error. It simplifies provisioning by shielding users from the underlying complexity of the technologies and focuses their attention on the end-points configurations.

Less human error rewards the Network Operator with higher customer satisfaction. With Panorama INM color coded text and pop-up boxes warning employees of service affecting changes, the probability of human mistakes are reduced. One person, one click, can flow global profile changes to all multiple systems with the proactive creation of global profiles for services and transport. Saving these global configurations saves the Network Operator employees from performing redundant tasks.

Ultimately, fewer employees need to be trained on the access equipment and on Panorama INM. Panorama INM also has embedded links to relevant technical documentation that can assist with on-going learning and reduce the need for training. If training is reduced, the Network Operator can save significant money and lower training costs by 87% under some circumstances. For example, equipment training is typically three days, and EMS training is typically two days. If the Network Operator trained 10 regional staff members, the cost would be \$12,250. If the Network Operator had to train 50 staff members across the nation, then the cost would increase to \$91,875. This does not factor in productivity lost while all these employees are away at training.

Network Operators can also benefit increase productivity through automated provisioning, performance management, inventory management, scheduled data backup and software upgrades. Relative to software upgrades, a centrally managed multi-system upgrades versus one system on-site upgrade can lower the Network Operator labor costs by 90%. Consider 10 systems simultaneously upgraded in one maintenance window would cost \$7,200. Then consider 10 systems upgraded over 10 nights would cost \$72,000, and you would still need to factor in the travel expense. Also, consider the example of time spent manually capturing mission critical backup of port usage, performance, configuration and database over a year. In this example, if it took an employee 30 minutes at \$75 per hour at 10 locations, and this task was performed by 10 employees tasked per year, it would cost the Network Operator around \$136,875. This is in comparison to negligible costs for year-over-year cost for machine to machine backup.

## Summary

With Panorama INM managing all of the Tellabs access portfolio, the Network Operator can operate more effectively and efficiently. This will allow the Network Operator to scale across people, technologies, regions and equipment for great year over year OpEx savings (e.g. reduced hardware cost, reduced software cost, less training and less support). Service and system failures quickly restored with troubleshooting shortcuts and hotlink to technical documentation. Root cause analysis can proactively capture events and fix them to minimize and eliminate future outage. Less human interaction, less human error, and less training for employees can save the Network Operator additional money. Roll all of these benefits together, and the Network Operator delivers high quality services to their end customers better than their competitors.

For more information, please contact your local Core Telecom Systems sales representative, at the phone numbers provided below or visit [www.coretelecom.net](http://www.coretelecom.net)

Core Telecom Systems  
1131 North Warson Rd.  
St. Louis, MO 63132

Toll Free: (888) 375-8826  
Fax: (314) 372-0233  
[www.coretelecom.net](http://www.coretelecom.net)

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