

The Alcatel 561x CMIP/CORBA Network OSS Interfaces, formerly the 81x CMIP/CORBA\*, open the door to numerous integration opportunities, enabling service providers to deliver sophisticated services based on flowthrough operations.

The Alcatel 5611 CMIP Network OSS Interface (CMIP) is a common management information services (CMIS)/TMN-compliant OSS (operations support system) gateway.

The Alcatel 5612 CORBA Network OSS Interface is a common object request broker architecture (CORBA)/JIDM-compliant OSS gateway.

The 561x interfaces enable a peer network manager or OSS to interoperate with a 5620 Network Manager, formerly the 46020 NM\*, in a multivendor environment. The functions and object model of the 561x are based on specifications from the International Telecommunications Union (ITU) and the TeleManagement Forum (TMF).

The 561x interfaces allow an OSS to perform operations that include path management, alarm management, inventory management and test management.



Interoperability  
in a multivendor  
OSS environment



ALCATEL

ARCHITECTS OF AN INTERNET WORLD

## OSS Integration

The Alcatel 561x Network OSS Interfaces provide the key OSS integration portal into the Alcatel network. The 561x interfaces maintain a model of the network in their object oriented management information base (MIB) and make this information available to other OSSs using standard protocols. The 561x MIB is synchronized in real time with the network via the 5620. The 561x extends the Alcatel strategy of interoperability, permitting other vendors' systems to interact with the 5620 network to:

- ▼ manage events and alarms
- ▼ create, modify and delete paths
- ▼ obtain network inventory and status
- ▼ discover a network's topology
- ▼ manage statistics collection
- ▼ perform diagnostic and test access operations

Some of the network objects that can be accessed through the 561x Network OSS Interfaces include:

- ▼ network (supply network or network partitions)
- ▼ groomed circuits (or 5620 paths)
- ▼ facilities (or 5620 links)
- ▼ groomed circuit termination points (or 5620 path-ends)
- ▼ facility termination points (or 5620 logical or physical link endpoints)
- ▼ managed elements (nodes), equipment holder (shelves, card slots), managed packs (cards)

Through the 561x an OSS application can quickly and cost-effectively provision connections across an Alcatel network or isolate and manage network problems.

## Applications

### Automation of management processes

The 561x Network OSS Interfaces are powerful tools for automating connection management, surveillance and other operations processes. For example, network alarms could automatically trigger external processes, such as customer notification.

### Multivendor integration

The 5620 Network Manager's multivendor capabilities can be extended to OSS systems using the 561x. This allows all OSS applications to access third party equipment.

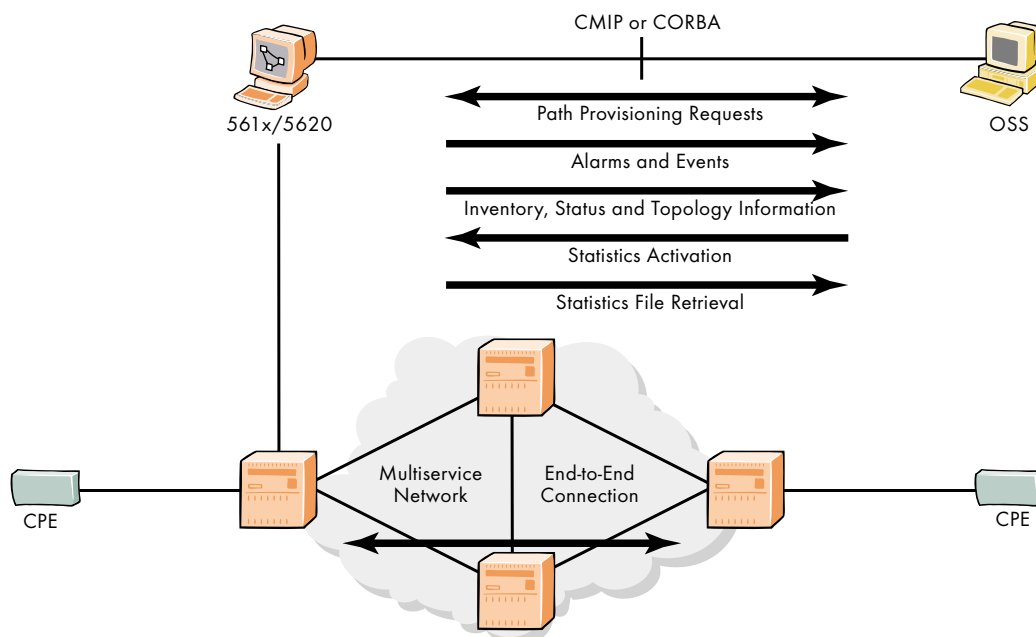
### Path and link management

Through the 561x, an OSS application can manage all the connections that are maintained by the 5620 Network Manager.

The 561x Network OSS Interfaces can perform such management operations as:

- ▼ create and delete paths and logical links
- ▼ perform loopbacks, split-back, split-through and monitor diagnostics on paths
- ▼ dynamically change bandwidth attributes
- ▼ configure links protocol type on frame stream circuits

▼ Figure 1: Information flow using the 561x



## Alarm surveillance and event management

The 561x interfaces generate alarms and event messages in X.733/X.734 format. An OSS application can select the alarm and event types to be logged to the OSS. An OSS application can monitor:

- ▼ 5620 alarms to report path link and equipment failures
- ▼ 5620 activity switches
- ▼ 561x OSS Interface alarms
- ▼ node power supply failures
- ▼ loss of synchronization on a node
- ▼ 5620 path and link status changes

The 561x has a programmable event filter to log specific event report messages in the 561x Network OSS Interface event log and to determine which event report messages are forwarded to the OSS.

## Inventory

The 561x Network OSS Interfaces maintain an inventory of the equipment in the Alcatel network. Addition, removal or status changes affecting relevant equipment are immediately mirrored in the 561x MIB. Indication of these changes may then be forwarded to the OSS via event reports.

Network objects represented in the 561x Network OSS Interface MIB:

- ▼ Partition
- ▼ Equipment (node, card, shelf, power supply and fan)
- ▼ Termination points (path endpoint and link endpoint)
- ▼ Links
- ▼ Paths

## Test management

### Automated test integration

The 561x OSS Network Interfaces let network managers test paths and logical links in 5620- managed networks using industry-standard protocols.

### Diagnostics

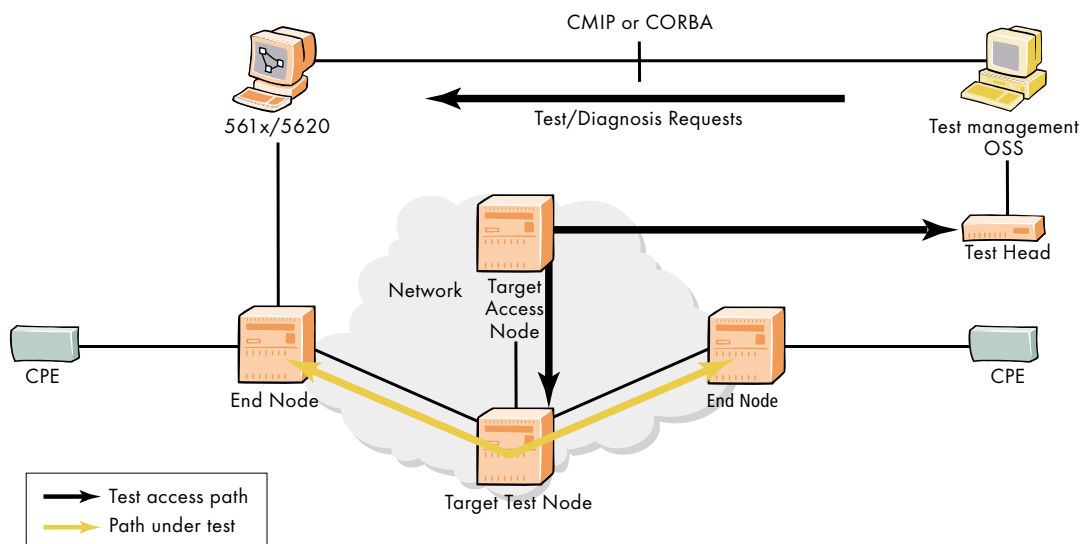
On- and off-node diagnostic support allows an OSS to initiate, modify and stop tests on network paths. The 561x Network OSS Interfaces provide a method for the peer management system to initiate and control testing on network paths and frame relay links. Release 4.0 also supports diagnostics for ATM virtual path connection (VPC) links and virtual channel connection (VCC) paths.

The following test types can be performed on an Alcatel network:

- ▼ Split-through testing
- ▼ Split-back testing
- ▼ Monitor testing

The 561x Network OSS Interfaces make it possible for an automated test system to manage maintenance connections for a path under test, and to manage maintenance circuits between a digital test head and a node's test access point. The automated test system or OSS can integrate 5620 testing with third party testing systems.

▼ Figure 2: Testing using the 561x



Alcatel, the Alcatel logo, MainStreet and Newbridge are registered trademarks of Alcatel. All other trademarks are the property of their respective owners. Alcatel assumes no responsibility for the accuracy of the information presented, which is subject to change without notice.

© 2000 Alcatel. All rights reserved. 10214  
3CL 00469 0021 TQZCA Ed.01

## Redundancy

---

The 561x interfaces can be used in the following redundancy configurations:

- ▼ one OSS connected to one 561x Gateway Station connected to a redundant 5620
- ▼ one OSS connected to multiple 561x Gateway Stations connected to a redundant 5620
- ▼ multiple OSSs connected to multiple 561x Gateway Stations connected to a redundant 5620

The 561x provides an event log object that maintains a programmable filter. This filter can be used to select specific event report messages to be logged or forwarded to the OSS application.

## Developer support

---

Experts within the Alcatel Open Interfaces Professional Services group can work with OSS developers to integrate the 561x Network OSS Interfaces with OSS applications. Some of the services include:

- ▼ how-to Q&A
- ▼ proactive design advice
- ▼ interoperability testing
- ▼ courseware (theory and practice)
- ▼ consulting services (developer support)
- ▼ IST, NPI and development phase problem resolution

Contact your Alcatel representative to receive more information about support packages.

## Technical Summary

### Standards Conformance 5611 CMIP

---

- ▼ ITU-T M.3010 series, Principles for a TMN
- ▼ ITU-T M.3100 Generic Network Information Model
- ▼ ITU X.710 Common Management Information Services (CMIS)
- ▼ ITU X.711 Common Management Information Protocol (CMIP)
- ▼ ITU X.720 - Management Information Services - Structure of Management Information, Part 1: Management Information Model
- ▼ ITU X.721 - Structure of Management Information, Part 2: Definition of Management Information
- ▼ ITU X.722 - Guidelines for the Definition of Managed Objects (GDMO)
- ▼ ITU X.73x series
- ▼ TMF 038 Bandwidth Management Ensemble specification

### Standards Conformance 5612 CORBA

---

- ▼ ITU-T M.3010 series, Principles for a TMN
- ▼ ITU-T M.3100 Generic Network Information Model
- ▼ CORBA 3.0
- ▼ JIDM Specification Translation
- ▼ JIDM Interaction Translation
- ▼ ITU X.720 - Management Information Services - Structure of Management Information, Part 1: Management Information Model
- ▼ ITU X.721 - Structure of Management Information, Part 2: Definition of Management Information
- ▼ ITU X.722 - Guidelines for the Definition of Managed Objects (GDMO)
- ▼ ITU X.73x series
- ▼ TMF 038 Bandwidth Management Ensemble specification.

### Platform

---

- ▼ Sun workstation with a minimum of 128 MB RAM, 2 GB hard drive
- ▼ CD-ROM drive
- ▼ LAN or WAN Ethernet connection
- ▼ Solaris Release 2.6
- ▼ SunLINK OSI software, Release 8.1.1, for an Ethernet link between the 561x gateway and the OSS
- ▼ 5620 Network Manager Release 4.0

\* This product belonged to the Newbridge family. Newbridge was acquired by Alcatel in May 2000.

