

The Alcatel 7670 Routing Switch Platform (RSP), formerly the 670 RSP*, is a multiprotocol platform designed for the backbone of next generation networks. Because IP traffic is a primary growth driver of today's networks, Alcatel has integrated ATM, MPLS and IP routing on the same platform.

The 7670 offers unparalleled scalability and leverages extensive experience in delivering reliable, carrier class networking equipment. From the most stringent form of traffic flow, such as carrier grade voice service, to the rigorous demands of data, Alcatel has the expertise in traffic management, network management, and reliability to deliver a platform that meets core networking performance requirements.



A multiprotocol
platform integrating ATM,
MPLS and IP routing



All of the platform's components are redundant, including control, fabric, power, cooling, management interfaces and line interfaces. Each redundant element can be upgraded or replaced without service impact. In addition, mission-critical processes are 1+1 hot redundant, including PNNI routing and ATM call processing.

The initial configuration consists of a single shelf capable of supporting 224 OC-3c/STM-1, 56 OC-12c/STM-4 or 14 OC-48c/STM-16 ports. The platform can be expanded to 450 Gb/s in a multishelf configuration without service interruption. A full multishelf system can support 1,700 fully redundant OC-3c/STM-1 ports, 124 OC-48c/STM-16 ports or 31 OC-192c/STM-64 ports.

- ▼ Industry leading scalability: 50 Gb/s to 450 Gb/s and interface speeds of OC-3c/STM-1 to OC-192c/STM-64; wire-speed packet forwarding performance from 50 Mpps to 500 Mpps
- ▼ Dual control planes for IP/MPLS and ATM
- ▼ Flexible configuration with per-port or per-VC/LSP granularity
- ▼ Industry leading call performance: sustained rates of thousands of calls per second per node using the Alcatel Parallel Call Processing Architecture
- ▼ Industry leading Alcatel 5620 Network Manager system, formerly the 46020 Network Manager*

Technical Summary

Infrastructure

Switch architecture

- ▼ 56 Gb/s non-blocking fabric fully 1+1 redundant
- ▼ SVC, S-PVC, PVC: point-to-point and point-to-multipoint

Line card types

- ▼ OC-3c/STM-1: 16-port ATM or 8-port IP/ATM
- ▼ OC-12/STM-4: 4-port ATM or 2-port IP/ATM
- ▼ OC-48c/STM-16: 1-port ATM
- ▼ PHY modules: electrical, SR, IR, LR, XLR

Connections

- ▼ 1 million endpoints
- ▼ SVC, S-PVC point-to-point and multipoint-to-point, PVC

Traffic management

- ▼ per-VC queuing (ingress and egress)
- ▼ scheduling using WFQ (weighted fair queuing)
- ▼ per-VC shaping (ingress and egress)
- ▼ intelligent buffer management with frame-discard (EPD, PPD, wRED)
- ▼ all ATM service categories (CBR, rt-VBR, nrt-VBR, ABR, UBR + MCR, GFR)
- ▼ explicit rate and virtual source/virtual destination support for ABR
- ▼ 8 QoSs for service differentiation

ATM Switched Services

- ▼ Parallel Call Processing Architecture enables sustained SVC call performance of thousands of calls per second (equivalent to more than 5 million BHCAs)
- ▼ PNNI, AINI, UNI 3.1, UNI 4.0, Q.2931 signaling
- ▼ Closed user groups
- ▼ Address screening and address translation
- ▼ ILMI address registration
- ▼ S-PVC operator-directed routing

Reliability/Redundancy

- ▼ Hardware redundancy: switching fabric, control, power, cooling, management, line card interfaces
- ▼ Control redundancy: 1+1 redundant call processing, billing, routing, network data collection, node control
- ▼ Line card and/or interface redundancy
- ▼ Hitless software upgrades
- ▼ F1 to F5 level OAM functions
- ▼ Background and directed diagnostics for fault isolation

Network Management

- ▼ Local or remote management interface through SNMP or the 5620 Network Manager
- ▼ Management of VPs, VCs and LSPs
- ▼ Centralized alarm management with audible and visual alarm notification
- ▼ Centralized software management administration
- ▼ Automatic discovery of equipment additions, deletions and changes
- ▼ Sophisticated link and path management
- ▼ Extensive performance data for SLAs and billing capabilities based on AMA (automatic message accounting) records
- ▼ Multiple graphical displays of performance data
- ▼ Open interfaces at the network and service levels for maximum business automation
- ▼ Customer assurance and self-provisioning support through the Alcatel 5730 VPN Service Manager (VSM), formerly the 930 VSM*
- ▼ Broadband access carrier class provisioning through the Alcatel 5740 Service Subscription Manager (SSM), formerly the 940 SSM*

Physical Dimensions

- ▼ Height: 93.3 cm (37.3 in.)
- ▼ Width: 53.3 cm (21.3 in.)
- ▼ Depth: 54.5 cm (21.8 in.)
- ▼ NEBS-compliant 58.4 cm (23 in.) rack mount
- ▼ Two shelves per standard 2.1 m (7 ft.) rack

Operating Environment

- ▼ -5° to 40° C (23° to 105° F)
- ▼ 5% to 85% relative humidity, noncondensing
- ▼ -60 to 1,800 m (-196.8 to 5,904 ft.) above sea level

Agency Approvals

- ▼ Environmental/NEBS: GR-63-CORE GR-189-CORE
- ▼ EMC: Part 15 Class A, EN55022 Class A, AS/NZ 3548 Class A, CISPR22 Class A, ICES-003 Class A, ETS 300386-2 Class B
- ▼ Safety: CSA950, UL1950, EN60950, EN60825, IEC60950, IEC60825, AS/NZ 3260

Power and Thermal

- ▼ DC power: 40 V to 75 V DC
- ▼ Current: 160 A
- ▼ Thermal dissipation: 4000 W per shelf (maximum)

Looking Ahead

Future releases of the 7670 RSP will allow the node to operate as an LSR (label switch router) by adding IP/MPLS protocols through an in-service software upgrade. The node will scale up to 450 Gb/s (500 Mpps) in capacity and support 10 Gb/s interfaces which can also be achieved through an in-service upgrade.

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

For more information www.cid.alcatel.com

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