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Portfolio Brief

Nortel Core and Billing Manager for service providers

The Core and Billing Manager offers the familiar look, feel and function of proven applications from the SDM with the improved performance on the newest, carrier-grade Sun® server. The Core and Billing Manager provides Fault, Configuration, Accounting, Performance, and Security (FCAPS) for the core voice elements of today's wireline and wireless networks worldwide, as well as Voice over IP (VoIP) and UMTS (3G) solutions.

Core and Billing Manager/SuperNode Data Manager ubiquity

The Core and Billing Manager applications are ported from Nortel's widely-deployed SuperNode* Data Manager (SDM) software to a new Sun® server platform. Therefore, nearly all applications available on the SDM are provided on the Core and Billing Manager. The Core and Billing Manager takes advantage of the latest carrier-grade, commercially available computing server in the marketplace. The Core and Billing Manager is being introduced to meet the performance requirements of wireless networks, reduce footprint requirements of next-generation Voice over IP (VoIP) networks and provide a replacement for obsolete billing servers for TDM systems. Since the Core and Billing Manager utilizes existing SuperNode Data Manager applications, the two platforms can co-exist in the customer network with little impact to existing maintenance procedures. Nortel's wireline single-stream source software enables new features and functionality to continue to be delivered on both the SDM and the Core and Billing Manager consistently.

The Core and Billing Manager enhances Operations, Administration, Maintenance, and Provisioning (OAM&P) functionality by enabling service providers to extend their existing LAN resources and expertise to create an "operations intranet"—with secured Ethernet connectivity from the switch to a variety of upstream Operations Support Systems (OSSs). The Core and Billing Manager offers a suite of OAM&P applications that manage fault, configuration, accounting, performance and security data. The Core and Billing Manager serves as an element manager for DMS*, VoIP and Wireless applications, and retains its suite of OAM&P applications.

The Core and Billing Manager provides numerous advantages for today's service provider:

- **Enhanced performance and capacity to accommodate additional OAM&P applications**
- **Conforms to element management consolidation plans for next-generation wireline and wireless networks**
- **Common software suite with widely-deployed SDM**
- **Small footprint with rack mountable servers**
- **Scalable architecture with multiple core interface options**

Nortel Core and Billing Manager supports capacity of all customer switch requirements.

Key benefits

Increases communications bandwidth — Gigabit Ethernet connectivity dramatically increases data delivery rates.

Increases performance — The Core and Billing Manager resides on the latest Sun Netra® NEBS-compliant servers designed to meet carrier-grade telecommunications applications.

Consolidates all billing to a single platform — The Core and Billing Manager offers a high-capacity, scalable billing system for the Nortel switch family. The billing application offers enhanced functionality for BAF, CDR and SMDR billing records in AMADNS or DIRP formats.

Standard interfaces — Redundant OC-3/ATM or 100BaseT Ethernet replaces the DS-512 interface to the core, and redundant Gigabit or 100BaseT Ethernet to the local area network (LAN).

Footprint — The Core and Billing Manager can be rack mounted in single server or dual server configurations using 3.5" Sun® servers. This greatly reduces the footprint required for managing the switch network.

Provides secure file transfer capabilities — The Core and Billing Manager provides secure file transfer capabilities between central office remote servers and the switch over a TCP/IP interface. The Core and Billing Manager greatly reduces the time required to take and transfer system images, computing loads, software patches and scripts. It also provides electronic software delivery for the distribution of Non-Computing Module Loads (NCLs) and Product Computing Modules Loads (PCLs).

Future proof — In a next-generation packet network, the Core and Billing Manager serves as an element manager for the wireline Communication Server 2000 (CS 2000) series, and as a foundation element for the Integrated Element Management System (IEMS). For 3G wireless network applications, the Core and Billing Manager provides the suite of FCAPS functions for the wireless switch core.

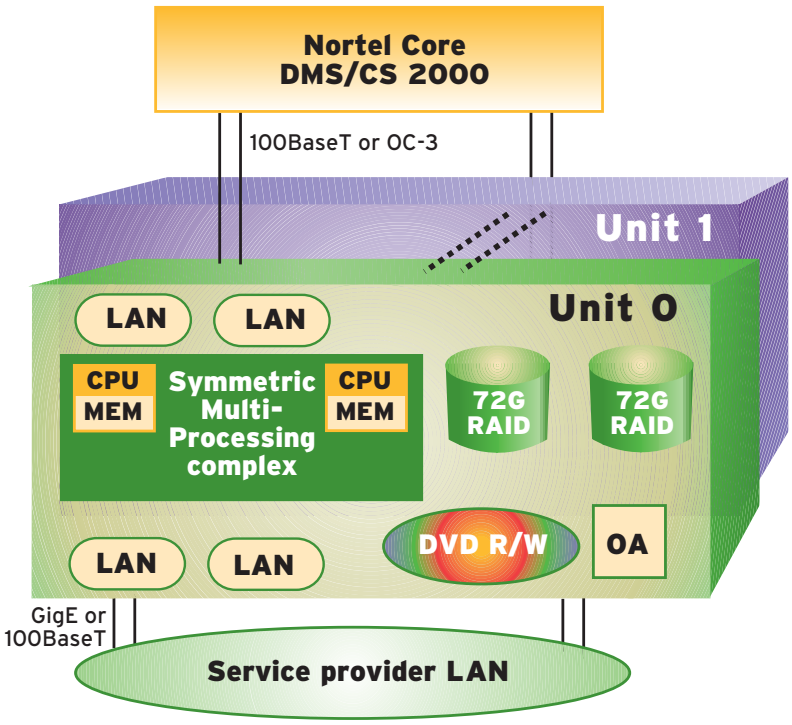
Industry-standard security technologies — Terminal access, file transfer, and applications communication paths leverage industry-standard SSH protocols allowing use of standard clients.

Core and Billing Manager architecture

The new Core and Billing Manager software application suite resides on the NEBS-compliant Sun Netra® 240. Depending on service provider requirements, the Core and Billing Manager can be deployed in a single server (CBM 800) or dual server (CBM 850) configuration.

Each Sun Netra® server has two load-sharing CPUs and memory, and hot swappable disk drives and power supplies. Communication resiliency is provided by four Ethernet ports spread over two Ethernet controllers and when configured two redundant OC-3/ ATM interfaces. In the event of a link failure, traffic will be automatically routed to the alternative link and maintains a single IP address for OSS connections. For convenience, the Netra 240 supports DVD read/write removable media.

The Netra 240 is rack mountable and is 3.5" in height. The Netra 240 has native hardware maintenance and operating system surveillance.



The Core and Billing Manager application is built on a carrier-grade, commercially-available platform with redundant I/O buses, communication ports, and disks. The new platform supports read/writable DVD and Gigabit Ethernet interfaces for quick, reliable access.

FCAPS features

Fault management

The High-Speed Log Interface application uses the LAN/WAN network to transport log data at Ethernet speeds, reducing data loss and lost logs due to buffer overflow. Compute module logs and local Core and Billing Manager logs are formatted into either STD or SCC2 format and routed to remote (telco) hosts, printers and/or UNIX files. This system provides high-speed log delivery and allows flexible configuration options including:

- **Log devices including files or incoming or outgoing TCP/IP connections**
- **Global or per stream log filtering based on report name or report number**
- **Configurable log and log line delimiters (i.e., CR/LF chacters)**

Configuration management

The Core and Billing Manager integrates with Telepath to provide an alternative to the Table Editor for switch translations and service orders for switch provisioning functions. This helps reduce the complexity of provisioning. Remote access is available for configuring components, electronic software delivery and patching.

Telepath provides:

- **Fast access to accurate data**
- **A graphical user interface**

Account management

Supports multiple billing records

The Accounting Management application provides support of BAF, CDR and SMDR records in AMADNS or DIRP file formats. The Core and Billing Manager can filter the billing stream and supports delivery of streams to multiple destinations.

Real-time billing

Billing records are available for transfer from the Core and Billing Manager in near real-time (typically in 30 seconds or less) after call disconnect. This feature transfers active billing records in DIRP format to a downstream processor from the corresponding open file on the Core and Billing Manager.

A new application on the Core and Billing Manager provides secure outbound delivery of billing data to a downstream billing processor using Secure Shell (SSH) protocol.

Performance management

The Operational Measurement (OM) Delivery application creates customer-defined OM reports that can be viewed through any Comma Separated Value (CSV) spreadsheet program. You can even group related OMs for easier monitoring and analysis. With OM Delivery, you can store OM data to disk files that can be transferred to downstream OSSs. The Core and Billing Manager can also deliver OMs in EADAS format over TCP/IP links.

A new application on the Core and Billing Manager provides secure OM delivery to the customer OSS using SSH.

Security management

The Secure Terminal Access application provides secure access to the Core and Billing Manager/switch from workstations on your TCP/IP wide area network using open SSH protocol.

Configurations

Core and Billing Manager 800

The Core and Billing Manager 800 configuration is targeted as a low-cost replacement for AP, FP, BMC and DPP billing servers in DMS offices. The Core and Billing Manager consists of a single Sun Netra® 240 server.

Redundancy is provided on the storage, power supplies, switch interface (OC-3) and OSS interface (Gigabit Ethernet). The Core and Billing Manager 800 can support up to 300,000 records per hour with 100 bytes per record. Ample storage is available for billing data in the event billing data cannot be retrieved on a frequent basis.

Processor compatibility:

- DMS: SuperNode (SN) BRISC processors (SN60, SN70EM, SNSE70EM)

Planned General Availability:

Wireline: 1Q 2005

- North America: SN06 and above
- International: ISN07 and above

Core and Billing Manager 850

The Core and Billing Manager 850 is targeted for OAM and high-capacity billing applications for North American and international DMS, VoIP, and wireless applications. Redundant Sun Netra® 240 servers are utilized in this configuration to maximize system availability.

The Core and Billing Manager 850 uses an Ethernet interface to the high-speed input/output processor (HIOP) on the XA-Core, or directly connected to the CS 2000 – Compact through a reliable Ethernet network.

Processor compatibility:

- DMS: XA-Core offices
- VoIP: CS 2000 and CS 2000 – Compact offices
- Wireless: XA-Core offices

Planned General Availability:

Wireline: 1Q 2005

- North America: SN06 and above
- International: ISN07 and above

Wireless: 3Q 2005

- Wireless: GEM18/MTX13 and above

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