



Call Session Controller



Service providers with legacy TDM networks are facing substantial challenges. Subscriber lines, while still an important source of revenue, are gradually dropping due to multiple voice alternatives such as mobile and VoIP. Legacy TDM switches are rapidly aging, with declining vendor support, parts sources, and skilled employees who know how to operate these deteriorating monoliths. Given the changing economics of the voice business, operators need platforms that minimize the costs and risks in maintaining legacy voice services, while also providing an IP-based platform for revenue growth. Utilized widely in hundreds of operator networks, Ribbon Communications' C15 Call Session Controller is a best-in-class IP platform that provides a critical bridge to the new services environment for operators with legacy fixed access. The C15 leverages existing fixed access by connecting to line frames and peripherals of switches such as DMS-10 and DMS-100, as well as MSANs and other IP-based access. With the C15, operators de-risk their switching networks and provide their customers with both legacy services and an array of new, revenue generating IP voice and multimedia features.

Legacy Switch Transformation to IP

Most service providers would like to quickly deploy broadband services to all of their customers, but CapEx limitations and time stand in their way. The C15 helps them make Smart Choices for the mission-critical voice component of their business. The C15 connects directly to DMS-10 and DMS-100 LCMs, as well as to EWSD and DCO line frames / remotes and trunking interfaces via Ribbon's G6 Universal Gateway. This enables operators to effectively discard their TDM switch cores and place lines under IP control. With the C15, operators are not forced to immediately move all customers to VoIP-based broadband access simply because their TDM switches are failing, saving CapEx and substantial time. In addition, the C15 provides IP call control and features when used in conjunction with broadband access plant. Where broadband access such as MSANs or FTTH has already replaced legacy TDM access, the C15 provides both legacy and IP feature sets.

Complete IP and Legacy Services

The C15 supports a wide variety of standard protocols, interfaces, and features to concurrently enable both IP and legacy services. A full set of legacy features are available for classic end office / Class 5 and Access Tandem functions, including integrated voicemail, multi-port conference capabilities and AMA collection. Other features include SS7 A-link concentration, LNP, AIN 0.1, E911, CALEA surveillance and call logging. The C15 is



also fully SIP and IMS-capable, incorporating a SIP proxy server and a back-to-back user agent as well as an integrated session border controller (SBC), integrated TDM gateways for seamless inter-working between VoIP and TDM subscribers, and native SIP call control. End users are able to enjoy both legacy service offerings as well as advanced, next generation SIP services.

Extensive Operational Benefits

For customers with DMS environments, the C15 provides an easy back office transition, supporting legacy operational interfaces that ensure continuity and minimal retraining. A convenient Graphical User Interface allows quick and easy provisioning, and a robust GUI-based portal allows subscriber self-care and advanced voice application control.

IP-based, Open Architecture

Ribbon's C15 has a straightforward architecture that consists of an IP fabric and Ethernet transport between a Core Module and scalable gateway Port Modules. This architecture includes:

Core Modules (CM). The CM provides voice and media service processing, maintenance, administration and provisioning. The CM also contains the IP fabric for connecting media and voice endpoints. The CM is internally redundant and is provided in a 2U rack mount chassis.

Port Module (PM). The PM provides the gateway function for TDM interfaces, including copper-based DS-1, DS-3 and DS-30A (for Ribbon specific line peripherals). An Optical Port Module provides VT1.5 mapped OC-3 interfaces. The PM is internally redundant and also provides fully integrated and selectable session border control. Port Modules are provided in a rack mount chassis and may be configured locally with the host C15 or deployed remotely with Emergency Stand-Alone (ESA) capability.

Application Server. The C15 provides an application platform for supplemental services, such as announcements, unified messaging, conferencing and web server for advanced subscriber feature control and self care.

Alarm Module (AM). The AM provides collection and reporting of alarms. C15 core and port modules are provided in an AdvancedTCA® chassis with an IP fabric switching core. Core and port modules may be geographically-separated to improve redundancy. Core control, gateway port modules and OAM interfaces are all housed in a single chassis solution. Port modules are easily added to serve that growth.

Capacity

- 250,000 BHCA (Busy Hour Call Attempts)
- Largest configuration: 10 Port Modules, supporting up to 100,000 lines (combination of TDM and VoIP), with 10% trunking
- Smallest configuration: 1 Combination Port Module, supporting up to 3,100 lines (combination of TDM and VoIP) with 10% trunking

Interfaces

- IP – Gigabit Ethernet IEEE 802.3ab
- TDM
 - DS-1; 32 ports per module
 - DS-3; 2 ports per module
 - DS-30A (interface to line peripherals with 32 ports per module)
 - OC-3; 4 fully protected ports per module
 - Supports line peripherals to DMS-10, DMS-100 (DS-30A / LCM), as well as EWSD and DCO via G6 Universal Gateway

Protocols and Applications

- Session Initiation Protocol (SIP) Lines including SIP enabled fiber to the premises solutions
- Session Initiation Protocol (SIP) direct packet trunks
- IP Centrex with combined IP and TDM customer groups
- VoIP
- H.248 lines and trunks
- MGCP
- NCS
- Integrated SBC
- ISDN Primary Rate Interface (PRI)
- SS7 ISUP
- SS7 A-link concentration
- MF interoffice (North American signaling)
- AIN
- Equal Access and Access Tandem toll operation
- CLASS residential custom calling
- CENTREX including Meridian Business Sets
- E-911
- Local Number Portability
- Web Portal for subscriber self-care and feature control
- On demand multi-port conferencing
- Integrated voice mail
- Calling name database
- One Number Service
- CALEA
- GR-303

Operations

- Common XML-based element manager, command line interface or Windows GUI
- Integrated AMA collection – Telcordia BAF recording with FTP retrieval
- Integrated media and application server
- Integrated alarm detection and reporting with discrete alarm inputs and outputs
- SNMP email or paging alert for alarms integrated test head for line and loop testing
- Quality of Service tools to monitor VoIP user experiences
- Effective tools and professional expertise to facilitate a smooth cutover from all switch types.

Power

- Green Technology: Very low power; total system consumption fully equipped = 1305 Watts
- Core Module = 193 Watts
- Copper Port Module = 59 Watts
- Optical Port Module = 235 Watts

Contact Us

We are here to help. Let us know if you are interested in a quote or if you have any questions.