

Covergence and IBM BladeCenter – helping enable the delivery of secure, reliable, manageable realtime services



Highlights

- **Help reduce the time and cost of deploying next-generation realtime services.**
- **Help deliver secure, reliable and manageable connections to realtime services without additional hardware.**
- **Rapidly deploy new services such as presence-enabled instant messaging (IM), audio, video and others.**
- **Help lower total cost of operation and improve infrastructure flexibility**

Reliable carrier-grade realtime services on an open platform

The Covergence CXC family of Session Border Controllers (SBC) enables telecommunications service providers to deploy new IP Telephony and Unified Communications solutions to help comply with their stringent security policies, regulatory requirements and established business practices.

With the Covergence session border controller solution, telecommunications service providers can now consolidate their realtime IP applications and infrastructure onto a common, scalable hardware platform to help drive down the operational costs of deploying realtime services.

The realtime revolution

Deploying realtime communications — voice, video, instant messaging (IM), presence and other forms of multi-modal communications — is a top priority for large enterprises.

This priority is driven by the recognition that realtime communications can streamline complex business processes, improve service levels while helping to reduce costs.

But before enterprises can adopt realtime communications they must be secured, controlled and managed to the same level as e-mail or web applications. But the reality is that many available solutions cannot address the realtime nature and dual-path architecture of realtime services. That is where the Covergence CXC solution can help.

The Covergence CXC

The CXC combines traditional border control with a set of comprehensive security, powerful management and control capabilities — to deliver a single point of security, control and management for Voice over IP (VoIP) and other realtime IP services. Telecommunications service providers and enterprises can use the CXC to deliver business-grade VoIP, IM, presence and other services. CXC enables the delivery of high-value services at a low cost. In addition CXC provides critical features like audio and IM recording, comprehensive application and endpoint management, and a web services interface for dynamic, policy-based session control.

The CXC opens new potential revenue sources for telecom service providers by enabling the delivery of:

- *New value-add services such as IM, video, presence, conferencing and others*
- *Services that help meet enterprise security, reliability and quality requirements*
- *Interoperability across diverse endpoints*

Covergence CXC Security

The Covergence CXC is purpose-built to secure applications, based on the Session Initiation Protocol (SIP) without sacrificing performance or quality of service. It can encrypt, authenticate, and validate connections to help provide the confidentiality, integrity and authenticity of all SIP communications. Its comprehensive perimeter security helps prevent intrusions and attacks, such as distributed denial-of-service (DOS) attacks.

The CXC security features include:

- *Strong, standards-based cryptographic authentication*
- *Standards-based signaling and media encryption*
- *Stateful and stateless signaling and media validation*
- *Multi-layer intrusion and attack prevention, including DOS and distributed-DOS protection*

- *Application-specific virus scanning and content filtering*
- *Policy-based monitoring*

Covergence CXC Monitoring

The Covergence CXC provides monitoring, fault-isolation and management capabilities that deliver the visibility needed to provide quality and reliability. It also provides performance monitoring and measurement, as well as secure remote management and diagnostics capabilities to quickly diagnose and help solve problems.

The CXC provides the tools to manage SIP-based applications and services including:

- *Session detail recording to record the usage of SIP-based services and applications for accounting, billing and regulatory compliance purposes*
- *Session trace capabilities to record and display detailed session trace information for troubleshooting, network engineering, capacity planning and forensic analysis*
- *Quality of service (QOS) monitoring and mean opinion score (MOS) calculation to monitor and track the actual quality of service experienced by users or subscribers*
- *Comprehensive logging capabilities enables managers to track system and administratively defined events, alarms and faults*

Covergence CXC Control

The Covergence CXC classifies all signaling and media sessions based on their physical, data link, network, session and application-level characteristics, which enables telecommunications service providers and enterprises the ability to apply policies to individual sessions with extremely high resolution. Precise, policy-based controls can restrict the types of SIP messages and SIP-associated media streams, to give enterprises the control they need to help comply with regulations and established business policies.

The CXC enforces policy-based control over multimedia services from a single point in the service infrastructure. The CXC also classifies every SIP signaling and media session based on its physical, data link, network, session and application-level characteristics, enabling the application of policies to individual sessions with extremely high resolution.

Policy can be used to:

- *Control the types of SIP messages and SIP-associated media streams that cross the network edge, or the types of devices users are allowed to use.*
- *Consistent policy enforcement across various forms of communication even multi-modal sessions.*

“The CXC not only centralizes applications and network connections within the compact IBM BladeCenter chassis, but also allows customers to extend IP Telephony and Unified Communications to remote users across fixed and mobile devices.”

*— Bob O’Neil
CEO and President
Covergence*

IBM BladeCenter family — for every customer need

The IBM BladeCenter T chassis supports hardware redundancy (power supply, I/O modules, management modules, L2 switching, mid-plane, etc.) thereby minimizing potential points of failure in the solution.

The IBM BladeCenter is an advanced blade system which integrates servers, storage and networking into a single chassis — yielding significant simplification, improved density and potential TCO savings . A single family of common server blades, storage, I/O, switches and networking modules are fully supported and interchangeable across the entire family of BladeCenter chassis. The IBM BladeCenter chassis is designed as the ideal solution for data center deployments. The IBM BladeCenter H is for high performance computing platform, while the IBM BladeCenter T chassis is specifically designed for telecom central office deployments.

The new, IBM BladeCenter HT — a new, telecom optimized version of the BladeCenter H — opens new market opportunities with a new and powerful NGN platform ideally suited for telecom equipment and service providers.

The IBM BladeCenter T and BladeCenter HT deliver rich telecommunications features and functionality, including fault-tolerant capabilities, hot-swappable redundant DC or AC power supplies and cooling, and built-in systems management resources in a 20” deep chassis. The rigorous Network Equipment Building System (NEBS) Level 3 and European Telecommunications Standard Institute (ETSI) outline requirements typical of telecom central office environments in the areas of electromagnetic compatibility, thermal robustness, fire resistance, earthquake and office vibration resistance, transportation and handling durability, acoustics and illumination, and airborne contaminant resistance. The IBM BladeCenter T and BladeCenter HT chassis meet the NEB Level 3 / ETSI requirements¹.

Covergence and IBM: a winning combination

Realtime services, such as IP Telephony and Unified Communications, consist of application servers, databases, applications, control infrastructure and management processes. The IBM BladeCenter is the ideal platform for the deployment of these services because telecommunications service providers and enterprises can consolidate this workload onto a single, platform to help reduce operating costs and complexity.



The modular blade server architecture optimizes the Covergence CXC distributed design. For example, multiple IBM blade servers can be organized into the area of stateful connection termination. Enterprise customers require the use of encryption to help provide confidentiality, integrity and authenticity of their realtime communications. In large enterprises, signaling encryption creates the requirement to terminate tens of thousands of resource intensive, stateful (TCP-based) TLS connections. To efficiently handle this task, without sacrificing performance or quality, the Covergence CXC enables the TLS signaling and (S)RTP media processing functions to be distributed to individual blades within an IBM BladeCenter chassis.

The IBM BladeCenter incorporates the latest in high speed interconnect technologies, next-generation processors and offers improved reliability, manageability and serviceability. All of which makes it the ideal platform to deliver the full implementation of the award-winning Covergence CXC.

For more information

Learn how IBM Systems can help your company achieve more revenue and reduce your costs, while helping you keep your profitable customers.

Have questions? Contact the IBM Telecommunications team today on how we can help you take advantage of our extensive industry expertise. Please visit us on the web at:

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Department XVXA
3039 Cornwallis Road
Research Triangle Park, NC
U.S.A., 27709

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IBM BladeCenter QS20 and QS21 currently requires a separate chassis from other blade servers, and is currently supported only in the original IBM BladeCenter E chassis.

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[1]For additional details, please refer to Underwriter's Laboratory (UL) certified NEBS Level 3 / ETSI test report.

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