High-Availability solutions for next generation networks

ENEA Element and IBM BladeCenter — Accelerating deployment and operational efficiency in Next-Generation Networks

The migration to an “all-IP” next-generation networks (NGN) infrastructure presents telecom service providers with opportunities to deliver new services. However, service providers need to be able to address the challenges in agility, network operational efficiency and lifecycle management, while maintaining profitability and reliability. The Network Equipment Providers (NEP), who supply much of the NGN infrastructure are addressing this opportunity.

Establishing standards for a commercial ecosystem
The creation of an open standards, Commercial Off The Shelf (COTS) hardware and software ecosystem, allows NEPs to source modular building blocks for their NGN platforms. Several industry standards organizations have accelerated this transformation including the Service Availability Forum (SA Forum), the Carrier Grade Linux (CGL) and the SCOPE Carrier Grade Base Platform (CGBP) architecture.

Delivering comprehensive COTS middleware
The SCOPE CGBP reference architecture provides a framework for NGN devices that relies on a set of platform infrastructure services, or “middleware”. The purpose of the middleware layer is to provide an application development framework that simplifies the design and development of complex applications.

Enea’s Element is a comprehensive suite of middleware services which provides a foundation for building the complex, distributed, high-performance, fault-tolerant applications required in today’s NGN applications.

Highlights

• Enea Element delivers distributed, carrier-grade, SAF-compliant, high-availability services on COTS technology

• Lower risk and deliver High Service Availability with unique In-Service Software Upgrade service

• HAF support for standard redundancy models, including 2N, 1:1, N+1, N+M

• Accelerated time-to-market on new NGN services

• IBM BladeCenter family provides a scalable, open standards based platform for next generation networks applications

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“Enea’s Element delivers distributed, carrier-grade, SAF-compliant, high-availability services on COTS technology that telecom service providers demand for their NGN services.

As a result, our customers using the IBM BladeCenter can accelerate time-to-deployment with greater reliability, availability and serviceability than previously achieved with other COTS middleware solutions.”

— Terry Pearson
Vice President Marketing
Enea

Accelerating application development
The ENEA Element Core Services offer a development framework to address critical NEP programming challenges. The LINX distributed messaging service provides discovery, monitoring and locale-transparent synchronization to support the dynamic nature of distributed systems.

Services including publish/subscribe event notification, global name service, an extensible command server, logging and more combine to enable developers to get to market quicker, often in half the time originally planned.

Delivering High-Availability Services
The ENEA Element High Availability Framework (HAF) conforms to the SA Forum Availability Management Framework (AMF). The Element HAF includes extensive system Fault Monitoring, Detection, Recovery and Reporting services, with rapid detection and restart to greatly minimize service outages. In addition, software lifecycle management, including stopping, (re)starting, monitoring, and distributing redundancy role information is provided as part of Service Units and Groups.

Source: ENEA
The HAF supports standard redundancy models, such as 2N, 1:N, N+1, N+M, etc., along with flexible fail-over policies, such as component “fail-in-place” or “fail-to-standby”, and node fail-over. Checkpointing services allow the application to preserve critical data across a failure, accelerating the recovery process and minimizing service loss.

Maximizing Service Availability
Many service providers are seeking to mitigate the impact of planned software updates, especially with the ever increasing deployment of new capabilities and services. ENEA Element provides a comprehensive software management facility, including the ability to upgrade applications without adversely impacting live services.

Element’s sophisticated Upgrade Manager orchestrates the entire software upgrade process, from software compatibility rules, to component interdependencies, to the sequencing and timing required to upgrade a system while maintaining service availability.

The result is a more automated, reliable software upgrade process that dramatically improves Service Availability while simplifying maintenance of network elements and reducing the risk of unplanned downtime.

Chassis Management Services
ENEA Element leverages standards-based interfaces such as the SA Forum Hardware Platform Interface (HPI) to access chassis and blades parameters, configuration and vital statistics.

IBM BladeCenter family — the IT & Network convergence platform
The IBM BladeCenter T chassis provides hardware redundancy (power supply, I/O modules, management modules, L2 switching, mid-plane, etc.) thereby reducing 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 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 NEBS Level 3 / ETSI requirements.
ENEA and IBM: a winning combination

The combination of ENEA Element and the IBM BladeCenter family delivers the performance, reliability and affordability demanded by mission critical telecommunications applications. The IBM BladeCenter is the ideal platform for the deployment of these services providing a single platform to help reduce operating costs and complexity.

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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