Amdocs and Intel Deliver Mission-Critical Solutions for Telecom Industry

Amdocs on Intel® Xeon® processor-based platforms offers leading edge performance and capability

"With Intel Xeon processor E7 and E5 family-based servers running Red Hat Enterprise Linux, we're able to provide exceptional computing performance and density, with the goal of enabling our customers to lower their power consumption and cost."

Nir Levy, Vice President, Technology Research Amdocs

New Technologies Needed to Respond to Increasing Demands

Today's service providers are caught between two competing forces. On the one hand, demands on computing resources are soaring; on the other, the pressure to reduce capital and operating expenditures continues unabated. In response, service providers are looking for new ways to approach a familiar problem: the need to do more for less. Specifically, service providers need higher-performing, more efficient front-end and back-end solutions that can combine to address growing demands, while also reducing total cost of ownership.

The Amdocs CES 9 suite provides the innovations service providers desire. It is the only integrated suite that enables service providers to rapidly launch and monetize innovative offers, personalize every interaction with real-time insight, and empower customers to take control of their experiences across any channel, network, service or device. And because Amdocs CES 9 features back-end support from Linux* and Intel® Xeon® processors, service providers can ensure exceptional computing performance and density to meet new and emerging customer demands while also reducing hardware costs.

Intel® Xeon® Processor Overview

The latest Intel® Xeon® processors usher in a new era of intelligent performance that takes compute density to new heights, while delivering best-in-class support for virtualization, consolidation, and cloud computing. Servers based on these processors can help service providers create a standardized, reliable IT infrastructure that helps drive down data center space, power, cooling, and management costs, while providing exceptional performance and reliability, even for the most data-demanding applications.

Service Provider Challenges: Rein in Costs While Scaling to Meet the Needs of an Always-On Society

We need only look around—at coffee shops or business meetings, for instance—to see that we are in the midst of a communications revolution, in which connectivity has become a fundamental part of customers' everyday lives. The rise of mobile data over voice is just one of many market dynamics that is changing the way service providers operate.

FOUR KEY BUSINESS IMPERATIVES

To succeed in the midst of the communications revolution, service providers must find ways to:

- **Simplify experience:** Empower customers with seamless multichannel experiences, and provide proactive care.

- **Harness data:** Enable real-time experiences and rapidly launch and dynamically monetize next-generation networks (LTE, small cells, and Wi-Fi).

- **Stay ahead:** Accelerate innovation, and go to market faster.

- **Be efficient:** Adopt and upgrade to technologies that provide greater cost-efficiency, as well as better performance and scalability.

  - **Embrace big data:** Derive value from big data to better serve customers and provide new value-added services.

  - **Enable a cloud strategy:** Maximize the potential of the cloud via agile rollout of new revenue-generating services and better management of resources.

  - **Lower costs:** Adopt technologies such as virtualization that can significantly increase efficiency and reduce costs.

Today's customers expect connectivity on multiple devices to be exceptionally fast and available everywhere—and still affordable. Customers are highly informed and assume service providers should treat them as individuals, with personalized offers and greater empowerment, in real time, to improve their user experience. Customers use social media to publicly express dissatisfaction with service providers that deliver inconsistent experiences across channels, fail to provide proactive or individualized care, or offer poor self-service tools.

To succeed in this rapidly changing and increasingly demanding marketplace, service providers cannot rest. Even as they maintain their focus on delivering exceptional customer experiences, they must also enable the rapid introduction of new products and services, and unlock new revenue streams—all while keeping costs under control.

Amdocs CES 9: Redefining the Customer Experience

Amdocs has a long history of driving innovation in the development, implementation, and management of customer experience systems. The company's February 2013 release of Amdocs CES 9 furthers the company's established market leadership.

Amdocs CES 9 delivers real-time integration across network control, business support systems (BSS), and operational support systems (OSS) to give consumers a new level of control over their experiences. By delivering real-time integration from the device to the network, Amdocs CES 9 breaks down traditional barriers to service and system convergence, which enables richer customer experiences.

Product Highlights

Amdocs CES 9 features a host of new features and capabilities, including:

- **Amdocs Multichannel Self Service** is an intuitive, cross-channel, self-service solution for any device or operating system. The solution delivers a consistent experience from the service provider across all assisted and unassisted touch points, online and mobile channels, and multiple devices.

- **Amdocs Proactive Care** provides proactive, real-time notifications and recommendations including issue resolution, discounts, new features availability and billing notices. Using big data analytics, the solution can help reduce calls to the contact center.

Amdocs CES Portfolio
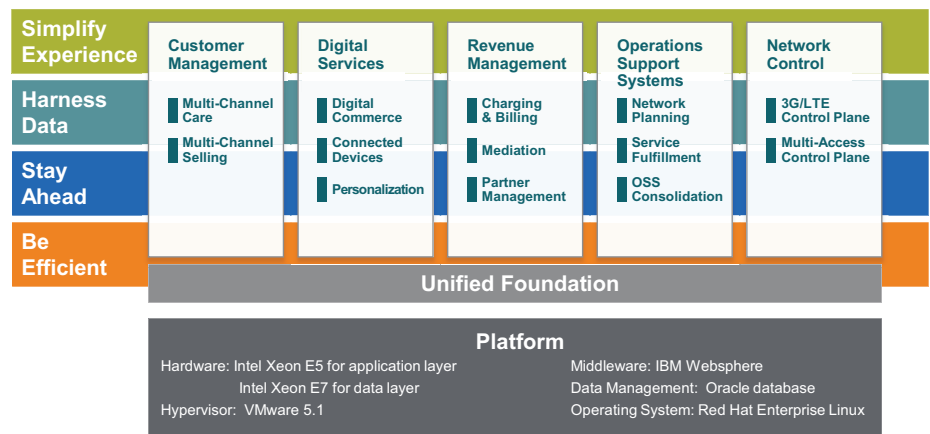
- **Amdocs Omni Convergent Charging** integrates Amdocs' real-time charging, policy control, enterprise product catalog, and service platform to enable service providers to define, deliver, and dynamically monetize any convergent service. Customers can choose any package at any time and pay for it a la carte.

- **Amdocs Business Building Blocks (BBBs)** is pre-integrated and pre-tested software functionality designed to support specific business needs that can be deployed rapidly and simply to reduce time to market for new offerings and innovations.

- **Amdocs Network Navigator** simplifies the way network planners interact with and navigate through complex network hierarchies and relationships. The solution reduces the time required to complete planning, fulfillment, and assurance processes for new services and next-generation networks.

- **Amdocs OTT (Over-the-Top) Monetization** enriches partner price plans with quality-of-service capabilities and predictive analytics for business optimization. Service providers can partner with content and app providers and increase revenue from these providers, and end users benefit from higher quality of service and personalized experiences when consuming OTT content such as streaming video.

Better Together: Amdocs CES 9 and Intel® Xeon® Processors

Since the 2011 release of Amdocs CES 8, the Amdocs CES suite has featured across-the-portfolio support for Linux and Intel Xeon processor-based servers—and for good reason.

The shift to Red Hat Enterprise Linux and x86 was made to respond to service providers' need for leaner, faster, less expensive, and more flexible operations. By running Amdocs solutions on

Intel Xeon processors, service providers can support surging needs resulting from, for instance, prepaid subscriber bases and data services proliferation. And they can do so with low-cost servers that help maintain efficient operations.

The continued improvements in standard Intel® Xeon® processors can achieve price/performance savings as compared to similarly configured IBM Power* and Oracle SPARC* systems.[+,1] In fact, a four socket Intel® Xeon® E7-4800-based system offers up to 56% price/performance savings[1] vs. a four socket SPARC T5-4* system and up to an 80% price/performance savings[2] vs. a four socket IBM Power 750 system.

By using Intel® Xeon® processor E7 and E5 family-based servers in its customer deployments, Amdocs has been able to reduce costs and significantly boost performance.

Intel Xeon processor E7 family based solutions can support the large dataset processing required for back-end databases. The servers can support up to 16 DIMMs per socket (up to 2TB of memory in a four-socket configuration), and they include processor-based advanced reliability features such as Machine Check Architecture Recovery are designed to maximize data integrity and system availability.[+,3]

The Advantages of Virtualization

Amdocs CES 9 is the first suite to support VMware* in production environments. The solution is thus able to take advantage of virtualization technologies that are designed to enable service providers to reduce hardware server spending and operating costs, decrease power and cooling needs, and gain administration efficiencies—all of which helps reduce TCO.

Virtualization has long been shown to reduce management and administration costs, and optimize exploitation of existing computing resources. The continuing decline in the cost of memory combined with the increased availability of tools

Another key advantage of Amdocs' x86 support is the ability to innovate around open, interoperable building blocks that offer better price and performance than traditional, proprietary RISC-based offerings. More flexible and scalable infrastructures enable service providers to innovate faster, dedicate mission-critical computing more easily, and simplify cloud migration.

With Intel Xeon processors as the architectural foundation, service providers can tap into significant hardware innovation, including enhanced virtualization, accelerated encryption, and the advanced RAS features of the Intel Xeon processor E7 family.

Migrating to open standards-based building blocks also makes it possible to take advantage of software innovations from a broad ecosystem of providers at the hypervisor, operating system, database, and application level.

"The unique and growing demands of the telecommunications industry require innovative solutions. With the Amdocs CES 9 suite running on Intel® Xeon® processor-based servers, service providers can meet their needs today and well into the future."

Rose Schooler, Vice President Communications and Storage Group Intel

MATCH WORKLOADS TO PROCESSORS

To select the right Intel Xeon processor-based server for a given environment, service providers must first identify and prioritize workload requirements, such as processor frequency and cores, energy efficiency and density, and I/O speed and capacity. After factoring in these and additional concerns—such as total cost of ownership, scalability, and platform adaptability— most service providers select the Intel Xeon processor E5 family for applications and the Intel Xeon processor E7 family for databases.

Intel Xeon Processor E5 Family

Servers based on the Intel Xeon processor E5 family are designed for scale-out workloads. They provide optimal I/O capacity and speed for a variety of applications, and offer the density and energy efficiency service providers need to keep operational costs under control.

Intel Xeon Processor E7 Family

Servers based on the Intel Xeon processor E7 family are an ideal choice for mission-critical operations that demand more compute and memory, including back-end and in-memory databases. The servers are designed for scale-up workloads and can support large-dataset processing while maximizing system availability and data integrity.

For more information:
"Find the Right Intel Xeon Processor" white paper

to simplify administration has made virtualization even more attractive.

Service providers can use mainstream virtualization of non-mission-critical workloads to consolidate infrastructure applications. For these departmental and experimental workloads, the Intel® Xeon® processor E5-2600 and E5-4600 product families provide the right combination of price performance, energy efficiency, and ease of deployment.

Where workloads are more demanding or there is an increased need for higher consolidation or virtualization of business-critical workloads, the Intel Xeon processor E7 family provides the necessary compute capacity and I/O throughput to reduce data center operational costs. Service providers can harness the computational power and core density of the Intel Xeon processor E7 and E5 families to run high-density virtual machines on physical blades, consolidating many physical servers to virtual machines that run on fewer blades and hardware. Certified on VMWare 5.X, Amdocs CES 9 products enable considerable server consolidation ratios without impacting performance. Intel® Virtualization Technology (Intel® VT)[4] extensions and other enhanced features in the Intel Xeon processor architecture offload the CPU overhead of virtualization and provide near-native performance.

Another advantage of Intel Xeon processor-based servers is Intel® VT FlexMigration, which allows virtualization software vendors to deliver live migration solutions across different generations of Intel Xeon processor-based servers. By dramatically enlarging the generation of servers that can be deployed in the resource pool, Intel VT FlexMigration provides investment protection and enables service providers to accelerate

To learn more about Amdocs CES 9:
http://www.amdocs.com/Products/about/ces-9/Pages/ces-9.aspx

the adoption of emerging usage models such as load balancing during unforeseen spikes in data center resource demand.

Empower Consumers with Better Technology

As consumers change, service providers must also change. Rising demands and continuing cost constraints make it essential for service providers to identify better front-end and back-end solutions—solutions that can reduce costs and improve efficiency while also driving improved customer experiences.

Amdocs CES 9 is an innovative, industry-leading product suite that redefines the customer experience from the device down to the network, so service providers can launch offers faster, personalize every experience, and give customers the control they crave. By featuring Linux and x86 support across the portfolio, Amdocs CES 9 also enables service providers to reduce costs, align with emerging industry

About Amdocs

For more than 30 years, Amdocs has ensured service providers' success and embraced their biggest challenges. To win in the connected world, service providers rely on Amdocs to simplify the customer experience, harness the data explosion, stay ahead with new services and improve operational efficiency. The global company uniquely combines a market-leading BSS, OSS and network control product portfolio with value-driven professional services and managed services operations. With revenue of $3.2 billion in fiscal 2012, Amdocs and its 20,000 employees serve customers in more than 60 countries.

Amdocs: Embrace Challenge, Experience Success.

For more information, visit Amdocs at www.amdocs.com.