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Business challenge
How can Deloitte help companies drive technological innovation, without undermining the stability of core applications that are vital to everyday operations, while tightly controlling costs?

Transformation
Enter IBM® LinuxONE™ solutions—high-performance enterprise servers that combine security, reliability and flexibility with lower TCO. Deloitte is using LinuxONE technology to help clients optimize their data centers.

Business benefits:
$40 million potential human capital and licensing savings over three years

Sharpens
Deloitte’s competitive edge, helping the company win new clients

Supports
secure blockchain innovation with end-to-end Pervasive Encryption features

Deloitte
Driving innovation for clients by optimizing IT infrastructure with IBM LinuxONE technology

“Thanks to the IBM LinuxONE platform, we can help our clients access a whole new world of possibility, freeing up more resources that they can invest in new cutting-edge solutions and services.”
Ted Schieke
Vice President, Alliance Management
Deloitte

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Optimizing resources

Many of the world’s most successful businesses continue to rely on IBM Z® enterprise systems to support their mission-critical applications. While the platform continues to deliver exceptional reliability and security for companies’ most important systems, other departments and companies may have a different view and can see x86 as the future. These businesses may also struggle to access the right technical management skills, and that software licensing charges could also be a stumbling block, potentially draining resources from investment in research and product development. To inspire companies in this position to look again at the potential of mainframes for innovating with new technologies as well as running systems of record, global consulting firm Deloitte is on a mission to help turn the tables.

Ted Schieke, Vice President, Alliance Management at Deloitte, explains: “In a recent Deloitte survey, 57 percent of CIOs said that innovation was the core expectation of the IT departments they run. However, 18 percent also confessed that they felt their capabilities for supporting innovation and disruption were limited. Unless businesses commit resources to developing new offerings, they could fall behind their competitors and lose out on market share.”

Robust, reliable, affordable

Seeking an innovation platform for its clients, Deloitte leased an IBM LinuxONE server and conducted performance testing to evaluate the technology. The company soon identified a range of use cases for the solution. With clients lined up to try the platform, Deloitte invested in an IBM LinuxONE Rockhopper™ II server.

Robert Miller, Senior Manager at Deloitte, adds: “Many leading financial institutions, who also constitute a significant segment of mainframe users, recognize that blockchain technology is changing the face of the finance industry. But, in many cases, blockchain product development requires additional capabilities around virtualization and flexibility. While legacy enterprise systems may not provide sufficient openness and connectivity, their robust security features do serve well for storing data flowing to and from the blockchain.”

The blockchain delivers unparalleled security for data stored in its own environment, but not necessarily for the metadata that supports transactions with other parties, potentially putting the integrity of the blockchain at risk. With many of its clients keen to develop new services in this space, Deloitte set out to find a cost-effective, secure, and reliable platform that could facilitate innovation, while also supporting mission-critical applications.

Ted Schieke says, “IBM LinuxONE eliminates the need for IT executives to choose between dynamic and agile, or secure and reliable systems. These powerful enterprise servers bring the core stability associated with traditional mainframe solutions to open source technology at a fraction of the cost — enabling companies to create innovative solutions at a competitive price point. The manageability of the solutions is unique too, equipping IT teams with a wide range of robust infrastructure administration tools.”

Using IBM LinuxONE solutions, IT teams can efficiently re-allocate virtual resources between guest virtual machines (VMs) using the built-in hypervisor, which offers non-disruptive horizontal and vertical scaling. The IBM LinuxONE Rockhopper deployed by Deloitte can support up to 1,000 VMs in a single physical frame, while the larger IBM LinuxONE Emperor™ II server can support up to 8,000.
Robert Miller says: “LinuxONE provides two major features that may be of interest to businesses looking for a platform to support blockchain solutions. First, the high-speed hardware encryption capabilities will enable companies to meet the stringent security measures of numerous heavily regulated industries, without any loss in performance. Second, the IBM Secure Service Container encrypts the external metadata of blockchain solutions, which means IT executives can be sure that no administrative access is possible without the master encryption key.

“This reduces the risk of impacting core business applications and is particularly significant given that 58 percent of IT operations and security managers feel that their organizations are granting unnecessary access rights to staff. What’s more, the pervasive encryption capability that is built into the hardware and Linux kernel enables IT executives to encrypt data end-to-end, whether in flight or at rest.”

The IBM LinuxONE platform is designed to provide one of the most secure solutions for multiple Linux workloads. The servers provide hardware on-chip encryption combined with tamperproof cryptographic co-processor cards for secure key protection, and come with firmware-based partitioning, including EAL 5+ workload isolation. LinuxONE isolates workloads at every level—enabling users to run up to 80 logical partitions (LPARs) for resource pooling across either shared or dedicated partitions.

Having seen positive results using its IBM LinuxONE Rockhopper II server on client PoCs, Deloitte is currently expanding its blockchain, code-refactoring, machine-learning, and analytics environments to prove the effectiveness of the platform across a broad range of use cases.

Ted Schieke says: “We’re enabling impressive long-term cost savings with IBM LinuxONE solutions. If a client ran their application environment on commodity hardware with equivalent capabilities to the IBM LinuxONE platform, our model shows that this would cost approximately USD 60 million over three years, taking into account application software licensing, database licensing and hardware maintenance. By contrast, the equivalent LinuxONE platform would cost approximately USD 20 million dollars over the same period, equating to a USD 40 million saving—money that can be invested in business development activities.”

Ted Schieke continues: “High-speed analytics continues to grow in importance for organizations in every industry, so we are focusing on developing capabilities in this area supported by our IBM LinuxONE solution. We are also going global with the technology, responding to requests from clients worldwide who feel that they would benefit from using IBM LinuxONE solutions in their organizations.”

**Enabling huge cost savings**

With its IBM LinuxONE server, Deloitte can help its clients build dynamic application infrastructures that accelerate product development, without compromising on security or cost-efficiency.

Ted Schieke says: “We’re enabling impressive long-term cost savings with IBM LinuxONE solutions. If a client ran their application environment on commodity hardware with equivalent capabilities to the IBM LinuxONE platform, our model shows that this would cost approximately USD 60 million over three years, taking into account application software licensing, database licensing and hardware maintenance. By contrast, the equivalent LinuxONE platform would cost approximately USD 20 million dollars over the same period, equating to a USD 40 million saving—money that can be invested in business development activities.”

Robert Miller, Senior Manager, Deloitte
“Not only have we been able to demonstrate cost savings, we have also helped clients achieve dramatic improvements in system performance,” adds Robert Miller. “In a PoC for a large South African bank, we used LinuxONE technology to cut the time for a mission-critical process from 10 hours to just 8 minutes. We’ve also highlighted to other clients that they could achieve server consolidation ratios of between 20:1 and 50:1 if they migrate Linux systems from distributed x86 servers to the IBM LinuxONE platform.”

By showcasing the IBM LinuxONE system to its clients, Deloitte boosts its competitiveness and has seen a spike in demand for its PoC services.

Robert Miller continues: “Deploying the IBM LinuxONE Rockhopper II has been a real gamechanger for us, helping us to optimize our clients’ IT infrastructures. Clients are excited to start building blockchain solutions and developing real-time analytics capabilities, supported by the IBM LinuxONE platform.

“Equipped with pervasive encryption and the ability to integrate easily with open source solutions, our clients can think big with LinuxONE, confident that they still have robust system and data security.

“For instance, we can have multiple clients with their own secure environment in a single LinuxONE server. With other cloud and virtualized platforms on the market, it’s not always possible to ensure that companies sharing the same infrastructure as a service can’t access your data.”

Ted Schieke concludes: “Thanks to the IBM LinuxONE platform, we can help our clients access a whole new world of possibility, freeing up resources that they can invest in new cutting-edge solutions and services.”

Solution components

- IBM® LinuxONE™ Rockhopper™ II
- IBM Secure Service Container

Take the next step

To learn more about IBM LinuxONE, please contact your IBM representative or IBM Business Partner, or visit the following website: ibm.com/it-infrastructure/linuxone

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