Business-Centric Servers

FUJITSU

shaping tomorrow with you

Server innovations which make a greater contribution to your business

Windows Server

20 years of IT history: Connecting devices, data and people

The times in which a company could place a group of servers in a room, and which was then referred to as the data center, have long since gone. The majority of these servers were used as autonomous instances for simple data processing. The systems were gradually used for higher-value functions and became machines that connect devices, data and people with each other.

Is your IT up-to-date?

The world is changing. These fundamental changes are affecting our everyday lives, transforming everything from consumer behavior to the way we communicate. This hyperconnected world will have huge impact on the future. People and the things around us, all linked together, sharing information.
More connectivity means more information. It means vanishing boundaries. In the era of hyperconnectivity, the key to growth is how people will use ICT to deliver value, but it also means to overcome a series of challenges.

Dramatic increase in data and digital information

Energy and cooling challenges in data centers

Increased demand for the availability of IT resources

End users require improvements in userfriendliness

Dramatic increase in data and digital information

New options on the basis of today's computer performance and skills influence the actions and transactions of an increasing number of people via a wide range of devices.

It seems as if everyone is connected to each other - by smartphone, tablet and right through to notebook. However, the challenge is not the widespread use of mobile devices, but what goes on behind the scenes.

What many do not see is that the relentless increase in mobile devices has an enormous influence on the growing volume of data traffic that has to be transported via the networks. It is a little easier to be understood if you consider everything that can be done with a smartphone: listening to music, watching videos, uploading photos, navigation, playing online games, or sharing information via social media platforms. All these activities generate data and thus traffic in the global network.

However, this flood of digital information does not only have to be transported and saved, for many companies the data gained provides valuable information and insights that need to be analyzed in order to obtain important background information and thus enable new business to be generated.

Energy and cooling problems in data centers

Most of this data is saved, processed and analyzed on hardware platforms that are located in a central data center.

Racks and racks of systems, which use an enormous amount of energy, are in the meantime stacked up in these data centers.

Today's data centers must therefore undergo diligent planning so as to validate the suitability of the environment for sufficient energy input, power supply and server cooling when making new investments, and to make adequate space available so that the infrastructure can be managed effectively and can grow over time. Typical problems are a lack of available floor space and overutilization of the energy and thermal volume.

Increased demand for the availability of IT resources

Every era has its own trends and hypes. New trends are emerging all the time, for instance rapidly growing interest in cloud computing, but so are greater concerns about security and the availability of IT resources, because in the meantime almost all business-critical processes depend on IT.

The failure of important systems in the data center can directly impair the business activity of a company and result in lost sales. Think for example of a large company in the financial market that provides the technologies and services to enable transactions for banks and investment managers. Now imagine that you are trying to transfer money, sell shares, or purchase investment fund, and cannot do so because their IT is not working. This situation is clearly not acceptable and inevitably involves high losses.

The compliance regulations, such as Basel II and III or the Sarbanes-Oxley Act, are another important factor for companies. They contain among other things specifications regarding the availability of the IT environment and secure IT operations. For example, banks and insurance companies expect proof from their customers that these specifications are being observed. Otherwise, a company has to expect higher credit or insurance costs or may receive no credit at all.

End users require improvements in user-friendliness

As already indicated, the role of IT in companies has changed fundamentally since the mid-nineties.

If data centers and specialist departments were previously regarded as a "necessary evil", they have at the latest since the integration of e-mail and the Internet in communication and work processes been considered as central units, upon which successful business operations depend. This trend has recently gained in momentum due to the introduction of completely web-based services, which have become known under names such as "software-as-a-service". IT managers and their staff are thus not only faced by a continually increasing variety of classic tasks, but must also manage the transition to new infrastructure concepts and an ever increasing number of different administration components and self-service portals. In very many cases, the typical working day of a data center administrator is therefore characterized by installation and update problems and calls to the service desk.

Your business requirements inspire our server design

The development of Fujitsu servers is based on 60 years of experience in the mainframe development sector. As early as 1994, Fujitsu developed the first x86-based industry-standard servers. Since then Fujitsu has focused with its PRIMERGY servers on providing the innovations that customers expect from one of the leading IT infrastructure providers.

Fujitsu PRIMERGY servers provide an unparalleled mixture of quality, efficiency and agility. The servers offer the most powerful and most flexible solutions on the market for companies of all sizes and all branches of industry, and for every type of application. They form a perfect basis for today's requirements and future developments towards a business-centric data center via integrated infrastructures as well as disaggregated systems.

Inspired by customer requirements, the new generation of the PRIMERGY dual-socket product family will for example further improve usability and serviceability, increase efficiency in the data center, and also support the various virtualization approaches available on the market. In order to bring all this together Fujitsu offers a wide range of services and tools that reduce costs over the entire lifecycle, shorten project times and free up resources so that customers can concentrate on their core business.

20th anniversary of Fujitsu x86 servers

The Fujitsu x86-server portfolio has been shaping the IT branch for 20 years. For two decades Fujitsu has been providing industry-standard servers that concentrate on solving real customer problems. Due to continuous adaptation to trends and the continually developing IT landscape, we have developed new approaches for cloud computing, data analytics and high performance computing in order to master challenges that were previously inconceivable.

These groundbreaking innovations serve one purpose only: Providing new pioneering technology that makes the impossible possible and gives our customers the best possible support in their daily business. Today's x86 industry-standard server portfolio covers a wide range of PRIMERGY tower, rack, blade and scale-out servers, which offer customers an unbelievable freedom of choice.

For more than 20 years the Fujitsu x86-server innovations have helped increase the business contribution through IT. Here are some of the most important milestones:

1994/95 Achieve PC-like economics and flexibility with first x86 PRIMERGY servers built on industry standards.

1998/99 First scale-up server in an x86 environment with the introduction of first 8-way system (PRIMERGY N800/K800)

2002 New opportunities of flexibility, scalability and economics with the introduction of the first blade server (PRIMERGY BX300) which could be equipped with up to 20 CPU blades.

2004 Fujitsu starts to offer Cool-safe® design technology as integral part of the PRIMERGY servers - a best-in-class cooling concept for increased lifetime and stable performance

2005 Introduction of the first Converged Infrastructure Platform (PRIMERGY BladeFrame) with inherent high availability and disaster recovery for both physical and virtual workloads

2006 2+2+2+2=8 – First scalable octo-socket server blade based on the Advanced Blade Ecosystem with PRIMERGY BX630

2007 Increased end-user productivity with the introduction of the second version of the ServerView management tool delivering optimized deployment, permanent status monitoring and extensive control

2008 Fujitsu simplifies the management of servers in network environments while providing highest flexibility at their deployment and operation with the introduction of ServerView Virtual I/O Manager

2009 Fujitsu offers massive scale-out computing platform to web hoster and telcos delivering extreme-performance and highly energy efficient server architecture with the introduction of the PRIMERGY CX server line

2010 Fujitsu opens up blade computing for midsize companies to take advantage of the space, power and cooling with PRIMERGY BX400.

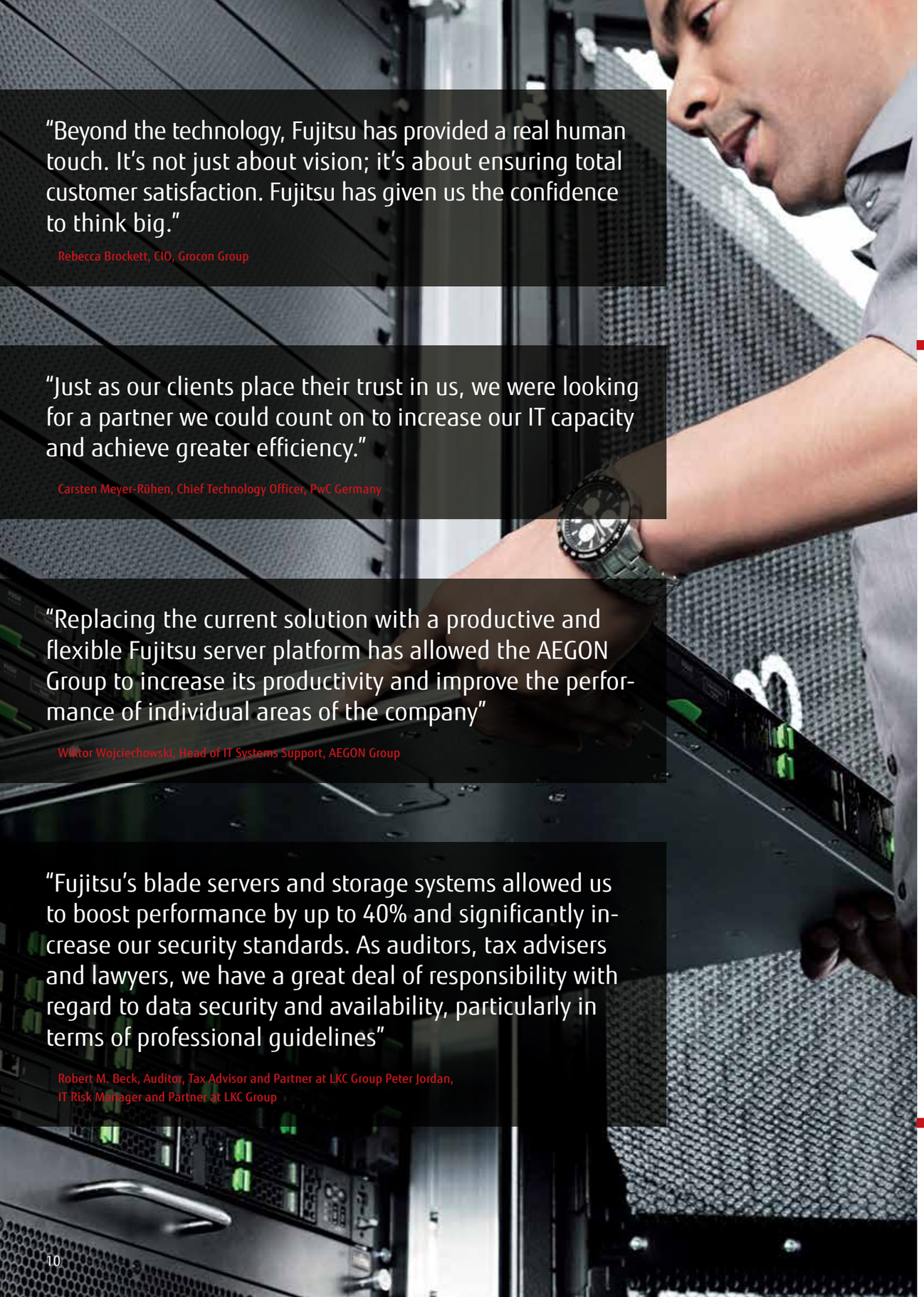
2010 Various PRIMERGY products complete green life cycle assessment and achieve stringent ENERGY STAR certification

2012 First vendor worldwide to achieve certification for Windows Server 2012 pre-launch, and first to offer a 'Cluster-in-a-box' solution

2013 Fujitsu Cool-safe Advanced Thermal Design ensures energy efficiency improvements of up to 27 percent allowing customers to save costs while ensuring system availability even under extreme conditions

2014 Fujitsu delivers new levels of In-Memory computing performance and x86 mission-critical uptime

2014 Fujitsu improves PRIMERGY portfolio system naming for easier system selection



"Beyond the technology, Fujitsu has provided a real human touch. It's not just about vision; it's about ensuring total customer satisfaction. Fujitsu has given us the confidence to think big."

Rebecca Brockett, CIO, Grocon Group

"Just as our clients place their trust in us, we were looking for a partner we could count on to increase our IT capacity and achieve greater efficiency."

Carsten Meyer-Rühen, Chief Technology Officer, PwC Germany

"Replacing the current solution with a productive and flexible Fujitsu server platform has allowed the AEGON Group to increase its productivity and improve the performance of individual areas of the company"

Wiktor Wojciechowski, Head of IT Systems Support, AEGON Group

"Fujitsu's blade servers and storage systems allowed us to boost performance by up to 40% and significantly increase our security standards. As auditors, tax advisers and lawyers, we have a great deal of responsibility with regard to data security and availability, particularly in terms of professional guidelines"

Robert M. Beck, Auditor, Tax Advisor and Partner at LKC Group Peter Jordan, IT Risk Manager and Partner at LKC Group

Server innovations which make a greater contribution to the business

When developing the next generation of Fujitsu PRIMERGY systems, we not only wanted to use our 20 years of experience, but also integrate the know-how and findings of our customers. The result is a user-inspired design that is more than just an improvement to the processors and features.

This new generation of servers has innovations in its hardware, software and services, which contribute toward solving the challenges of today, and at the same time provides a modular building block in order to meet future requirements.

Versatile performance to overcome data growth	"Go Green" - Increased energy efficiency	Foundation for trust and security	Innovations which simplify the management, freeing up IT resources
			
2:1 consolidation ratio compared with a typical 4- year-old server	Up to **25%** more energy efficient than a previous generation system	Free of charge provisioning of firmware and software updates for PRIMERGY servers for which customers have to pay with other vendors	About **40%** reduction in operational expenses with **65%** reduction in "pure" server implementation costs

Versatile performance to overcome data growth

Versatile Performance

More powerful and versatile servers are a key factor when it comes to introducing cloud computing, virtualization and HPC technologies. IT environments with a high degree of virtualization enable companies to map a large number of applications on a single server, instead of on several servers.

However, a single server with several virtual machines not only requires a higher processor speed, but also a higher RAM density. In order to support the wide range of applications – from less critical applications through to business critical applications – server requirements have become more varied.
Enterprise applications, such as database or transaction processing, run on high-end servers and require a large number of in-memory systems with a level of reliability as high as possible. Mid-range servers, which are used for virtualization or consolidation purposes, require a high bandwidth and scalability.

A small form factor, low energy consumption, and low costs are essential prerequisites for applications on low-end servers, which are used as web, collaboration and infrastructure systems.

In addition to the new powerful processors, the new dual-socket PRIMERGY family supports a number of further innovations in the fields of main memory technology, network connection, and higher hard disk density in order to support increasing requirements and new concepts. Fujitsu PRIMERGY servers equipped with the new Intel Xeon E5-2600 v3 processor product family are the heartbeat of an agile and efficient data center. They help to address many of today's data center limitations and also allow the industry to build solutions for a large number of applications so as to meet the most varied customer requirements. The new Intel Xeon product family is based on Intel's leading 22nm process technology, offers 50% more processor cores, 50% more load-level cache, extended Turbo-Boost-2.0 technology, Hyper Threading and two accelerated QPI links. The servers offer more computer performance in comparison to the predecessor generation, measured over a variety of compute-intensive workloads in order to obtain business results in a considerably shorter time.

In order to avoid further performance bottlenecks the new PRIMERGY servers are the first systems to support the new DDR4 memory technology. The DDR4-based modules were designed on the basis of a new architecture concept, thus providing higher performance with lower power requirements than previous storage technologies. They comprise registered dual inline memory modules (RDIMMs) as well as load-reduced DIMMs (LRDIMMs), and are initially available with speeds of up to 2.133 MHz. Double bandwidth together with reduced voltage and lower power consumption improve performance and optimize TCO.

In previous server generations the network adapter was embedded on the system board as an LOM (LAN on motherboard).
If a customer wanted a different one, he had to buy an independent adapter and install it in a free slot in the server. This meant that the assignment of Mezzanine or PCI slots was reduced and consequently the flexibility to add other Mezzanine cards or PCI cards. The new dual-socket M1 server generation allows customers to now choose the network adapter they want. This new DynamicLoM technology offers users the ability to individually adapt their current server network as well as the ability to change and thus meet future requirements without giving the server infrastructure a general overhaul.

“Go Green” – Increased energy efficiency

Energy-Efficiency

One of the top priorities of every company is to keep the overall costs under control, but data center energy costs are steadily on the increase. This is why Fujitsu PRIMERGY servers are continuously being optimized so as to provide the highest possible level of energy efficiency.

From the mainboards developed and manufactured in Germany through to the selection of components, everything is aimed at providing very low power consumption and simultaneously the best computing performance. Testimony to these efforts is provided by regularly achieved world records and top rankings in SPECpower_ssj2008 benchmarks.

Compared with the previous generation of 2-socket PRIMERGY servers, the new systems take things one step further. To be able to offer customers a uniform data center concept it’s not just the servers that support the Cool-safe® Advanced Thermal Design technology, but also selected Fujitsu ETERNUS storage systems and network components. Fujitsu thus offers its customer a complete infrastructure consisting of servers, storage, and network that supports an ambient temperature of up to 40°C.

However, due to increasing energy costs data center operators are compelled to look for new, end-to-end ways of monitoring energy efficiency. The Fujitsu energy management solution “Identify Energy Guzzlers in the Data Center” provides the option of measuring energy consumption and of putting computing performance in relation to energy consumption. The unique Fujitsu approach enables vendor-independent assessment of heterogeneous IT infrastructures, and thus provides the opportunity to develop strategies and plans of action for increasing data center energy efficiency. Conventional solutions only consider individual topics, such as measuring consumption data or monitoring system utilization. The Fujitsu energy management solution combines these topics, automatically evaluates the information based on defined thresholds and thus provides an easy to understand basis for decisions regarding cost reduction and efficiency improvement in the data center. By evaluating the calculated efficiency values it is possible to achieve optimized interaction of IT components and the IT performance that is actually required. Planned statutory target values for the improvement of energy efficiency are therefore easy to implement. Besides considering how computing performance can be optimally used, storage systems can also be compared for energy efficiency, and the dedicated energy consumption can be measured and automatically collected for all electrical components.
The innovative solution from the Fujitsu Data Center Management & Automation portfolio is designed in such a way that it can be implemented in heterogeneous data center landscapes. It is possible to start off with a small installation and then expand and further develop it.
In the same context, Fujitsu also offers a range of freely available tools, which are helpful both when selecting a suitable system and during configuration. For example, the Fujitsu SystemArchitect can be used to configure, cable and order individual PRIMERGY servers or even ETERNUS storage systems.
In addition, the end user also has the opportunity to determine system consumption by using the power calculator in the SystemArchitect. You receive information about exact power consumption, performance requirements and heat dissipation so as to be able to derive the requirements of a new infrastructure for the data center as precisely as possible.

The Fujitsu factory in Augsburg was certified according to DIN EN ISO 50001 in 2014. This certificate stipulates that the development and production location deploys systematic sustainable energy management procedures and enjoys an extremely high degree of energy efficiency and environment compatibility. The comprehensive energy-saving measures implemented in the production and administration environments have reduced power consumption and CO_2 emissions by approximately 15%. The measures include an improved cooling concept and the use of PRIMERGY servers in the data center. “Within three years we have saved as much power as would be used in over 1,500 households; we have thus exceeded our 3-year target”, explained Hellmut Böttner, Energy Management Supervisor at Fujitsu.

DEUTSCHER RECHENZENTRUMSPREIS 2013
GEWINNER KATEGORIE 2: KZ-SOFTWARE

German Data Center Award for Fujitsu’s energy management solution.

Foundation for trust and security

Increasing demands on the productivity and reliability of data centers on the one hand and new requirements due to virtualization and cloud computing on the other raise the question: How can these challenges be overcome?

IT infrastructure and business processes not only need to be managed, but also automated where possible in order to ensure that the growing demands placed on agility, flexibility and speed can be met. However, the structuring and standardization of recurring processes, as well as process automation based on ITIL (IT Infrastructure Library), the development of service quality management and implementation of compliance and governance processes are also equally important.

For example, contingency manuals are stipulated by the ITIL standard and describe the processes and courses of action to be taken in emergencies. The aim is to restore business operation as quickly as possible. These manuals are available in printed form in numerous data centers. The solution "Fujitsu Data Center Management & Automation – Automated Contingency Manual" enables the necessary processes for emergencies to be automated in various operating systems and through departmental barriers, thus making them directly available to emergency managers. Downtime costs can be significantly reduced as a result of automating contingency processes and operational continuity can therefore be recovered more quickly. Our process automation solution can be extended to cover all data center operations, i.e. data center processes / IT services are comprehensively automated. Analysts have calculated the savings which are possible for data center operation costs as between 20 and 25%.

Companies that want to better automate and simultaneously safeguard their data center also have the option of using the PAN Manager products. This software, which until now has only been available on the PRIMERGY BX900 S2, can also be used on selected servers of the new PRIMERGY dual-socket M1 generation. PAN Manager is a software-based approach to building a converged infrastructure, which makes use of a pool of servers, I/O, as well as network and storage resources. As a result infrastructure resources can be provided within a few minutes instead of hours or days – and for a fraction of the costs of traditional approaches. The solution automates essential IT management tasks, reduces the time required to implement new IT projects and at the same time improves service level agreements through embedded high availability and disaster recovery mechanisms for both physical and virtual workloads. Add-on products, such as the PAN Cloud Director, also facilitate the design, requesting, provisioning and management of IT as a service. The software is a comprehensive tool for the management of the entire lifecycle that provides the user with a easy way of utilizing IT resources. In combination with the PAN Manager it is the only product on the market that allows you to manage both physical and virtual resources within a cloud environment.

The provision of firmware updates, which often remedy critical errors, for the entire lifespan of a product is another important point that contributes to the availability of a server environment. Until further notice Fujitsu will in future also provide drivers, BIOS versions, firmware and software updates for the industry-standard x86 PRIMERGY servers free of charge. These updates can be downloaded from the Fujitsu Support websites regardless of an existing service agreement or valid warranty. In contrast to other providers who charge for older servers, this enables you to make significant cost savings and offers a simpler way of obtaining updates.

Innovations which simplify the management, freeing up IT resources

Executing system updates, controlling the hardware setup or running diagnostic tests on components are frequent tasks to ensure a continuous operation. The comprehensive Fujitsu Software ServerView® Suite supports IT administrators in these tasks and helps to reduce data center costs. The suite is divided into subsections comprising software modules to deploy, control, dynamize, maintain and integrate Fujitsu PRIMERGY servers. Except of some chargeable automation functions most software modules are free-of-charge.

The new **ServerView Embedded Lifecycle Management** (eLCM) for Fujitsu PRIMERGY servers offers IT administrator's clear benefits in terms of simplified, highly integrated and automated server management processes. eLCM consolidates and enhances ServerView functions directly available within the server, without the need of external media. Users can include their own boot image in eLCM for offline operations or recovery purposes. This is of particular interest when servers are operated at widely distributed branch offices.

All in all, eLCM increases the overall operational effectiveness and reliability of IT infrastructures by enhancing the management capabilities of each individual PRIMERGY system with a highly integrated server management concept.

The enhanced **ServerView System Monitor** is designed to manage small and distributed server installations and enables to run selected tasks directly at the remote server for more efficient processing.Requiring just little resources of the managed node, ServerView System Monitor makes all important status information of individual servers available to connected users. Configurable alarm and update management functions are included as well.

ServerView System Monitor is easy to use also by non-IT experts cutting administration costs while still delivering comprehensive management capabilities.

The new **ServerView Agentless Service** meets the increasing data security demands by enabling agentless management concepts. ServerView Agentless Service forwards OS related management information directly to the integrated remote management controller (iRMC) of the PRIMERGY server. From there all management data is available solely via out-of-band communication using the system's management LAN port. This separates effectively the networks for productive and management data.

ServerView Integration Packs facilitate the seamless and easy "embedding" of Fujitsu hardware in heterogeneous environments operated on mainstream enterprise management solutions like Microsoft System Center, VMware vCenter or the open source management tool Nagios. In addition to technical and organizational advantages, it also has tangible economic advantages: For example, training and migration spending is contained from the very outset, the costs for implementing PRIMERGY systems can be reduced by up to 65% in comparison with conventional methods, and savings of up to 40% are possible for "pure" operating costs.

A closer look at the dual-socket PRIMERGY M1 server family

To stay competitive, your IT should support your organization in reducing costs, maximizing performance and IT reliability, and providing the flexibility to react fast on business change. Fujitsu PRIMERGY server solutions help you to do all of this and more. The servers provide your company with the most powerful and flexible data centre solutions on the market for companies of all sizes, across all industries and for any type of workload. This includes expandable PRIMERGY tower servers for remote and branch offices, rack-mount servers with leading efficiency and performance, compact and scalable blade systems, as well as density-optimized scale-out servers.

PRIMERGY TX Family

Expandable tower servers ideal for branch offices, remote offices and small businesses

PRIMERGY RX Family

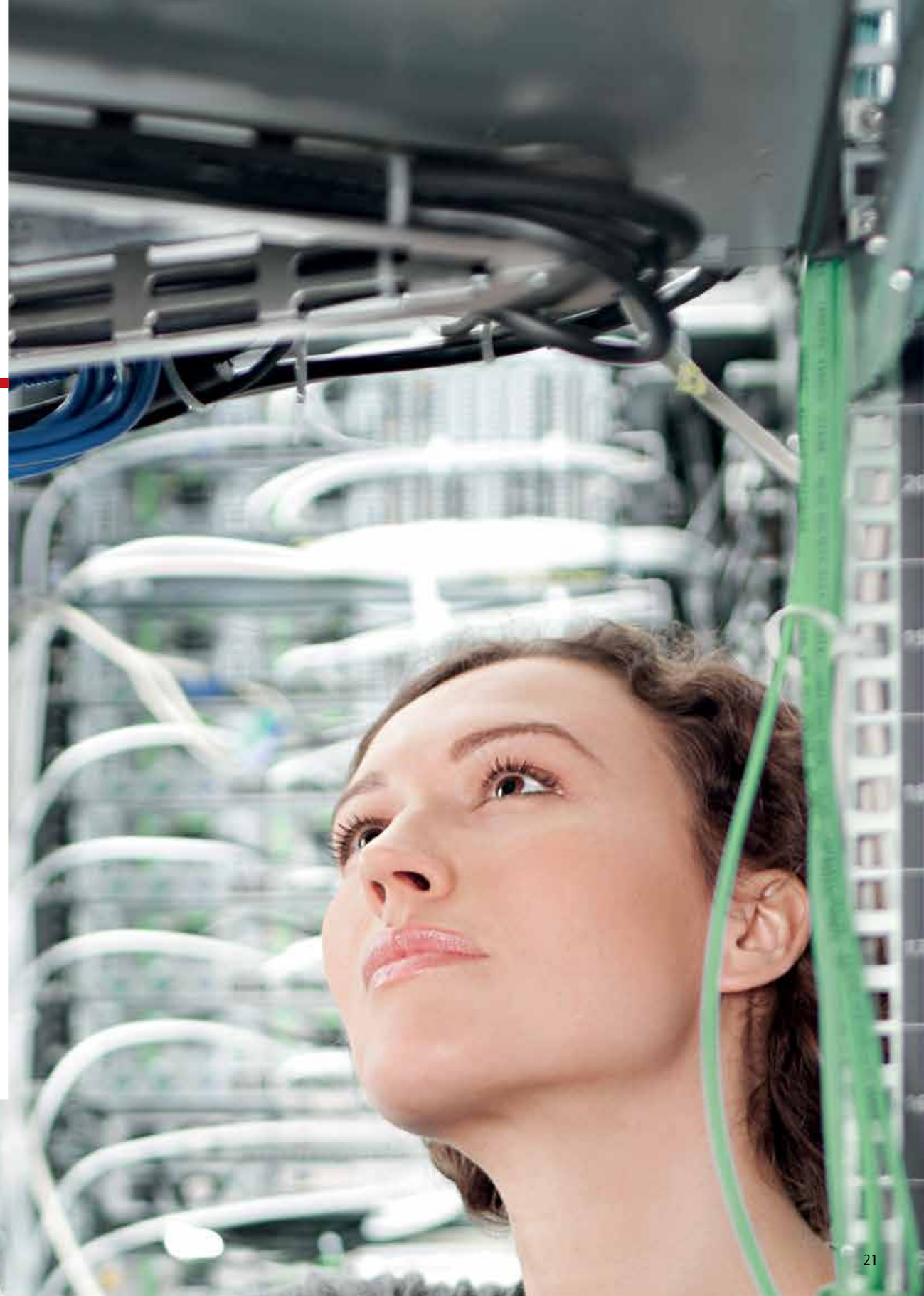
Versatile and scalable rack-optimized servers with leading efficiency and performance

PRIMERGY BX Family

Platform for converged infrastructures designed to reduce IT costs, time and efforts

PRIMERGY CX Family

Density optimized cloud server infrastructures for HPC, cloud and hyper-converged computing



What's New

- Boost your general computing performance by **up to 55%** compared to the previous generation with the new **Intel® Xeon® E5-2600 v3 processors**
- Meet diverse enterprise workload demands and avoid performance bottlenecks by using new **DDR4 memory technology** that provides higher performance with lower power requirements.
- Individually adapt server network demands with the ability to change and thus meet future requirements without overhauling server infrastructure with new **DynamicLoM** technology
- **Higher storage density** to be prepared for today's requirements and future developments towards a business-centric data center
- **Extended Cool-safe® Advanced Thermal Design** offers a uniform data center concept for the operation of selected PRIMERGY servers, ETERNUS storage systems and switches with higher ambient temperatures to save energy and cooling costs
- **ServerView Embedded Lifecycle Management (eLCM)** consolidates and enhances management functionalities directly available ("embedded") within the server for simplified and highly integrated management processes
- **ServerView Agentless Service** separates the networks for productive and management data for enhanced data security
- **ServerView System Monitor** is particularly designed for easy and inexpensive management of small and distributed server installations.

PRIMERGY RX2530 M1

Maximum productivity in a 1U housing

The FUJITSU Server PRIMERGY RX2530 M1 is a rack server that provides high performance, expandability and energy efficiency in a 1U space saving housing. The PRIMERGY RX2530 M1 is ideal for virtualization, scale-out scenarios, and small databases as well as for high performance computing thanks to the high performance of the new Intel® Xeon® processor E5-2600 v3 product family with up to 18 cores and the latest DDR4 memory technology. Moreover, the RX2530 M1 delivers a great expandability by supporting up to 1536 GB of DDR4 memory (available Q1/2015) up to 10 hard disk drives and optionally up to four high-speed PCIe SSDs as well as flexible DynamicLoM technology, to ensure future requirements are met and budgets are saved. The limited space of a 1U chassis offers highly efficient power supply units, their redundancy on demand and the optional Cool-safe® Advanced Thermal Design this will result in lower operational costs.

Type	Dual socket rack server
Height units	1 U
Processor	Intel® Xeon® processor E5-2600 v3 product family up to 18 Cores, 45 MB TLC / up to 9.6 GT/s via 2x QPI
Memory capacity	8 GB - 768 GB (1536 GB*), 24 DIMM (DDR4)
Storage configuration	4 x 3.5-inch or 10 x 2.5-inch, thereof up to 4x PCIe SSD optional
Networking	DynamicLoM (Choice of 2x 1Gbit/s Eth, 4x 1Gbit/s Eth and 2x 10Gbit/s SFP+, 2x 10Gbit/s 10GBase-T)
I/O expansion slots	2 PCIe Gen3 x16 LP, 2 PCIe Gen3 x8 LP

*available Q1/2015

PRIMERGY RX2540 M1

The data center standard without compromise

The FUJITSU Server PRIMERGY RX2540 M1 sets higher standards for usability, scalability and cost-efficiency. It is a 2U dual-socket rack server ideal for running enterprise applications, collaboration and messaging workloads as well as traditional databases. Plus, it substantially simplifies carrying out infrastructure-related tasks like server virtualization and consolidation.
The PRIMERGY RX2540 M1 can be equipped with two of the latest Intel® Xeon® E5-2600 v3 processor product family with up to 18 cores and 45 MB smart cache per CPU. Along with new DDR4 memory technology it boosts application performance to be able to cope with the increasing data growth and shortens time to business results. The modular design of the server offers excellent expandability with 24 memory slots, high storage density, DynamicLoM technology, additional 6 PCIe Gen 3 I/O expansion slots. The new DynamicLoM technology offers users the ability to individually adapt the current server network as well as the ability to change and thus meet future requirements without giving the server infrastructure a general overhaul.
The PRIMERGY RX2540 M1 comes with two redundant hot-plug power supply units, offering up to 96% energy efficiency. The extended Cool-safe® Advanced Thermal Design offers a uniform data center concept for the operation of PRIMERGY servers, ETERNUS storage systems and switches with higher ambient temperatures to save energy and cooling costs.

Type	Dual socket rack server
Height units	2 U
Processor	Intel® Xeon® processor E5-2600 v3 product family up to 18 Cores, 45 MB TLC / up to 9.6 GT/s via 2x QPI
Memory capacity	8 GB - 768 GB (1536 GB*), 24 DIMM (DDR4)
Storage configuration	12 x 3.5-inch or 24 x 2.5-inch*
Networking	DynamicLoM (Choice of 2x 1Gbit/s Eth, 4x 1Gbit/s Eth and 2x 10Gbit/s SFP+, 2x 10Gbit/s 10GBase-T (available 11/2014))
I/O expansion slots	3 PCIe Gen3 x16 LP, 3 PCIe Gen3 x8 LP;with riser card max. 8 PCIe Gen3

*available Q1/2015

PRIMERGY BX2560 M1

All-in-one server blade optimized for mainstream virtualization and enterprise workloads

The Fujitsu Server PRIMERGY BX2560 M1 is the new general-purpose dual-socket server blade for the PRIMERGY BX400 and BX900 blade chassis. Designed for your demanding workloads, such as mail and messaging services, collaboration, enterprise applications and virtual environments, the BX2560 M1 server blade server is an ideal combination of density, efficiency and scalability.
It offers increased performance and efficiency using the latest Intel® Xeon® E5-2600 v3 product family, with up to 18 cores and 45 MB smart cache per CPU. The new generation of DDR4 memory delivers greater reliability for enterprise-level workloads and provides higher performance with lower power requirements than previous memory technologies.
The embedded dual-channel 10 Gbit/s universal converged network adapter with 8 physical functions per channel usable for Ethernet, iSCSI, FCoE and RDMA over Converged Ethernet allows allocating the network throughput to match individual application needs.
The BX2560 M1 server blade offers two additional PCIe 3.0 I/O expansion slots that supports the use of the highest performing mezzanine cards, now and into the future, as well as two hot-plug 2.5-inch SAS, SATA or SSD drives.
The FUJITSU Software ServerView Suite includes the integrated Remote Management Controller (iRMC S4). This embedded feature helps administrators to manage servers in remote environments, operating in-band or out-of-band. To increase the remote functionalities, the system now supports a microSD card usable e.g. for eLCM, back-up and restore. New functions such as the ServerView Embedded Lifecycle Management (eLCM) consolidates and enhances management functionalities directly available ("embedded") within the server for simplified, highly integrated and automated management processes, users can maintain a single point of control and capitalize on an existing systems management investment.

Type	Dual-socket server blade for PRIMERGY BX400 S1 / BX900 S2
Max. # per BX900	18
Max. # per BX400	8
Processor	Intel® Xeon® processor E5-2600 v3 product family up to 18 Cores, 45 MB TLC / up to 9.6 GT/s via 2x QPI
Memory capacity	8 GB - 512GB (1024 GB*), 16 DIMM (DDR4)
Storage configuration	2 x 2.5-inch
Networking	2 x 10 Gbit/s Ethernet CNA
I/O expansion slots	2x PCIe Gen3 x8 Mezzanine Card + on board 1x PCIe 3.0 x8 for modular RAID

*available Q1/2015

PRIMERGY BX2580 M1

All-in-one server blade optimized for mainstream virtualization and enterprise workloads

Optimized for extensive virtualization and consolidation projects, the FUJITSU Server PRIMERGY BX2580 M1 offers versatile performance to be able to cope with the dramatic increase of data and digital information. The PRIMERGY BX2580 M1 is built with the Intel® Xeon® E5-2600 v3 processor family, up to 1,536 GB of DDR4 memory (with 64 GB DIMMs), up to two 1,8" SSD drives, as well as further boot options by local UFM and SATADOM flash devices. It offers exceptional levels of flexibility and I/O throughput to run the most demanding applications. In comparison to the also record-breaking predecessor version the server blade maximizes the number of virtual machines per server and reduces the hardware requirements for your virtualized environment with 24 DIMM slots and up to 36 cores. This extreme memory density and number of cores are critical elements for a variety of workloads including demanding high performance computing applications. In addition it provides the possibility to scale the network throughput to match individual application needs with the integrated dual-channel 10 Gbit/s Ethernet Universal Converged Network Adapter and two further mezzanine card options.
The PRIMERGY BX2580 M1 supports the FUJITSU Software ServerView® Suite and integrated Remote Management Controller iRMC S4 with a complete set of embedded management features throughout the lifecycle of the server. The ServerView® embedded Lifecycle Management (eLCM) consolidates and enhances management functionalities directly available within the server for simplified, highly integrated and automated management processes. eLCM significantly enhances the management functionality of the managed node with focus on its remote management capabilities (Out-of-Band management). This intelligent server environment can meet the needs of a growing business, while enhancing the performance of your applications and improving the computing power of the whole IT infrastructure.

Type	Dual-socket server blade for PRIMERGY BX400 S1 / BX900 S2
Max. # per BX900	18
Max. # per BX400	8
Processor	Intel® Xeon® processor E5-2600 v3 product family up to 18 Cores, 45 MB TLC / up to 9.6 GT/s via 2x QPI
Memory capacity	8 GB - 768 GB (1536 GB*), 24 DIMM (DDR4)
Storage configuration	2 x 1.8-inch SATA SSD
Networking	2 x 10 Gbit/s Ethernet CNA
I/O expansion slots	2x PCIe Gen3 x8 Mezzanine Card + on board 1x PCIe 3.0 x8 for modular RAID

*available Q1/2015

PRIMERGY CX400 M1

Scale-Out smart for HPC, cloud and hyper-converged computing

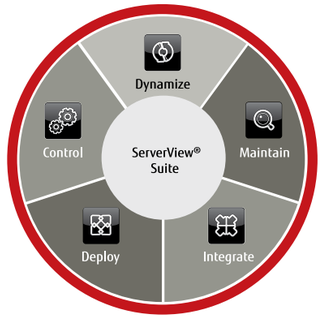
Enterprise customers of all sizes are increasingly looking for improved energy efficiency, higher platform density, better management effectiveness and overall lower investment when realizing their scale-out High Performance Computing, Cloud, Big Data, or hyper-converged strategies. The FUJITSU server PRIMERGY CX400 M1 is the answer to these needs. Taking only 2 height units in a standard 19-inch rack, it contains up to four server nodes, eight Intel® Xeon® processors and 64 DDR4 memory DIMMs, thus providing the very highest performance and energy efficiency levels. Its "4 in 2U" granularity results in half of the rack space used, lower hardware investment and consolidated efficiency in management for the same performance as compared to standard rack servers. Using shared fans and redundant power supplies, energy consumption is significantly minimized while providing enhanced availability and higher effectiveness of management with hot-plugging of server nodes, power supplies and local storage drives. Cost-effectiveness is granted by conventional front-to-back cooling, rear-side external connectivity, installation and operation in existing datacenter rack and air conditioning infrastructures, proving easy rack-wide team play with already existing servers and components. Two or four half-wide server nodes can be individually configured and independently serviced, enabling a great flexibility to easily match different solution stacks. The PRIMERGY CX400 M1 can be perfectly adapted for a wide range of applications thanks to its high degree of modularity. When requirements change, additional server nodes, co-processor cards or hard disks can be added easily. In comparison to conventional rack servers the PRIMERGY CX400 M1 wins thanks to its double server density and low hardware and operating costs. The system is thus an ideal replicable component in order to implement large scale-out solutions.

Type	Multi-node server system
Standard node	CX2550 M1 (1U, half-width) for highest compute density
High-end node	CX2570 M1 (2U, half-width) with support for up to two GPGPU/co-processor cards
Processor	Intel® Xeon® processor E5-2600 v3 product family up to 18 Cores, 45 MB TLC / up to 9.6 GT/s via 2x QPI
Memory capacity	8 GB - 512 GB (1024 GB*), 16 DIMM (DDR4)
Storage configuration	6 x 2.5-inch per node
Networking	2x Gbit/s Ethernet + 1x 100Mbit service LAN Onboard
I/O expansion slots	2x PCIe Gen3 x16 (for IB)+ 2x PCIe Gen3 x16 for opt. GPGPU/co-processor (CX2570 only)

*available Q1/2015

FUJITSU Software ServerView® Suite

Integrated Server Lifecycle Management



Deploy

fast, easy, reliable

Server Setup and Mass Deployment

- ■ **Installation Manager**
  Configures Fujitsu PRIMERGY server hardware and installs operating systems and server management software either unattended or menu-driven, locally or remotely.
- ■ **Scripting Toolkit**
  Collection of utilities and sample scripts for individual script-based Fujitsu PRIMERGY server configuration and installation.

Control

centralized, easy, efficient

Server Monitoring and Control

- ■ Operations Manager
- ■ Agents / CIM Providers
  - ■ System Monitor
- ■ Event Manager
- ■ RAID Manager

Capacity Management

- ■ Threshold Manager

Power Management

- ■ Power Monitor
- ■ Power Consumption Management (in iRMC)

Storage Support

- ■ Storage Management
  - ■ Monitoring
  - ■ Events

Dynamize

simple, sophisticated, efficient

Private Cloud Infrastructure

- □ Resource Orchestrator Cloud Edition

Consolidated Server Infrastructures

- □ Resource Orchestrator Virtual Edition

I/O Management

- □ Virtual-IO Manager

Maintain

in any state, at any place

Remote Management

- ■ integr. Remote Management Controller (iRMC)
  - □ iRMC Advanced Pack
- ■ Management Blade
- □ Support Gateway / AutoCall

Update Management

- ■ Update Manager Download Manager Repository Manager
- ■ Update DVD
- ■ Update Manager Express
- ■ Repository Server

Performance Measurement

- ■ Performance Manager

Investigation

- ■ Asset Management
  - ■ Archive Manager
  - ■ Inventory Manager
- ■ PrimeCollect

Inspection

- ■ Online Diagnostics
- ■ Customer Self Service
  - □ Local Service Panel/ Display

Integrate

seamless,manage uniformly

Uniformed Management

- □ Fujitsu ManageNow® solutions

ServerView Integration Packs

- ■ Microsoft SCOM
- ■ Microsoft SCCM
- ■ Microsoft SC VMM
- ■ Microsoft SC PRO Packs
- ■ VMware vCenter
- ■ Nagios
- ■ Icinga
- ■ HP Operations Manager
- ■ HP Systems Insight Manager
- ■ CA Unicenter
- ■ CA Spectrum
- ■ IBM Tivoli TEC
- ■ IBM Tivoli NetView
- □ BMC Patrol

■ = Standard
□ = Option

Migrate to Microsoft® Windows Server® 2012 R2

Right now nearly two thirds of organizations still have applications running on Windows Server® 2003. This operating system will reach the end of support in July 2015. That means no support, no patches and no updates will provide after this date. Thus the operation of the servers will become more expensive and vulnerable for spy- and malware or other security issues. Additionally, any outdated software could create conflicts with your compliance regulations. This can be a high risk for your company data and therefore your daily business. Now it's time to act!

Start planning and upgrade now to Windows Server® 2012 R2. It enables you to take advantage of virtualization and cloud-based technologies, while providing improved capabilities for standalone servers. Get a consistent platform which offers automated protection and recovery of assets and cost-effective business continuity to improve your workloads while reducing risks. Windows Server 2012 R2 helps you to build, deploy and scale applications and web sites quickly, and with more flexibility than ever before. It allows you also to empower your end users by granting them access to corporate resources on the devices they choose while protecting your information. Whether your company is a large enterprise, a service provider, or a small or medium-sized business, Windows Server® 2012 R2 together with Fujitsu PRIMERGY servers can help you to optimize your business, lower operational expenses and simplify IT management. Running Windows Server® 2012 R2 on new PRIMERGY systems means you get fully supported and more powerful servers that deliver versatile performance, energy efficiency and increased availability to help you cope with the IT-challenges of the 21st century.

Windows Server

Why migrating to Windows Server® 2012 R2:

- Latest technology – hardware and software
- Full support
- More powerful servers
- Reduced server footprint
- Simplified management
- Preinstalled for simplicity

Migrating away from Windows Server® 2003 is an investment in your organization's future, and there has never been a better time to begin the migration process. Take the next step to transform your data center and go through the four-step process recommended by Microsoft®. With an understanding of what is still running on Windows Server® 2003, what needs to migrate when, and where to migrate to, you can make a migration plan. Choosing the right plan may require some additional analysis and assistance. Helpful tools can be found ›*here* or contact your local FUJITSU representative.

The Fujitsu PRIMERGY server portfolio offers a broad spectrum of systems for different needs. But they all have one thing in common: The capability to be run with Microsoft® Windows Server® 2012 R2 in the several available versions, depending on your requirements.

1. Discover
Catalog your software and workloads

2. Assess
Categorize applications and workloads

3. Target
Identify your destination(s)

4. Migrate
Make the move - do it yourself or use the support of FUJITSU

FUJITSU Server PRIMERGY and Microsoft® Windows Server®	TX1310 M1	TX1320 M1	TX1330 M1	TX150 S8	TX2540 M1	TX300 S8	RX1330 M1	RX200 S8	RX2520 M1	RX300 S8	RX2540 M1	RX350 S8	RX4770 M1	BX920 S4	BX2560 M1	BX924 S4	CX2550 M1	CX2570 M1
Windows Server® 2012 R2 Foundation	✓	✓	✓	✓			✓											
Windows Server® 2012 R2 Essentials	✓	✓	✓	✓	✓	✓	✓	✓	✓									
Windows Server® 2012 R2 Standard	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows Server® 2012 R2 Datacenter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows Server® 2012 Foundation	✓	✓	✓	✓			✓											
Windows Server® 2012 Essentials	✓	✓	✓	✓	✓	✓	✓	✓	✓									
Windows Server® 2012 Standard	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows Server® 2012 Datacenter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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