



Fujitsu Server PRIMERGY Systems

Servers that transform your IT into a competitive advantage

shaping tomorrow with you

FUJITSU



The new role of information and communication technology

The rapid development of information and communication technology (ICT) greatly influences the way in which people organize their lives and work together. The entire world is linked via networks where almost everyone can access information anytime and anywhere.

However, the continuous development of global networking towards an “Internet of Things” also results in several IT requirements. On the one hand, the fast increase in data volume subjects IT organizations to huge challenges as the IT must be designed so that it is scalable and adaptable. According to the latest studies, the volume of data being transported through worldwide computer networks will quadruple to 1.3 zettabytes by 2016.

On the other hand, the complexity of IT is also on the increase. New server technologies and form factors (blades, skinless servers) permit a high degree of centralization but they also pose enormous challenges regarding energy supplies and cooling. The expenditure for administration is also increasing over-proportionally. Many IT departments thus have to achieve the balancing act of solving these challenges yet not overspend their IT budget which itself is constantly being cut – and at the same time they must still ensure the best service availability levels.

Fujitsu PRIMERGY Server

Industry's most complete portfolio

Selecting the right server

Quickly changing business requirements need an IT infrastructure that ensures maximum productivity, cost efficiency and agility. Be it a department server or a large data center solution, Fujitsu PRIMERGY servers and solutions can meet these requirements for companies of all sizes and provide a cost-effective and adaptable range of services.

Fujitsu is the leading ICT provider with an entire portfolio of IT products, solutions and services – from notebooks, tablets, PCs and data center solutions up to managed services and cloud solutions. In the server sector Fujitsu offers the most comprehensive portfolio of x86-based industry standard systems within the branch so as to cover the numerous individual requirements of all customers. The portfolio ranges from tower servers (TX), rack-optimized servers (RX), blade servers (BX) and cloud server infrastructure systems (CX) up to PRIMEQUEST® servers (PQ) which meet the highest failsafe requirements.

Fujitsu PRIMERGY Server Portfolio



Fujitsu PRIMERGY BX server family

PRIMERGY blade servers provide a fast, simple and low-cost way to build and run an IT infrastructure in a medium-sized company, branch office or in a large data center. Their convincing features are high packing density, low energy consumption and convergent management.

The following systems belong to the PRIMERGY BX family:

- PRIMERGY BX400:
A fully equipped blade system with up to eight servers, designed for user-friendly and versatile operation
- PRIMERGY BX900:
Dynamic infrastructure in a housing with up to 18 servers that provides considerable economic advantages for a large and increasing number of applications



The Fujitsu PRIMERGY CX server family

PRIMERGY Cloud eXtension servers are ideal for cloud computing, high performance computing, service providers and for large scale-out computing server farms. They supply large data centers with massive x86 server performance while simultaneously generating data center savings regarding server density, heat loss optimization and total cost of ownership.

The following systems belong to the PRIMERGY CX family:

- PRIMERGY CX400:
Up to four independent dual-socket server nodes and 24 local hard disks in a shared 2U rack chassis
- PRIMERGY CX420:
A dual node cluster server for Microsoft Windows Server® 2012, enabling small and medium-sized enterprises or multisite organizations to provide continuous uptime for their business applications and data.



The Fujitsu PRIMERGY RX server family

PRIMERGY rack servers are standard in every data center. They offer a versatile, scalable platform with best-in-class energy efficiency and performance that provides up to 20% more performance per watt than comparable systems from other providers.

The following systems belong to the PRIMERGY RX family:

- PRIMERGY RX100:
Low-priced mono-socket infrastructure and front-end server with the highest energy efficiency levels in its class and a wide range of optional functions
- PRIMERGY RX200:
Dual-socket server in a space-saving 1U housing making it ideal for virtualization and cloud
- PRIMERGY RX300:
Dual-socket server in a modular 2U housing with a focus on versatility and scalability; it is optimized for a wide range of business applications
- PRIMERGY RX350:
Dual-socket server with 4U offering maximum performance, expandability and availability.
- PRIMERGY RX500:
4-socket performance with the economic values and energy efficiency of a 2-socket server
- PRIMERGY RX600:
Reliable 4-socket server for business-critical IT services, such as databases or as a consolidation platform
- PRIMERGY RX900:
Scalable 8-socket server for challenging, critical business applications and virtualization environments with extremely high security standards



The Fujitsu PRIMERGY TX server family

PRIMERGY tower servers are cost-effective and expandable all-round servers which are ideal for departments, branches and small companies requiring a server with maximum performance for current requirements and expandability features for future growth.

The following systems belong to the PRIMERGY TX family:

- PRIMERGY TX100:
An ideal "first server" for small and medium-sized companies
- PRIMERGY TX120:
Its whisper-quiet operation and ultra-compact form factor make it perfect for special requirements
- PRIMERGY TX140:
Expandable all-rounder with the best price/performance ratio
- PRIMERGY TX150:
Ideal for those initial virtualization phases in a small or medium-sized company
- PRIMERGY TX200:
One of the best price/performance ratio for a dual-processor server
- PRIMERGY TX300:
Dual-processor performance, full redundancy, high availability levels and ample internal storage capacity

Better availability with proven quality from Germany

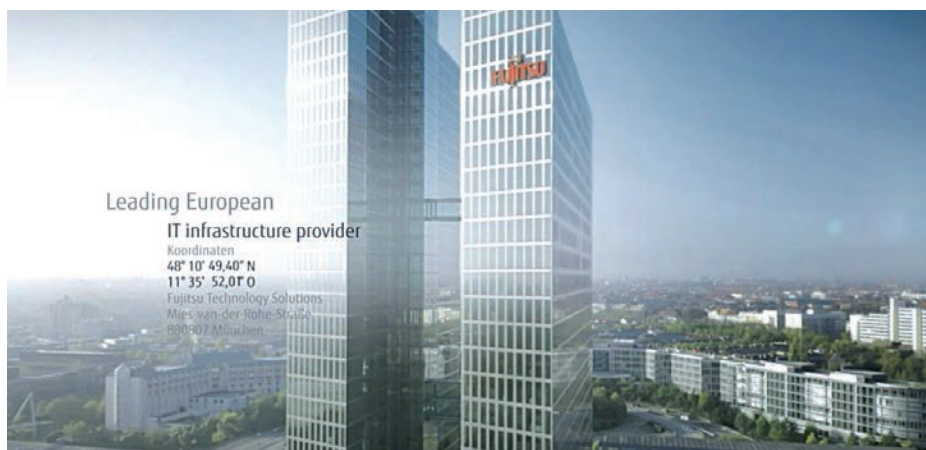


IT is frequently the heart of many business and production procedures. Any IT faults often have an immediate effect on productivity levels. The availability of IT thus has top priority. This also applies when developing new Fujitsu PRIMERGY systems.

Each Fujitsu PRIMERGY system is subjected to stringent and comprehensive quality assurance measures during the development phase. This includes electromagnetic and climate technology tests aimed at ensuring availability even in the most difficult of conditions. A stress test with 5,000 boot cycles brings out the very best of the system as it quickly detects and eliminates even the most minor of deficiencies. For example, if a server were to be switched off every day, this would correspond with 5,000 boot cycles to a usage period of approximately 14 years.

The Fujitsu factory in Augsburg is regarded as the state-of-the-art IT systems factory in the whole of Europe, drawing on approximately 20 years of development and production know-how.

The results are robust PRIMERGY servers with an extremely low annual failure rate that is way below the market average. They thus attain low failure rates similar to high-end UNIX® systems which are primarily deployed in large data centers as a business-critical server platform. The data center thus enjoys lower costs due to fewer non-planned downtimes and considerably less time is required for service calls.





What do our customers say about the quality and reliability of PRIMERGY servers?

Mark Sellors,
Director of IT Infrastructure and Operations,
bwin.party digital entertainment

Even in the world of gaming you need to have something that is not a gamble. PRIMERGY server technology from Fujitsu gives us absolute security and more performance in handling daily business. Thanks to the new solution, risks were significantly reduced, and we are well on the way to achieving our business objectives with this technology."

Salvatore Pulvirenti,
Chief Information Officer,
Tiscali

"We've been partnering with Fujitsu for many years. As a result, we are familiar with the quality of their PRIMERGY systems. On the basis of our experience, we can reckon with a productive life cycle of 5 years."

Excellent price/performance ratio

In addition to high availability levels, industry-leading IT performance is also reflected in a company's efficiency and productivity.

Fujitsu starts to optimize its PRIMERGY systems as early as the development phase using comprehensive quality assurance processes which ensure that a company can rely on its IT at all

times, even during peak workloads. Comprehensive benchmark measurements provide the required basis for continuous optimization – especially after the launch of the systems. Fujitsu often sets a new world record when a benchmark is run. The "Hall-of-Fame" lists the world records and best-in class results achieved by PRIMERGY servers in the various benchmark categories.

Fujitsu PRIMERGY Server – "Hall-of-Fame"

	2009	2010	2011	2012		
System Performance SPECint, SPECfp	RX300 S5 TX200 S5 TX300 S5	RX100 S6 RX300 S6 RX900 S1	TX150 S7 TX300 S6	BX922 S2 TX140 S1 RX200 S6 TX300 S6 RX300 S6	BX924 S3 RX200 S7 RX500 S7	
Java/WEB Performance SPECweb, SPECjbb	RX100 S5 RX200 S4 RX300 S5	RX600 S4 TX100 S1 TX300 S5	BX922 S2 RX900 S1 TX300 S6	RX100 S7 RX300 S7 RX600 S6	RX100 S7p RX500 S7	
Server Virtualization VMware, VMmark	RX300 S5	BX922 S2 BX924 S2 BX960 S1	RX200 S6 RX300 S6 RX600 S5	RX200 S6 RX300 S6 RX900 S2	BX924 S3 RX200 S7 RX350 S7 RX500 S7	
Database Performance TPC-E	RX300 S5	PQ1800E RX300 S6	RX600 S2 RX900 S1	RX300 S6 RX900 S2	RX300 S7	
ERP/CRM Performance SAP SD	RX300 S5	BX922 S2 RX300 S6 TX300 S6				
Energy efficiency SPECpower, SAP Power, TCP-E Energy	RX100 S5 TX100 S1 TX150 S6	CX120 S1 TX150 S7 TX300 S6	BX920 S2 RX100 S7 RX300 S6 RX900 S2	TX120 S3 TX140 S1 TX300 S6	BX920 S2 RX100 S7p RX200 S7 RX300 S7	RX500 S7 TX120 S3p TX200 S7 TX300 S7

For more information: <http://www.fujitsu.com/fts/products/computing/servers/primergy/benchmarks/>

Current World Records

Best 2-socket system ⁽¹⁾



PRIMERGY BX924 S3
SPECint_base2006

Best virtualization platform
with 128 total cores ⁽²⁾



PRIMERGY BX924 S3
VMmark 2

Most energy efficient
server ⁽³⁾



PRIMERGY RX300 S7
SAP SD Power

Best E5-4600 based sys-
tem in DB performance ⁽⁴⁾



PRIMERGY RX500 S7
TPC-E

Most energy efficient
1P Rackserver ⁽⁵⁾

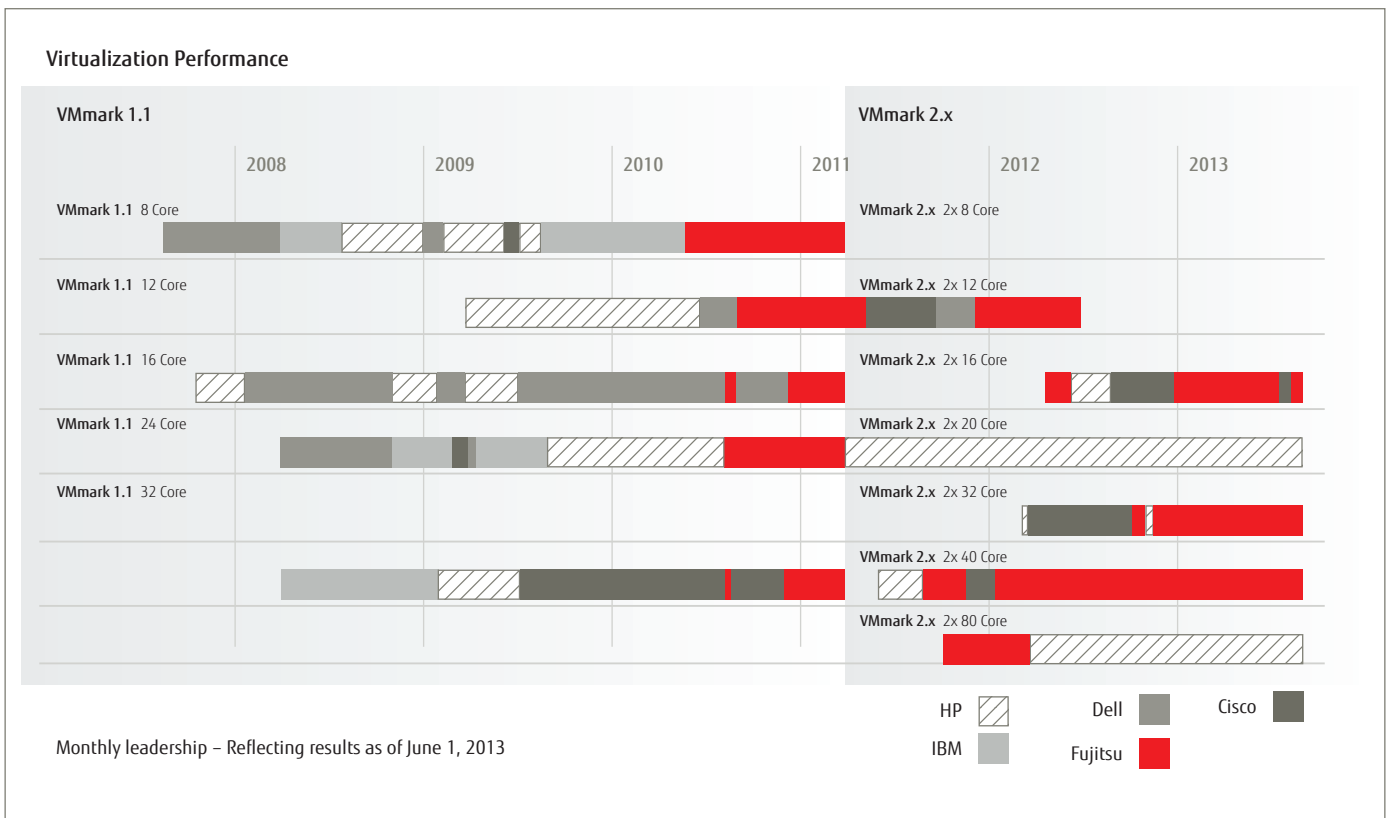


PRIMERGY RX100 S7p
SPECpower_ssj2008

PRIMERGY servers have always been at the top in the rankings for database and ERP benchmarks, such as SD or TPC-E. Fujitsu customers thus benefit from systems which are optimized for databases and ERP and which thus offer much shorter latency times and fast transactions.

Fujitsu has set new standards in energy efficiency in recent years, making an important contribution to the continual reduction of energy and cooling costs. Fujitsu had nine systems out of the top10 of the most energy-efficient servers in 2012, providing up to 20% more performance per watt than comparable systems from other providers.

Fujitsu has continually optimized its PRIMERGY servers for virtualization and cloud environments over several generations. This can also be seen in the “VMmark history” where PRIMERGY servers have dominated the various categories since the middle of 2010. PRIMERGY servers are currently top in six of the nine “total cores” categories.





What do our customers say about the performance of PRIMERGY servers?

Hans-Georg Schleißinger,
*IT Manager, Rudolf Rösser Verlag und
Informationsdienste AG*

"From the IT perspective, the PRIMERGY BX900 dynamic cube will enable us to grow as we take on new tasks and challenges because we now have the potential computing power to meet future needs as they arise."

Stefan Bold,
*Information Technology Manager,
PFI Group*

"Thanks to our Fujitsu Blade Server we benefit from noticeably performance and we have the possibility to scale and centrally manage our server and storage resources. The amount of consolidation is also enormous. We save a lot of space and energy in our data center."

1. Competitive benchmark results stated above reflect results published on www.spec.org as of July 30, 2013. The comparisons presented above are based on the best performing dual-socket server in SPECint_base2006.
2. The mentioned VMmark results were achieved by Fujitsu PRIMERGY BX924 S3 server blades, each with 256 GB of memory, using Intel® Xeon® E5-2690 processors and Violin Memory® Array V6616, 6 TB, with 64 VIMMs each. Full test results including system specification, further details and current results can be found at: <http://www.vmware.com/a/vmmark/>. The comparison reflects the status of July 30, 2013.
3. Competitive benchmark results stated above reflect results published on http://www.sap.com/solutions/benchmark/Power_Benchmark_results.htm as of July 30, 2013. The comparisons presented above are based on the best performing server in SAP Server Power Standard Application Benchmark
4. Competitive benchmark results stated above reflect results published on www.tpc.org as of July 30, 2013. Fujitsu PRIMERGY RX500 S7 with four Intel® Xeon® E5-4650 processors at 2.70GHz (4 processors/32 cores/64 threads), Microsoft SQL Server® 2012 Enterprise Edition, Microsoft Windows Server 2008 R2 Enterprise Edition; 2,651.27 tpsE at \$161.95 USD / tpsE, availability date is November 1, 2012
5. Competitive benchmark results stated above reflect results published on www.spec.org as of July 30, 2013. The comparison presented above is based on the best performing monosocket rackserver.

How does Fujitsu help you to save money in a data center?

Fujitsu PRIMERGY systems are optimized to provide the best energy efficiency. From the mainboards developed and manufactured in Germany through to the selection of components, everything is aimed at providing minimum power consumption and simultaneously the best computer performance. But did you know that expensive cooling in a data center coupled with lost efficiency in power supply units and cables often account for more than 50% of the energy costs?

Here's the good news: there is a simple way to save money! A highly efficient infrastructure reduces air-conditioning and computer performance costs. The new generation of PRIMERGY servers use highly efficient components, sophisticated cooling technology and top-quality power management tools. Servers can thus support a wider range of temperatures and the risk of heat-related downtimes drops.

A perfect climate and up to 27% savings in energy costs

Fujitsu PRIMERGY servers already support air intake temperatures of 90 °F. The new generation of servers now support environment temperatures of up to 104 °F. The temperature in a data center can thus be increased by a few degrees without any problems. Each additional degree results in a 5 to 6% drop in air-conditioning costs. Even the "dreaded hot zones" in a data center are now not so frightening. Indeed: a skillfully configured area within the data center with a higher environmental temperature relieves the burden on air-conditioning and your budget in a very simple manner.

What do our customers have to say about the energy efficiency of PRIMERGY servers?

Thomas Strohe,
*Cofounder and Board Member of
intergenia AG*

"The Fujitsu PRIMERGY systems exceed our expectations regarding energy efficiency, state-of-the-art technology, purchasing price and quality."

Jean-Pierre Gouwy,
*ICT Manager,
AZ Groeninge Hospital*

"We benefit from the reduced spatial needs of the PRIMERGY BX400. Plus both electricity consumption and heat development are much lower. And of course admin is a lot less of an effort."

Comprehensive management

How can you make administrators and commercial staff happy? When managing individual servers as well as entire server parks, a comprehensive server management solution removes the burden of routine work from an administrator's shoulders, thus providing more time for the really important tasks. The focus is also on virtualization technologies as well as the dynamization and automation of IT landscapes right up to their integration in corporate solution concepts covering several locations. Commercial employees are also pleased about such effective server management: there is empirical evidence that, in addition to energy cost savings, maintenance and administration expenditure can be reduced by up to 55% if hardware is used more efficiently.

Comprehensive management The comprehensive Fujitsu Software ServerView® Suite supports your administrators and helps you to reduce data center costs. This solution is divided into five individual packages: Deploy, Control, Dynamize, Maintain and Integrate, mainly consisting of free-of-charge modules. ServerView Suite thus offers comprehensive administration processes that cover the entire lifecycle of individual servers as well as entire server parks.

Incidentally, Fujitsu hardware can be easily integrated into the existing management environments of other manufacturers via the so-called "integration packages". In addition to the technical and organization benefits this also has notable economic advantages: the training and conversion costs are kept to a minimum from the very start and the costs for implementing PRIMERGY systems can be reduced by up to 65% in comparison to conventional methods.

What do our customers say about the management of PRIMERGY servers:

Christian Jäger,
IT Manager,
ARA Assistance

"When we take a look at the running costs with the new virtualized hardware our savings amount to as much as 55 percent a year with all factors taken into account."

Robert Stary,
System Engineer Systems Operations,
Zeppelin GmbH

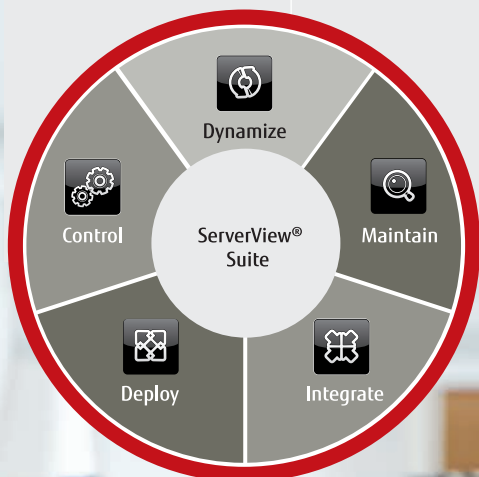
"After carrying out an in-depth ROI analysis, we chose PRIMERGY servers. The fact that integration was so simple confirmed that we made the right decision when we chose PRIMERGY blade and rack server technology from Fujitsu. We achieved seamless integration into a heterogeneous environment."

Fujitsu Software ServerView Suite

Holistic Server Lifecycle Management



DEPLOY Fast, easy, reliable	CONTROL Centralized, easy, efficient	DYNAMIZE Simple, sophisticated, efficient	MAINTAIN In any state, at any place	INTEGRATE Seamless, manage uniformly
Server Setup <ul style="list-style-type: none"> SV Installation Manager SV Scripting Toolkit Mass Deployment <ul style="list-style-type: none"> SV Deployment Manager 	Server Monitoring and Control <ul style="list-style-type: none"> SV Operations Manager SV Agents / CIM Providers SV System Monitor SV Event Manager SV RAID Manager Capacity Management <ul style="list-style-type: none"> SV Threshold Manager Power Management <ul style="list-style-type: none"> SV Power Monitor SV Power Consumption Management (in iRMC) Storage Support <ul style="list-style-type: none"> Storage Management <ul style="list-style-type: none"> - Monitoring - Events 	Privat Cloud Infrastructure <ul style="list-style-type: none"> SV Resource Orchestrator Cloud Edition Consolidated Server Infrastructures <ul style="list-style-type: none"> SV Resource Orchestrator Virtual Edition I/O Management <ul style="list-style-type: none"> SV Virtual-I/O Manager 	Remote Management <ul style="list-style-type: none"> integr. Remote Management Controller (iRMC) -iRMC Advanced Pack SV Management Blade Update Management <ul style="list-style-type: none"> SV Update Manager -Update Manager Express SV Download Manager SV Respository Manager Performance Measurement <ul style="list-style-type: none"> SV Performance Manager Investigation <ul style="list-style-type: none"> SV Asset Management -SV Archive Manager -SV Inventory Manager SV PrimeCollect Inspection <ul style="list-style-type: none"> SV Online Diagnostics SV Customer Self Service <ul style="list-style-type: none"> -Local Service Panel -Local Service Display 	Uniformed Management <ul style="list-style-type: none"> Fujitsu ManageNow™ solutions SV Integration Packs <ul style="list-style-type: none"> Microsoft SCOM Microsoft SCCM Microsoft SCE Microsoft SC PRO Packs VMware® vCenter® Nagios Icinga® HP® Operations Manager HP Systems Insight Manager Altiris® Development Server CA® Unicenter CA Spectrum IBM® Tivoli® TEC IBM Tivoli NetView® BMC® Patrol



Global Lifecycle Excellence

Thanks to the increase in performance, efficiency and availability of IT infrastructures, today's hardware only makes up 17% of the overall costs. The main costs are caused by operating the infrastructure and implementing new solutions.

This is exactly where Fujitsu comes into its own - with a wide-ranging portfolio of services and tools that reduce costs throughout the lifecycle, shorten project times and increase the availability of applications and services. Fujitsu has tools that allow the configuration and validation of entire server racks including the cabling and calculation of heat and power requirements.

Smooth IT integration on the customer premises is ensured using the comprehensive Fujitsu Integration and Logistics Services which can reduce roll-out costs by up to 45%. Many

IT infrastructure systems are available as turn-key solution packages and are configured, installed and tested at the Fujitsu factory, and then supplied to the customer in perfect condition.

When IT is integrated in the company, it is frequently the heart of many business and production processes. As the complexity of IT increases so does the risk of non-planned downtimes. Fujitsu Maintenance Services provide a wide range of worldwide maintenance and support services, both for Fujitsu products as well as those from other manufacturers. A recovery time of 4 hours is available in many locations. Customers can also ask to have their infrastructure handled and supported by professional Fujitsu teams, thus saving up to 35% of their administration costs. Managed services include a worldwide standardized portfolio of services for the entire IT infrastructure.

What our customers say about Fujitsu's ecosystem:

Antônio Marques,
*IT Manager,
Linha de Cuidados de Saúde (LCS)*

"The solution Fujitsu delivered was absolutely perfect for us. We were able to double performance, maintain around-the-clock availability, cut power consumption by half and reduce operating costs. and we were able to do all that quickly and economically."

Ralf Hönemann,
*Head of Information Technology, European
Commodity Clearing AG, Leipzig*

"The new infrastructure immediately produced the effects we had imagined. Fujitsu has always provided us with expert advice and assistance in important infrastructure decisions."

Six factors guarantee your success

1. Fujitsu offers you one of the most comprehensive portfolios for x86-based industrial standard systems within the branch so as to cover the wide range of requirements.
2. Stringent comprehensive quality assurance measures guarantee high availability, comparable to that of a high-end UNIX system.
3. PRIMERGY servers are also at the top of database and ERP measurements, i.e. very short latency times and very fast transactions.
4. PRIMERGY servers supply up to 20% more performance per watt than comparable systems from other providers. The new Cool-safe® advanced thermal design enables reductions in cooling costs of up to 27%.
5. ServerView Suite dramatically reduces the time required for server deployment, maintenance and provisioning by up to 90%.
6. The wide-ranging Fujitsu portfolio of services and tools helps you to reduce costs throughout the lifecycle, shorten project times and increase the availability of applications and services.

This transforms your IT into a real business advantage!

www.fujitsu.com/primergy

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