

WHITE PAPER

Managed Data Center Operating IT infrastructures successfully using innovative services

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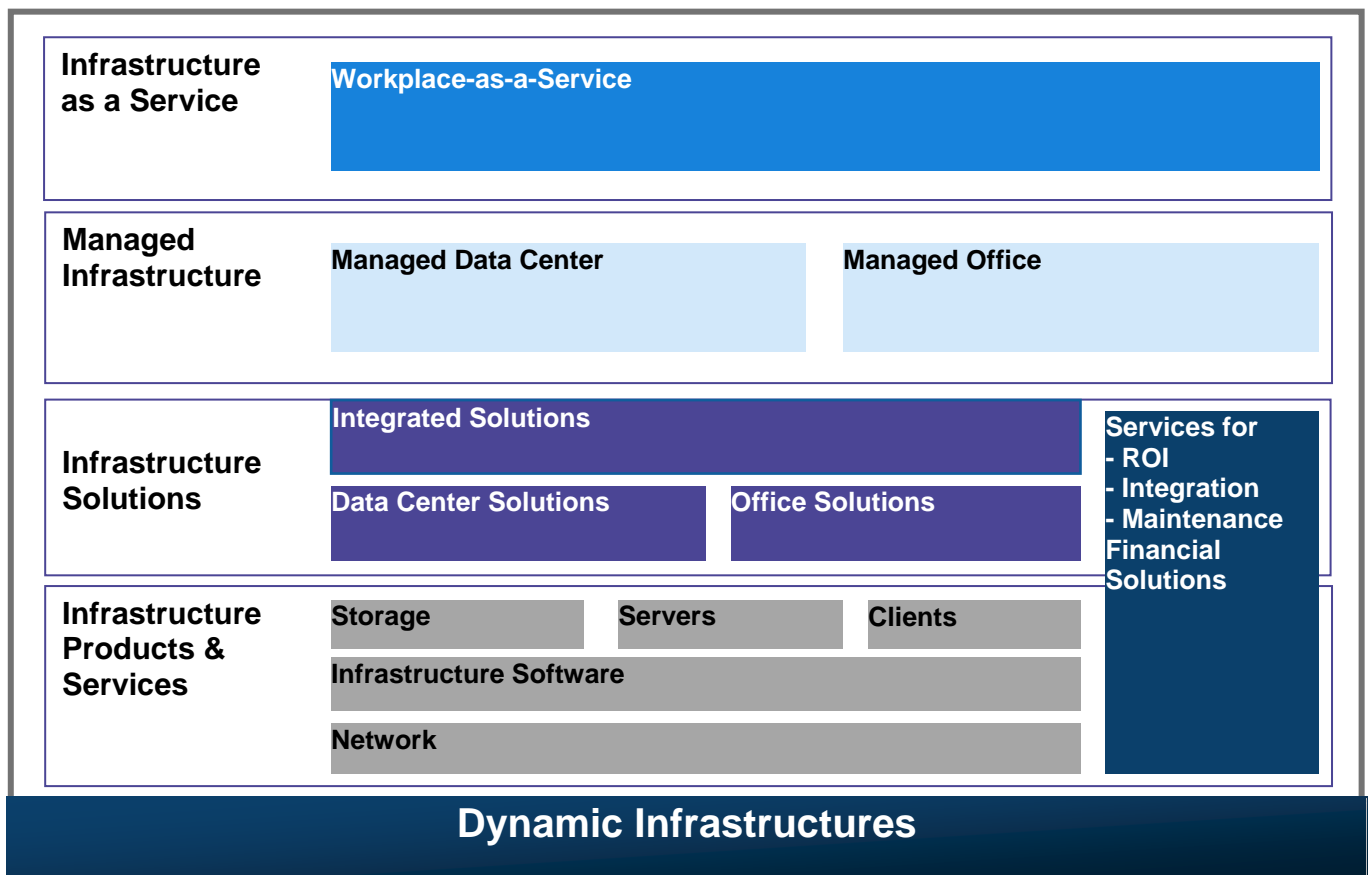
Management Summary

The service offering Managed Data Center supports IT supervisors in all their tasks related to the operation of servers, storage systems and networks. From analysis and planning to organization and operation, the service covers all the IT infrastructure components in a data center including the building infrastructure. The services focus on the operation of these components, but not on the development of applications. The service component modules allow a company to outsource specific subtasks. For example, this is a benefit for companies that don't have economical operations or don't have the necessary resources.

The services are based on the international ITIL Standard (IT Infrastructure Library) and certified in an international management system with central governance.¹ A comprehensive service and partner network ensures that the defined service level agreements are met worldwide. Performance and "pay-as-you-go" invoicing models ensure a fair calculation basis. As a result, companies benefit from the cost advantages and economies of scale that arise from outsourcing and receive superior service quality, but do not have to relinquish control over their own IT processes.

The Managed Data Center is a core part of the overall Managed Services concept from Fujitsu Technology Solutions. With the integrated offers, Managed Office and Managed Data Center, Fujitsu Technology Solutions addresses the need for company action whatever the branch or size. The services are available for typical, heterogeneous multi-vendor environments and are an ideal complement for the innovative Data Center solutions, such as FlexFrame for SAP, PRIMERGY BladeFrame or CentricStor.

Managed Data Center from Fujitsu Technology Solutions proves that it is possible to reduce IT costs while meeting the demands placed on increased productivity, flexibility, availability and security – thanks to the service expertise, proven global service processes and transparent calculated costs of the world's leading technology, all this under the direction of „Dynamic Infrastructures“.



¹ ISO certification: 20000-1 (IT Service Management), 27001 (IT Security) and 9001 (Quality Management)

Managed Data Center – The intelligent alternative to own operations and outsourcing

The data center is the core of almost all the business processes in modern companies. It is important that such essential infrastructure operates efficiently and smoothly, as it is a decisive factor in a company's success whatever their branch or size. Fujitsu Technology Solutions has thus developed the service portfolio Managed Data Center in order to support IT employees in all their tasks relating to the operation of servers, storage systems and networks. The services focus on the infrastructure platforms operations, but not on the development of applications.

Using the flexible service component modules, a company can outsource specific tasks if special challenges must be met, if a company's own operation is not cost-effective, or if there is no expertise or personnel available. The result is that a company can thus benefit from the cost advantages and economies of scale without having to relinquish control of its own IT processes.

This innovative approach is particularly aimed at CIOs. Today, IT supervisors must constantly optimize the infrastructure according to its effect on business processes, while also considering costs and the need for flexibility and innovations. IT should not just be cost-efficient. It must also drive innovations in business processes and be able to provide new applications and resources quickly, at short notice and in a flexible manner. This increases the demands placed on data center performance. In addition, the rapid growth in data volume means that existing data backup and recovery mechanisms quickly reach capacity limits.

As a result, the main challenge is to keep cost drivers under control yet simultaneously ensure the continuous delivery and performance of IT operations – and all with maximum flexibility. Only a carefully designed sourcing strategy can ensure the economic viability of IT operations. The strategy should be designed so that a company can access the services at the correct time and as needed, to ensure that the business processes run smoothly. It is only secondary whether the appropriate services are provided internally or externally. According to defined standards, the quality, price and design of the services is decisive. The ITIL (IT Infrastructure Library) framework meets such requirements and is the basis for Managed Data Center Services from Fujitsu Technology Solutions.

Info-Section

ITIL: Standardizing a multi-faceted topic

The ITIL standard defines economic service management in the data center

The IT Infrastructure Library (ITIL) is an internationally valid and proven framework for IT service processes used by Fujitsu Technology Solutions to align its services. As a de-facto standard, ITIL is an indispensable collection of best practices in global service business. The latest version, ITIL V3, not only describes and classifies all the IT service management processes but also defines the relationship between IT services and business processes based on economic viability. This means that services according to ITIL V3 concentrate on the economic added value for customers.

Planning, supporting and optimizing the efficiency of IT services are important instruments to be used in meeting business targets are thus subject to continuous improvement. IT Service providers must standardize their services and processes and - via best practices - continually provide innovations for IT operations. As a result, the customer always receives optimal services for the IT infrastructure – at reduced costs.

Overcome challenges by using specific Managed Data Center services

IT departments are facing a daily flood of complex challenges. Service-oriented architectures, adapting the IT to the requirements of business processes, green IT, cost management, service optimization, adhering to legal regulations and the availability levels demanded by the specialist departments are just a few examples. Resources and specialist know-how must be available to handle such a range of tasks at the required quality levels.

The core question for each of these tasks is: "Is it worth doing this with your own resources?" When looking at the answer, company decision-makers must prioritize the strategic contribution that an IT department provides for a company's core processes. Furthermore, the cost of the individual services for operations management and administration in the data center must be made transparent. The company can assess the services on such a basis and, if necessary, buy specific services from the market.

The prerequisite for successfully using Managed Data Center services is to establish clear definitions and quality levels for the services provided. This is also the key for optimization as too little or too much is also inefficient causing unnecessary costs. Therefore, if it has not already occurred, the first step is to analyze the requirements and specify them in clear service descriptions within Service Level Agreements (SLAs) that define the tasks, roles, reaction and recovery times. The cooperation between service provider and a company's IT is based on such SLAs. Invoicing is according to performance and consumption - all documented in service reports.

For example, SLAs for Fujitsu Technology Solutions define the operation of components, such as storage, mail and print servers, ensures backup and recovery processes or operates Remote Monitoring, including the entire IT service management for a central network and system management platform. These clear interfaces enable either partial or full data center operations without the customer losing an overview of quality and cost levels for Managed Services. IT organizations do not need to have expensive personal or other resources on hand. The goal is to utilize the resources when they are needed, but not pay for their overhead when they are not. As an IT service provider, we can provide this flexibility to the benefit of our customers. Managed Data Center from Fujitsu Technology Solutions thus a real alternative between running your own operations or outsourcing your entire data center.

Info-Section

The correct production levels for your IT organization

Supply chains, logistic networks and suppliers prove that you don't have to do it all on your own! It is often better and cheaper to buy services from specialized partners. Managed Data Center helps a company to reduce its own IT operational levels step-by-step. The result means a change in calculating IT costs as invoicing is now based on performance and quality and not just a fixed price based on personnel costs.

"IT organizations are undergoing dramatic changes and must think more intensively than ever about how to delegate critical topics such as Managed Services. It can certainly be a sensible idea to let a service provider handle server and network operations or storage management for an ERP system. Economies of scale enable data center operations to be simplified. IT managers must also calculate whether they have enough suitably trained employees for 7x24 operations."

Bernd Wagner, Senior Vice President Region Germany

The common elements of the service offer Managed Data Center

All the services covered by Managed Data Center have common features. As a result of their specialist expertise, Fujitsu Technology Solutions implements cost and technology benefits in data center service processes and hands over such benefits to the customer. The wide range of services for server, storage and network infrastructures also includes the expertise from partners, such as EMC, Microsoft, NetApp, Oracle, SAP, Cisco, VMware as well as selected Linux distributors and system integrators. This ensures know-how transfer and consistent escalation stages in the data center as far as the development centers of the leading providers.

If requested to do so by the customer, Fujitsu Technology Solutions takes on SLA responsibility, starting with hardware and software maintenance as well as incident and problem management and extends the SLAs as required to include additional ITIL topics. The greater the complexity and demands for capacity and availability management, the more that entire operations management sub-processes are moved to the data center. Proactive service management helps to keep faults and downtimes to a minimum so that no economic losses arise. Or looking it as "Return on Investment": the more responsibility and flexibility defined in SLA implementation, the greater the efficiency gains that can be expected by the customer as a result of Managed Data Center services.

The Managed Data Center service offer is made up of modules comprising flexible solution packages that can be configured for typical multi-vendor environments. The Managed Server, Managed Storage and Managed Network services are designed to meet the increased demand for harmonization, virtualization and automation within a data center. From analysis and planning to organization and operation, the offer covers all the IT infrastructure components in a data center including the building infrastructure.

In order to implement efficient operations management and achieve cost benefits, ITIL-based services improve the utilization of servers and storage systems and high-level operation of the connected networks. IT availability and optimized service processes can be improved further by using our proven Remote Services as well as the solution Auto Immune Systems[®], which guarantees proactive monitoring and automated error elimination. The range of services also safeguards the building infrastructure to ensure secure IT operations - see the offer Data Center Infrastructure Services.

Info-Section

"Out-of-the-box" automation and virtualization

The more IT is used in company business, the greater the change in the role of IT organizations. Many decision-makers have already noticed that their IT can only fulfill the role of business solution and process designer if they change the architecture in their data center to the required profile. This is why existing infrastructures at many locations are gradually being turned into service-oriented architectures; consolidation projects with the help of virtualization and automation solutions are being implemented. Services to introduce and operate such new technology standards are an integral part of the Managed Data Center offer.

"An "out-of-the-box" service approach and a high degree of automation help us to reduce costs right from the start. We can also identify possible cost drivers using Remote and Monitoring Services. Based on this empirical evidence we can then take the measures in IT service management to increase efficiency and thus achieve even more cost reductions."

Bernd Wagner, Senior Vice President Region Germany

Info-Section

AUTO IMMUNE SYSTEMS®

Proactive and automated services such as Auto Immune Systems® support Managed Services and increase the security and availability of the IT infrastructure even more. They have tested error elimination strategies for IT systems available in real-time and thus contribute to self-help when there are infrastructure problems. Auto Immune Systems® diagnoses and classifies error messages and compares the faults with a knowledge database that contains tested error elimination strategies. The solutions are immediately sent to the local servers and clients. A feedback loop continuously tests the quality of the solution to identify if the fault was eliminated successfully, and adds the findings to the knowledge database. As this process is automated, fault processing only lasts a few seconds instead of minutes or even hours. This dramatically influences reaction time and availability – and effectively minimizes IT operation downtimes.

Transparent processes – transparent costs

Managed Data Center establishes performance and cost transparency as services are invoiced on a pay-as-you-go basis. The SLA with the customer lists the CPU processor capacity in hours instead of the number of servers, while Managed Storage defines and invoices storage volumes and availability.

The ITIL specifications result in continuous optimization of the business processes by IT service management. Fujitsu Technology Solutions applies best practices continuously and supplies innovations for optimized operations management which simultaneously reduce costs and increase the economic viability of IT processes.

The SLAs can also take growth requirements into account so that IT services remain aligned with developments in business volumes. Innovative financing solutions mean that migration and consolidation projects can be designed not to affect balance sheets.

Info-Section

Managed Data Center for financial services providers

A large German financial services provider has a Managed Data Center operated by Fujitsu Technology Solutions that is second to none. A complete System Management Center for supplying client, server, storage and network infrastructures was set up a good distance away from the company's HQ and is operated so that it meets the specifications defined for security and catastrophe scenarios. It monitors the infrastructure for the entire bank covering all ITIL matters for the customer. This comprehensive Managed Service is supplemented with a Backup Data Center for workplaces used by stock exchange dealers. The added value for customer's business is that he - together with Fujitsu Technology Solutions - can successfully handle all the IT and IC operations with just a few employees.

Managed Server

The perfect and efficient operation of server infrastructures is the most important feature of the Managed Server. These services benefit the server platforms from Fujitsu Technology Solutions, as well as typical, heterogeneous multi-vendor environments. Managed Server ensures availability and optimizes the virtualization solution. Remote and monitoring services - for example for a Managed FlexFrame for SAP – ensure that the infrastructure for an application scenario runs perfectly without any downtimes. Proactive services such as Auto Immune Systems® support automated fault detection and elimination and immunize IT operations so that business processes, such as goods management and invoicing systems, do not fail. As a result of continuous improvements defined by ITIL V3, consistent and transparent IT service management provides an additional immediate opportunity to create value for the customer.

Fujitsu Technology Solutions and the Managed Server offer is responsible for operations and maintenance as well as the initial operation and consolidation for server infrastructure design. Company mergers, takeovers and organization changes often result in non-structured, distributed and badly coordinated collections of servers. This results in high maintenance and support costs, inefficient use and high levels of error susceptibility. Such heterogeneous infrastructures urgently require a detailed analysis of the existing IT components and server usage. A comparison with best practice figures identifies the potential for optimizing new data center architectures while taking the existing hardware into account.

The experts at Fujitsu Technology Solutions create concepts based on specific customer targets in order to design a more homogeneous and efficient the infrastructure. Fujitsu Technology Solutions provides consultation for technical and organization requirements and supports the initial operation after thorough system tests. Support for the consolidated IT infrastructure is agreed in SLAs. Standardized service processes which are followed by the Fujitsu Technology Solutions service and partner network worldwide ensure effective maintenance for cost-optimized 7x24x365 operations.

At an early stage, Fujitsu Technology Solutions recognized the need for virtualization and automation in data centers. Their Dynamic Infrastructures demonstrates their strategy and innovative hardware platforms. The goal is to create an infrastructure made up of dynamic IT solutions, dynamic IT products and agreed services which result in a flexible IT infrastructure. Solution architectures, such as FlexFrame for Oracle or FlexFrame for SAP, support efficient interaction between business applications and IT infrastructure and provide resources as required. Suitable SolutionContracts can extend the potential savings that result from these solutions² in order to make operations particularly efficient.

Info-Section

Managed Server with Commerzbank North America

The Commerzbank North America has completely modernized their server infrastructure by introducing a pool of virtualized servers for UNIX or Microsoft® Windows®. They wanted to keep the same flexibility as they enjoyed with virtualization in storage and network elements. The bank selected the PRIMERGY BladeFrame® system powered by Egenera®. In addition to improved catastrophe precautions and reduced costs, the migration meant that the processing time for reports dropped from three hours to only one. The time needed to make new server configurations dropped from two days to one hour, saving 60 percent of the Data Center space.

"We have more capacity than ever before, since the BladeFrame systems have enabled us to turn 140 old servers into only 48 Blades."

Richard Arenaro, Vice President of Information Technology, Commerzbank North America

² According to a study carried out by the consultation company BearingPoint the use of FlexFrame for SAP reduced operating costs for the IT infrastructure by 62% within three years.

Managed Storage

The service offer Managed Storage gives a company all the services needed to use storage capacity as required. The services are suitable for running on any system platform from the main providers, such as Fujitsu Technology Solutions, EMC, HDS or NetApp. The focus is on the best and most efficient and secure operation of storage infrastructure. This also includes tasks such as Backup and Disaster Recovery as well as optimized structures for data storage and archiving according to compliance regulations. The service offer also covers all the services required to set up, extend and consolidate storage architectures; from analysis and planning to setting up and transferring to standard operations. As a result, customers can benefit immediately from current advances in storage virtualization and consolidation without having to establish internal expertise in advance.

Managed Storage enables uninterrupted monitoring and administration of heterogeneous storage environments in the customer's data center. Centralized monitoring and management is one of the keys for efficient Managed Storage. This is possible due to a combination of storage management tools with Remote Services. For example, trained storage experts in the Service Center Managed Storage monitor numerous storage systems around the clock. As the administrators are responsible for several systems and customers, they only cost a fraction per storage system in comparison to a company handling just their own operations. The customer only has to pay for a few minutes per hour on average for the employee's work in the System Management Center. Such economies of scale result in considerable cost savings yet the service quality remains at a high level.

Managed Storage also has a positive effect on risk and service management as the service provider can take over archiving according to legal regulations or confidential data handling as defined in a SLA. This would be welcome in any audit. Data security and defined recovery times in the event of a catastrophe have the highest priority.

The management of non-structured information is a Managed Service which can be greatly automated by using specific software. This service for Information Lifecycle Management offers a data archive structure which is based on business processes and the urgency of information, documents and system plans. Managed Storage can more efficiently operate individual infrastructure components. The SolutionContract CentricStor covers all maintenance & support services for operating the Virtual Tape Appliance.

The entire "out-of-the-box" service approach gives customers an opportunity to order storage systems and operations as a complete service from one source. Storage in the eyes of the IT manager is thus just a commodity which he can buy based on SLAs, without having to worry about operation details. Storage can be invoiced "pay-as-you-use" via volume rates ("petabyte per month") and via different SLA storage categories. Such a simple, clear view is underlined by intelligent financing concepts which soften the costs of technical innovations or increased consumption.

Info-Section

Managed Storage in operation

Tasks: This provision defines the storage volumes and different storage categories according to cost transparency targets, cost optimization, "pay-as-you-go" pricing while supporting the customer's growth strategy. Ensure the highest degree of storage system availability and economic efficiency. Fujitsu Technology Solutions provides on-line and backup storage with Petabyte capacity and must manage daily storage volumes in terabyte quantities. The customer expects clear cost reductions, more transparency and greater flexibility when such capacities are provided to meet ever-increasing requirements.

Managed Network

No data center can handle its tasks without good functioning network technology. Services for planning, implementing, operating and maintaining network components have a fixed place in the Managed Data Center strategy offered by Fujitsu Technology Solutions. This means that the customer receives support for all his service matters from one source, be they concerning LAN, storage networks (SAN), integrated network components in the Blade systems or WLAN/WAN connections.

The range of services begins with a detailed analysis of the existing environment and results in an optimized solution concept for setting up, changing or operating a network infrastructure. The service modules can be specifically aligned to individual customer requirements. Fujitsu Technology Solutions also handles the procurement and pre-configuration of the network components as well as setting up the SAN/LAN infrastructure. The Network Simulation Center tests the network configurations realistically to make sure there are no nasty surprises when the initial operation starts. The certified Maintenance & Support Services for routers and switches ensure that the components run reliably and that they have the software updated as required at defined intervals and that they are serviced, repaired or replaced.

Managed Network addresses all questions concerning network operations - from fault management and security against current threats to performance management and reporting. The Network Operation Center (NOC) ensures that a network infrastructure operates correctly according to SLA classifications which cover the various budget and business requirements up to and including high availability levels (7x24x365). Configuration Management records all the network components and any changes in a database to ensure transparent service processes and ensure the integration of Managed Network in a company's IT management. Managed Port offers fair, comprehensible monthly invoicing "per port" in various SLA classifications.

Info-Section

Data Center Infrastructure Services

Secure and environment-friendly IT operations in a safe environment

There are various potential risks in the physical infrastructure. Wall and door construction, power supply, network cabling, air-conditioning and excess heat protection, fire, water damage and unauthorized access must all be included when planning data centers. This is where Data Center Infrastructure Services comes in. This service offer covers such potential dangers. It identifies any need for action due to company and legal specifications and closes any security gaps by examining building measures and designing contingency plans. Intelligent concepts for server areas include very secure building infrastructures with dynamic air-conditioning. After all, a "Green Data Center" does not start with more efficient server workloads, but with the right amount of hardware air-conditioning!

Info-Section

Reference EOS group

"As a service provider for well-known customers in the financial, telecommunication and energy supply sectors, protecting data is our highest priority. The new protected server areas are investments in future-oriented solutions which ensure that our entire IT infrastructure does not fail nor lose any data. Even if one of our data centers should fail, we can switch production immediately to a backup data center without any data loss."

Jens Salomon, Data Center Manager at EOS IT Services and Jens-Uwe Ehrlich, Facility Manager at the EOS Company Deutscher Inkasso-Dienst

Fujitsu Technology Solutions: we take on responsibility – in Germany, in Europe, throughout the world and in your company!

Overview

Managed Data Center

... Reduced costs

- Transparency via "pay-as-you-use" invoicing
- Remote Services from the Systems Management Center
- Use of best-in-class service and logistic processes
- Personalized and experienced according to specific requirements
- No additional training costs

... Increased availability

- 7x24x365 operations worldwide
- Services and expertise as required
- Proactive monitoring
- Predictive maintenance via Auto Immune Systems®

... Reduced risks

- Avoid downtimes and faults
- Increased availability of specialists
- Minimized access and security risks
- Optimized protection in the Data Center

... Secured flexibility

- Invoicing on usage basis
- Central Help Desk and Service Desk handle variable call volumes reliably
- Tailor-made service concepts
- Dynamic server and storage capacity via "capacity-on-demand"

... Reduced complexity

- The central contact person for all support matters
- Continuous and detailed service reporting
- ITIL-based service management for process optimization
- clear SLAs define the service and performance

Fujitsu Technology Solutions – Your Partner for Managed Services

Fujitsu Technology Solutions is the leading European IT infrastructure provider with a presence in all key markets in Europe, the Middle East and Africa, plus India, serving large-, medium- and small-sized companies as well as consumers. With its Dynamic Infrastructures approach, the company offers a full portfolio of IT products, solutions and services, ranging from clients to datacenter solutions, Managed Infrastructure and Infrastructure-as-a-Service. Fujitsu Technology Solutions employs more than 10,000 people and is part of the global Fujitsu Group, which delivers IT-based business solutions to customers in 70 countries through a workforce of more than 160,000 employees. Headquartered in Tokyo, Fujitsu reported consolidated revenues of 5.3 trillion yen (US \$53 billion) for the fiscal year ended March 31, 2008.

Reliable, Flexible, Economic Services from Fujitsu Technology Solutions

Our Managed Services offers technology and service know-how based on ITIL processes for consumption-oriented costs that are easy to calculate, and are of the highest quality, with technological competence and innovative power. Fujitsu Technology Solutions is the world's first IT service provider to be awarded the ISO certificates 20000-1 (IT Service Management), 27001 (IT Security) and 9001 (Quality Management) for its international management system with central governance. We are also the world's leading specialist for server and storage solutions with many years of experience in designing, implementing and operating IT infrastructure solutions. That is why we can offer our customers innovative solutions and services - from planning to IT operations.

Together with our top offers for Workplace, server technology, storage and the corresponding Managed Services we can give our customers a complete range of services for all topics around Managed Office and Managed Data – center under “**Dynamic Infrastructures**” all from one source. Our intelligent financing concepts enable innovative steps towards more energy-saving, service-oriented architectures which fit in with your budget and balance requirements. This complete strategy means that we can help you to optimize your investments, reduce your operating costs for the entire infrastructure and move towards "green IT."

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