



## The fast track to VMware-based virtual infrastructures

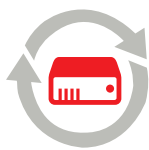
### FUJITSU Integrated System PRIMEFLEX for VMware vSphere

Building and modernizing a data center infrastructure is becoming increasingly complex because new areas of application have to be supported during the transition to digitization. At the beginning of this millennium, Fujitsu already recognized the need to simplify and accelerate infrastructure deployment, while minimizing costs and risks. Under the PRIMEFLEX brand, a comprehensive range of powerful integrated systems was developed – all systems are pre-defined, pre-integrated and pre-tested. For many years PRIMEFLEX has been a proven solution for rapid, low-risk data center innovation, with a focus on critical success factors for business enterprises.

**PRIMEFLEX for VMware vSphere** is designed to make it easier for customers to meet the challenges of virtualization. And it opens up a seamless path to the private and hybrid cloud at the same time. IT organizations can benefit from extraordinary agility, absolute reliability, reduced workloads and optimized costs by adopting this converged architecture. This is true for the project design, installation, solution deployment, daily operations, support, plus adaptation and extension of the infrastructure.



Ready-to-run system consisting of servers, storage, network and virtualization software



Designed and supported as a complete system



Architecture integrates know-how gained from thousands of customer projects



VMware virtualization at its best with a seamless path to the private and hybrid cloud



Award-winning x86 servers in VMmark benchmarks and storage in SPEC-1 benchmarks

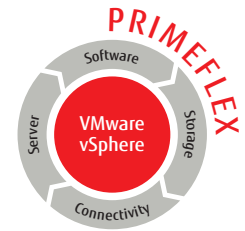


Ready for next-generation apps



## Leadership in integration

PRIMEFLEX gets you to your destination faster, safer and cheaper. Its holistic and integrative concept is the key. Complex and risky DIY approaches are things of the past as PRIMEFLEX is a complete system designed and supported by Fujitsu. In addition, best-in-class, perfectly harmonized technology components ensure significant boosts in productivity for both business and IT operations. All this, in comparison to classical infrastructures, with considerably lower total cost of ownership.










## PRIMEFLEX for VMware vSphere – compelling at every stage

VMware is by far the first choice for virtualization in data centers. With VMware vSphere, IT organizations can deliver IT services flexibly and reliably, while transforming their data centers into powerful, flexible, and secure hubs for outstanding business agility.

Building on comprehensive best practices from a long-standing strategic partnership with VMware and thousands of successful virtualization projects, Fujitsu has integrated the strengths of the virtualization platform in PRIMEFLEX for VMware vSphere. The result is a complete infrastructure solution that seamlessly links servers, storage, network and software. This pays off for customers: They can realize their virtualization plans quickly, with high quality and efficiency.

This completely virtualized infrastructure can be easily customized and is ready to run in the shortest time possible. As a converged infrastructure, PRIMEFLEX for VMware vSphere provides **extraordinary agility** to optimally meet various virtualization requirements. The latest technologies, comprehensive automation, uniform administration and extensive options for installation, operation and expansion ensure **exceptional efficiency** throughout the entire life cycle. The **absolute reliability** of all infrastructure components, and numerous options for meeting even the highest demands for availability, also guarantee peace of mind.

Here are some of the outstanding PRIMEFLEX for VMware vSphere features that make data center modernization much easier:

	 Design	 Install/Deploy	 Operate	 Adapt/Extend
 Extraordinary agility	<ul style="list-style-type: none"> <li>■ Factory designed and converged architecture</li> <li>■ Quickly and easily adapted to specific needs</li> </ul>	<ul style="list-style-type: none"> <li>■ Quick and fail-safe setup</li> <li>■ 50%+ faster deployment compared to competitors</li> </ul>	<ul style="list-style-type: none"> <li>■ Productivity gains through best performance, reliability and resource utilization</li> <li>■ Add VMs on demand</li> </ul>	<ul style="list-style-type: none"> <li>■ Fast response to changing needs</li> <li>■ Scaling and expansion on demand</li> </ul>
 Exceptional efficiency	<ul style="list-style-type: none"> <li>■ Easy to configure</li> <li>■ Latest technologies (GPGPU, DDR4, all-flash storage ...)</li> </ul>	<ul style="list-style-type: none"> <li>■ Quick implementation</li> <li>■ Factory staging service</li> <li>■ Choice of installation methods</li> </ul>	<ul style="list-style-type: none"> <li>■ Simplified IT operations with ISM*</li> <li>■ Savings in energy and space costs</li> </ul>	<ul style="list-style-type: none"> <li>■ Certified expansion packs</li> <li>■ Integration guidelines</li> <li>■ Professional services</li> <li>■ Integration of backup and restore for the virtualized environment</li> </ul>
 Absolute reliability	<ul style="list-style-type: none"> <li>■ Tested and validated design</li> <li>■ Perfectly balanced and pre-integrated components</li> </ul>	<ul style="list-style-type: none"> <li>■ Installation and integration services, proven in thousands of customer projects globally</li> </ul>	<ul style="list-style-type: none"> <li>■ At least 99.997% availability</li> <li>■ Single point of contact (SPoC) for the entire infrastructure solution</li> </ul>	<ul style="list-style-type: none"> <li>■ Pre-tested and optimized upgrade options</li> </ul>

\* FUJITSU Software Infrastructure Manager (ISM) provides an integrated view and centralized control and lifecycle management of the infrastructure

## Gain extraordinary agility

PRIMEFLEX for VMware vSphere exponentially improves IT organization's responsiveness to business demands. The solution helps translate an initial idea into tangible outcomes in a matter of a few days.

Based on the fully pre-tested and validated design, along with detailed sizing and configuration recommendations, the architecture can be tailored to meet specific requirements quickly and easily. Proven installation and integration methods also ensure high-quality setups that take 50% less time compared to competitors.

Once in operation, PRIMEFLEX for VMware vSphere provides considerable productivity gains. On the one hand, this is ensured by the world-class performance of PRIMERGY servers and ETERNUS hybrid and all-flash storage systems. This leaves a lot of headroom, e.g. during load peaks, to add VMs on demand or to meet new business



## Deliver value faster.

requirements. On the other hand, seamless integration and sophisticated management tools enable you to manage everything faster and more confidently. The FUJITSU Software Infrastructure Manager (ISM) provides monitoring and lifecycle management of Infrastructure through a simple vCenter integrated interface.

And if the solution needs to be adapted to new requirements, you can scale granularly on component level, and integrate additional functions for backup and disaster recovery, or for a private or hybrid cloud.

## Improve efficiency

Optimal resource utilization, future-proof technologies, simplified IT operations: PRIMEFLEX for VMware vSphere offers all this and much more in a validated architecture that guarantees lower TCO. Design, installation and deployment are much easier and save a lot of time and money.

The pre-tested architecture can be easily adapted to your own requirements. PRIMERGY servers can be equipped with the very latest technologies such as GPGPU for new application areas (e.g. VDI, Deep Learning and AI) or DDR4 modules with 1.5 times higher bandwidth. And ETERNUS hybrid and all-flash storage ensures maximum efficiency with features such as massive data throughput or the ability to compress and/or deduplicate data at the application level.

Many options are available for lowering installation and deployment costs – the factory staging service is just one example. During operation, the high energy efficiency of the systems and the compact design of the solution pay off. In addition, extensive automation



## Significantly lower TCO.

and integrated centralized management simplify IT operations, thus reducing operating costs even more. The efficiency gains that can be achieved during operation are enormous – two examples:

- 50% reduction in power consumption with group power capping
- 90% Cost & time reduction with uniform firmware management

And should plans call for an expansion of the solution, this can be done easily and economically with expansion packs. This also applies if, for example, a backup is to be integrated in the virtualized environment – the FUJITSU Storage ETERNUS CS200c backup appliance is ideal for this.

## Build the future on absolute reliability

You want to avoid risks and protect your investments – and with future-proof PRIMEFLEX for VMware vSphere, you will find peace of mind.

When you start your project, you can build on an architecture concept that thousands of customers trust – and easily adapt it to your needs. An infrastructure is at your disposal that offers 99.997% availability even with the entry-level systems. You can easily integrate backup and disaster recovery, or build a resilient solution based on VMware vMotion.



## Peace of mind guaranteed.

In addition, you will be able to meet SLAs quickly and reliably, and resolve technical crises in a jiffy with exclusive PRIMEFLEX SolutionPacks and a single point of contact. Reliability is also the top priority if you want to expand your solution. The further development of the solution is quality-assured, and all upgrade packages are approved by experts.

# Overview of technical details

Thanks to its extremely flexible configuration options, PRIMEFLEX for VMware vSphere is the ideal solution for small medium-sized and very large IT organizations. The minimum server configuration is 2 nodes and currently ranges up to 64 nodes – with extensive possibilities for specific server configurations. When it comes to storage, you

can choose between FUJITSU Storage ETERNUS AF All-Flash arrays and ETERNUS DX hybrid storage. Powerful switches from Extreme Networks, or alternatively Fibre Channel switches from Broadcom, also ensure maximum throughput in the infrastructure solution. Here is a short overview of the modules:

## FUJITSU Software Infrastructure Manager (ISM)

- Centralized and converged management of servers, storage, network, power and cooling, cloud management
- 23 times faster troubleshooting
- 50% reduction in power consumption
- 90% cost and time savings with uniform firmware management

## VMware vSphere

- Industry-leading virtualization and cloud platform
- Universal application platform
- 54% decrease in downtime of tier-one applications

## ETERNUS DX/ETERNUS AF

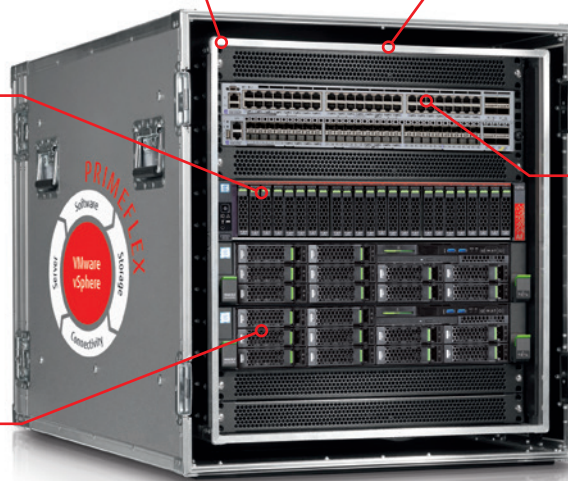
- ETERNUS AF: ultra-low response times for all applications
- ETERNUS DX: leading performance architecture for increased system consolidation capabilities and fast ROI
- 99.9999% system availability
- Leading performance in the SPC-1 benchmark

## Extreme Networks VDX

- Support for 1/10/40 GbE ports for optimal flexibility and scalability
- Maximum throughput for all ports and package sizes
- Maximized network availability through efficiency and resilience

## PRIMERGY RX2530/2540

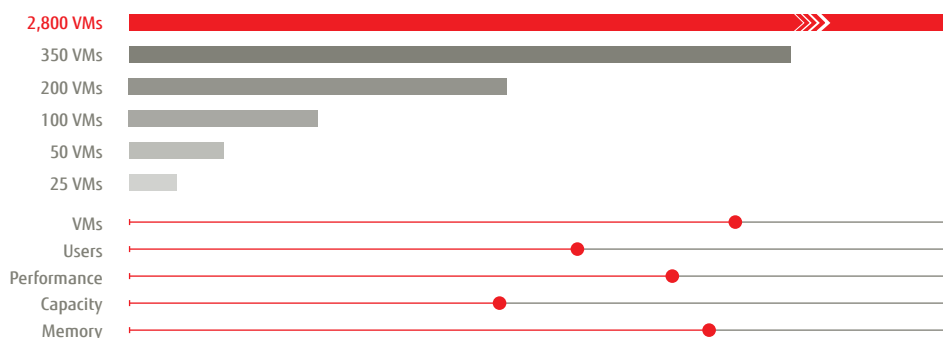
- Dual-socket servers
- Intel® Xeon® Processor Scalable Family
- Up to 3 TB DDR4 memory
- Most powerful dual-socket servers in VMmark V3 "Performance Only" ranking



## Brocade switches from Broadcom

- Brocade Fibre Channel technology-based switches from Broadcom deliver high-performance connectivity across the data center and scalability network on demand

## PRIMEFLEX for VMware vSphere offers you ultimate flexibility



- Choose from pre-configured packages for 25, 50, 100, 200, 350 and 2,800 virtual machines
- Start small and scale granularly on component level as your business demands grow
- Migrate to private/public/hybrid cloud whenever you want

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