

Fujitsu World Tour 2016

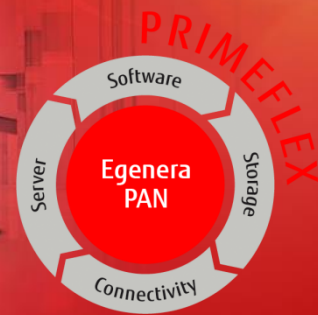
**Simplifying the Adoption
of Software Defined
Datacenters**

Abdul Moosa
Senior Solutions Architect

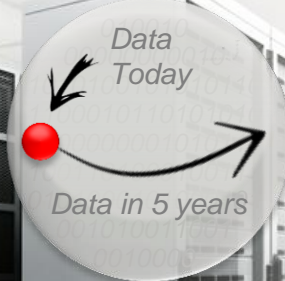
FUJITSU

shaping tomorrow with you

Human Centric Innovation in Action



Massive data GROWTH!



4.1 of **5**

Total OS instances will
be virtual OS instances

- Data expected to GROW by 800% over the next 5 years
- Rising demand on performance and scalability
 - Majority are turning to server virtualization and private/hybrid cloud infrastructures to meet service levels.
- Increased demand for the availability of IT resources
 - Failure of important systems can directly impair the business activity

Building an IT infrastructure is complex!



Challenges

- Select, acquire, configure components
- Compatibility of components
- Deploy and integrate onsite
- Error-prone and time-consuming
- Deep knowledge and skills
- Higher than anticipated costs
- Slow implementation of additional computing and storage capacities in response to growing needs



**A DIY (Do-it-Yourself) approach
can cause in a very big headache.**

The way out: Integrated Systems



- Pre-defined, pre-integrated and pre-tested combination of DC components
 - Servers
 - Storage
 - Network connectivity
 - Management
- Optionally included
 - Virtualization
 - Automation, orchestration, portal software, DB and apps

**Optimally designed, based on
experience gained in numerous projects.**



Integrated Systems: Delivery options

Ready-to-run

- Built and tested as a single product
- Pre-integrated and pre-installed
- Single order code or simplified configuration

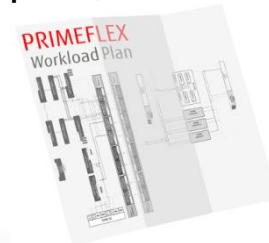


Advantage

- No design effort, risk-free
- Simple procurement
- Fastest to operation

Reference architectures

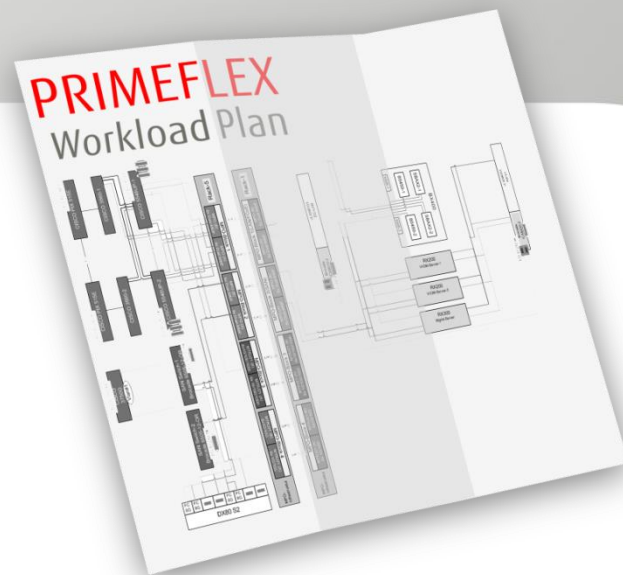
- Tested, validated design blueprint, based on PoC
- On-site integration and installation supported by detailed descriptions
- Tailoring option



Advantage

- Fast and easy design, at minimized risk
- Flexibility to easily adapt configuration
- Short project duration

PRIMEFLEX for Egenera PAN



Do you have **business-critical applications and data that must be available all time?**

Is a disaster recovery plan available?

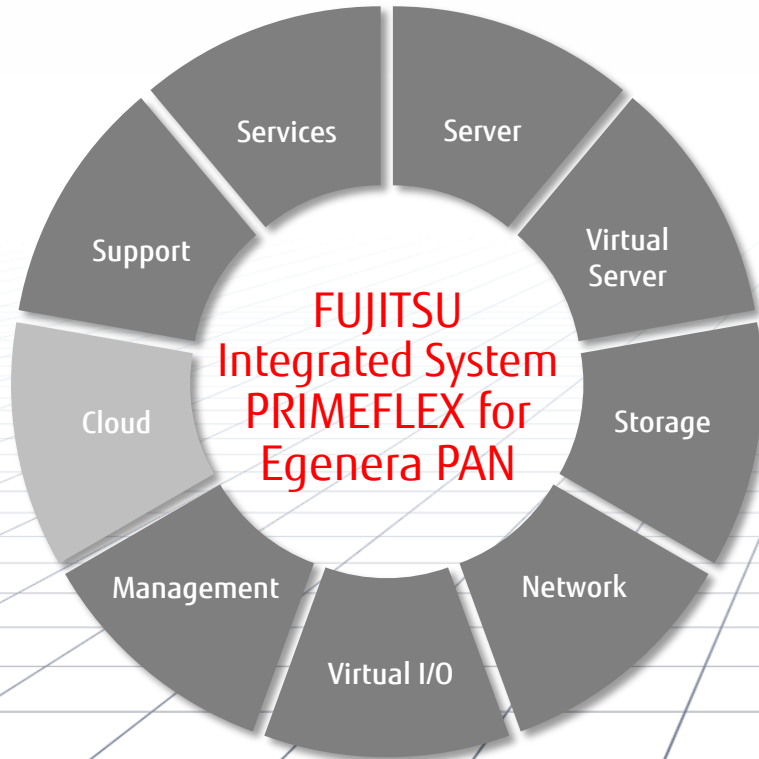
Do you have **high expenses for licensing costs?**

Are there **needs to adapt the infrastructure quickly** to new or changed business requirements?

Are there **issues with power, space and cooling capacities, or uptime** that negatively impact business operations?

PRIMEFLEX for Egenera PAN

Reference Architecture



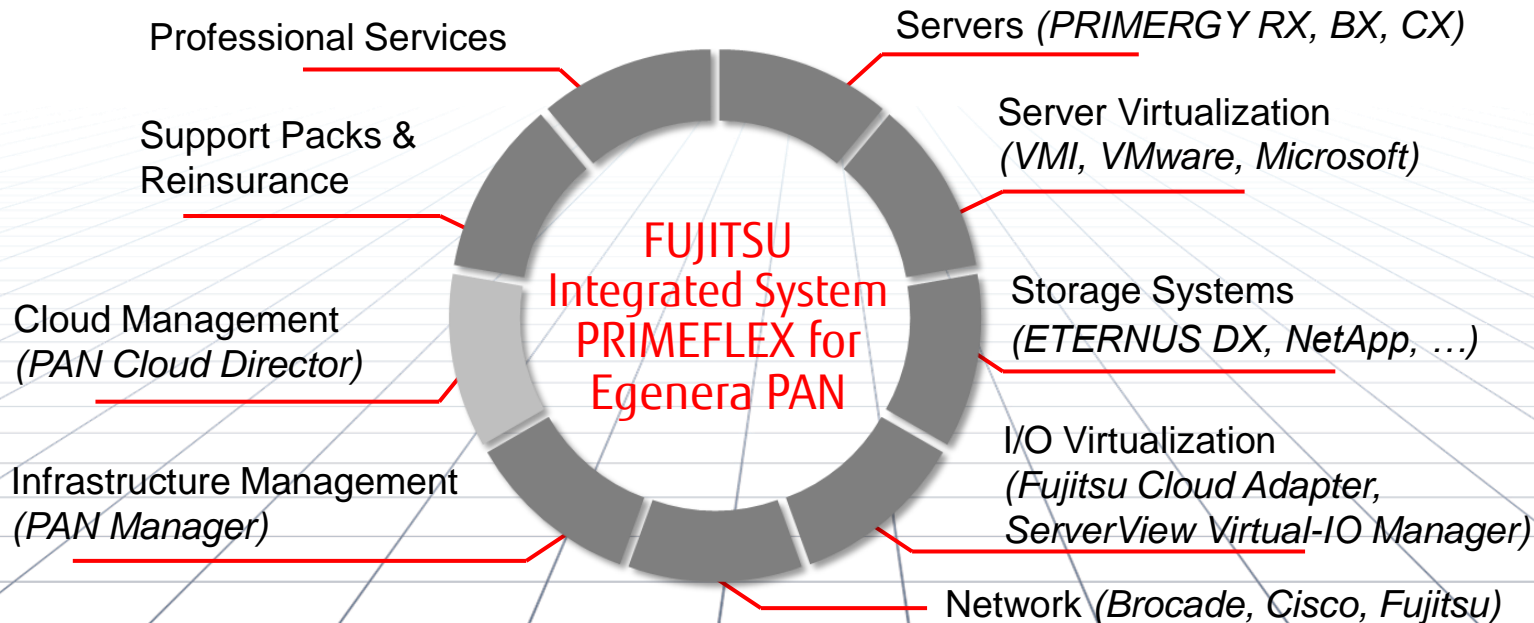
- Pre-defined, validated and pre-tested reference architecture with ongoing solution release process
- Open platform choice for server, storage, network and virtualization
- Flexibility and choice to easily adapt configuration
- Scalable in capacity, performance and functionality
- Maintenance support offering with overall SPOC
- Simple purchasing supported by ordering guides and SystemArchitect templates
- On-site installation and datacenter integration supported by support matrices, configuration and installation guides

PRIMEFLEX for Egenera PAN

Open Platform Choice

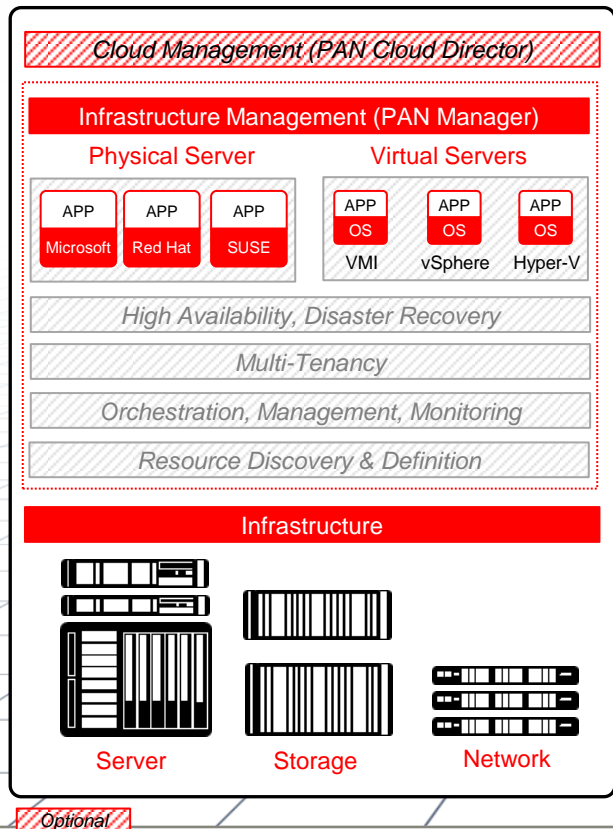


Pre-defined, validated and pre-tested reference architecture combining servers, storage, network connectivity as well as infrastructure management all supported by Fujitsu as SPOC.



PRIMEFLEX for Egenera PAN

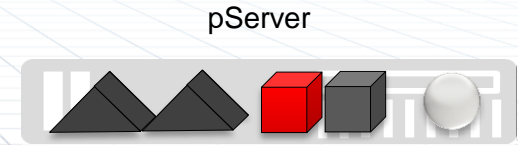
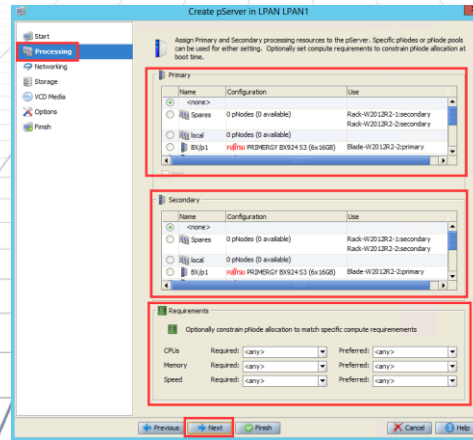
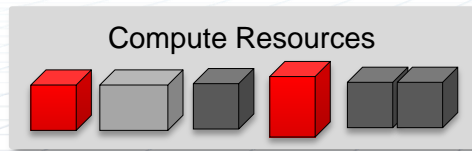
Feature Overview



- **Flexible, On-Demand Capacity:** Server, network and storage resources can be configured with only a few mouse clicks
- **Virtual Machine Instance (VMI):** Cost-effective way to provision and manage both virtual and physical servers
- **Multi-tenancy:** Create secure resource pools and share servers between users, reducing capital investments
- **High Availability:** Deliver N+1 hardware redundancy regardless of software workload and without complex clustering products
- **Disaster Recovery:** Improve reliability and service levels with a single automated recovery plan for physical and virtual servers

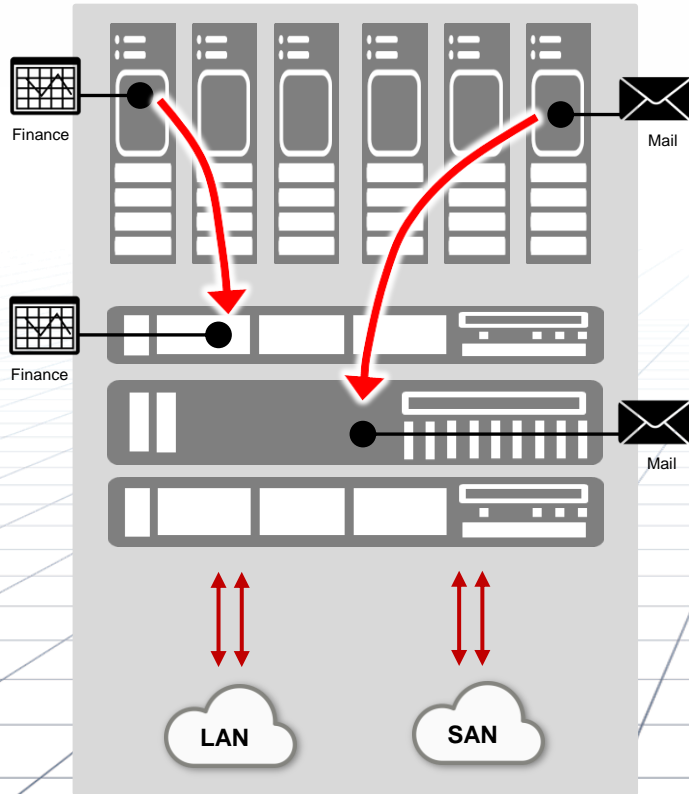
Resource Discovery & Server Definition

- Automatically detect components
- Transform individual parts in flexible compute, network and storage resources
- Combine these resources to physical or virtual servers incl. network and storage connections - server definitions (pServer)



...

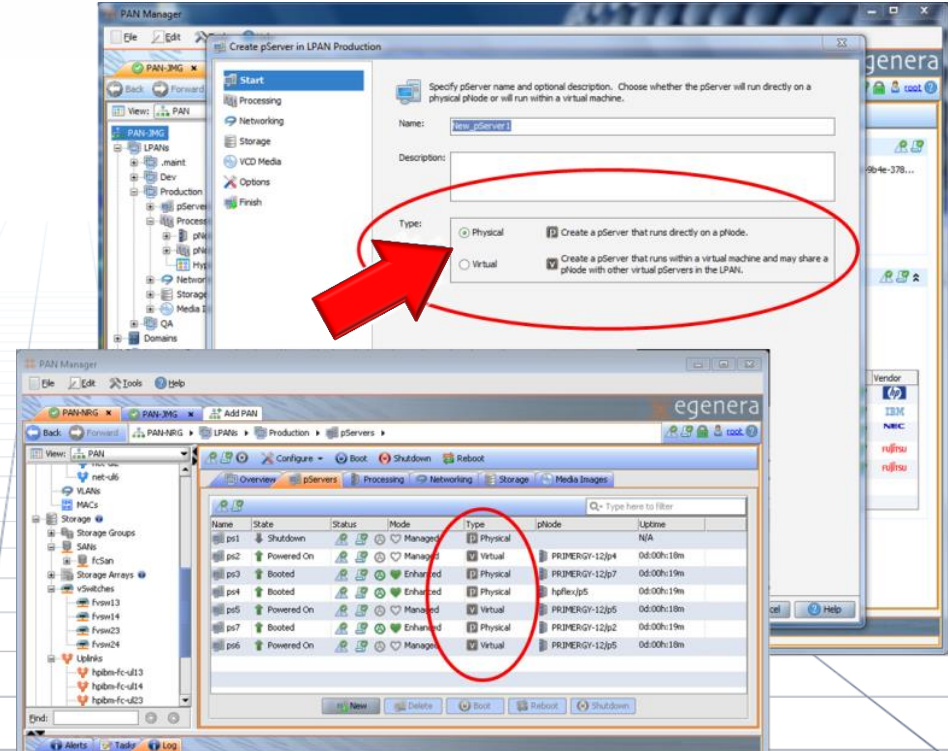
On-Demand Capacity



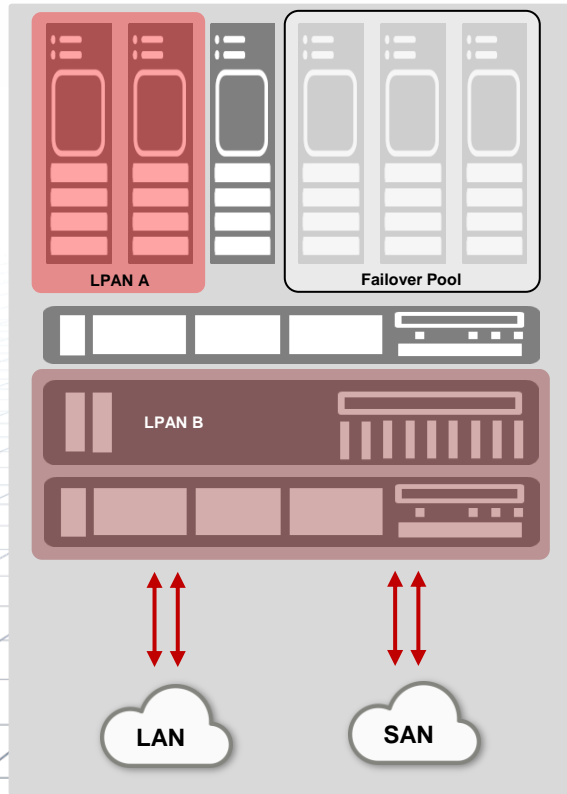
- Higher resource utilization
- Repurposing compute power as needed at any time
- Rightsizing applications

Virtual Machine Management

- Support of industry-standard server virtualization products from VMware and Microsoft as well as embedded Virtual Machine Instance (VMI)
- Simplest and most cost-effective way to provision and manage virtual servers
- No need to install, purchase or deploy hypervisors or third party management tools
- Open source XenServer
- Deep integration with PAN Manager
- Simply select "physical" or "virtual"

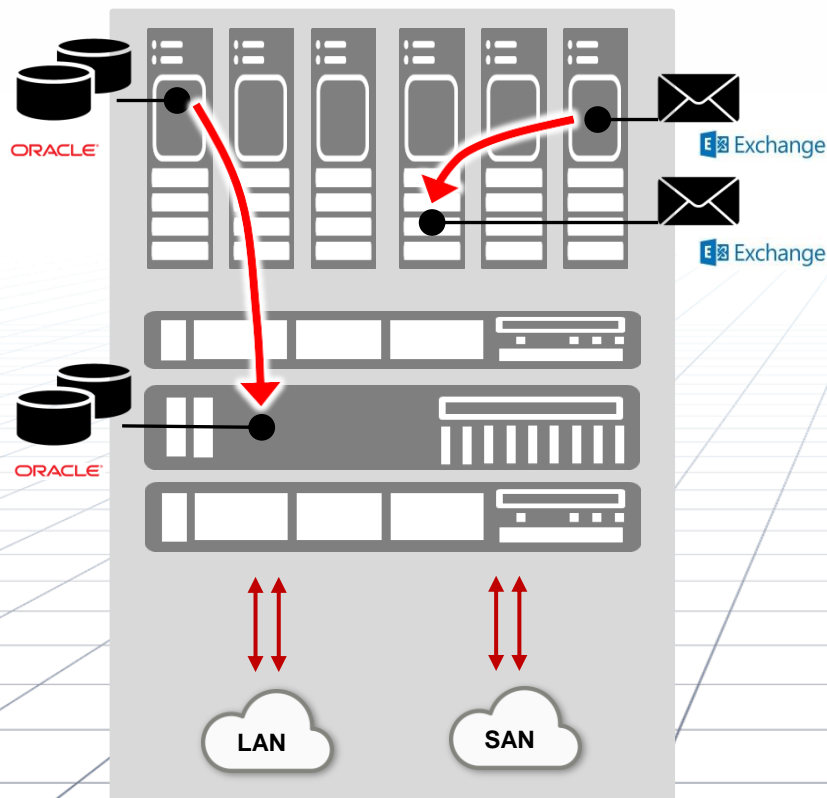


Secure Multi-Tenancy



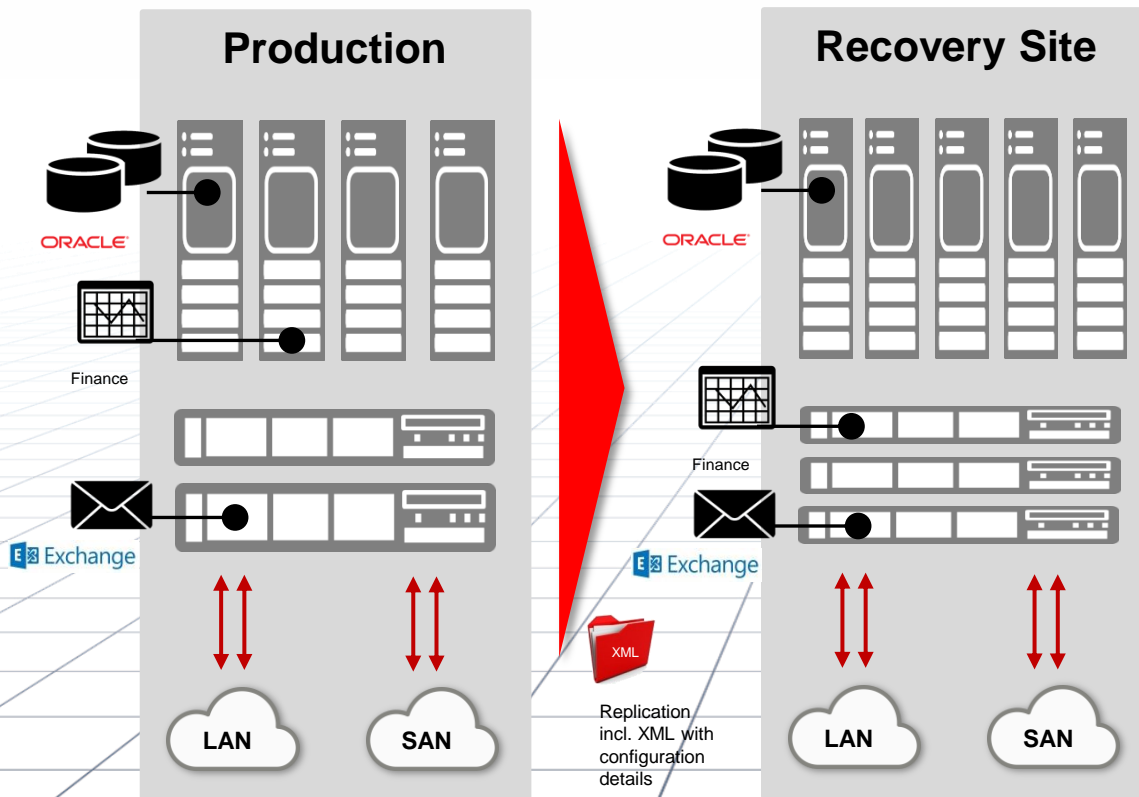
- Logical Processing Area Network (LPAN)
- Split a PAN domain into logical security boundaries
- PAN Manager automatically ensures complete isolation
- Enables multi-tenancy with confidence of security
- Define administration roles with a secure login for each LPAN

High Availability



- Improved Service Levels
- Automated, simple HW failover
- N+1 lowers cost
- OS and Appl. HA with one click

Flexible Disaster Recovery

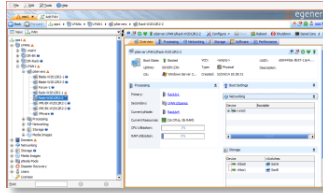


- Simplify DR
- Dramatically simplified DR model
- N+1 lowers DR cost

Domain Management | Overview

Multi-Vendor management
(mixed platforms)

- Discover
- Create
- Organize

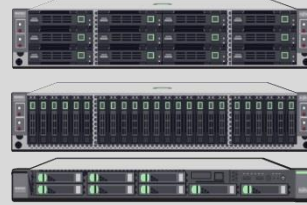
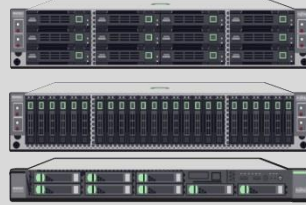


- Server Failover
- Multi-Tenancy
- Disaster Recovery

PAN Domain



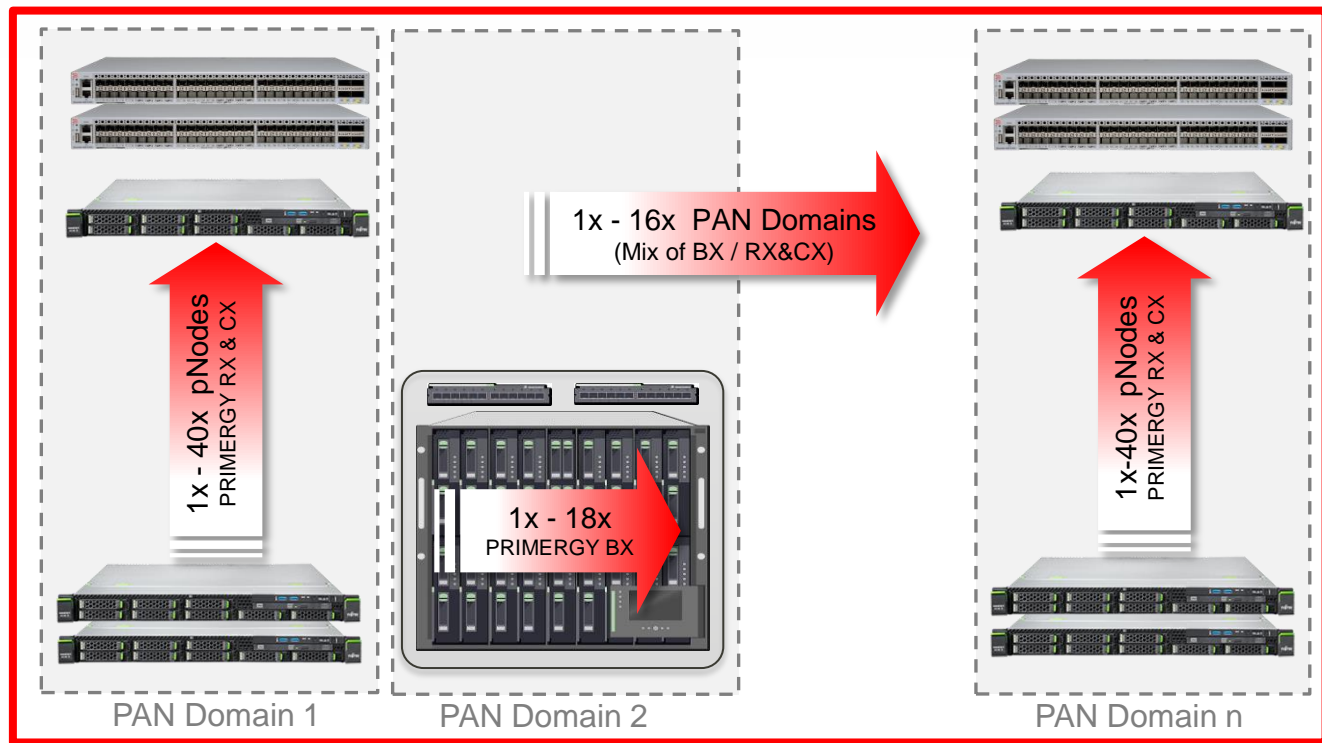
PAN Fabric
Switches



....

- Expansion of PAN environments to include more than four (4) domains
- Maximum number of domains in a PAN environment is sixteen (16)
- Domain is defined as a pair of Fabric Switches and servers connected to those switches

Domain Management | Choice and Scalability



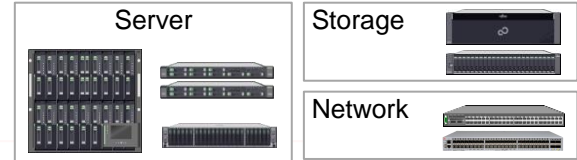
PAN (max. 288x pNodes in total)

Complete Ecosystem



Hardware

- Redundant PAN OPServer
- PRIMERGY BX, RX, CX
- Storage (Fujitsu, NetApp)
- Network (Brocade, Cisco, Fujitsu)



Software

- PAN Manager (Advanced, Enterprise, Upgrade)
- PAN Domain Manager
- PAN Cloud Director
- Egenera Cloud Suite (Advanced, Enterprise, Bundle)

Support

- Mandatory services for patches, updates and back level support
- Support and subscriptions for 1- and 3 years, 7x24, 4h remote response

Services

- PAN Manager, Cloud Director Onsite Installation & Implementation
- PAN Cloud Director Remote Installation
- PAN Adoption Service / Accelerator
- PAN Manager, Cloud Director Onsite Training

Egenera
offerings

PRIMEFLEX for Egenera PAN

Operational Benefits



- **Complete and validated IT solution:** Minimized risks and shortened project duration
- **Open platform choice:** Protect existing investments and skill sets
- **Orchestration and flexible on-demand capacity:** Resources can be configured with only a few mouse clicks across multiple platforms
- **Virtual Machine Instance (VMI):** Cost-effective way to provision and manage both virtual and physical servers
- **High Availability:** N+1 hardware redundancy regardless of software workload and without complex clustering products
- **Disaster Recovery:** Improve reliability and service levels with a single automated recovery plan for physical and virtual servers
- **Multi-tenancy:** Create secure resource pools and share servers between users, reducing capital investments
- **Cloud (private, hybrid) management** with easy way to request and consume IT

PRIMEFLEX for Egenera PAN

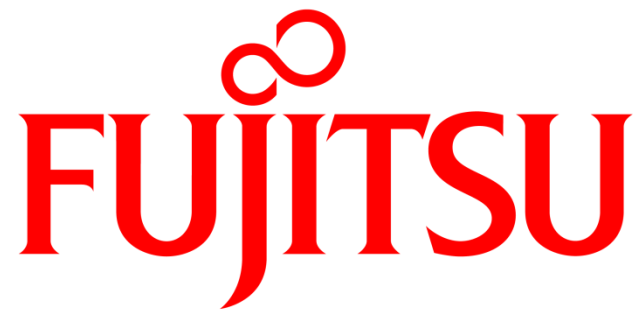
Business Benefits



- Faster delivery of business IT and Cloud services
- Improved service levels
- Business continuity insurance
- Flexibility to react to business change
- Lower capital costs
- Lower licensing costs
- Lower operational expense
- Single point of contact (SPOC) for support and services

■ Address customers that

- Are faced to manage a mix of physical and virtual servers
- Have to quickly react to new or changed business requirements
- Are not already fully using virtualization with VMware vSphere
- Are cost sensitive, e.g. licensing costs
- Require business continuity solution
- Require flexibility in the implementation, but like to leverage from PRIMEFLEX reference architecture goodies
- Want an open platform that seamlessly integrates in their datacenter landscape
- Expect single stop shopping including maintenance support
- Need already (or later) an upgrade to a private or hybrid cloud



shaping tomorrow with you

Intermediate Cover Title

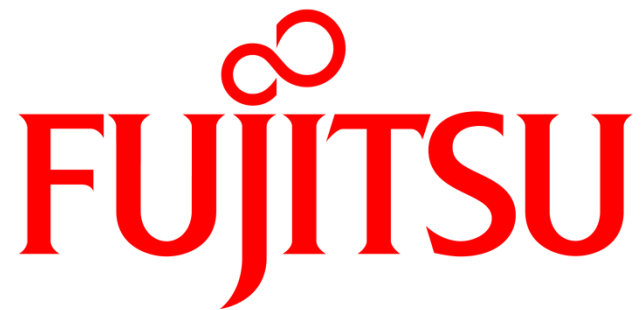
FUJITSU



■ Body text 1st layer

■ Body text 2nd layer

- Body text 3rd layer
 - Body text 4th layer
 - Body text 5th layer



shaping tomorrow with you