

Realizzare un'infrastruttura IT basata su Fujitsu/RedHat Open Stack in modo semplice e sicuro

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FUJITSU PRIMEFLEX for Openstack

Fast track to OpenStack
on-premise private cloud

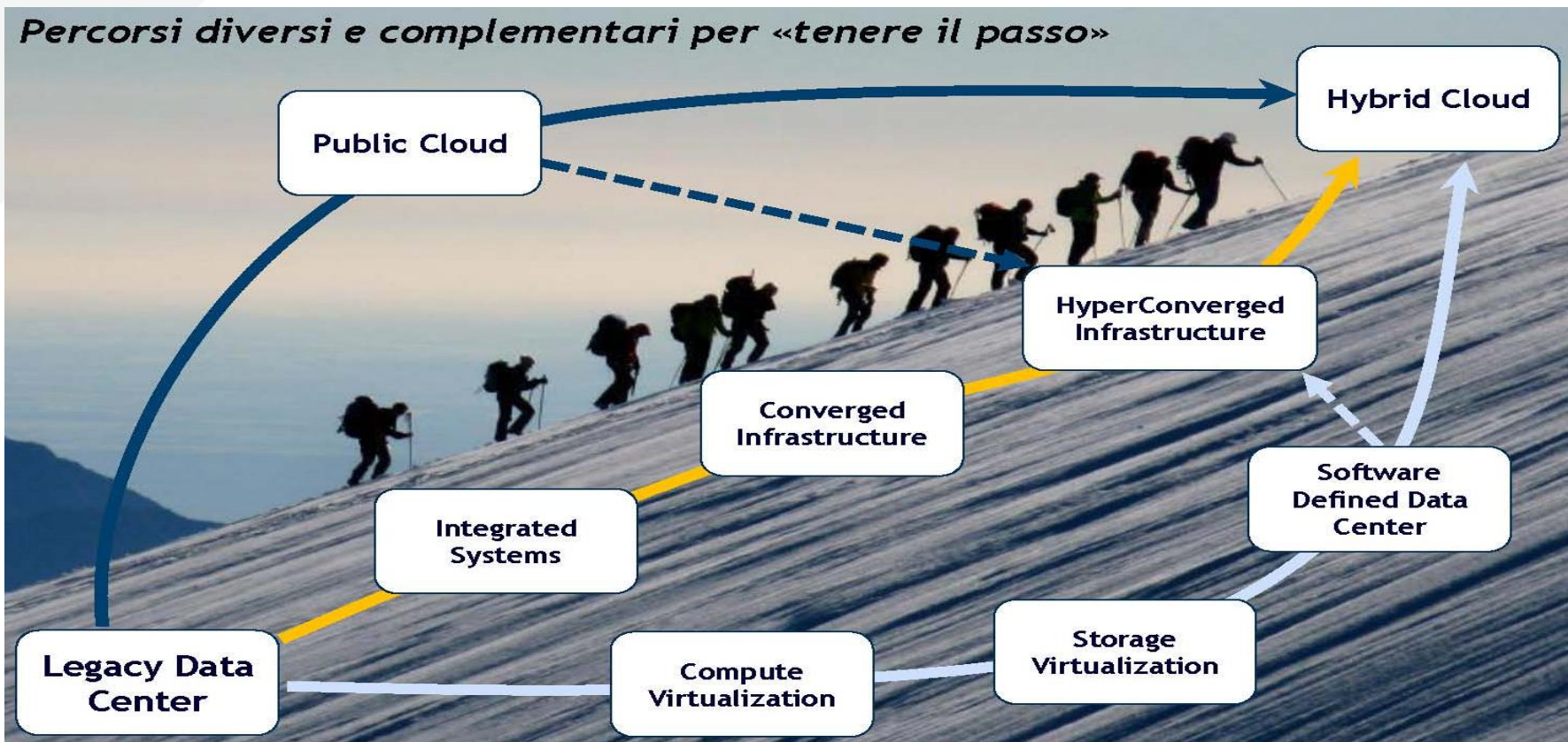
FUJITSU
shaping tomorrow with you

Human Centric Innovation in Action

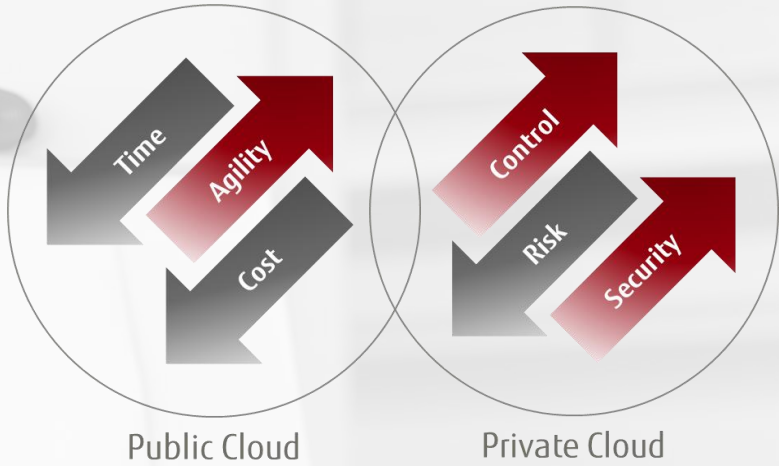


Intel Inside®. New Possibilities Outside.

Hybrid Cloud: The new IT Paradigm



The Future IT Architecture is Hybrid



“Adoption of the hybrid cloud is motivated by the need for improved collaboration and greater flexibility and efficiency.”

THE WALL STREET JOURNAL - SPECIAL REPORT:
CIOs Say Hybrid Cloud Takes Off - Oct 20, 2015



CIOs are demanding a way to combine the best of the cloud with their own localized data centers

Why OpenStack for cloud infrastructures?

- **Cost-effective**
 - Commodity hardware
- **No vendor lock-in**
 - Flexibility to customize and interoperate based on common APIs
- **Speedy innovation**
 - Community development with 6 month release cycles
- **Massively scalable**
 - Best supports the growing number of scale-out applications



Fastest growing open source cloud management platform with broadest industry support

Why do organizations choose OpenStack?

TOP BUSINESS DRIVERS

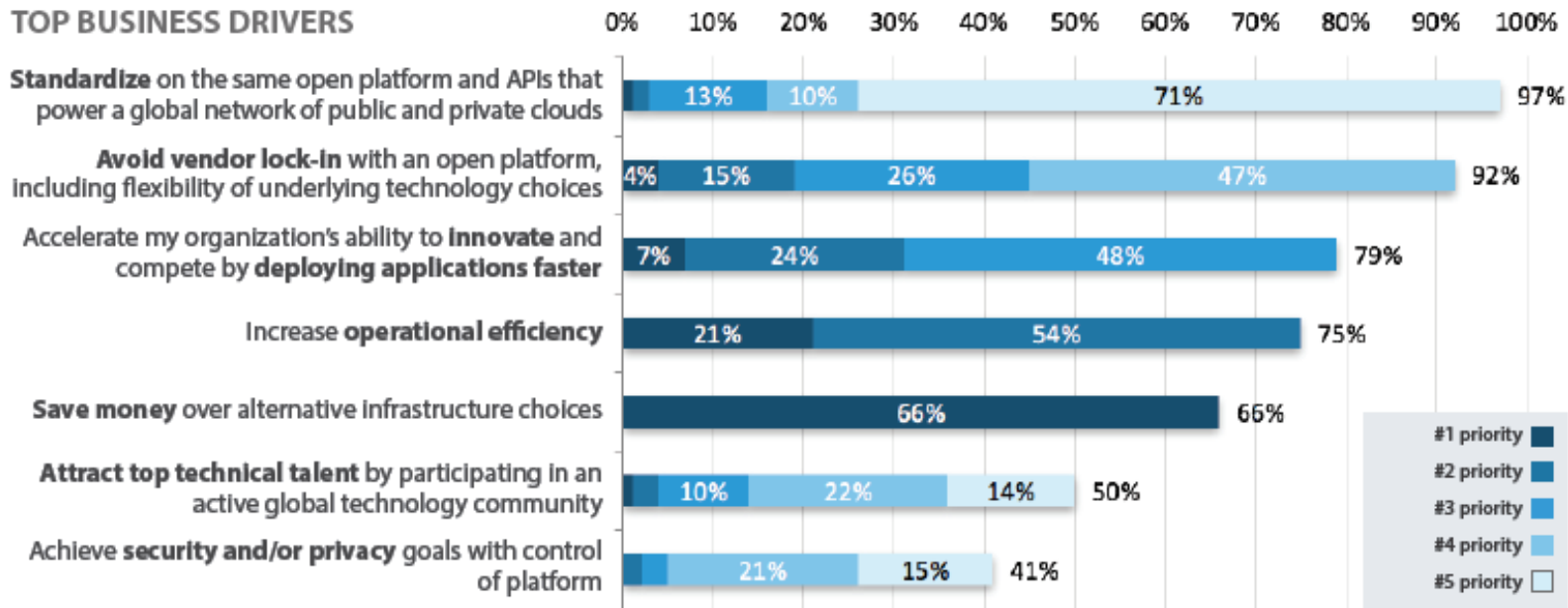


Figure 2.1 n=1183

OpenStack.org: OpenStack User Survey Report – April 2016

Key drivers are cost, operational efficiency, ability to innovate and faster application deployment

What are the new IT Managers challenges?

The business requires more and more flexible infrastructures that can respond promptly to changing needs. Agility is therefore a determining factor in making your company more and more competitive. Users are looking for more and more integrated, fast, and cost-effective solutions from a management point of view (TCO)

At the same time it is clear that you can not do everything at home and that the cloud or the use of highly integrated systems is the only way to make complex projects by avoiding excessive investment and the risks that come from it.

Data Center Trends 2017 and beyond

Level of Versatility

Company wide

Multiple BU

Single BU

Hyperconvergence & SDx

3rd Platform Finance

Hyperscale DC

DC
Obsoloescence

Edge
IT

Workload
Realignment

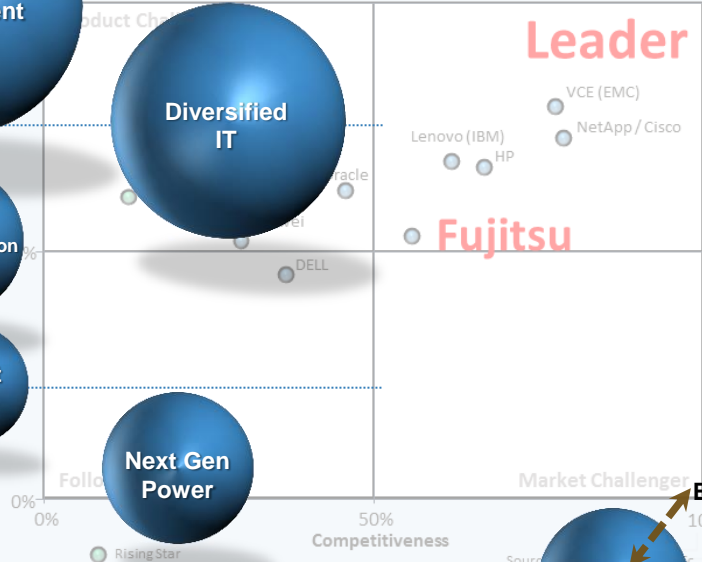
Network
Transformation

Smart
DC

Diversified
IT

Next Gen
Power

Experton Market Insight
Cloud Vendor Benchmark 2015 – Germany
Technologies – (Hyper) Converged Systems



Source: IDC

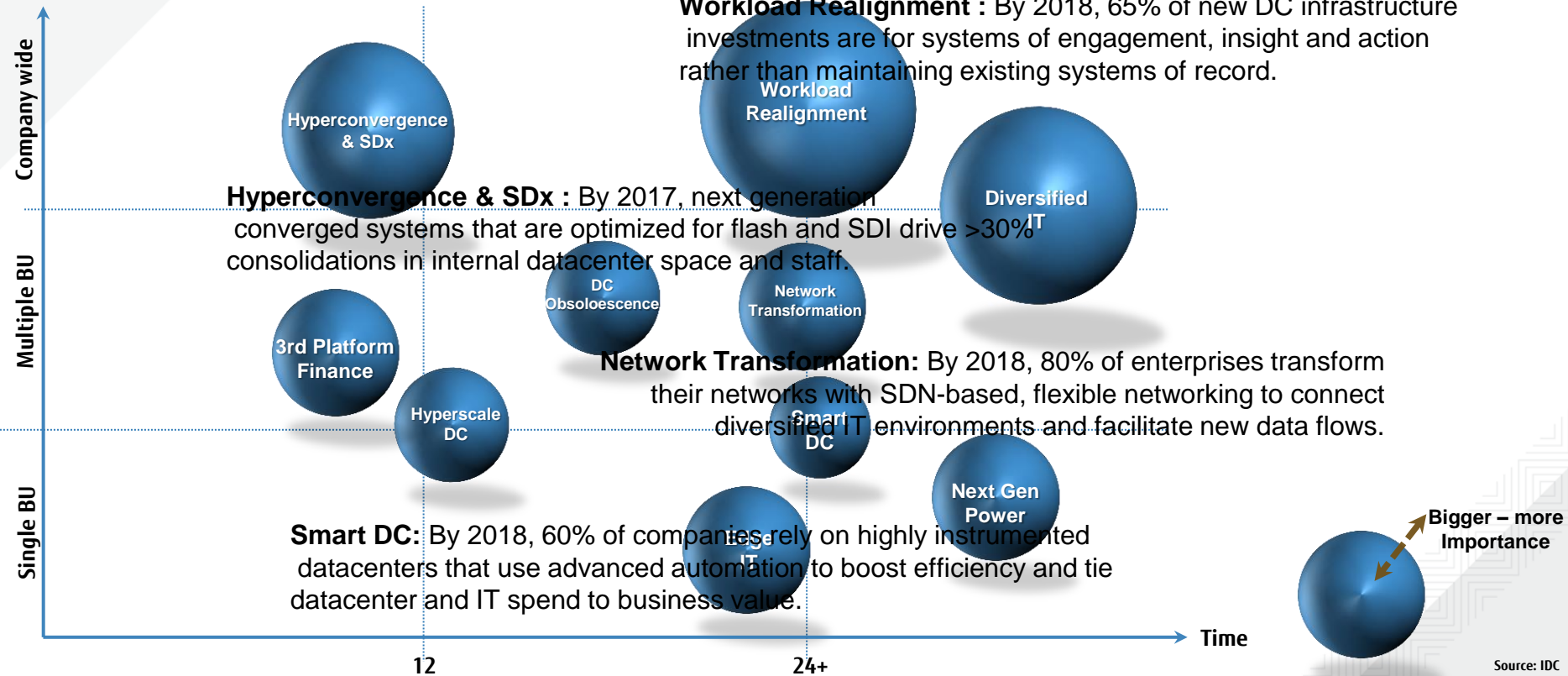
12

24+

Time

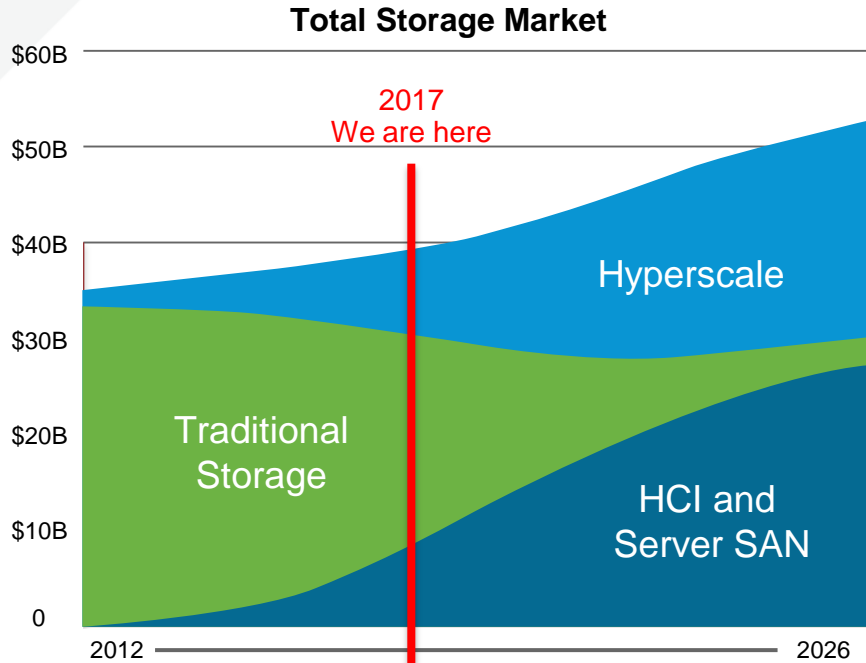
Data Center Trends 2017 and beyond

Level of Versatility

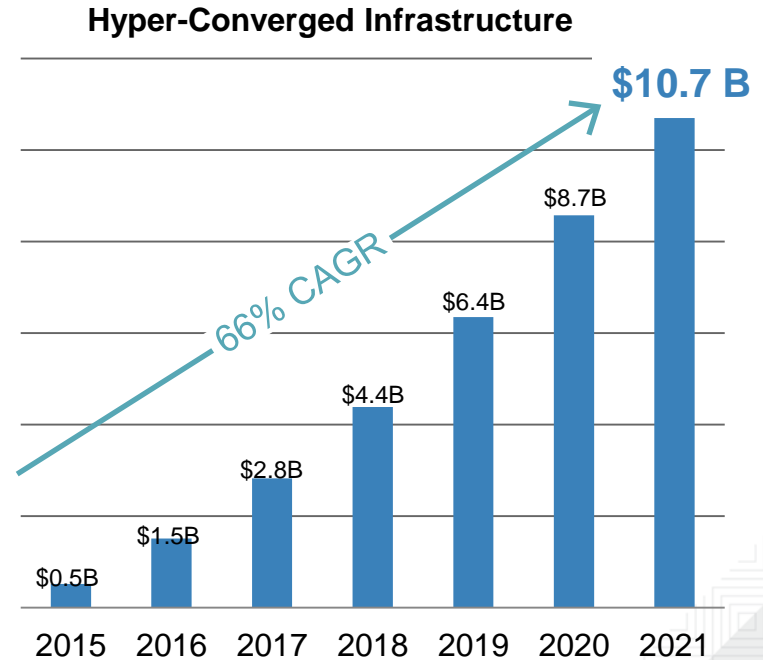


Source: IDC

Iperconverged Infrastructure / SDDC: Trend

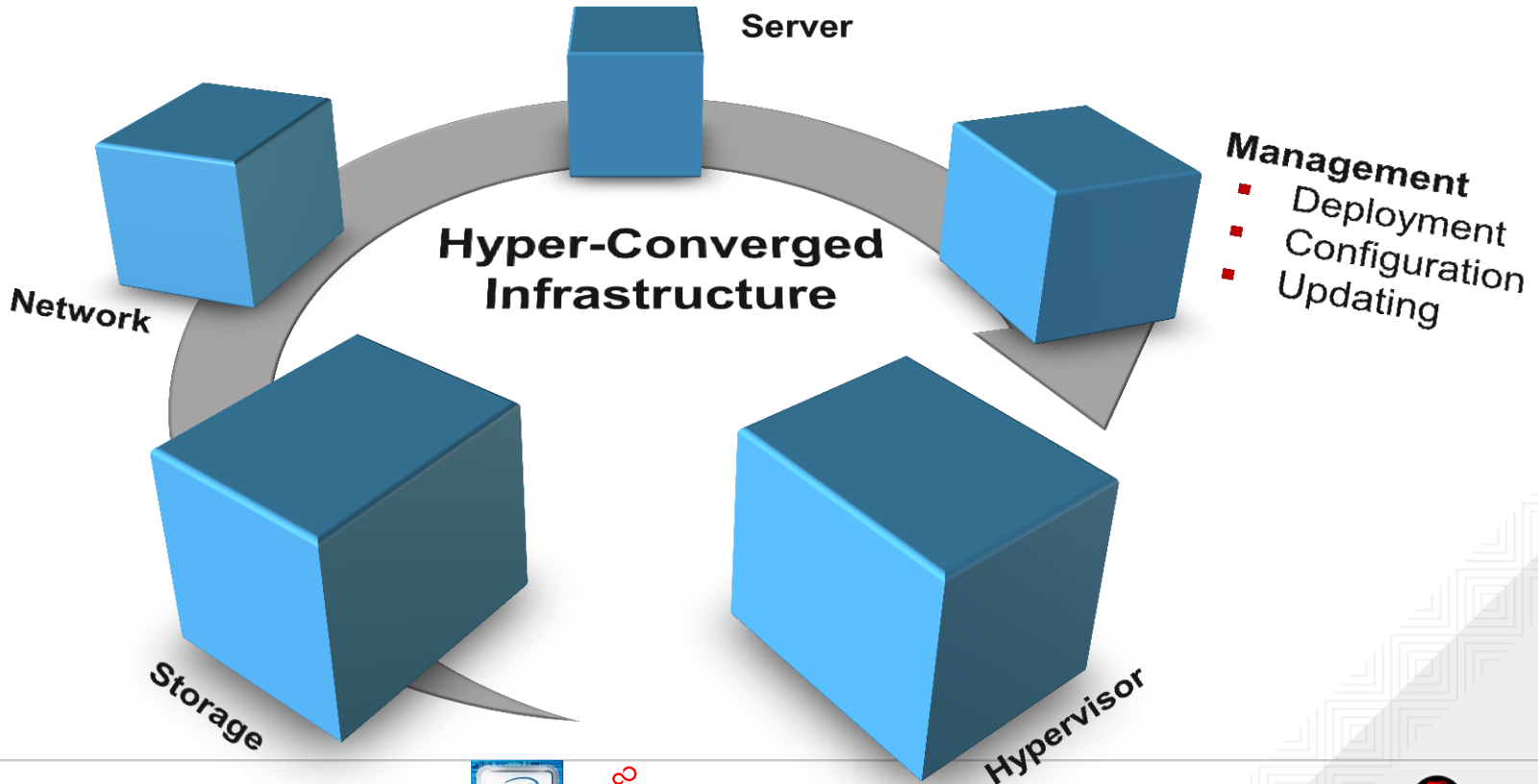


Source: Wikibon Server SAN Research Project, 2016



Source: Gartner Forecast Analysis: Integrated Systems Worldwide, 1Q17 Update

Hyper Converged Infrastructure & Software Defined Data Center



Why Fujitsu?

Start small and grow as you go

based on validated reference architectures providing a proven foundation for OpenStack

Select the OpenStack platform that best fits your needs

leveraging OpenStack platforms from RedHat

Gain improved operational efficiency

with a broad range of value-add extensions on top of the core OpenStack platform

Profit from seamless integration into the overall OpenStack ecosystem

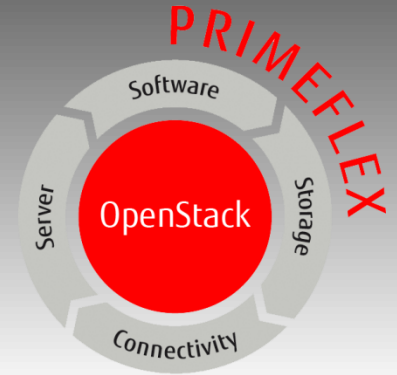
with our multi-cloud management support

Reduce deployment risk and gain fast time to production

with our on-site deployment service

Reduce your maintenance efforts

with our single point of contact for support approach



PRIMEFLEX for OpenStack makes your engagement in OpenStack as easy as possible

Fujitsu's Commitment to OpenStack

5/2014: Kick-off of comprehensive initiative on OpenStack Private Cloud

10/2014: ETERNUS CD10000 - Distributed, scale-out storage optimized for cloud and OpenStack projects based on Ceph

5/2015: Fujitsu announces an in-house-developed K5 public cloud service using open-source technologies (incl. OpenStack)

7/2015: Fujitsu becomes a Gold Member of the OpenStack Foundation

1/2016: Launch of ServerView Cloud Monitoring Manager for monitoring OpenStack systems

9/2013: Fujitsu joins OpenStack Foundation as corporate sponsor

7/2014: Midokura partners with Fujitsu for OpenStack software defined networking deployment

2/2015: Fujitsu to migrate all of its internal systems to a new OpenStack-based cloud platform

6/2015: Launch of Integrated System PRIMEFLEX for Red Hat OpenStack solution

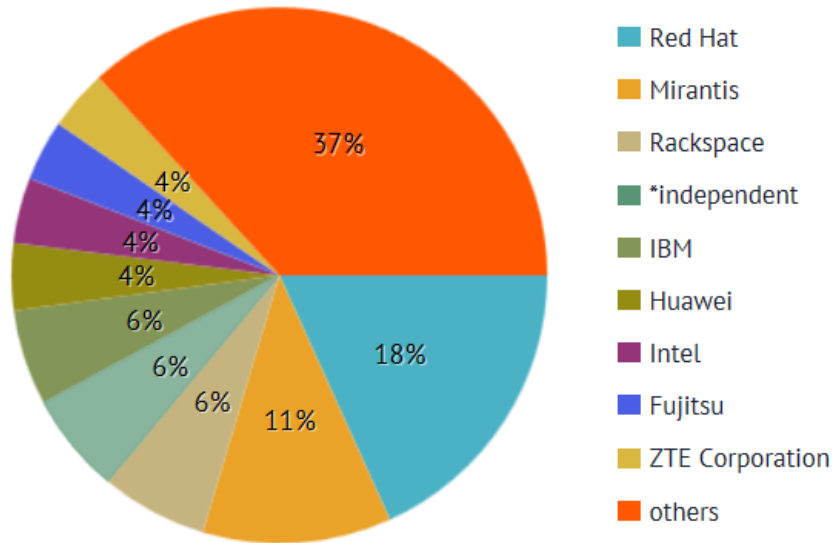
1/2016: Kenji Kaneshige joins the board of the OpenStack foundation on behalf of Fujitsu

2/2017: Launch of Integrated System PRIMEFLEX for OpenStack RedHat

Fujitsu maintains a broad OpenStack eco-system across private and public cloud

OpenStack, Who are the main contributors?

Contribution by companies



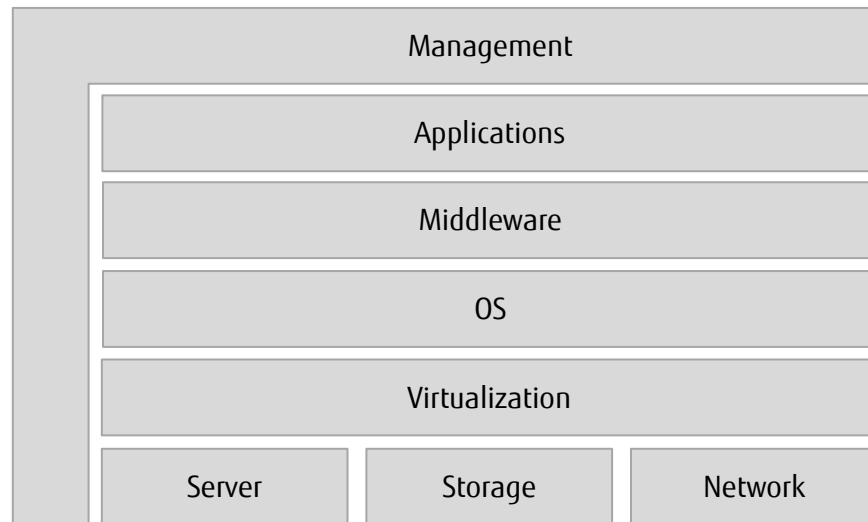
#	Company	Commits
1	Red Hat	6736
2	Mirantis	4205
3	Rackspace	2383
	*independent	2235
4	IBM	2135
5	Huawei	1493
6	Intel	1460
7	Fujitsu	1363
8	ZTE Corporation	1343
9	99cloud	1176
10	NEC	1087
11	SUSE	992
12	HPE	839
13	Canonical	661
14	VMware	608
15	EasyStack	536
16	AT&T	503
17	Cisco Systems	492

Commits to all releases: <http://stackalytics.com/>: 2017-03-31

Fujitsu #7 out of 203 companies

Building a DC infrastructure is complex

- Many tasks
 - Select, procure, integrate components
 - Tedious coordination among admins
 - Complex test matrix
 - Compatibility of (multi-vendor) components
 - Integrate into production environment
- Deep knowledge and skills
 - Less focus on business
- High maintenance effort
 - Each installation is different



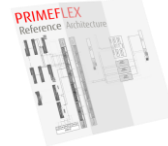
DIY (Do-it-Yourself) is error-prone, time-consuming, risky, expensive.



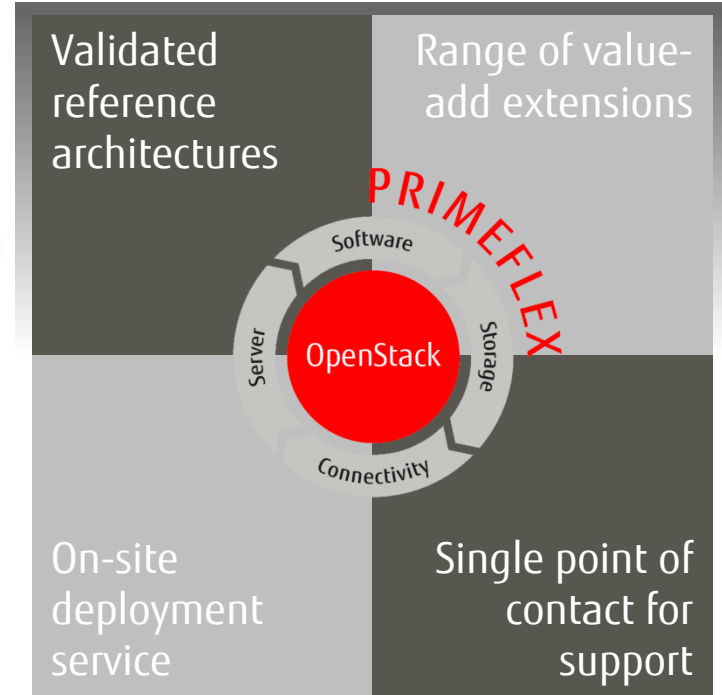
PRIMEFLEX for OpenStack

Integrated System for OpenStack cloud infrastructures validated by Fujitsu

- Minimizes deployment risk
- Reduces infrastructure-related design and implementation efforts and costs by up to 40%¹
- Increases operational efficiency, agility and availability for evaluation and production
- Allows to start small and grow on demand with a secured and proven growth plan



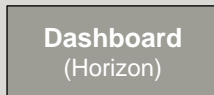
*1 based on Fujitsu internal calculation



Fastest way to deploy a highly flexible, cost-effective and scalable OpenStack cloud platform

System Configuration for Red Hat Edition

API Clients



OpenStack Cloud APIs

Red Hat Open-Stack Platform

Director Server

Puppet, Undercloud, DHCP, PXE, ...

Required Services

Maria DB, RabbitMQ

Authentication (Keystone)

Images (Glance)

Object (Swift)

Volume (Cinder)

Network (Neutron)

Orchestration (Heat)

Telemetry (Ceilometer)

Compute (Nova)

Hypervisor KVM
Hypervisor ESXi
Hypervisor Hyper-V

Operating System: Red Hat Enterprise Linux

vCenter W2k12

ETERNUS DX

Block (iSCSI) File (NFS)

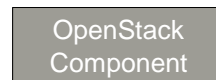
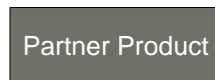
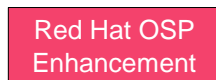
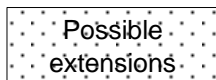
Volume Driver (Cinder)

ETERNUS CD

Block (RBD) S3 (RGW)

Object (RADOS)

Physical Infrastructure (PRIMERGY, ETERNUS, Network)



How to get started with OpenStack? Evaluation Packages

Remote Evaluation

- Access to a fully fletched evaluation environment in the Fujitsu data center

Single Box

- 1 x physical node
- 2 x compute node VM
- 1 x control node VM
- 1 x admin node VM
- internal storage

Fully virtualized
ready-to-run OpenStack
environment

Basic System

- 2 x compute nodes
- 1 x control node
- 1 x admin node
- 1 x 10G switch
- 1 x 1G switch
- opt. external storage

Smallest hardware
footprint including
dedicated nodes

Jump Start Package

- 3 x compute nodes
- 3 x control node
- 1 x admin node
- 1 x 10G switch
- 1 x 1G switch
- opt. external storage

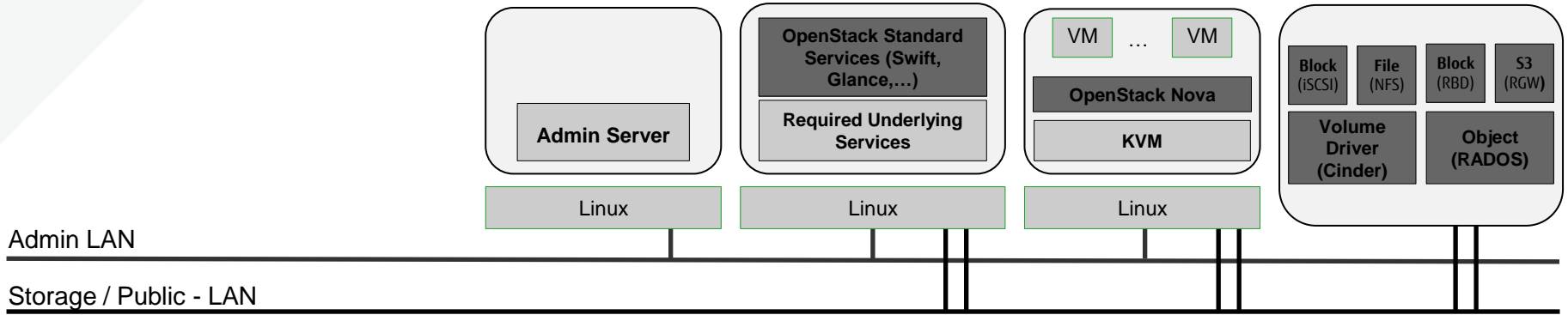
Smallest footprint that
allows for a technical
migration path to a
customized production
environment

Customized Package

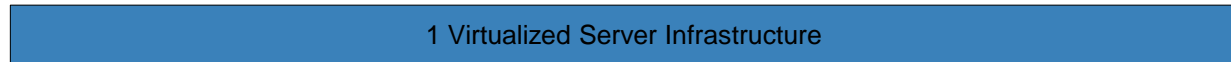
- 3+ compute nodes
- 3 x control node
- 1 x admin node
- 1 x 10G switch
- 1 x 1G switch
- opt. external storage

Individually sized to
serve specific
production
requirements

Technical Configurations



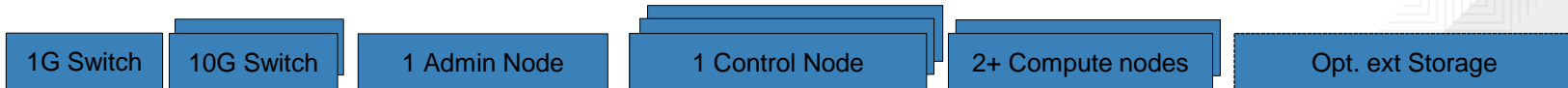
Single Box:



Basic System:



Jump Start:




Evaluation Scenarios

- What scenarios can be evaluated with which package?


Name	API	Application Deployment	External Storage	Networking	High-Availability	3rd-party SDN	Backup	Performance
Single Box	✓	-	-	-	-	-	-	-
Remote Evaluation	✓	✓	✓	✓	✓	✓	-	-
Basic System	✓	✓	✓	✓	-	-	✓	-
Jump Start	✓	✓	✓	✓	✓	✓	✓	-
Customized Package	✓	✓	✓	✓	✓	✓	✓	✓

We provide you with an OpenStack environment that fits to your needs


Validated Value-Add Extensions



Application Delivery/
Migration



Monitoring




Software-defined
Storage



Enterprise Portal



Cost Management



Software-defined
Networking


Red Hat OpenStack Platform

Fujitsu PRIMERGY Server , Fujitsu ETERNUS Storage, Brocade Switches




Deliver improved operational efficiency on top of the core OpenStack platform


Validated Value-Add Extensions



UShareSoft UForge
AppCenter



FUJITSU ServerView
Cloud Monitoring Manager




FUJITSU Storage
ETERNUS CD 10000



FUJITSU Software Service
Catalog Manager



FUJITSU Cloud Service
PICCO



Midokura Enterprise
Midonet

Red Hat OpenStack Platform

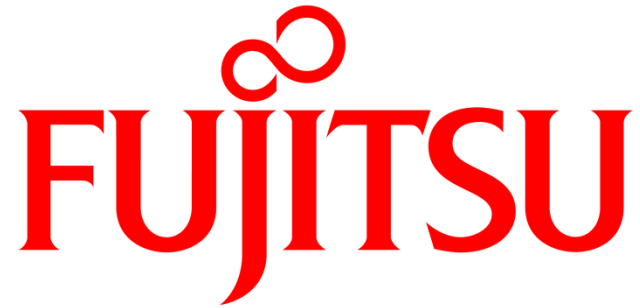
Fujitsu PRIMERGY Server , Fujitsu ETERNUS Storage, Brocade Switches



Deliver improved operational efficiency on top of the core OpenStack platform

Professional services

Cloud Check Workshop	Building a Private Cloud can be complex in terms of resources and technologies required – but it need not! Learn more about the possibilities to build your own Private Cloud, and how Fujitsu's Digital Business Reference Architecture (DBRA) can help.	Identify Approaches
OpenStack evaluation setup	<ul style="list-style-type: none">■ Identification of use cases ?■ Which scenarios are to be evaluated ?■ How to get the first sandbox system ?	Setup Sandbox
Cloud Introduction	We guide you through the necessary steps of a cloud project: <ul style="list-style-type: none">■ Create or complete the Cloud Business Strategy and the Cloud Service Catalog■ Design of Cloud Business Service Management, Operational Service Management and Cloud Infrastructure■ Build up the initial cloud system from the sandbox■ Creating the further cloud transformation roadmap	Successful Cloud Projects

The logo features a red infinity symbol positioned above the word "FUJITSU". The word "FUJITSU" is rendered in a bold, red, serif typeface. The letter "J" is stylized with a long, downward-pointing tail that curves to the left.

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