Windows Server 2016

Bringing Cloud to your Datacenter

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Microsoft

Looking back

Windows Server 2008 R2	Windows Server 2012	Windows Server 2012 R2
System Center 2007 R3	System Center 2012	System Center 2012 R2
		Microsoft Azure

Introduced virtualization platform/ management

Industry-leading scale and performance

Azure as design point

Applications and services drive future IT business value

VALUE TO BUSINESS

Microsoft Azure

INNOVATION

EFFICIENCY

APPLICATION AND SERVICES

INFRASTRUCTURE

EVOLUTION OF DATACENTER
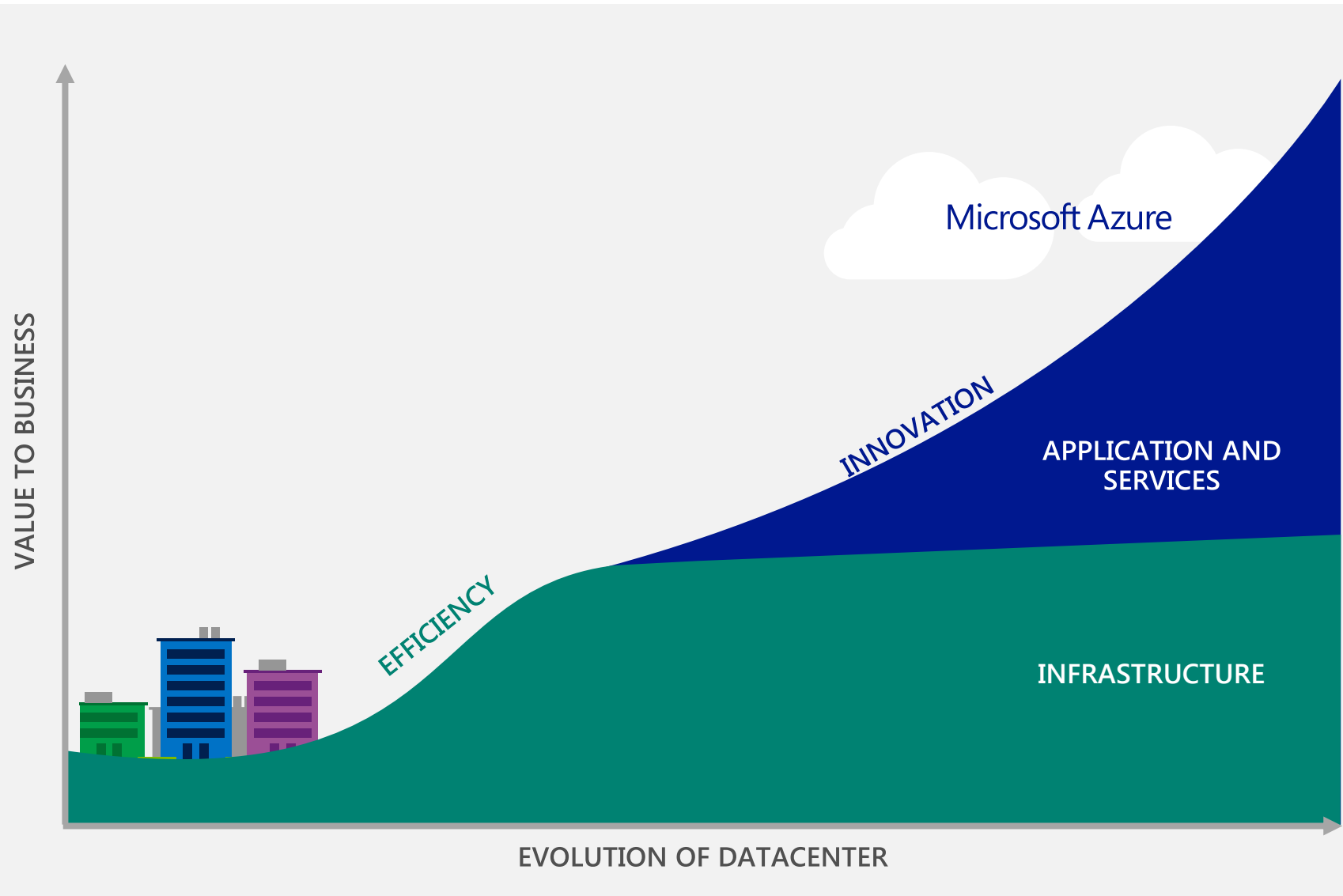
How much remains unvirtualized?

Why is the business using shadow IT?
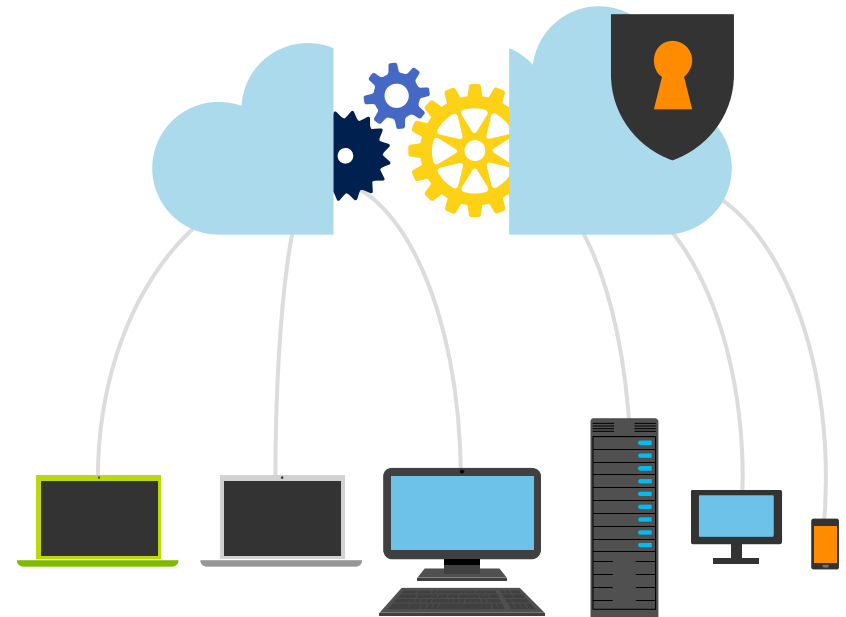
Why is my CIO looking at agile alternatives?

Why is investment in apps growing so much faster than IT?

IT is being pulled in two directions

Support business agility and innovation

Provide secure, controlled, IT resources

By 2017, 50% of total IT spending will be spent outside of the formal IT organization

A new approach to your datacenter

Traditional Datacenter

- Tight coupling between infrastructure and apps
- Expensive, vertically integrated hardware
- Silo-ed infrastructure and operations
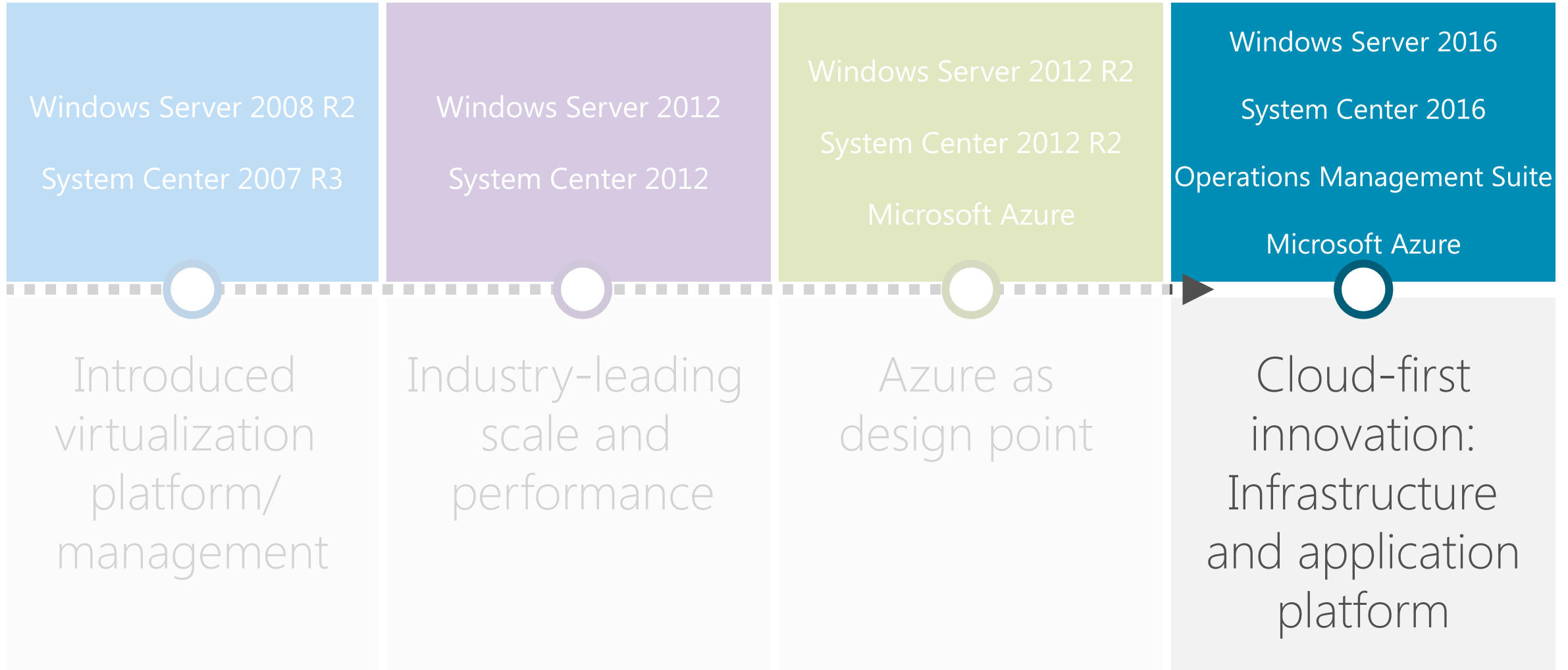- Highly customized processes and configurations

Cloud Model

- Loosely coupled infrastructure with apps & micro-services
- Industry-standard hardware
- Service-focused delivery
- Standardized processes and configurations

Looking ahead

Windows Server 2008 R2	Windows Server 2012	Windows Server 2012 R2	Windows Server 2016
System Center 2007 R3	System Center 2012	System Center 2012 R2	System Center 2016
		Microsoft Azure	Operations Management Suite
			Microsoft Azure
Introduced virtualization platform/ management	Industry-leading scale and performance	Azure as design point	Cloud-first innovation: Infrastructure and application platform

Windows Server 2016 and System Center 2016 (incl OMS)

Cloud inspired

Modern application platform	Software-defined datacenter	Management anywhere
Write once, deploy anywhere	**Cloud inspired infrastructure**	**Hybrid cloud management**
Nano Server	New storage features	Real time visibility
Hyper-V containers	Azure inspired networking stack	Rolling cluster upgrade support
Windows Server containers	Shielded VMs & Host Guardian Server	DPM support for Azure Express Route

Windows Server 2016

What is new..the highlights

Microsoft

Software defined datacenter

Compute

Rolling upgrades for no downtime

Hot add/remove NICs/Fixed Memory

More resilient to network, storage, and compute problems

Network

Network controller for centralized control of network policies

Built in hyper-scale load balancer from Azure

Distributed datacenter firewall with enhanced security

Storage

Hyper-converged with Storage Spaces Direct

In-box synchronous replication

Cluster-wide quality of service

RDS

Support for heavy graphics workloads (OpenGL/OpenCL)_

Increased scale, running in Azure

Enhanced deployment options

Enhanced security
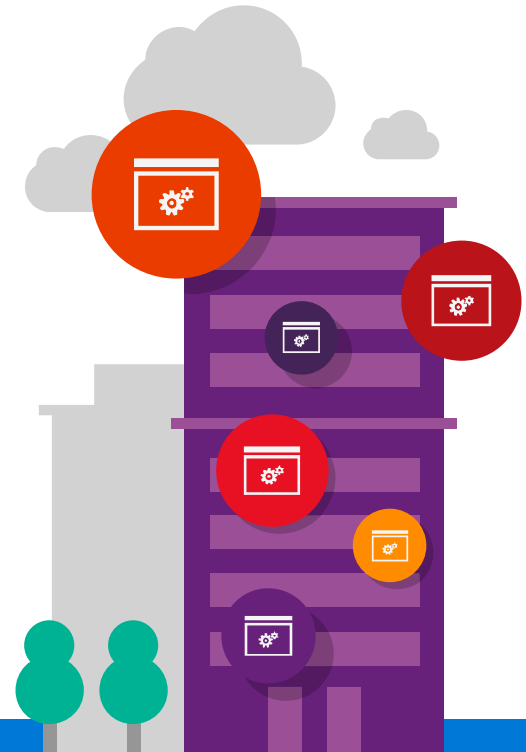
Application platform

Windows Server containers

Bring the agility and density of containers to the Windows ecosystem

Secure containers and flexible servicing with Hyper-V containers

Manage with Docker

Nano server

Just Enough OS

Ideal for cloud inspired infrastructure

- **Smaller image size, smaller attack surface, less reboots, fewer patches**

Ideal for next generation app development

- **Built for Containers and cloud-native apps**

Management

PowerShell
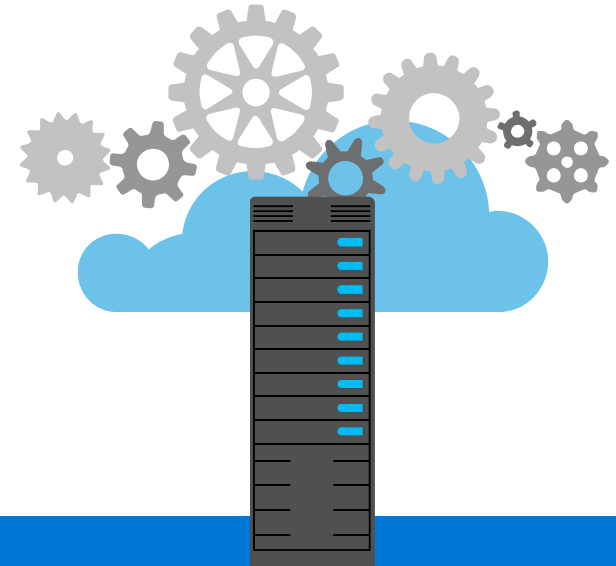
PowerShell Desired State Configuration

PowerShell Direct

Server Management Tool (SMT)

Rich Web GUI

Manage all server installations (Nano, Core, Full)

Servers can be on-premises or in the cloud

Security

Secure your infrastructure and applications

Secure privilege access with Just In Time and Just enough administration

Protect identity with Credential Guard.

Breach resistance technologies for preventing common attacks and locking down what can run on servers (whitelist)

Improved threat detection with built in eventing

Shielded VMs

Run your virtual machines on trusted hosts

Protect virtual machines from compromised fabrics

Use TPM hardware to secure hardware and virtual TPM to encrypt VMs

Fujitsu PRIMERGY Server Systems

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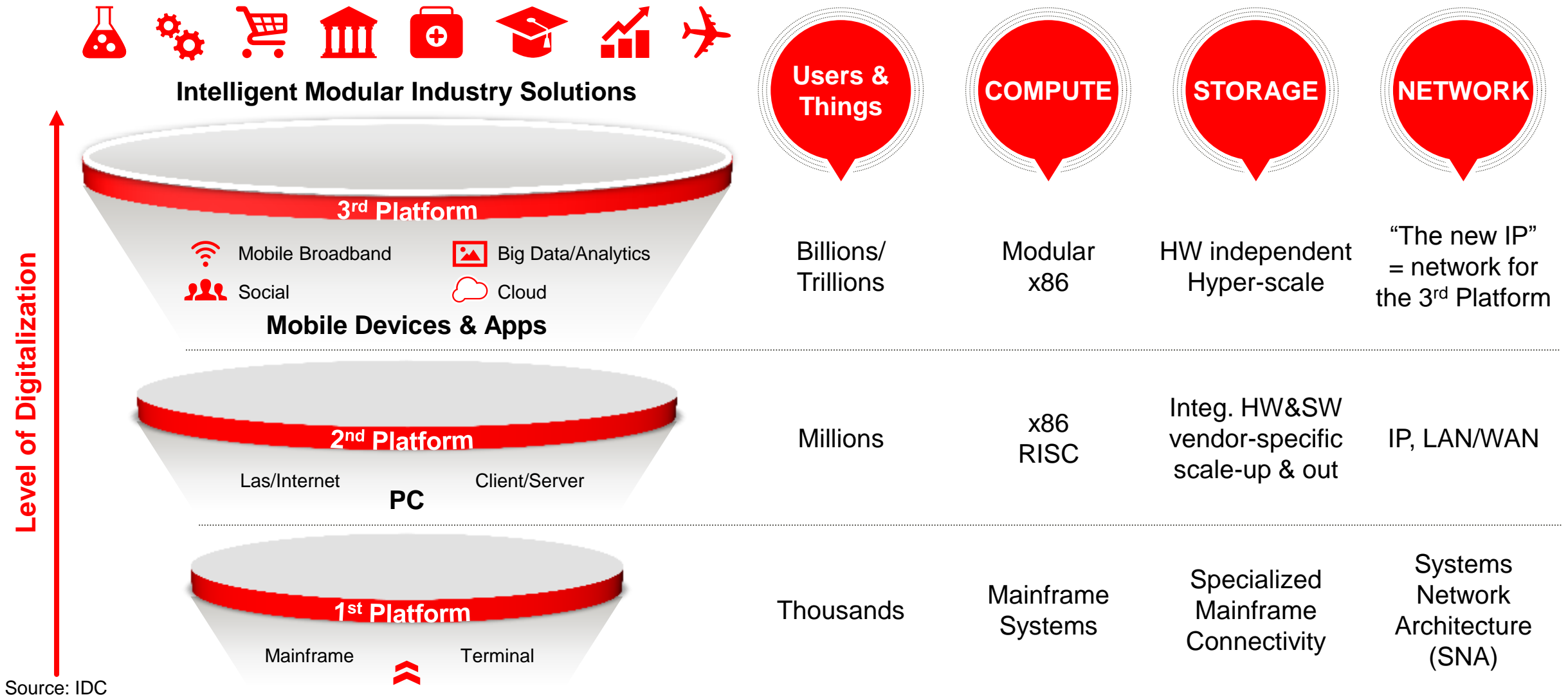- Highly customized processes and configurations

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The Impact of Digitalization on DC Architectures

Intelligent Modular Industry Solutions

Level of Digitalization

	Users & Things	COMPUTE	STORAGE	NETWORK
3rd Platform Mobile Broadband · Big Data/Analytics · Social · Cloud **Mobile Devices & Apps**	Billions/Trillions	Modular x86	HW independent Hyper-scale	"The new IP" = network for the 3rd Platform
2nd Platform Las/Internet · Client/Server **PC**	Millions	x86 RISC	Integ. HW&SW vendor-specific scale-up & out	IP, LAN/WAN
1st Platform Mainframe · Terminal	Thousands	Mainframe Systems	Specialized Mainframe Connectivity	Systems Network Architecture (SNA)

Source: IDC

Balancing the two modes of IT

Robust IT

Focus on Optimization of Services Cost

Conventional, efficient, centralized, IT-centric

| CRM | ERP | Mail | BI |
| DB | HR | File | Web |

Flexible Linkage/ Transition

Fast IT

Focus on Enabling a Value Chain with Customers

Disruptive, agile, distributed, biz-centric

Big Data

Mobile

SNS

Both modes need to be supported

Fujitsu PRIMERGY Server Systems

Fujitsu PRIMERGY Server Systems

PRIMERGY CX2550 M1	PRIMERGY RX2530 M1	PRIMERGY RX2540 M1	PRIMERGY RX4770 M2
Dual socket server node in a highly condensed half-wide	Maximum productivity in a 1U housing	The data center standard without compromise	Platform of choice for business critical backend services

PRIMERGY CX2550 M1
- Highest compute density with CPUs
- High storage expandability
- Up to 4x CX2550 M1 in one CX400 M1 2U chassis
- Flexible local storage: 6x 2.5" drives per node, 24 in total
- Support for up to 2x PCIe SSD per node

PRIMERGY RX2530 M1
- High performance with DDR4 memory, powerful CPUs
- High performance within a small 1U housing
- Up to 10 storage devices including up to 4x PCIe 2.5" SSDs
- 4x PCIe Gen 3 slots for more flexibility and expandability for complex I/O-configurations

PRIMERGY RX2540 M1
- High performance with DDR4 memory, powerful CPUs, optional high-end graphics for VDI
- High I/O throughput; Fujitsu DynamicLoM
- Up to 24 disks for growing storage demand, distributed storage architectures

PRIMERGY RX4770 M2
- Super fast DDR4 memory with an extensive capacity of up to 6 TB memory
- 8x 2.5" hot-plug 12 Gb/s SSD SAS, 6 Gb/s SSD , SATA, HDD SAS. Under development: support for 4x PCIe SSD
- High speed network: 2x 10GbE onboard
- 11x PCIe Gen3 slots

Fujitsu PRIMERGY Server Systems

PRIMERGY CX2550 M1	PRIMERGY RX2530 M1	PRIMERGY RX2540 M1	PRIMERGY RX4770 M2
Dual socket server node in a highly condensed half-wide	Maximum productivity in a 1U housing	The data center standard without compromise	Platform of choice for business critical backend services

- PRIMERGY RX2530 M1, or PRIMERGY RX2540 M1 support **Nano Server and Hyper-V Clusters**

- For **Storage Spaces Direct**, use PRIMERGY RX2540 M1 and/or PRIMERGY CX2550 M1 w/CX400 M1

- PRIMERGY RX4770 M2 supports up to **6TB RAM**

Fujitsu PRIMERGY Storage Spaces Direct

PRIMERGY CX2550 M1	PRIMERGY RX2540 M1	PRIMEFLEX for Storage Spaces Direct
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4x PRIMERGY RX2540 M1 running in Storage Spaces Direct configuration

4x PRIMERGY CX2550 M1 w/CX400 M1
Internal SATA SSD / HDD, PCIe NVMe disks