



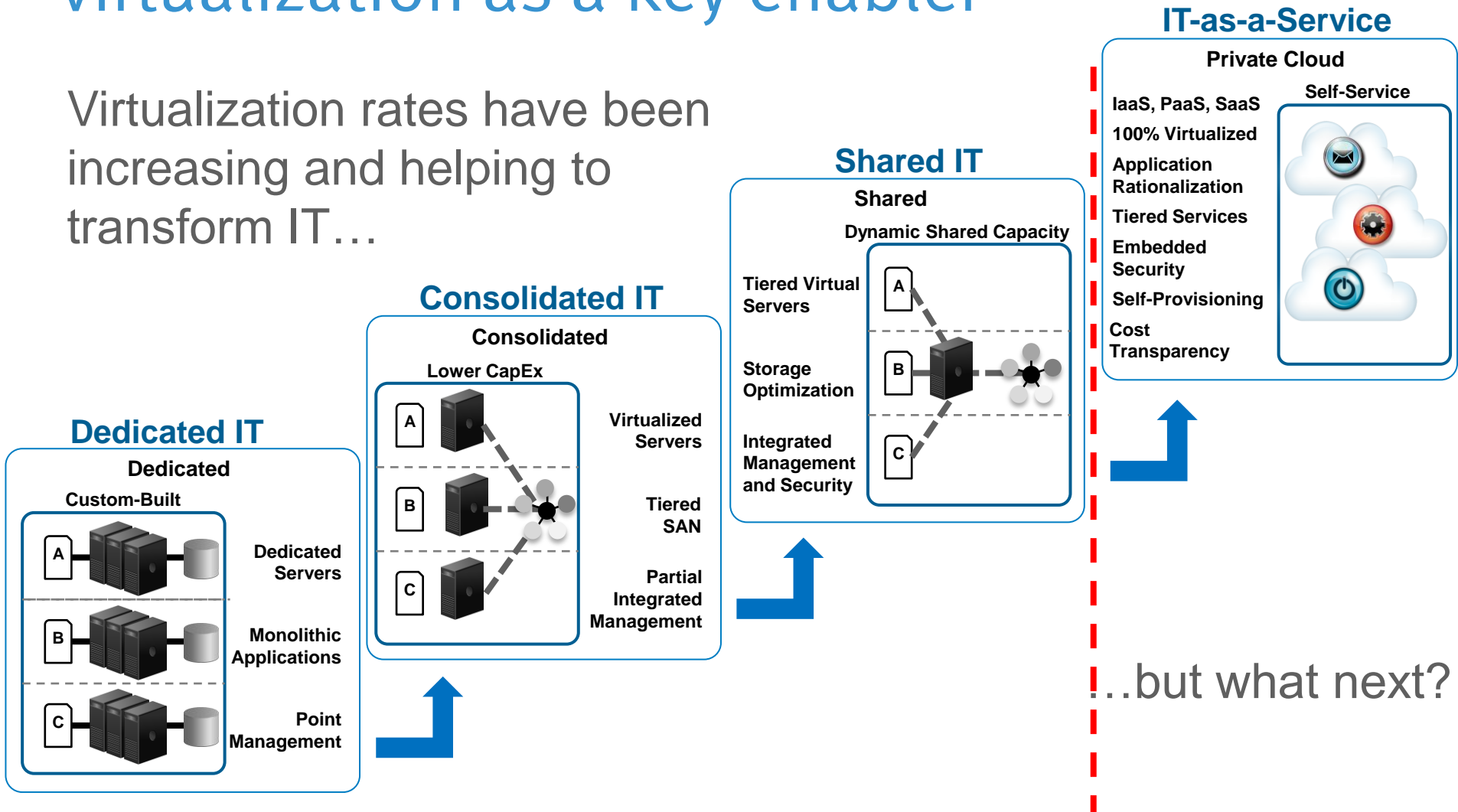
# From Virtualized to ITaaS

# Priority Discussion Topics

- Laying the foundation for IT-as-a-Service with the right architecture
- Key process areas and capabilities that need to be re-thought during the process (ie. service catalogues and “marketing” services to internal IT consumers)
- Defining an internal Infrastructure as a Service (IaaS) capability during the process
- Examine EMC IT’s experiences offering a large virtualized VMware environment to an IaaS model

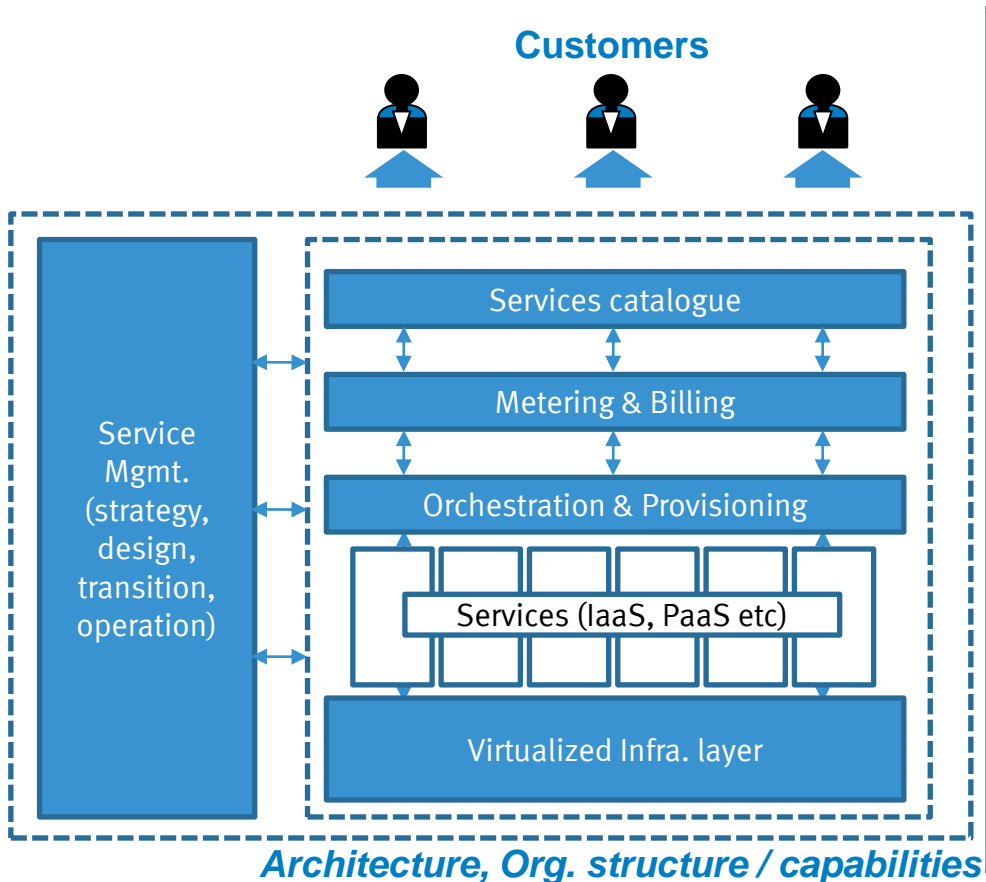
# Setting the scene...IT evolution: virtualization as a key enabler

Virtualization rates have been increasing and helping to transform IT...



# Several components underlie an IT-as-a-Service model

## ITaaS building blocks



**Virtualized Infra. layer:** Virtualized infrastructure provides pooled resources to support elasticity and rapid growth

**Service Mgmt. framework:** IT Service Management and Operations capabilities support the run-time operations

**Orchestration & Provisioning:** Orchestration and Provisioning engines automate standardized workflows allowing speed to delivery and improved reliability

**Metering & Billing:** Metering and Billing tools enable chargeback and financial modeling

**Services catalogue:** Service Catalog serves as the “face” of IT and is the central point of service requests and financial / health information

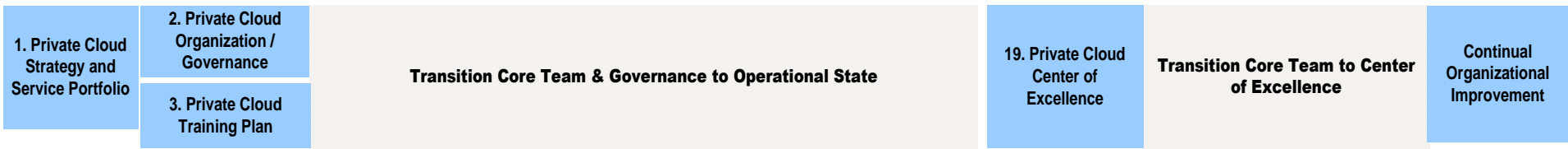
# What do we see at our clients?

- ✓ Significant appetite to deliver ITaaS, both from IT and the Consumer perspectives
- ✓ Post virtualization: situation complex, journey unclear
- ✓ Establishing best practices for managing a converged infrastructure?
- ✓ Looking for simple (turnkey) solutions

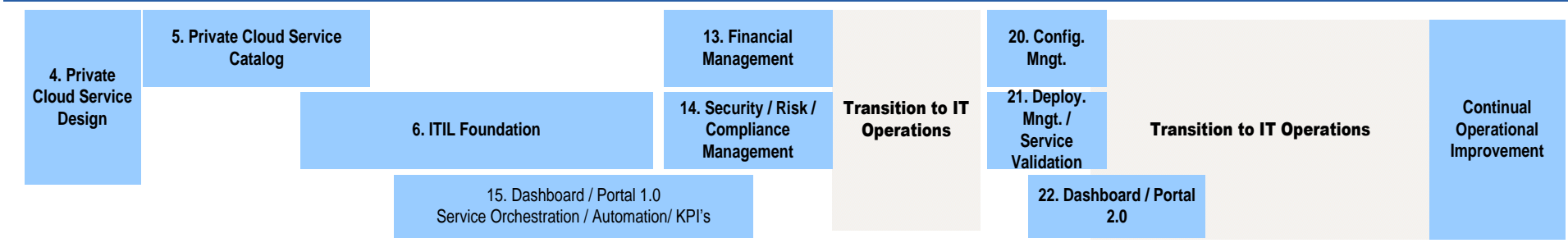
# ITaaS Transformational Roadmap

Phase 1 - Launch						Phase 2 - Transition						
May 2010	Jun 2010	Jul 2010	Aug 2010	Sep 2010	Oct 2010	Nov 2010	Dec 2010	Q1 2011	Q2 2011	Q3 2011	Q4 2011	2012 + Q1'13

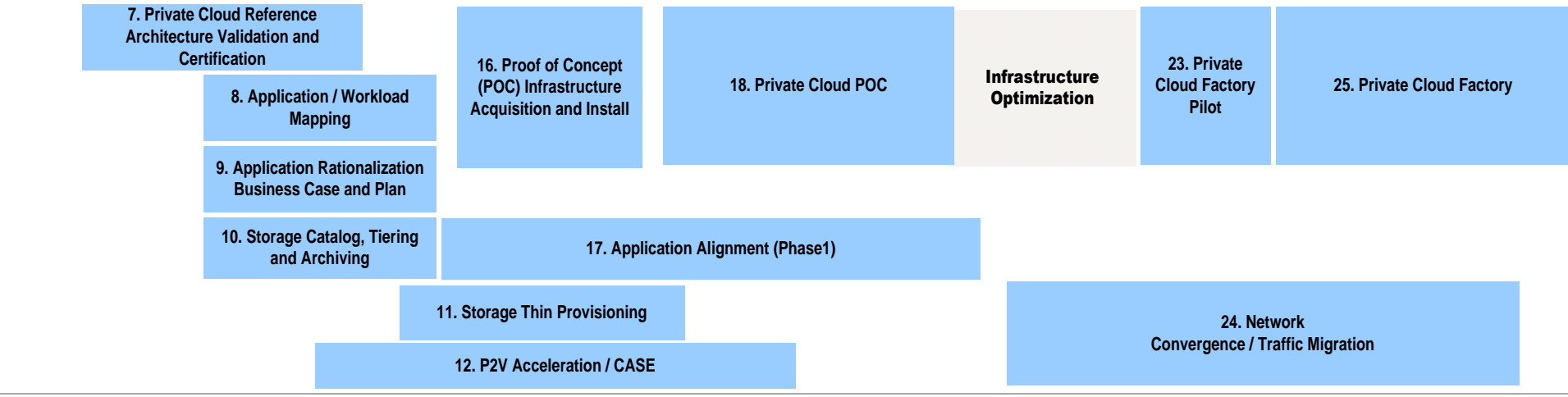
## People



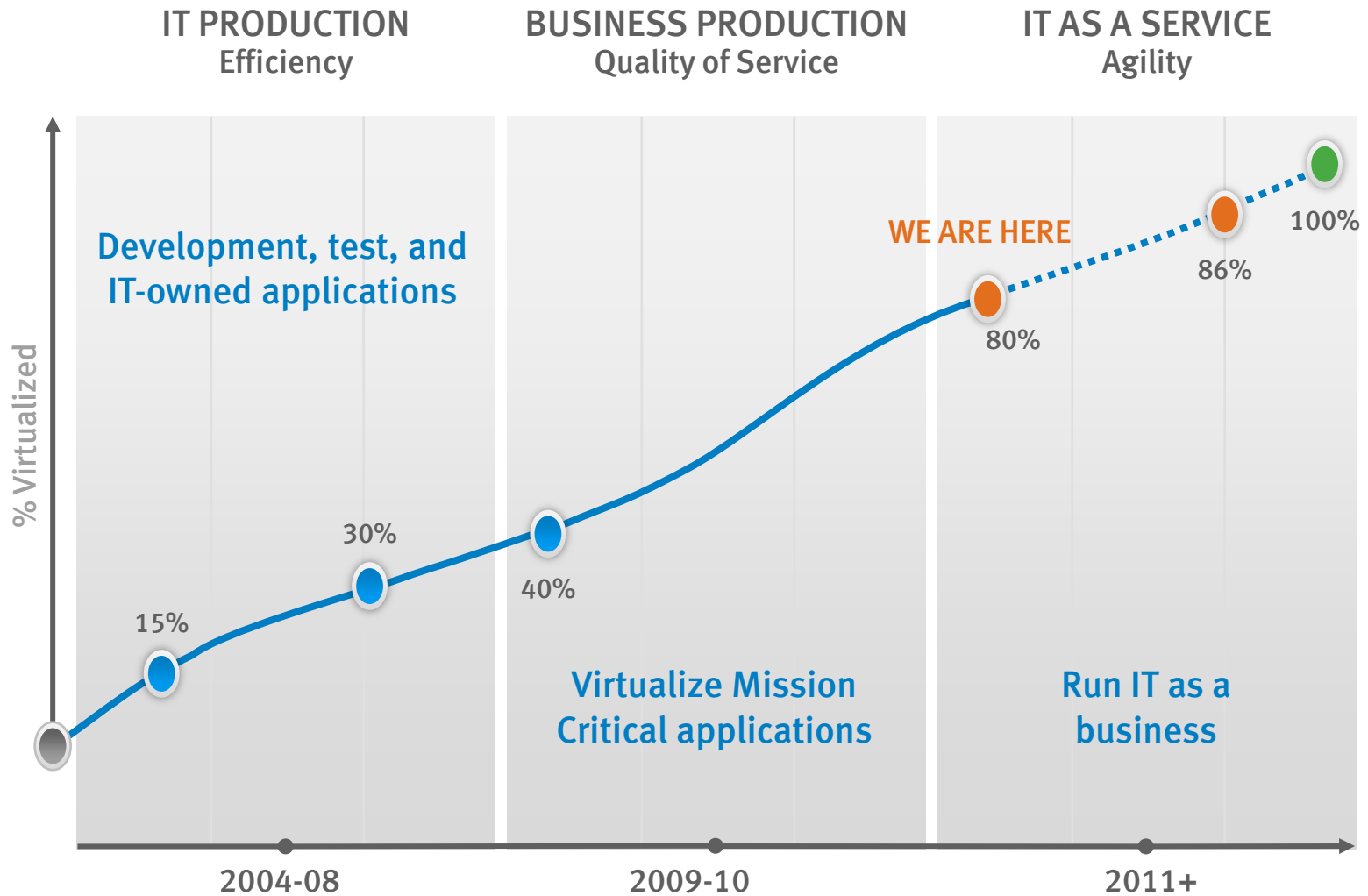
## Process



## Technology & Platform

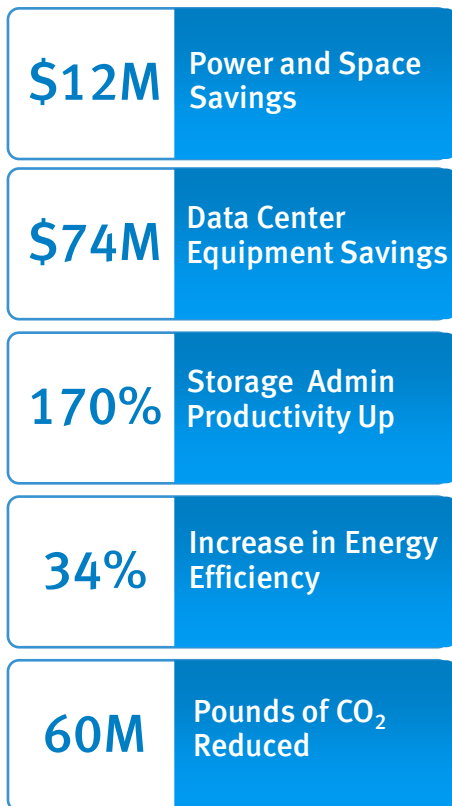


# Benefits Along the Journey

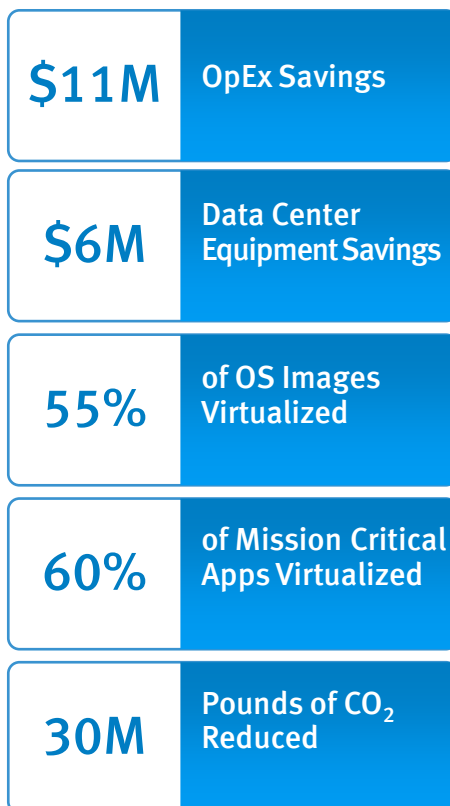


# Benefits Along the Journey

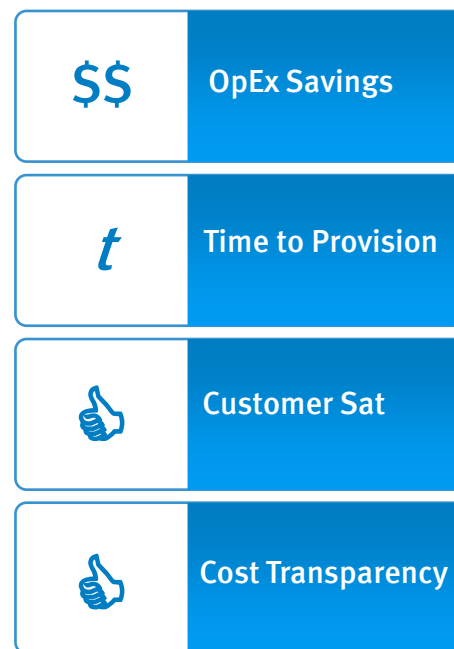
## IT PRODUCTION Efficiency



## BUSINESS PRODUCTION Quality of Service



## IT AS A SERVICE Agility



# Key Programs Enabling Our Journey

## IT PRODUCTION

Efficiency

## BUSINESS PRODUCTION

Quality of Service

### Server Virtualization

- Virtual hosting platform
- Virtual first strategy
- Sweep-the-floor
- Data center OS

### Storage Optimization

- Information lifecycle mgmt
- SAN virtualization
- Dynamic tiering—FAST
- Backup and recovery
- Deduplication

### Security

- Authentication manager
- Data leakage protection
- Federated identity management

### Management and Automation

- CMDB
- Configuration mgmt
- Capacity planning
- Financial show-back

### Applications and Cloud Experience

- SaaS
- Spring Source

## IT-AS-A-SERVICE

Agility

### Cloud Delivery

- Self-service portal
- Automation interface
- Identity and access mgmt
- Subscriber management

### Service Management

- Service design
- Service catalog
- Tiered services
- Customer engagement
- Market analysis

### Cloud-Enabled Infrastructure

- Resource pooling
- Elasticity
- PaaS and IaaS enablement

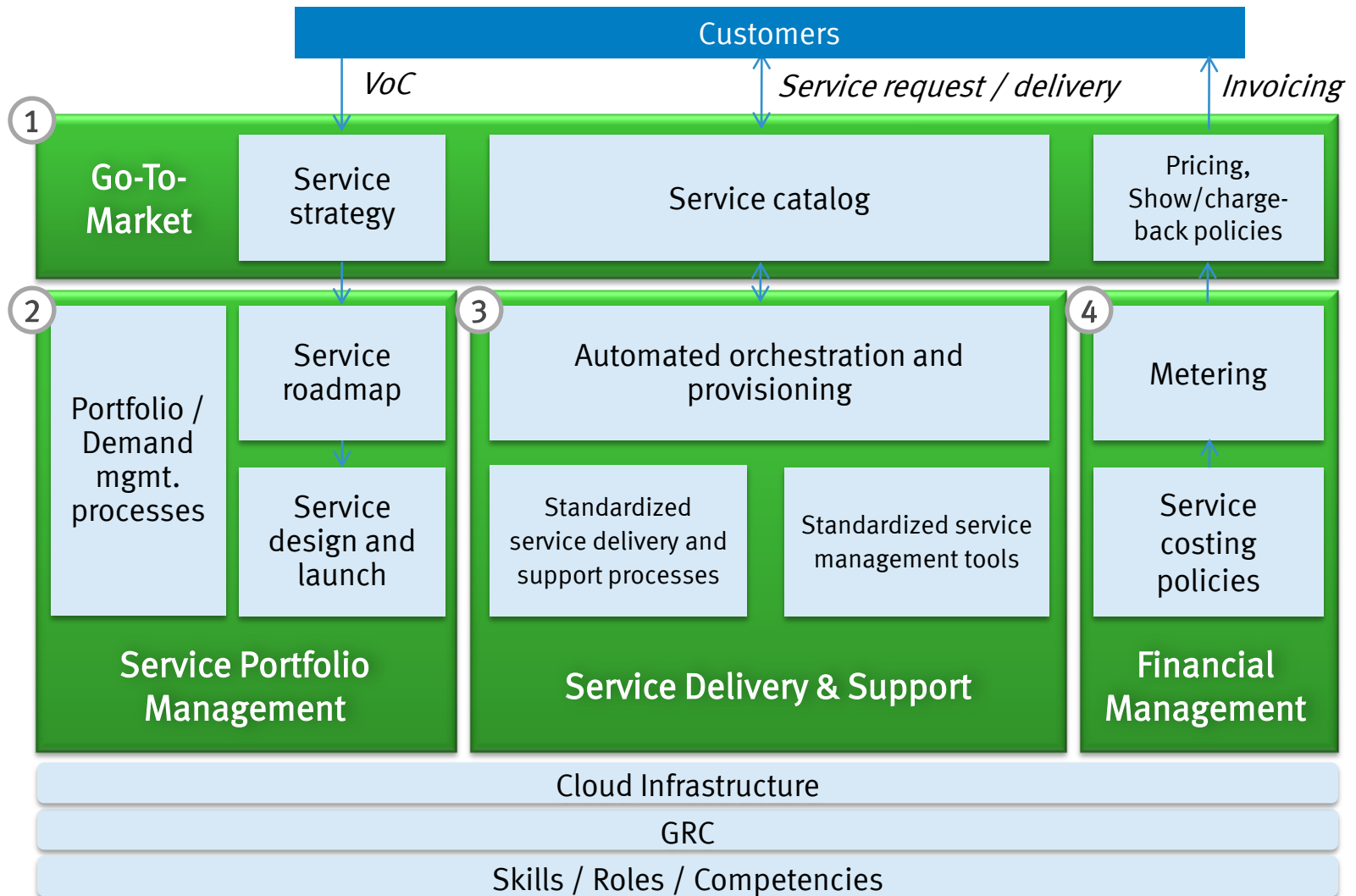
### Virtual Data Center

- Server virtualization
- Storage virtualization
- Integrated infrastructure management and automation
- Integrated Security

### IT Operations Management

- Metering and billing
- Performance analytics
- Unified management

# ITaaS Building Blocks – EMC IT Program



# ITaaS – EMC IT Hosting Services (Through 2011)

Light-weight governance ensuring the business need is satisfied through the appropriate service offering

Category	<b>Engineering Lab Services</b>	<b>IT Infrastructure Services</b>			<b>Platform Services</b>	
Service	<b>Lab-as-a-Service</b> <ul style="list-style-type: none"> <li>Logistics</li> <li>Installation</li> <li>Networking</li> <li>Infrastructure Operation</li> </ul>	<b>Cloud Services</b> <ul style="list-style-type: none"> <li>Cloud9</li> <li>IaaS</li> </ul>	<b>Managed Storage &amp; Remote Site</b> <ul style="list-style-type: none"> <li>Network File Share</li> <li>Home Directory</li> <li>End User Backup</li> <li>Remote Site Bundle</li> </ul>	<b>Managed Hosting</b> <ul style="list-style-type: none"> <li>Hosting Bundle</li> <li>FTP Services</li> <li>Shared Web Svcs</li> <li>Remote App Access</li> <li>Application Hosting</li> </ul>	<b>Big Data Analytics</b> <ul style="list-style-type: none"> <li>Database Hosting/Sandbox</li> <li>Data Modeling</li> <li>BI Tools and Analysis</li> <li>Consulting</li> </ul>	<b>Content Management</b> <ul style="list-style-type: none"> <li>DocBox</li> <li>CenterStage</li> </ul>

Initiation	< 4 hrs	Same day	Same day	1 week to 3 months <sup>1</sup>	Same day	Same day
HA / DR	X	HA only	✓	✓	✓	✓
RTO	X	Hours	Hours	Hours	Hours	Hours
RPO	X	X	24 hrs	0-24 hrs	24 hrs	0-24 hrs
Change ctrl	X	Limited	✓	✓	✓	✓
Compliance	X X	✓ X	✓	✓ ✓	✓	✓
Monitoring			Partial		Partial	Partial
Cost	Low	Low	Moderate	Moderate	Moderate	Moderate

## Service Management Systems

(asset management, configuration management, ticketing, escalation, metering, billing, orchestration, etc.)

1. Service initiation time typically closer to 1 week if required equipment is on hand, and closer to 3 months if it must be acquired

# Summary

What things need to be done to transform to an ITaaS model?

1. Define a structured transformational roadmap
2. Align people, process, and technology
3. Identify quick wins to build momentum and demonstrate progress to stakeholders

THANK YOU