



Leveraging Cloud Platform Services for Effective Software Delivery

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IBM Software

Innovate2012

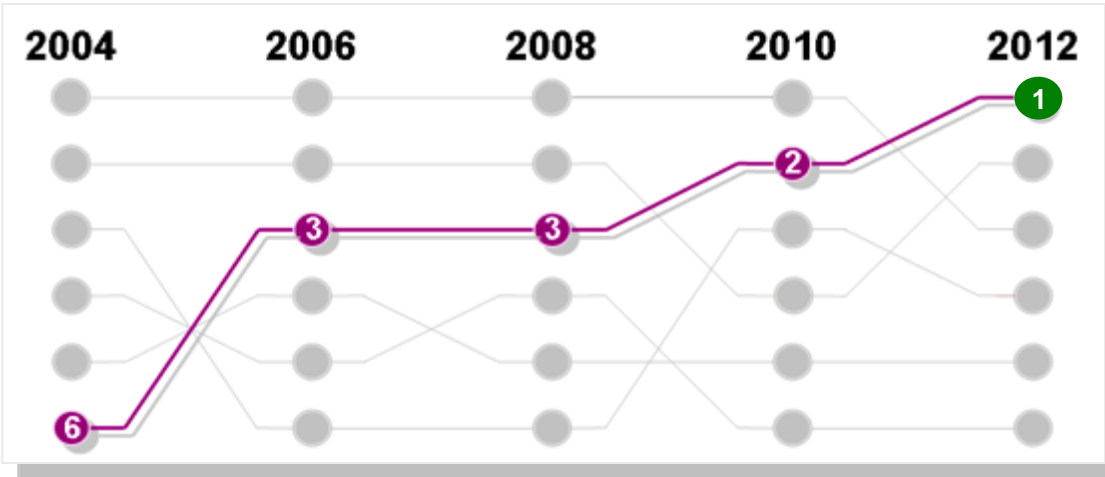
The Premier Event for Software and Systems Innovation



Agenda

- **The case for platform services**
- Platform and Platform-as-a-Service Defined
 - Strategic context
 - The Consumer View of PaaS
 - The Service Provider View of PaaS
 - Implementing a PaaS with Platform patterns
 - When an Platform becomes a PaaS
- SmartCloud Application Services
 - Collaborative Lifecycle Management Service
- How can you get started

Technology will play the key role in success ...



Factors impacting organizations:

1. **Technology factors**
2. People skills
3. Market factors
4. Macro-economic factors
5. Regulatory concerns
6. Globalization
7. Socio-economic factors
8. Environmental issues
9. Geopolitical factors



Speed Value

90%

view cloud as critical to their plans

Extended Reach

1 Billion

Smartphones and 1.2 billion mobile employees by 2014

Responsiveness

20B+

Intelligent business assets

New Insights

2.7ZB

of digital content in 2012, up 50% from 2011

Leveraging the Transformational Power of Cloud Computing ...

Improves the agility & dexterity of business

Speeds delivery of product & service innovation

Delivers IT without boundaries

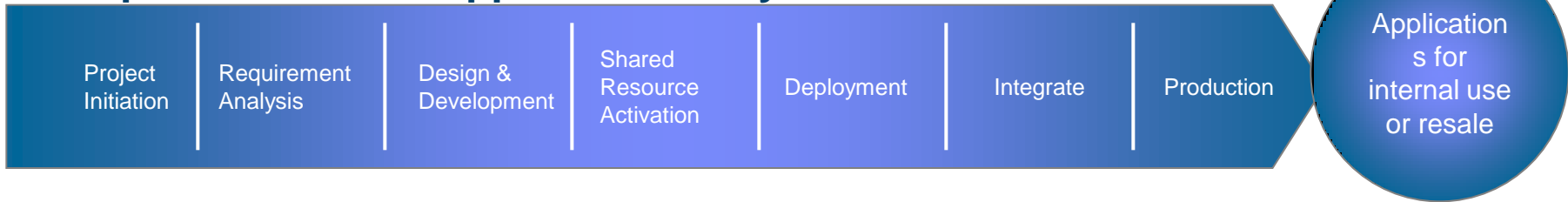
Enables new business models & client relationships



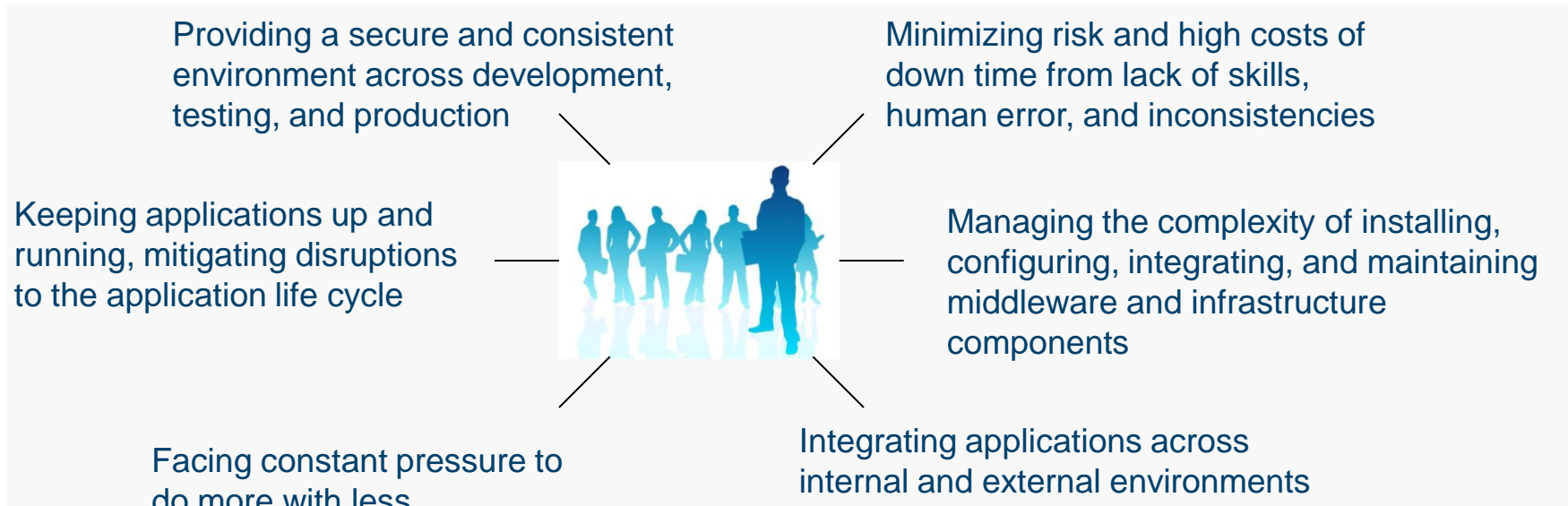
Lowers Complexity & Changes the Economics of IT

Organizations looking to optimize across the application lifecycle recognize the need for enhanced innovation and speed to market

Enterprises and ISVs application lifecycles

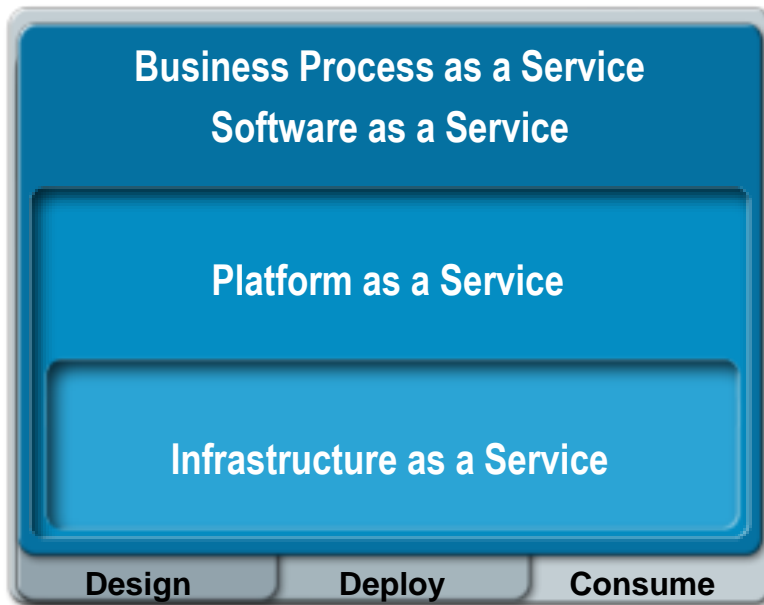


Yet IT resources are focused on covering the basics, leaving fewer resources to support business agility



The solution? Platform as a Service (PaaS) . . .

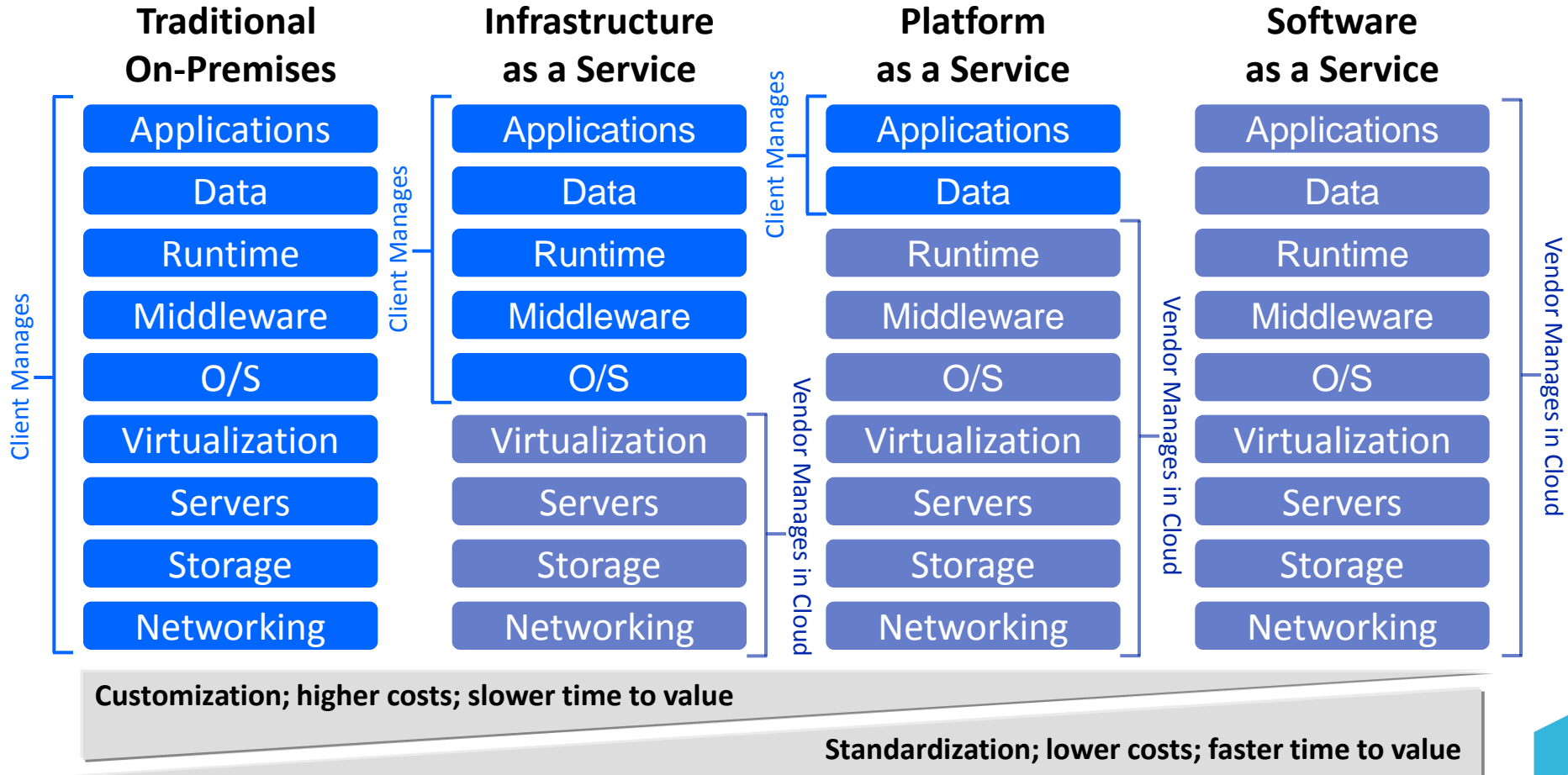
The official definition of Platform as a Service (PaaS) from the National Institute of Standards and Technology (NIST) focuses on the consumer view of PaaS



Cloud Platform as a Service (PaaS). The capability provided to the consumer is to deploy onto the cloud infrastructure consumer-created or -acquired applications created using programming languages and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, or storage, but has control over the deployed applications and possibly application hosting environment configurations. [1]

[1] *Cloud Computing Synopsis and Recommendations, NIST Special Publication 800-146, May 2012*

PaaS: Cloud services that improve application development and deployment economics and speed, *while maintaining the ability to differentiate at the application layer*



For a given project, the consumer has many factors to consider when selecting platform technologies



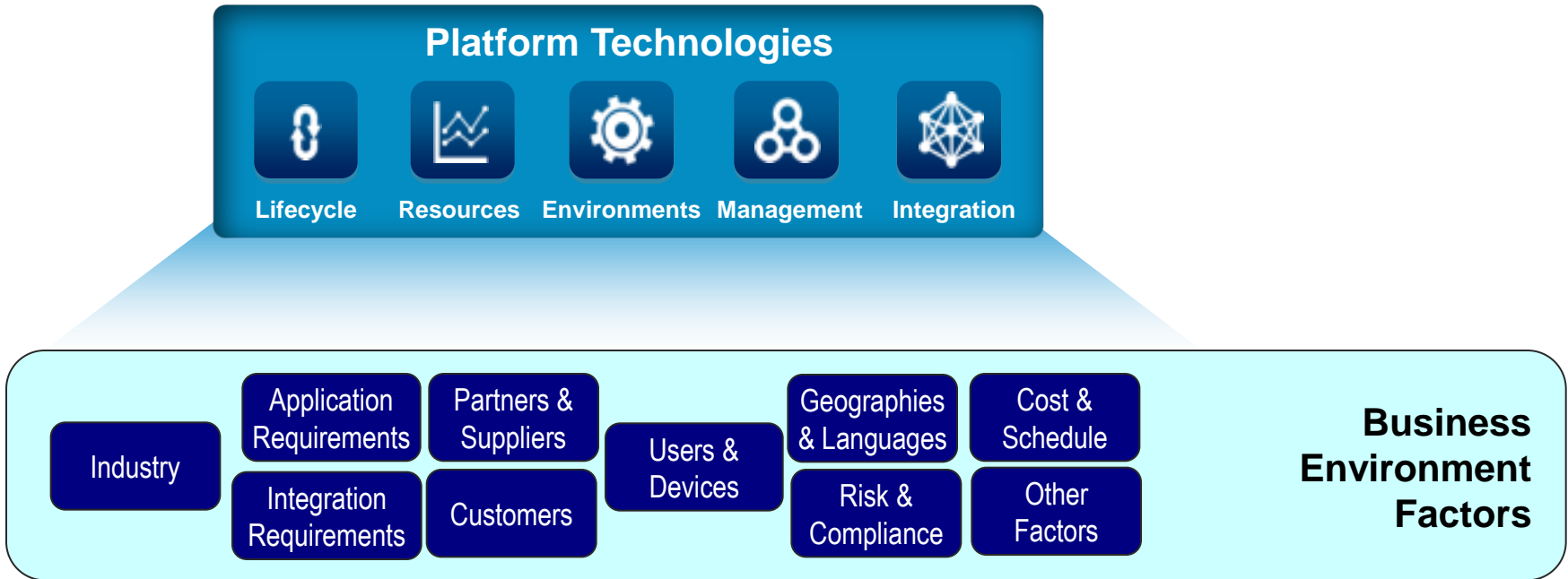
Project Considerations

Business Environment Factors

Platform Operational Factors

IT Environment Factors

For a given project, Business Environment Factors heavily influence the optimal selection of the platform technologies



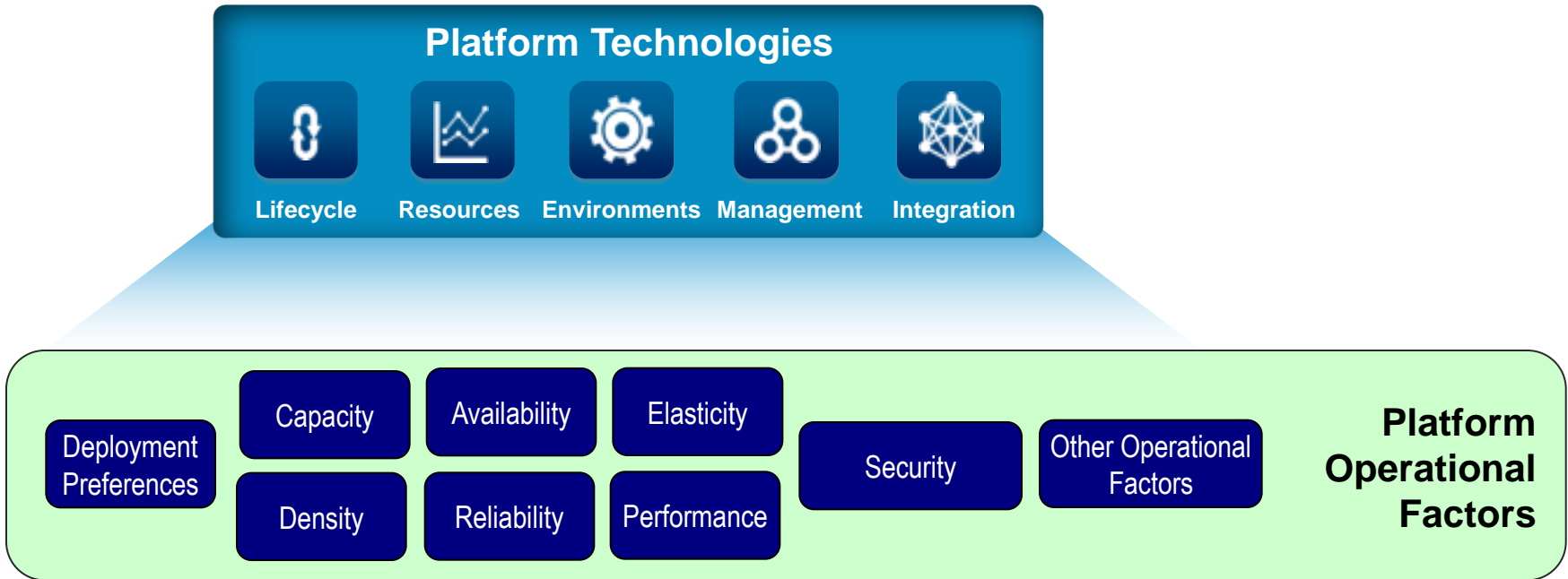
Industry specific requirements, such as compliance, data models, and workflows can be included in the application platform to improve application time-to-market



Enabled industry-specific self-service request of virtual resources, middleware and operating systems for team of 5000, improving efficiency of provisioning requests from 45 days to minutes while improving security.



For a given project, Platform Operational Factors can also heavily influence the selection of the platform technologies

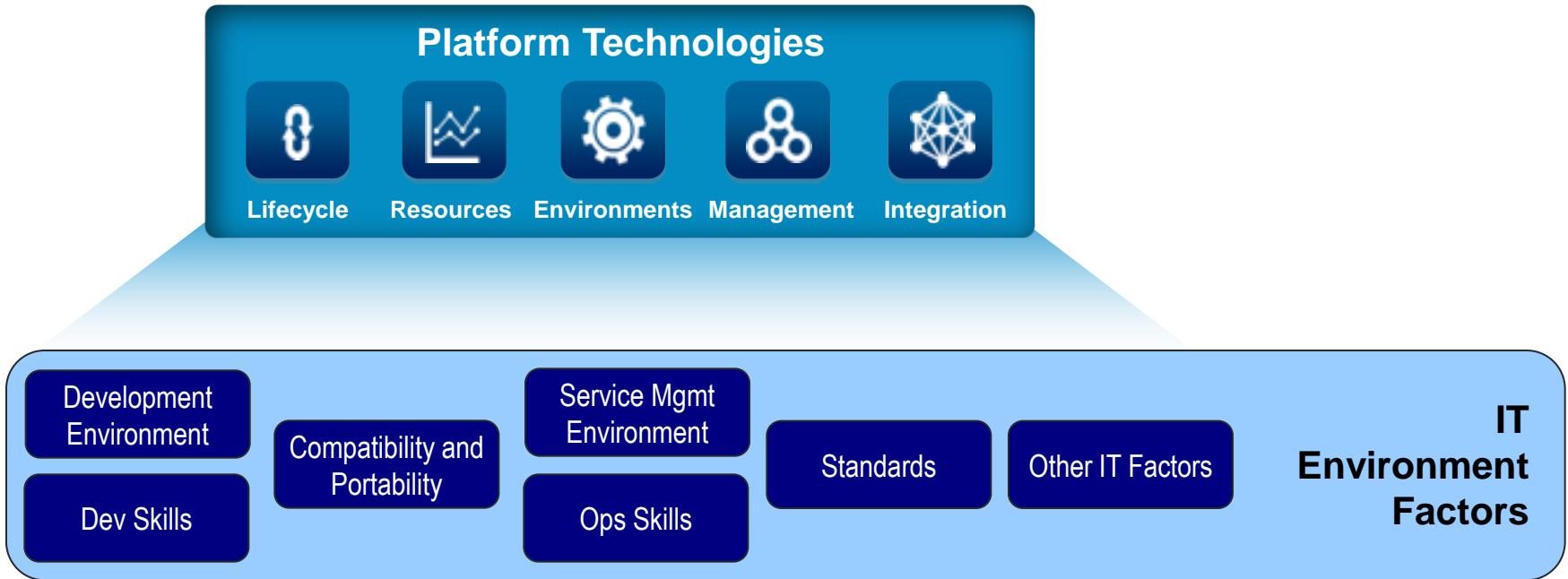


For some enterprise projects, a multi-tenant infrastructure with a private PaaS provides the optimal combination of density and security



Built a private cloud using IBM lifecycle services management software solutions, enabling self-service request, automated provisioning, and internal chargeback capabilities

For a given project, IT Environment Factors may also heavily influence the selection of the platform technologies



Some projects can be accelerated by leveraging existing infrastructure, development environments, service management environments, and/or skills.



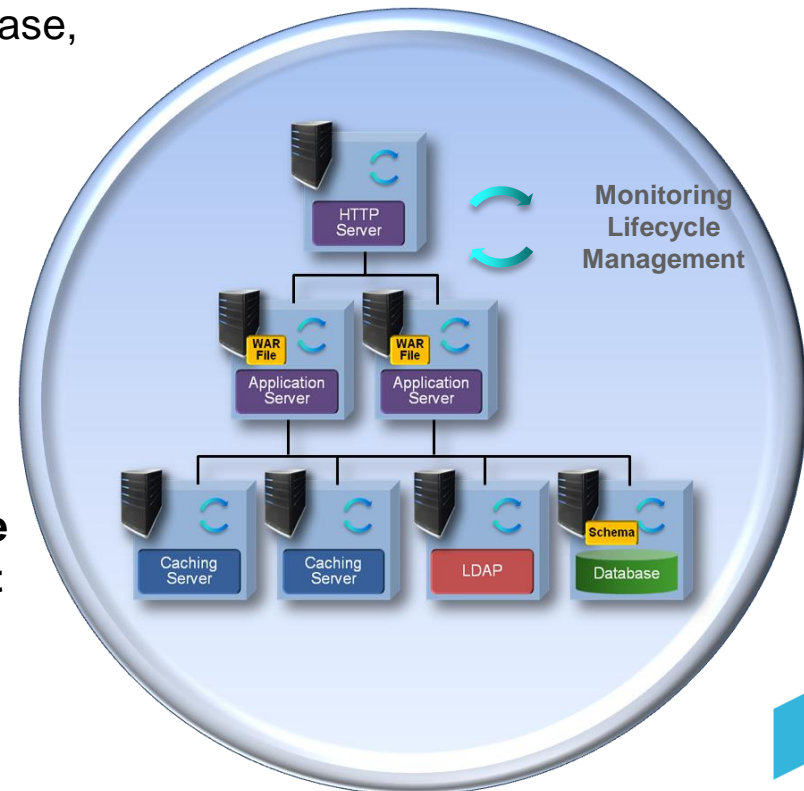
Leveraged automation to deliver Infrastructure and middleware via self-service catalog to users worldwide, reducing operating costs & improving agility



Service Providers can implement a PaaS efficiently by identifying common patterns

What is a Pattern?

- The pre-defined architecture of an application
- For each component of the application (i.e. database, web server, etc)
 - Pre-installation on an operating system
 - Pre-integration across components
 - Pre-configured & tuned
 - Pre-configured Monitoring
 - Pre-configured Security
 - Lifecycle Management
- In a **deployable form**, resulting in **repeatable deployment with full lifecycle management**



Tenancy Spectrum

S0: Singleton

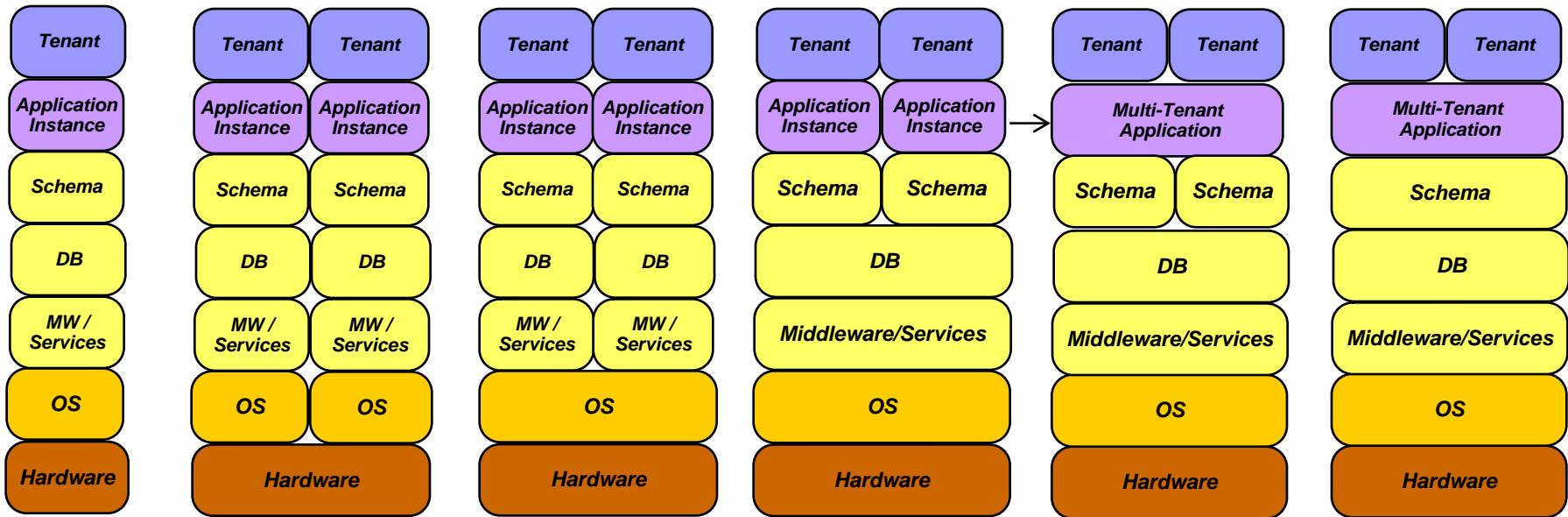
S1: Multi-VM

S2: Multi-Stack

S3: Multi-App Instance

S4: Multi-Tenant

S5: Shared Multi-Tenant



No sharing

shared hardware

shared OS

shared middleware

shared application

shared application

Bespoke Customization

Lower Development Cost

Greater Resource/Security Isolation

Faster Launch / Time to Market

Mass Customization

Lower Operating Cost

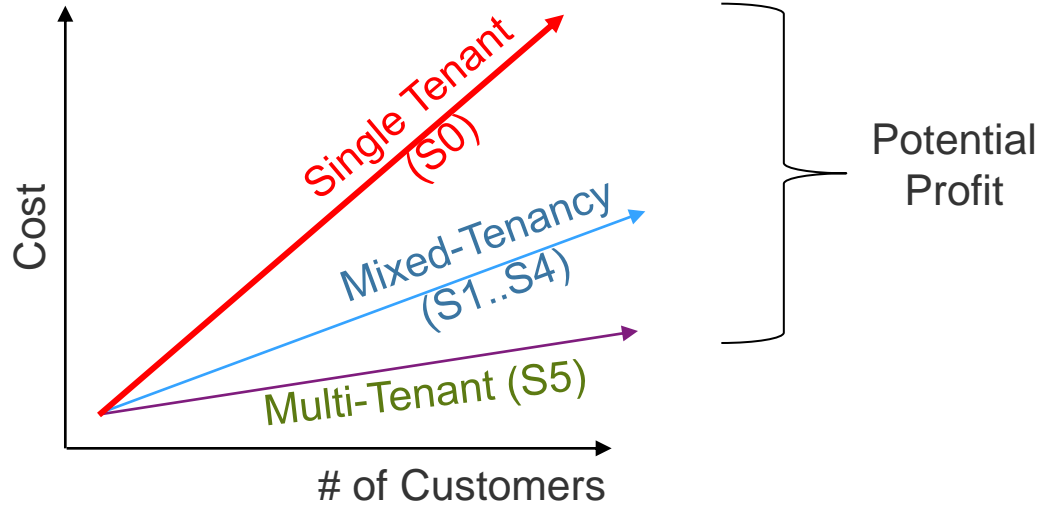
More Sharing

Faster Iteration / Time to Value

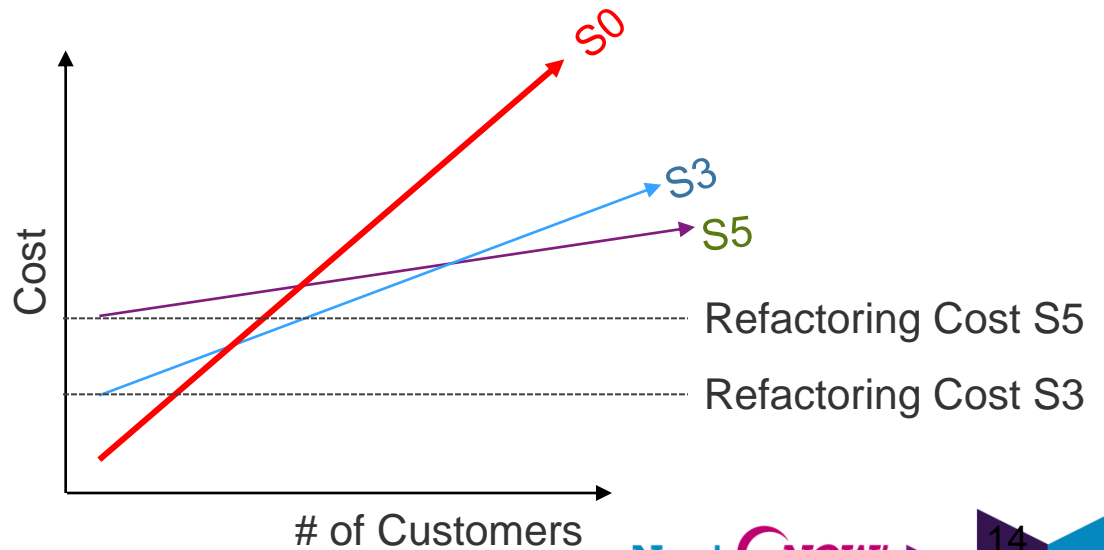


Tenancy and Cost Structure

Steady State Operations



Including Development Costs



Cloud centric patterns get a lot of market attention, but cloud enabled patterns represent the majority of cloud projects today

Project Considerations		Cloud Enabled Patterns	Cloud Centric Patterns
Business Environment Factors	Application Requirements	Compatible with existing applications	Exploit cloud capabilities
Platform Operational Factors	Density	Virtualized, scalable infrastructure usually with a single-tenant private PaaS	Multi-tenant public PaaS or single-tenant private PaaS with elastic infrastructure
	Security		
	Elasticity		
IT Environment Factors	Dev & Ops Skills	Compatible with existing skills, development environments, service management environments, and infrastructure	Platform specific skills, development environment, service mgmt environment, and infrastructure
	Development Environment		
	Service Mgmt Environment		
	Compatibility and Portability		

Compatible with existing environments

Exploit new environments

5/6 of cloud project spending (2012)*

1/6 of cloud project spending (2012)
but growing 10x faster



* Source: IBM Market Intelligence

IBM SmartCloud Architecture – Platform as a Service is a the strategic center of cloud architecture

- **Resilient to the velocity** of changing business needs
- **Choice & Flexibility** in hybrid delivery & consumption models
- **Built-in Expertise** enabling workload awareness & optimization
- **Secure & Scalable** smoothing evolution from existing environments
- **Integrated analytics** improving QoS and responsiveness



The SmartCloud service delivery platform enables you to leverage the Cloud with certainty...

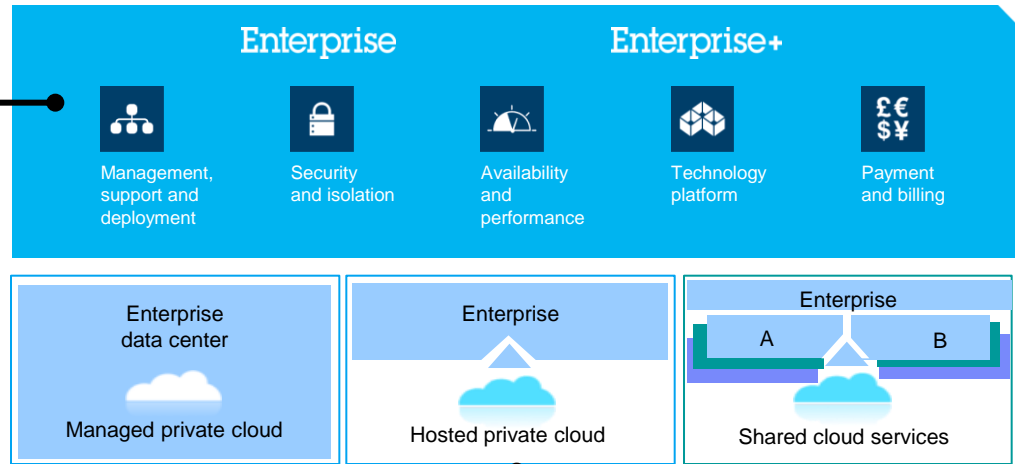
Enterprise class **governance, administration and management control**

Multiple security and isolation options built into the virtual infrastructure and network

Real **business-centric SLAs** that align IBM accountability to your business

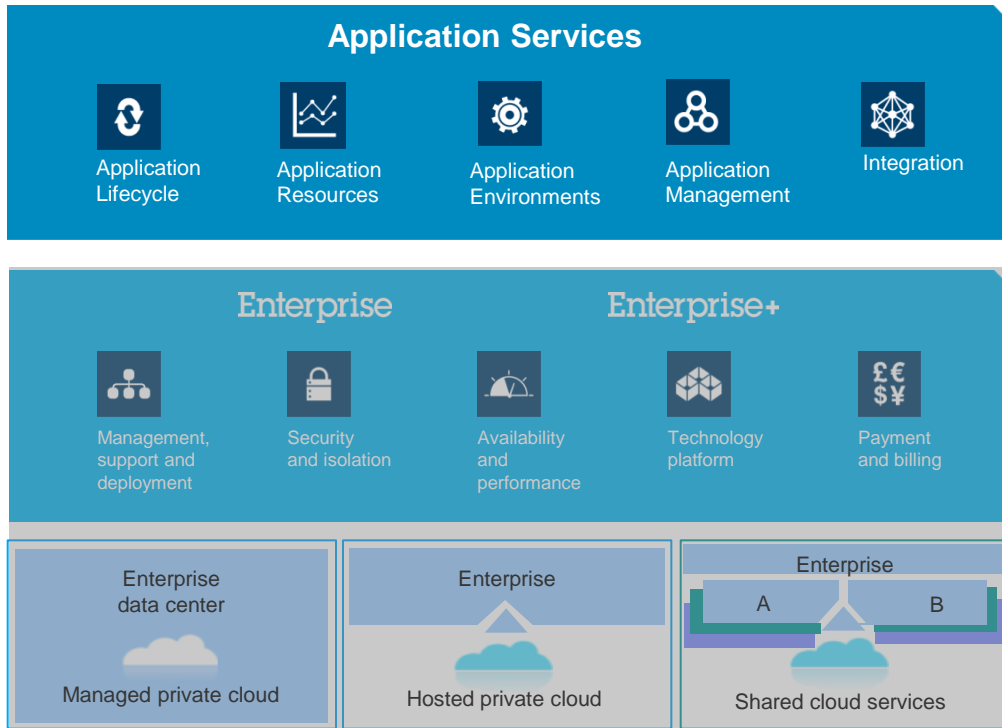
Workload portability across different delivery environments

Management support above the operating system including **disaster recover and integrated help desk**



Multiple delivery models allow clients to **optimize against economics, integration, security and control.**

...translating to a unique set of proven, integrated and automated capabilities.



Leverage a public cloud to reduce cost and **shift to opex model for targeted application development activities**



Speed application development through rapid on-boarding to an **integrated and automated application development environment**

Manage enterprise applications and integrate activities more efficiently and effectively through an **open standards based platform** that supports **ease of migration and portability**

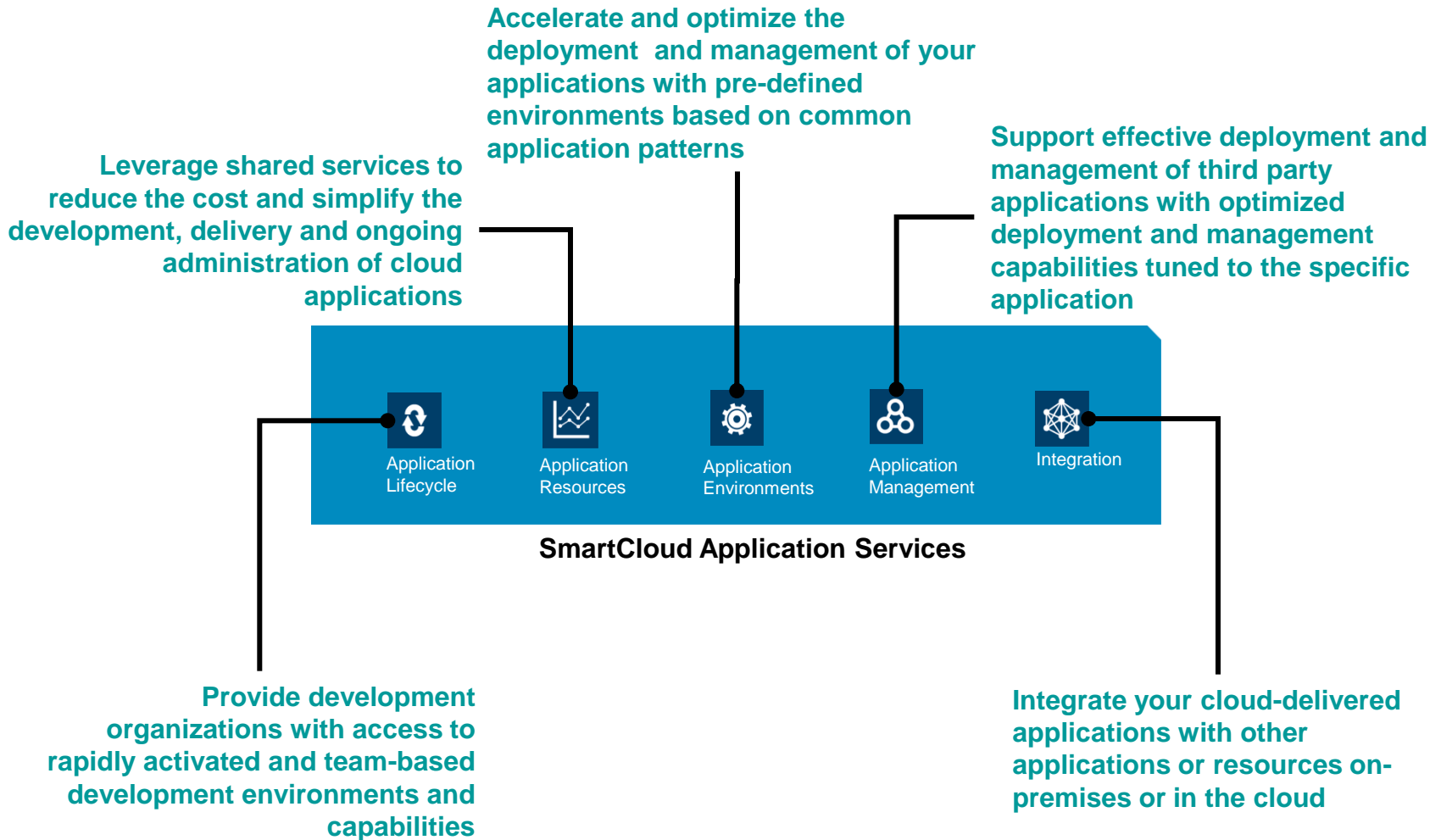


“One of the things we’ve looked at internally is getting out of our normal business load and let the development team just go into the cloud and they can spin things up and down at will. So that is a benefit I can appreciate right away.” (CIO, Utilities, US)

SmartCloud Application Services delivers substantive value to enterprise clients throughout the application development and delivery process

Value Delivered:	 From traditional	 To cloud
Development team environment setup	Weeks	Hours
Administrative hours per database	5 per week	1 per week
Web application deployment	Weeks	Minutes
Application integration	Months	Days or hours
Provision SAP Test environment	Weeks	Minutes
Application administration	1 operator for 10 apps	1 operator for 100 apps

Rapid access to application services to achieve cloud-based economies and speed while maintaining differentiation through application customization



Can Cloud Address the Challenges of ALM Deployments?



Line of Business and Development Challenges

Inability of IT to react quickly to changing business needs

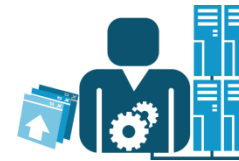
Every new project is a one-of-a-kind.

Teams who install, configure and maintain ALM integrations often do so without knowledge of previous implementations.

Need to relearn processes as practitioners move between projects

Issues in providing global access to project resources

Difficult to react quickly to changes and ramp up new projects due to customization time, procurement issues and provisioning



IT Challenges

Costly and complex to install, configure and maintain integrated ALM environments for multiple projects

Difficult to manage patches and licenses for globally distributed teams and projects

Need to ensure security of environments and applications across global dispersed teams, partners and contractors

An ALM solution powered by Jazz

Rational solution for Collaborative Lifecycle Management

CREATE SOFTWARE

Real-time Planning, Lifecycle Traceability, Team Collaboration, Development Intelligence, Continuous Improvement

Rational
Requirements
Composer

Requirements
Management

Rational Team
Concert

Planning, Change,
Configuration & Build
Management

Rational Quality
Manager

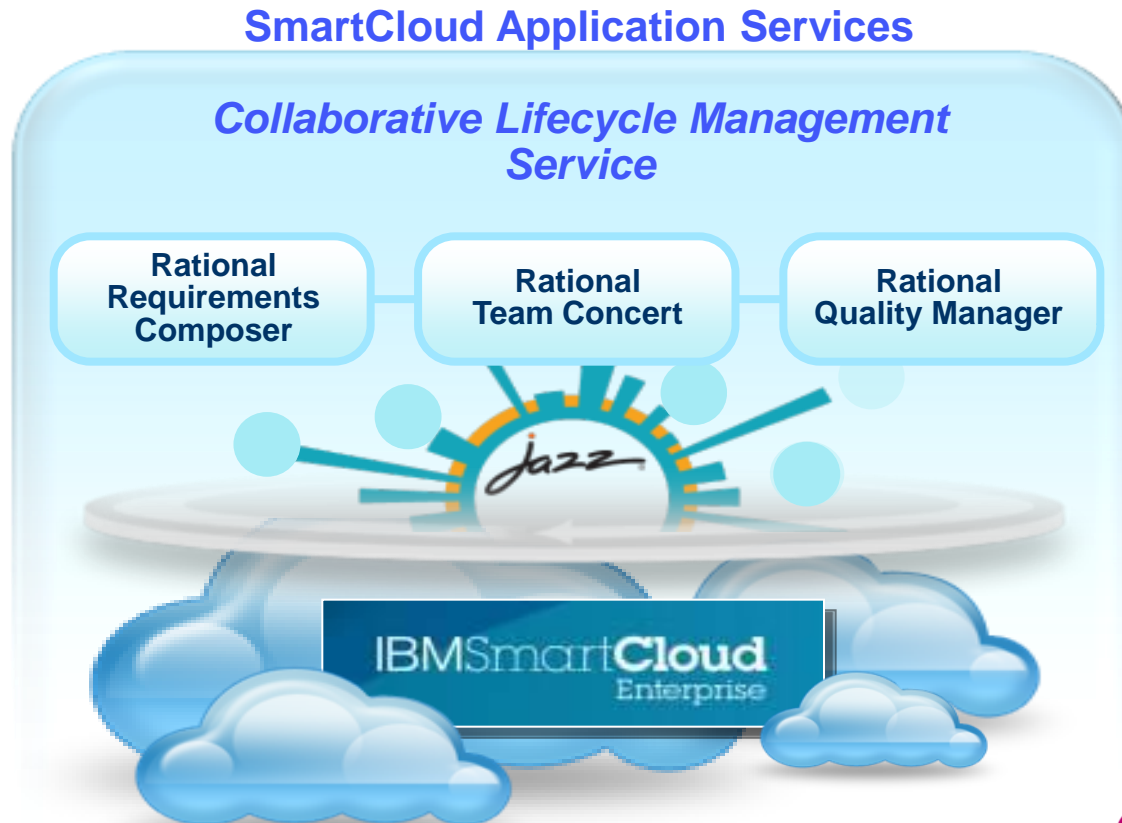
Quality
Management



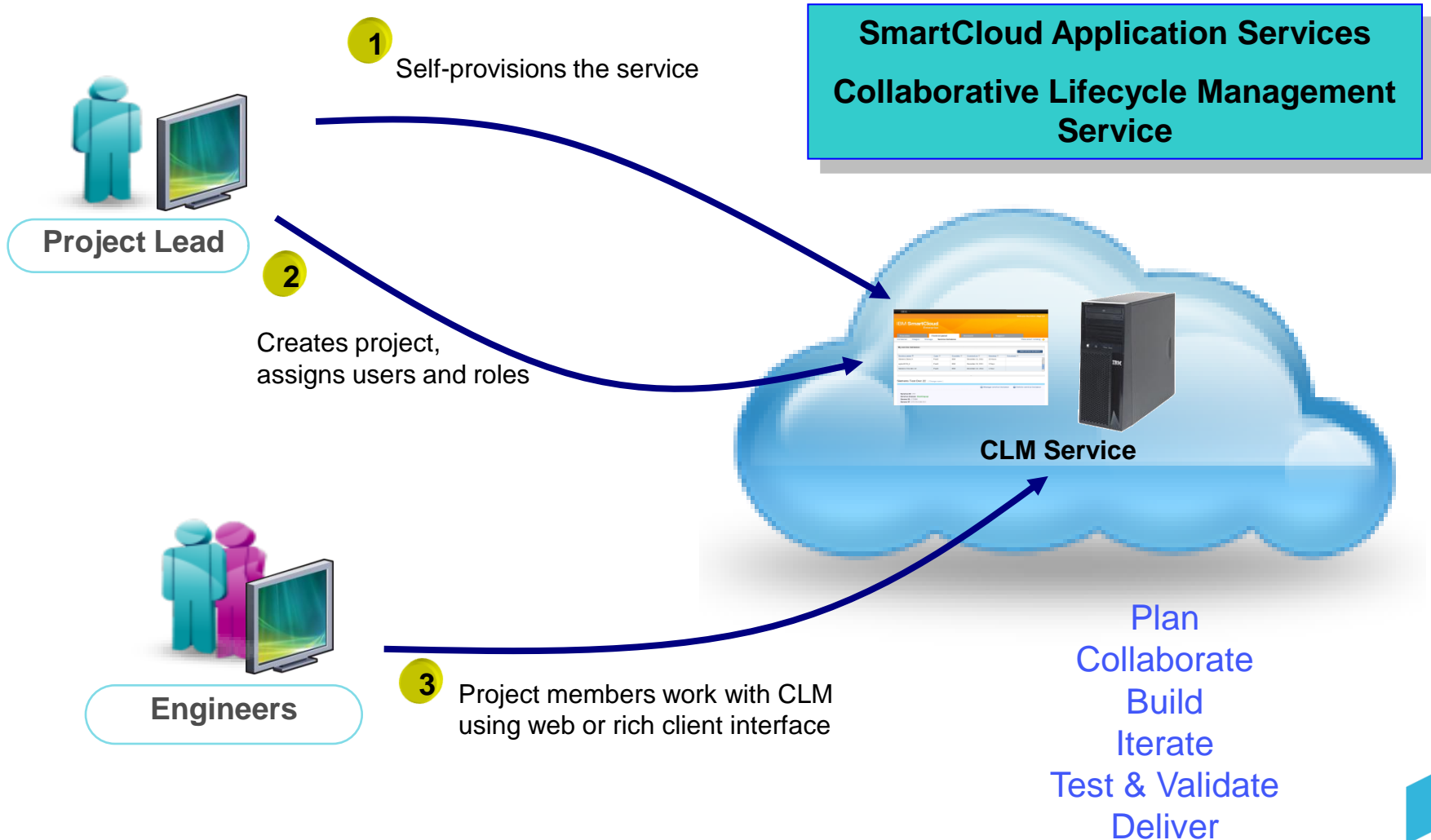
*extensions

Solution: IBM Rational Collaborative Lifecycle Management – as a Service

- Standardized, preconfigured, integrated, team-base agile development capabilities powered by Rational Jazz solutions
- Fully deployed, secure & resilient environment
- Walk-up self-service with rapid activation



Example: Globally Distributed Development teams



Benefits of CLM Service

Rapidly share, communicate and report - globally



▪ Time to value

- Self-service model for instant-on productivity
- Easy access to fully pre-configured solution, ready-to-use, from any site

▪ Reduced deployment cost

- Eliminate costly on-premise deployments
- Automated deployment and updates reduce effort

▪ Control & Governance

- Improved visibility, consistency, and control of projects
- Easy to manage user access and privileges
- Software and Service updates deployed when you choose

▪ Agility

- Usage-based billing
- Scale up and down with project needs

IBM SmartCloud Application Service Pilot Program

Now accepting nominations for this worldwide pilot!



- Pilot includes
- **Application Workload Service (AWS)**
 - -Allows you to create and deploy workload patterns in your SCE account.
- **Collaborative Lifecycle Management Service (CLMS)**
 - - Enables you to coordinate software development activities throughout the lifecycle including requirements tracking, design, development, build, test and deployment.

What are the prerequisites for this pilot?

- Clients must have an IBM SmartCloud Enterprise Account – clients will access SCAS via the SCE User Interface

What is the cost to participate in the pilot?

- Clients will pay for the infrastructure used during the pilot (SmartCloud Enterprise); no charge for SCAS services

What types of companies would be interested in the pilot?

- Enterprises, mid-market customers and ISVs who want to move legacy (cloud-enabled) applications to the cloud or develop "born on the cloud" (cloud-centric) apps.

What types of users would benefit from the pilot?

- Line of business, IT Operations and Application Developers

<http://www.ibm.com/smartcloud/paas.html>

Get a jump on the competition with the SmartCloud Application Services pilot program. [Learn more.](#)

→ Register for the pilot program

PureSystems: No charge 90 day cloud trial for developers

Promo code **INNOVATE2012**



ibm.com/developerworks/puresystems

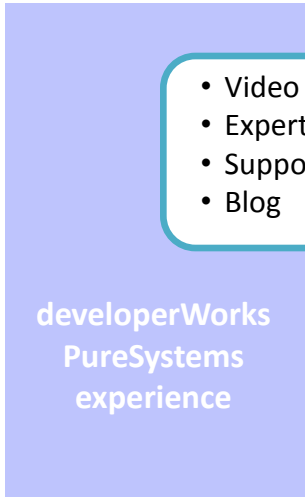
Developer centric environment,
resources and exchange

ibm.com/developerworks/puresystems/try

Trial, cloud-based
development & test
lifecycle services

Developer Benefits

IT Developers



- Video demos
- Expert resources
- Support forums
- Blog



- Collaborative Lifecycle Management
- Virtual Application Patterns

- Get started quickly with minimal resources required
- Experience team based collaboration and development
- Build skills and deploy applications using pattern-based approach in the cloud

▪ In the Trial you will experience:

- Beta: **SmartCloud Application Workload Service** –get started with PureSystems patterns of expertise!
- Beta: **SmartCloud Application Collaborative Lifecycle Management Service**
- Pre-release: Rational Application Developer 8.0.4



QUESTIONS

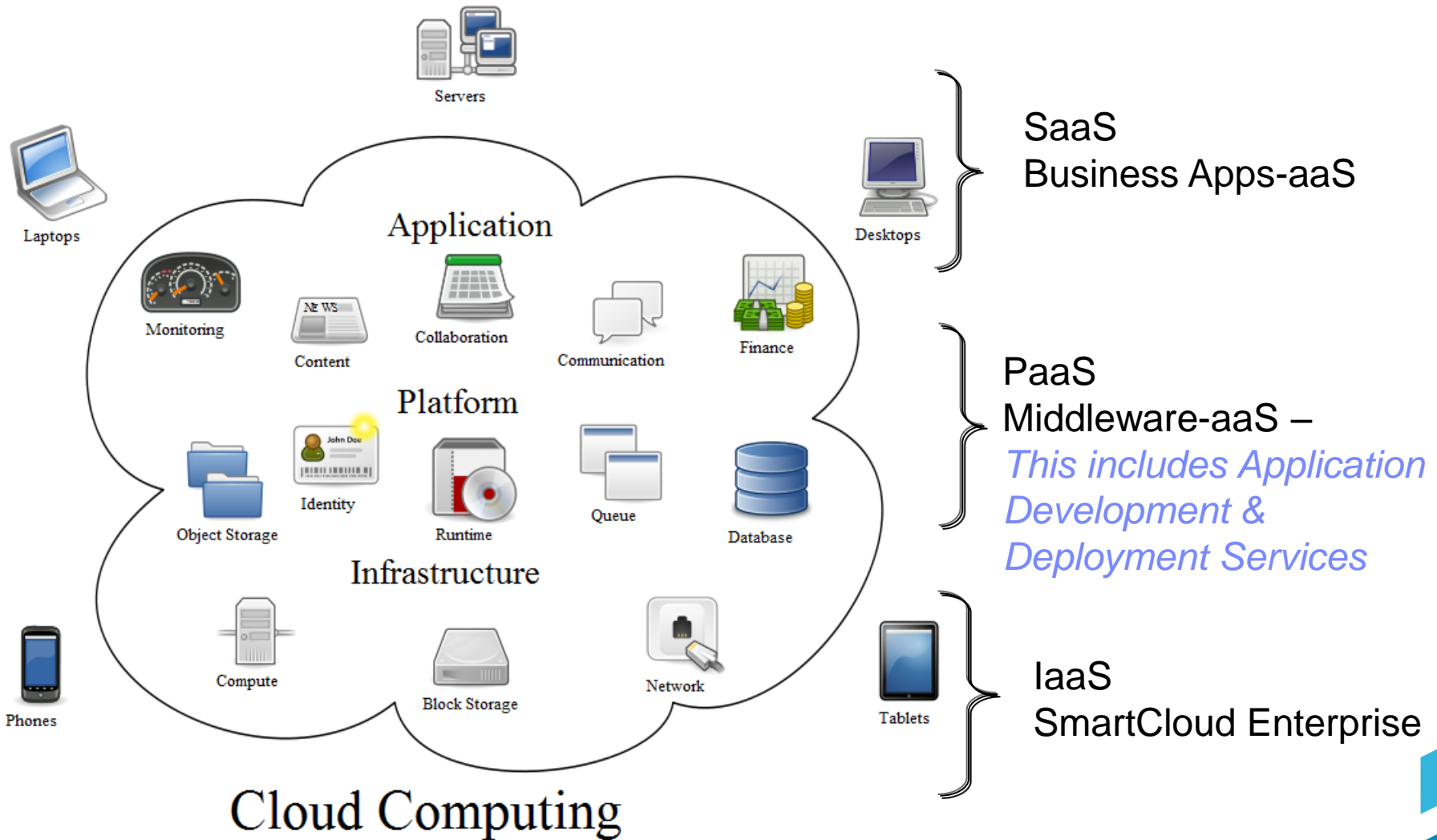
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Say Again - What is PaaS vs. SaaS?



Cloud Computing

Image from Wikipedia "cloud computing"

IBM provides the platform services for achieving effective software delivery



Application Lifecycle

Rapidly activated, integrated, team-based development environments



Application Resources

Shared services to simplify the development, delivery and administration of cloud applications



Application Environments

Optimize deployment and management of applications based on common patterns



Application Management

Effective deployment and management of third party applications



Integration

Integrate enterprise applications through open, standards based, secure cloud platform

Reduce costs & complexity

Improve responsiveness

Deliver differentiated services

Capture new value



Design, deployment and management of software platforms are time consuming and costly in today's IT environment

- **High cost** of governing and managing the delivery of enterprise software across global teams
- **Inefficient use of enterprise resources:**
 - Average lead time to get a new application environment up and running is weeks - months
 - Poor utilization rates of application testing infrastructure, typically 10-20%
- **Insufficient collaboration** among Dev/Ops team results in error-prone services
 - 30% of bugs are introduced by inconsistent configurations
- **Limited IT agility** results in business needs not being met
 - Static middleware infrastructure doesn't react well to spikes in demand, jeopardizing SLAs
 - Long lead time to introduce new services to address growth opportunities

