CATALYST
Smart SOA Conference

IBM

Smart Work for a Smarter Planet

Extend SOA to the infrastructure with Cloud Services

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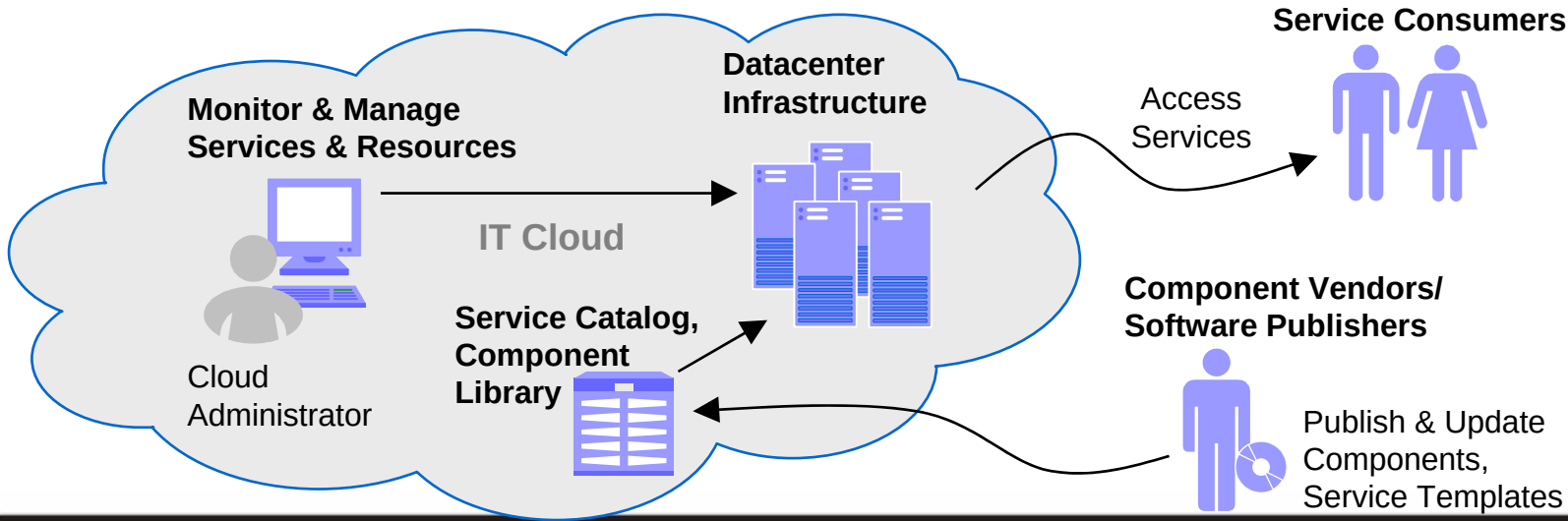
What is Cloud Computing?

A user experience and a business model

- Cloud computing is an emerging style of IT delivery in which applications, data, and IT resources are **rapidly provisioned** and provided as **standardized offerings** to users over the web in a **flexible pricing model.**

An infrastructure management and services delivery methodology

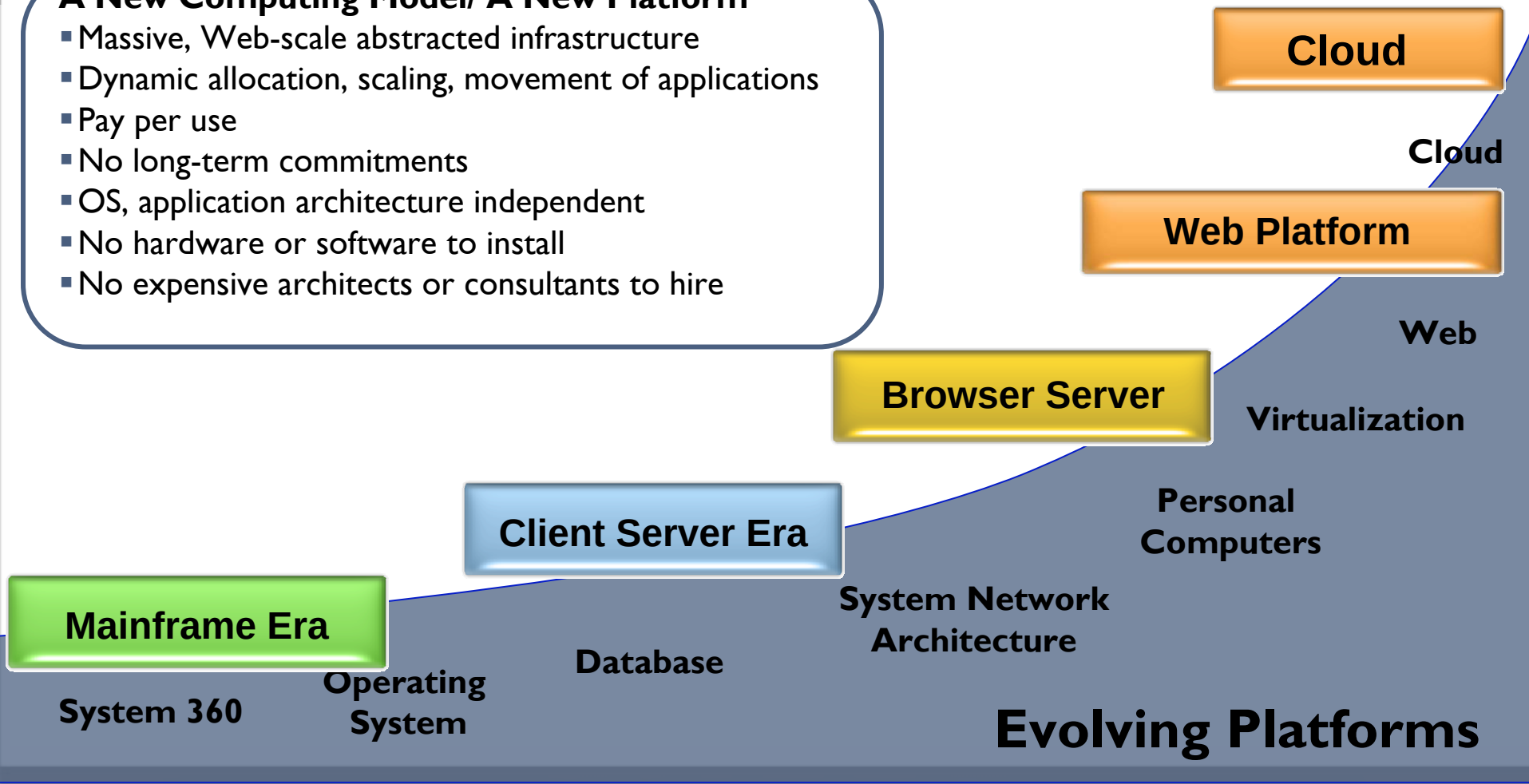
- Cloud computing is a way of **managing** large numbers of highly **virtualized resources** such that, from a management perspective, they resemble a single large resource. This can then be used to deliver services with **elastic scaling**.



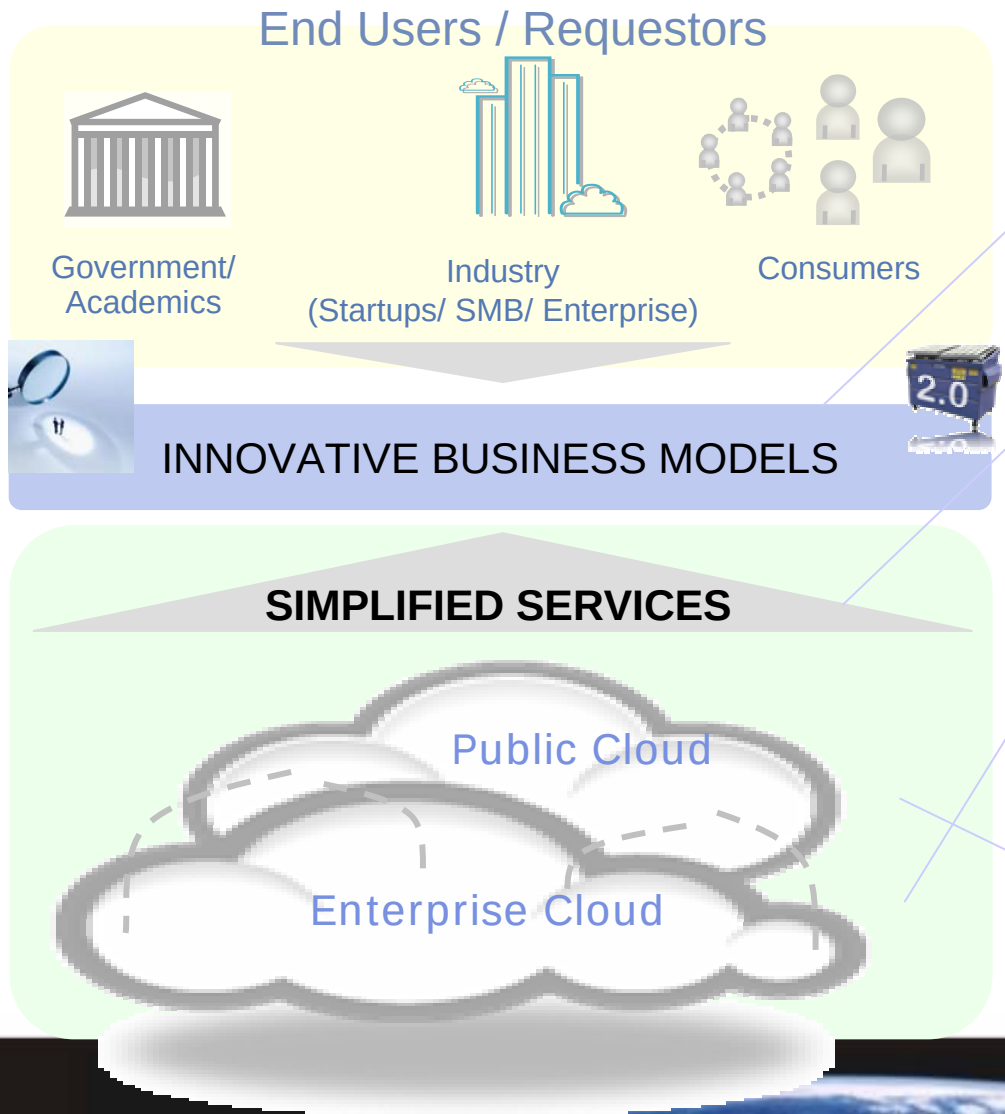
The evolving software platforms

A New Computing Model/ A New Platform

- Massive, Web-scale abstracted infrastructure
- Dynamic allocation, scaling, movement of applications
- Pay per use
- No long-term commitments
- OS, application architecture independent
- No hardware or software to install
- No expensive architects or consultants to hire



A Closer Look at Cloud Computing



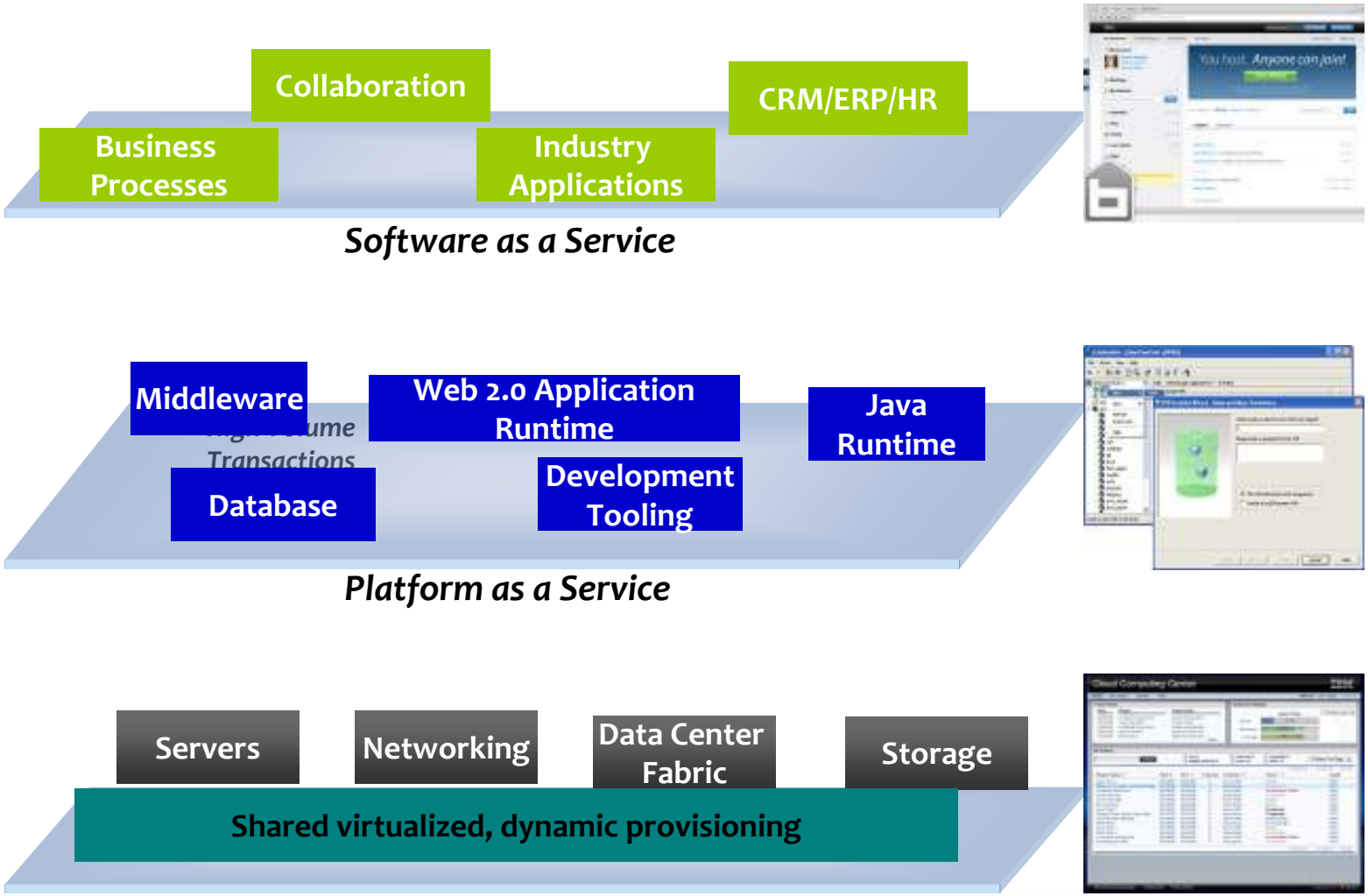
- New combinations of services to form differentiating value propositions at lower costs in shorter time

- **Cloud applications** enable the *simplification of complex services*
- A **cloud computing platform** combines modular components on a service oriented architecture

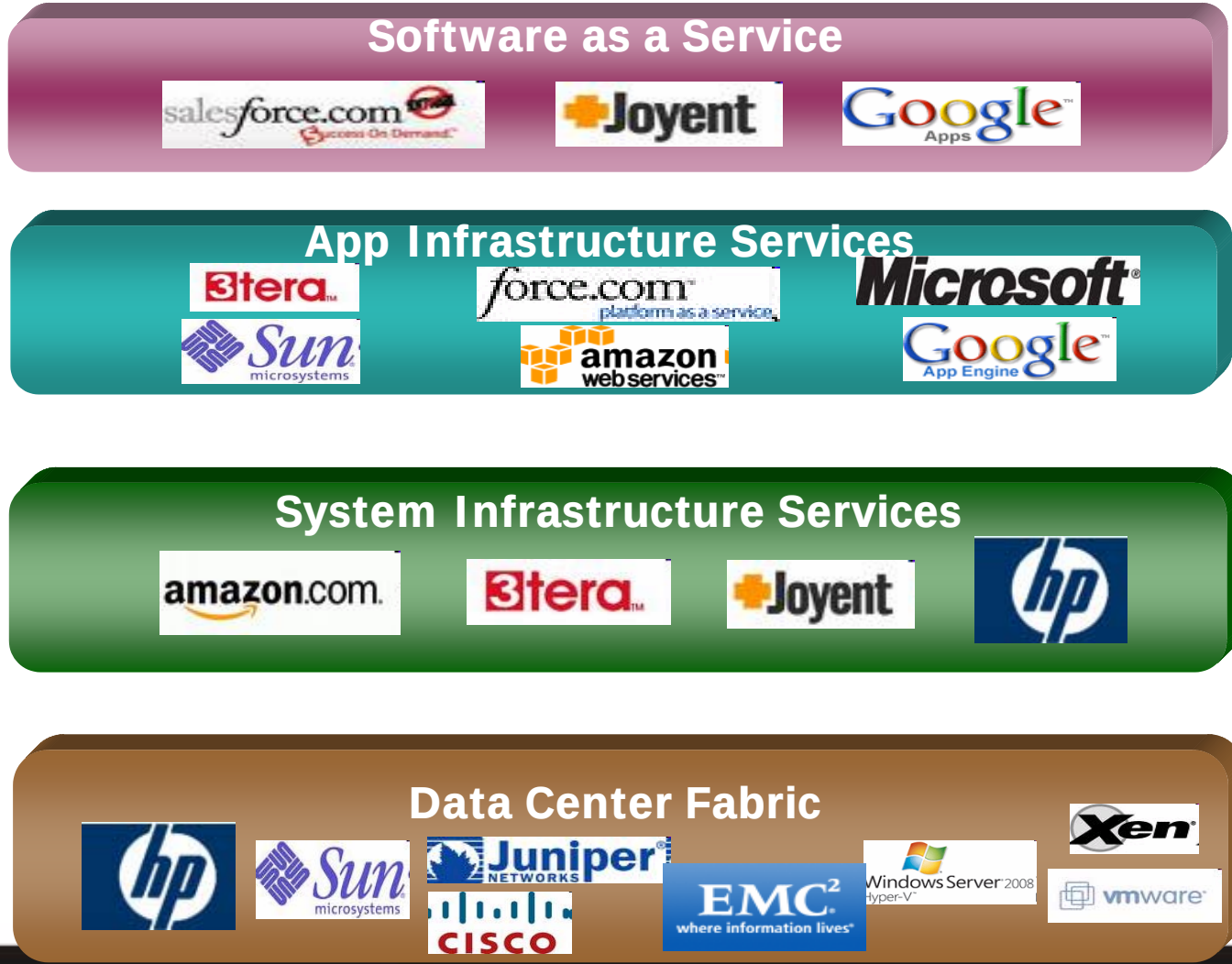
- ***An "Elastic"*** pool of high performance virtualized compute resources

- Internet protocol based convergence of networks and devices

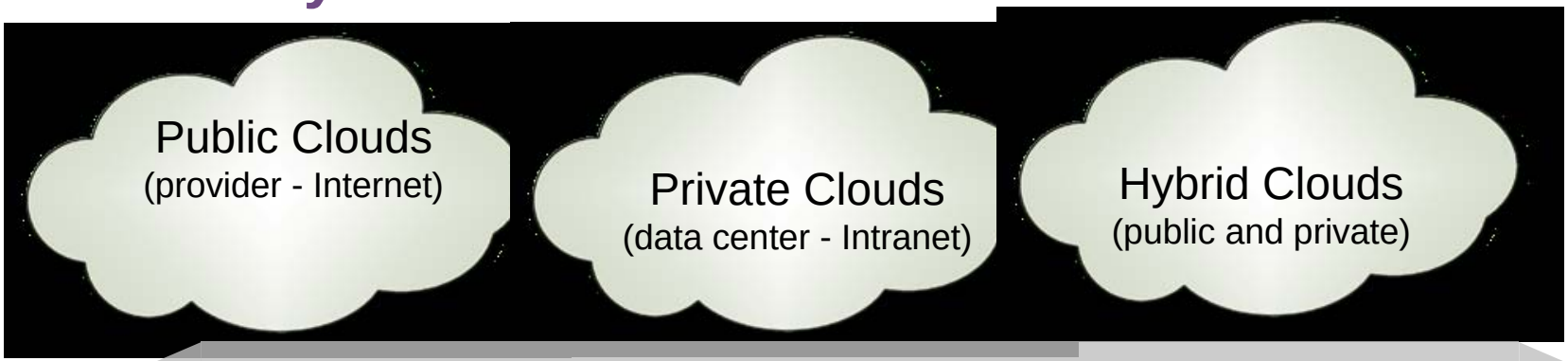
The layers of IT-as-a -Service



Cloud Computing Industry View



Taxonomy as Cloud Model



'Services' as a service

Applications, Processes and Information as a service

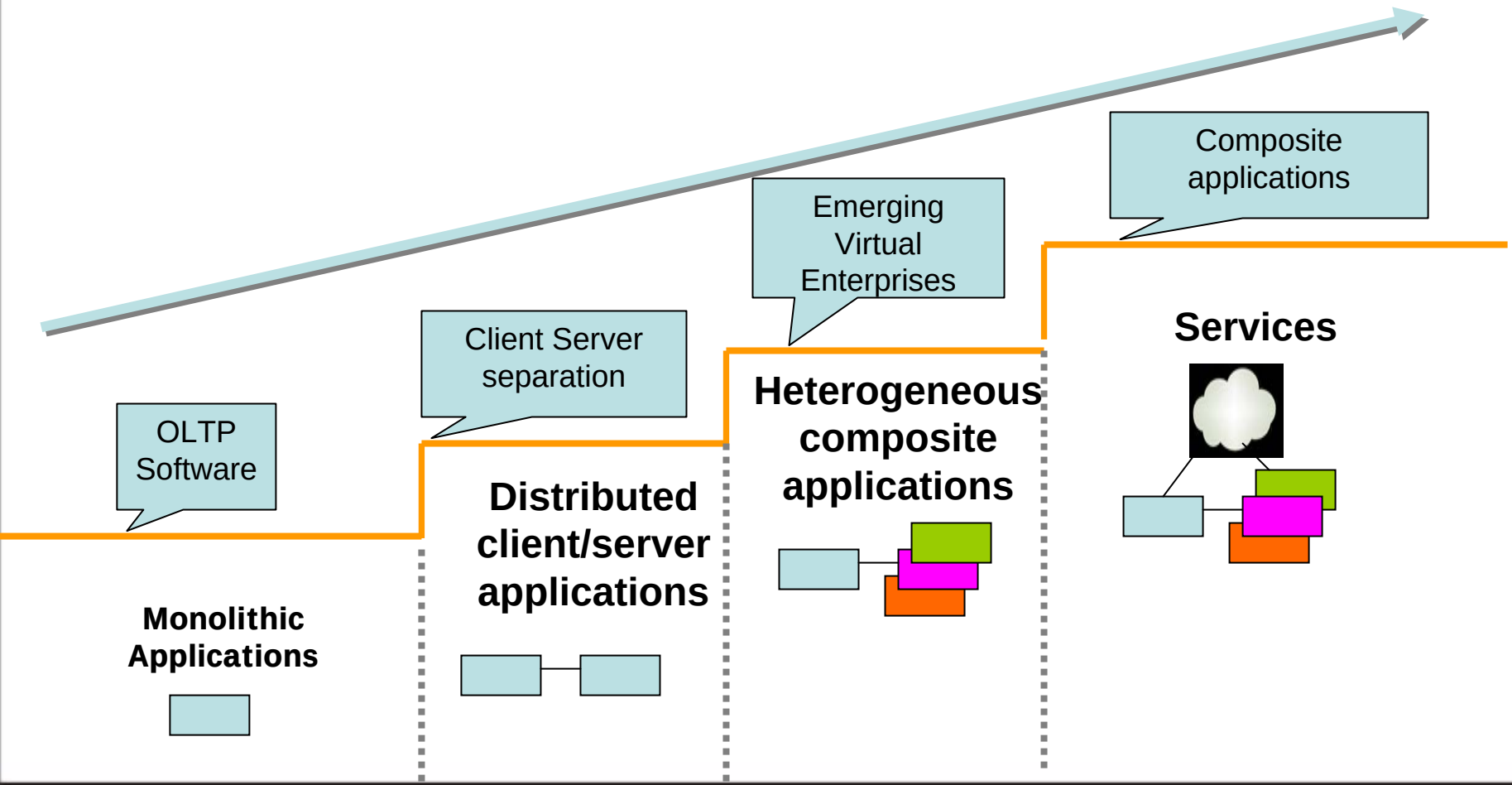
Software platforms as a service
(optimized middleware – application servers, database servers, portal servers, etc.)

Infrastructure as a service
(virtualized servers, storage, networking)

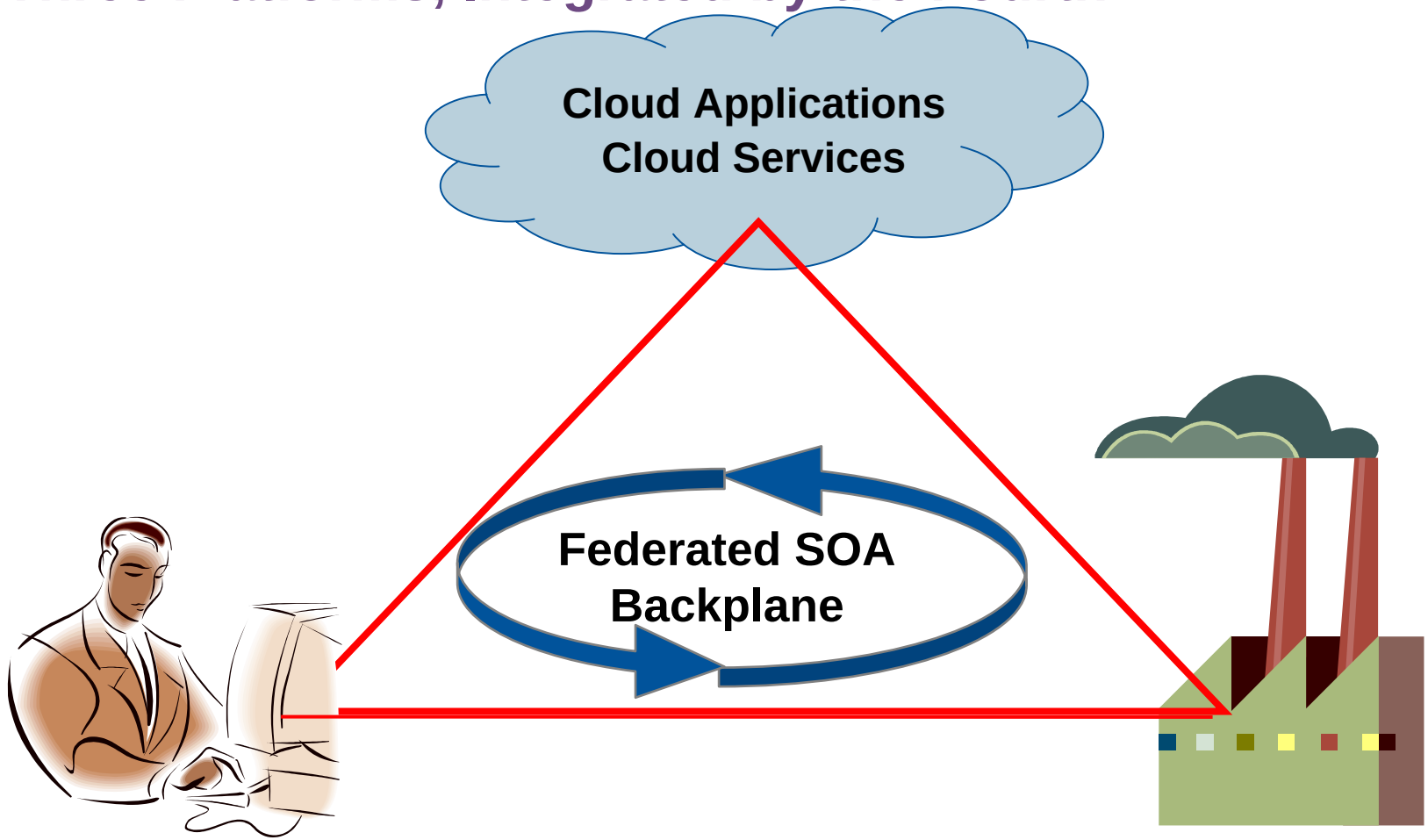
Private Cloud:

- **Defining Private Cloud Computing**
  - A computing paradigm where scalable and elastic IT-infrastructure is provided "as a service" to internal customers
- **Limited Access**
  - A Private Cloud implementation has pre-approved membership which is exclusive
- **ROI**
  - Applying cloud computing concepts to in-house infrastructure and applications can drive down cost, improve responsiveness/agility.

Timeline of Software: From Custom to Composite to Services



Cloud-Aware Enterprise: Three Platforms, Integrated by the Fourth



SOA binds how you will both deliver and leverage cloud based services ....

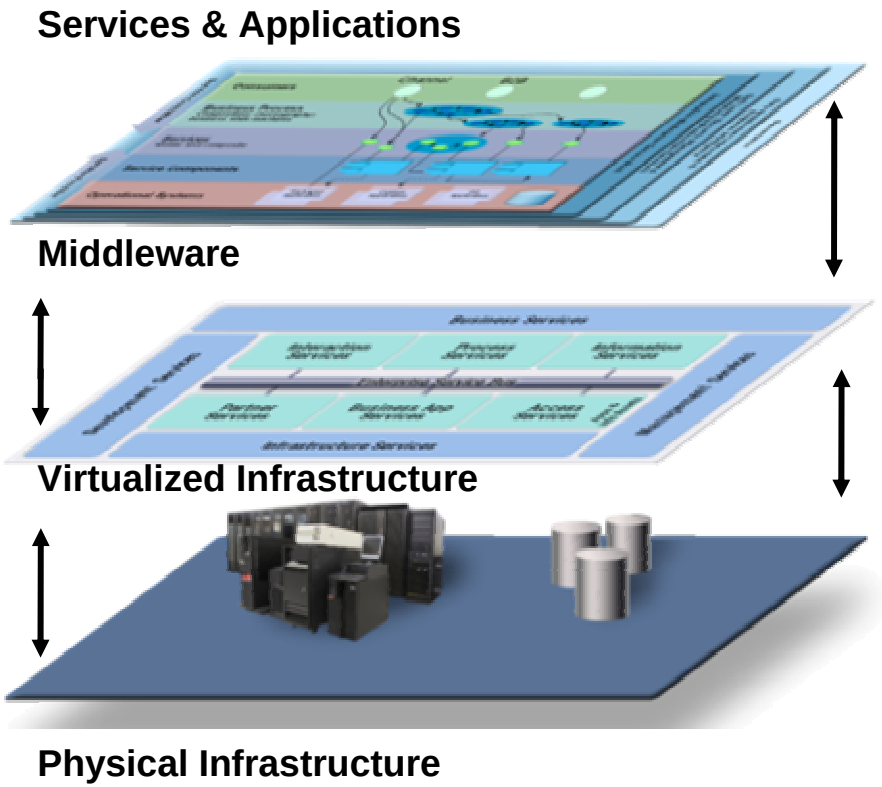
Cloud computing:

An infrastructure management and services delivery method

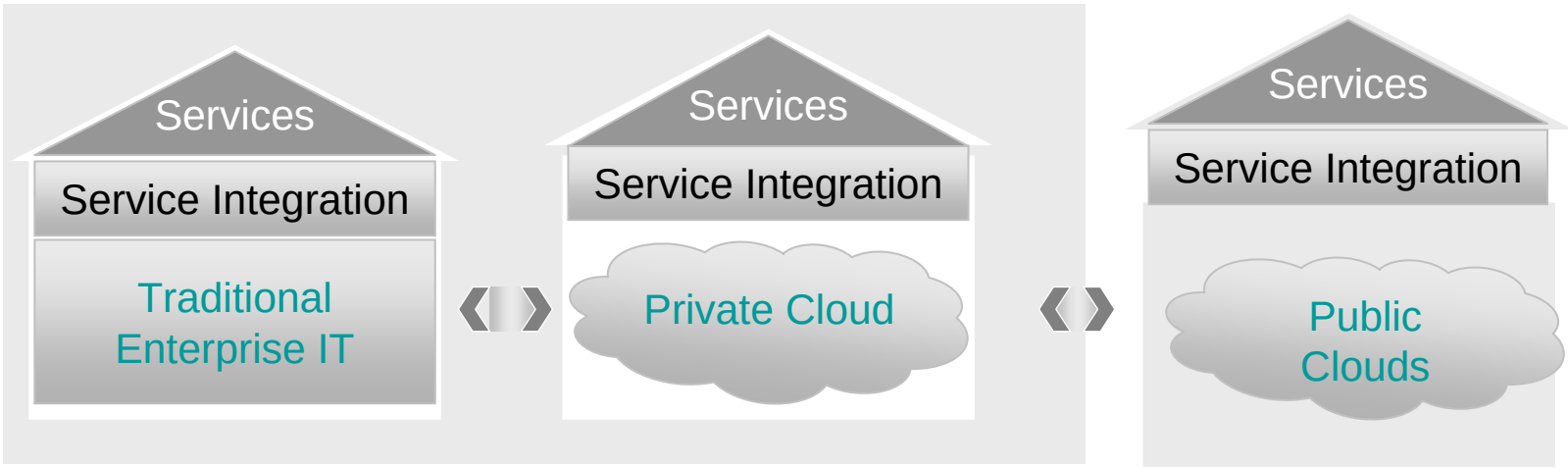
- Virtualized resources
- Managed as a single large resource
- Delivering services with elastic scaling

Shares and leverages characteristics of SOA

- Flexibility and agility
- Applications and services reused in new and dynamic ways (combined from multiple sources)
- Rapid deployment



….Across both Private and Public Domains



SOA Characteristics → **Cloud Characteristics**

- Architectural Style
- Componentization
- Reusable Services

- Infrastructure Decision
- Right Fit Infrastructure

- Ease of Access
- Lower Cost- Shared HW and Self Service

Key Consideration: Cloud Based Services

Providing services in cloud

- Virtualization of infrastructure
- Government and management of services
- Multi-tenancy support
- Consistent deployment
- Chargeback and pricing
- Security & access control

Consuming services from cloud

- Ease of access
- Discovery of services
- RESTful interface support
- Lower cost
- Speed & availability
- Security and data privacy

Providing Services: Key Enabling Infrastructure

WebSphere Cloudburst

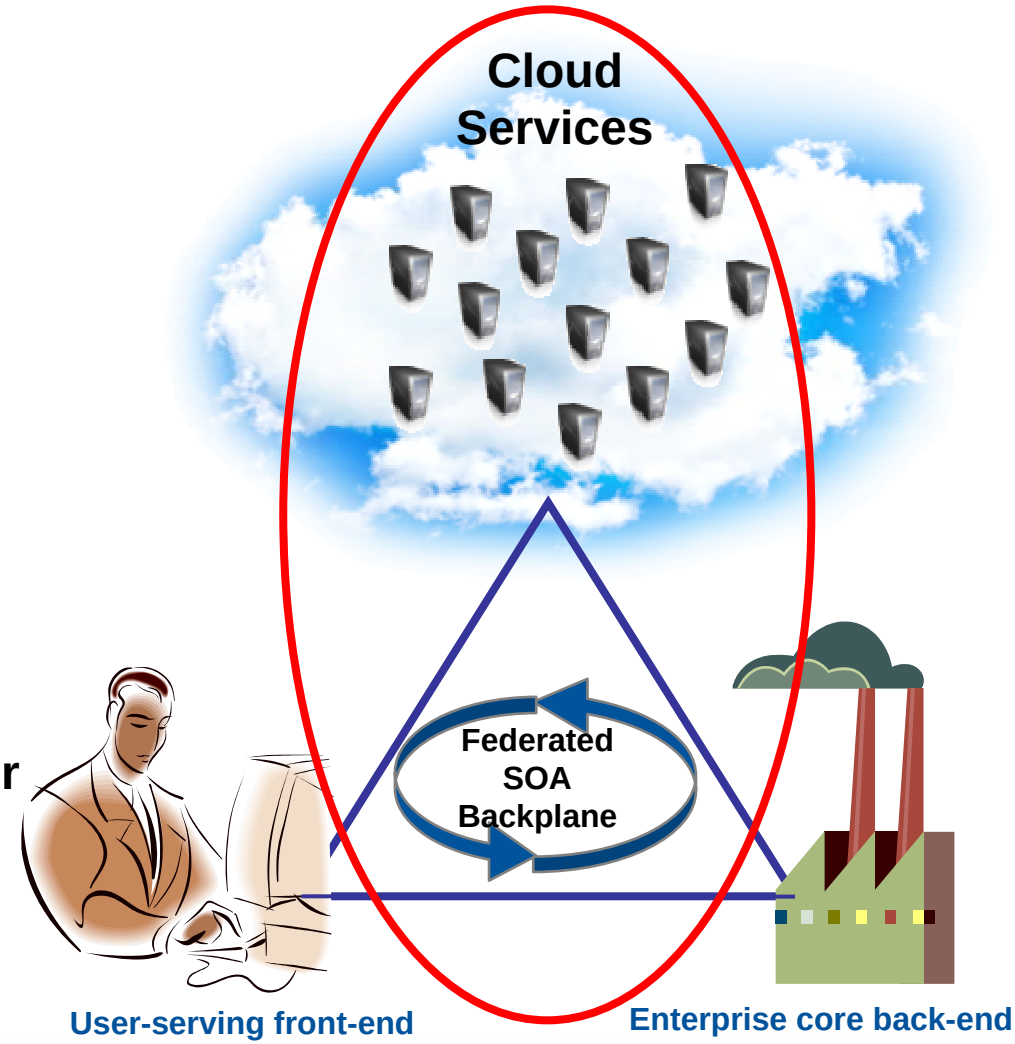
- Simplified deployment
- Security & access control
- Chargeback and pricing

WebSphere Virtual Enterprise

- Multi-tenancy support
- Dynamic workload balancing

Tivoli Service Automation Manager

- Government & management
- Data-center automation



Intelligent management for Virtualized Infrastructure

WebSphere CloudBurst Appliance

- Secure cloud management appliance
- Reduce setup time for WebSphere environments
- Codify your infrastructure for reduced risk
- Simplified maintenance and management
- Dispenses WebSphere virtual image software

WebSphere Application Server Hypervisor Edition

- New edition of WAS optimized for virtualized environments
- Pre-configured, ready to run on a hypervisor
- Single image supported and maintained by IBM

Consuming Services: Key Enabling Infrastructure

DataPower XI50 Appliance

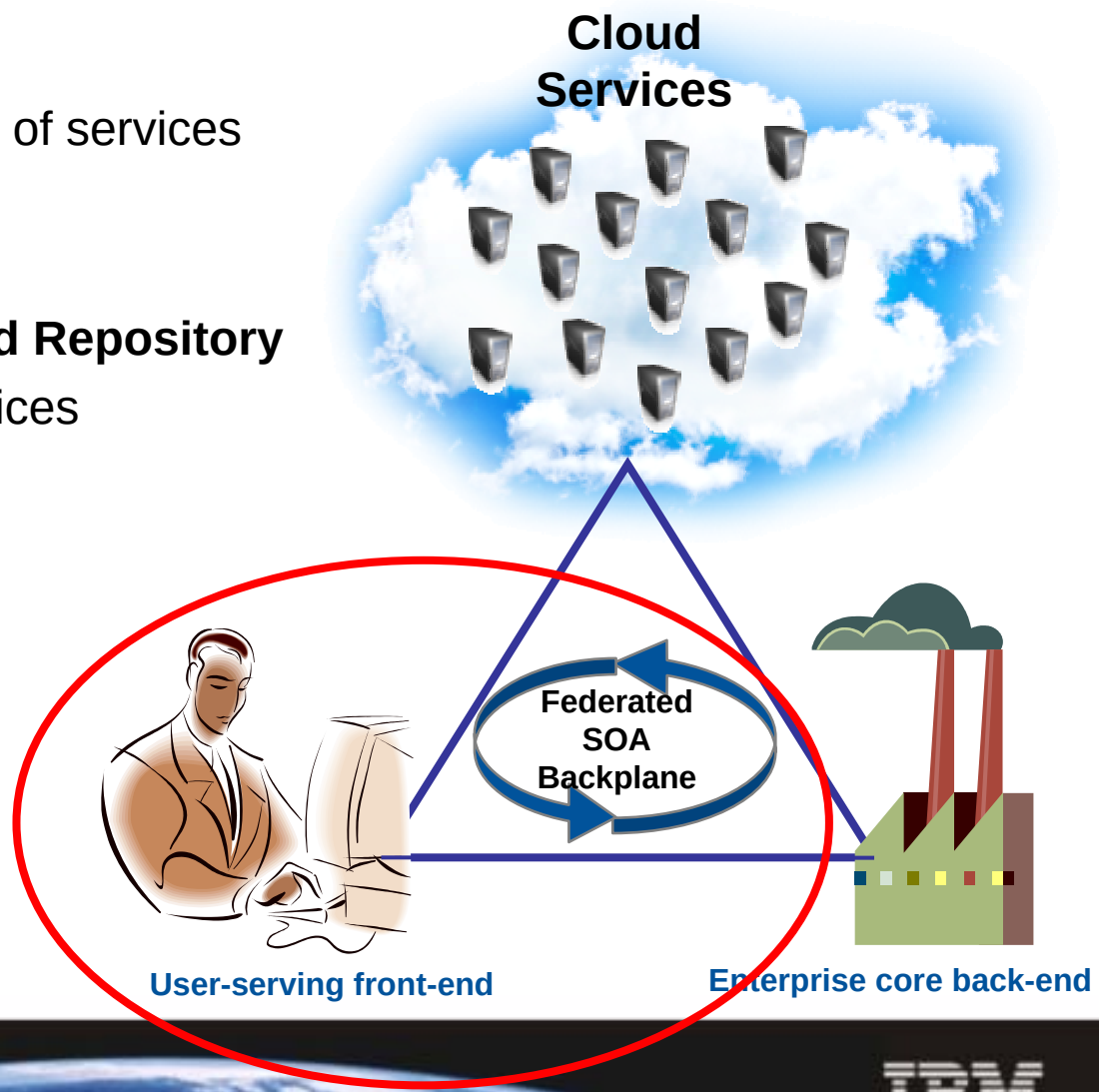
- Connectivity and mediation of services
- Security and data privacy

WebSphere Service Registry and Repository

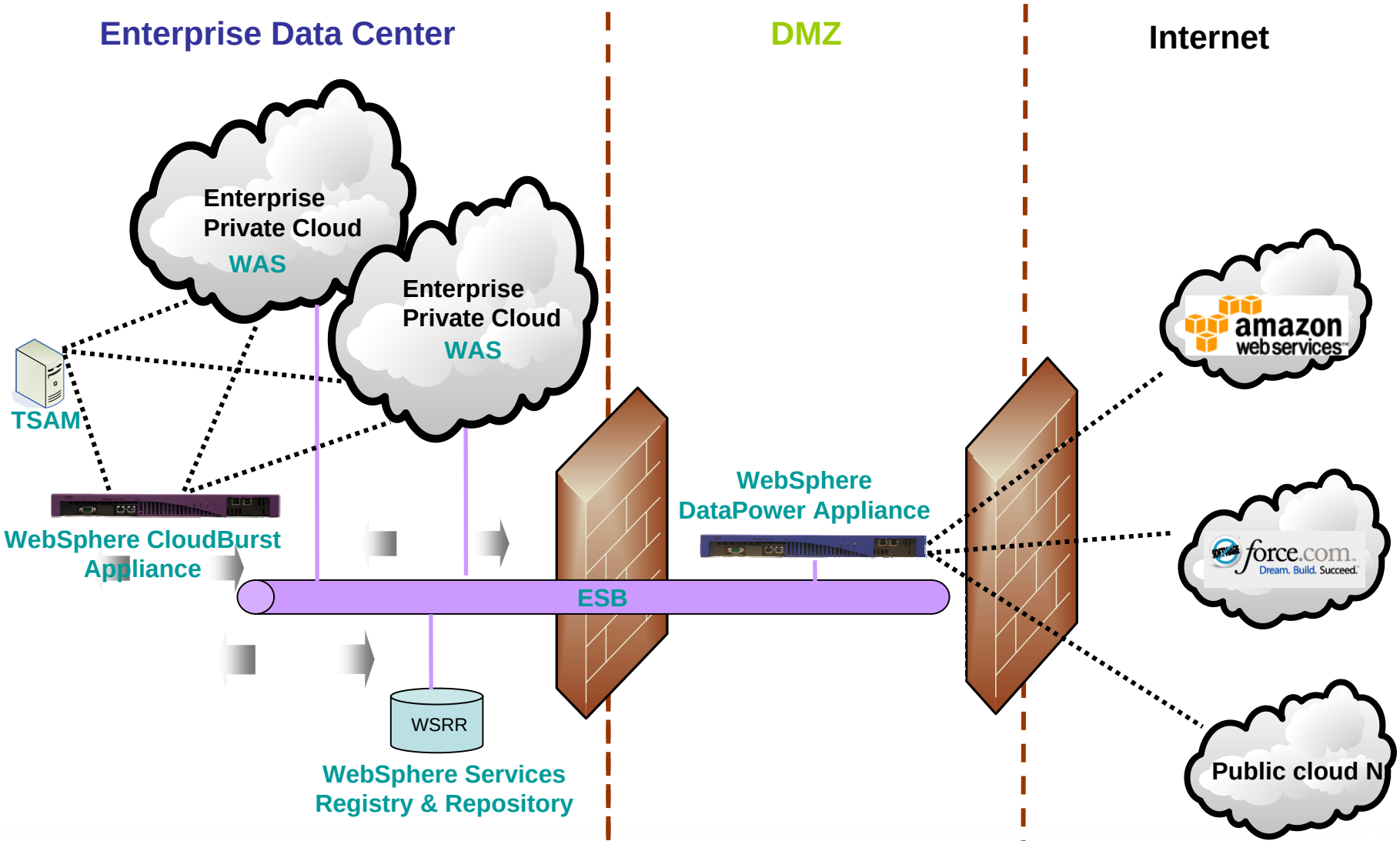
- Discovery of available services
- Ease of access
- Policy governance

WebSphere sMash

- Web oriented dynamic scripting platform (PHP & Groovy)
- Rapid development of RESTful adapters



Cloud enabling infrastructure



IBM Services delivered in a Public Cloud

developerWorks®
Cloud Space

IBM Software as a Service
- IBM software available in Amazon EC2
- SOA Sandbox

IBM BPM blueWorks
- Hosted BPM tools and pre-defined artifacts
- Deploy processes directly to SOA Sandbox
- Interact with the broader BPM business community

LotusLive™

LotusLive
- Collaboration and meeting software as a service

IBM

IBM Information Protection Services
- Continuity services to insure operations
- Remote data protection for servers
- Managed data protection for desktops and laptops
- Email Management Express (EMX)

developerWorks: Quick start with IBM Software in Amazon's Elastic Compute Cloud

IBM Software available in Amazon EC2

- WebSphere sMash
- WebSphere Portal + Lotus Web Content Mgmt
- DB2, Informix Dynamic Server
- *Also coming: WebSphere Application Server, WebSphere eXtreme Scale, IBM Mashup Center, Lotus Forms

Value to customers

- Frictionless acquisition: get started in minutes with little or no software cost
- Right fit infrastructure: public cloud with usage-pricing for appropriate workloads
- Flexibility: elastic growth within AWS infrastructure, or migrate seamlessly to an on-premise data center

Getting You There: Consulting & Implementation Expertise

Cloud consulting with IBM Global Services

- Identify where cloud may provide business benefits
- Assess readiness & risks for cloud adoption

Cloud implementation with Global Technology Services

- Design and build cloud infrastructure
- Transform silos and data centers with best practices
- Stage rollout: development & test, production

Accommodate unique environment needs with HiPODs

- Design high performance, on demand solutions
- Visit one of 10 world wide labs to see live solutions

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Thank You