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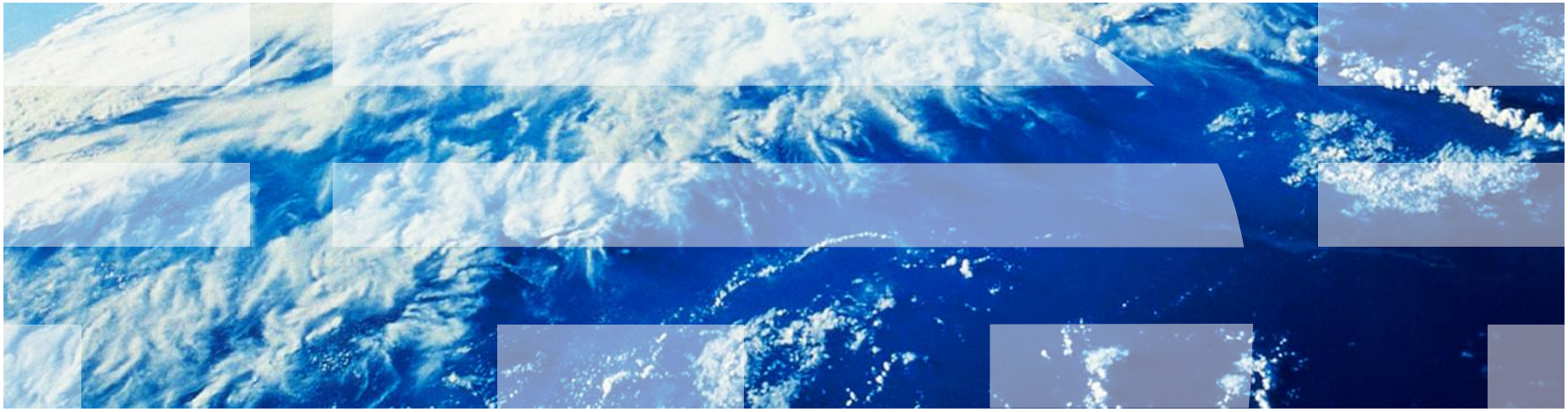
Cloud Computing and the Enterprise – Transforming IT Delivery



Agenda

Introducing the cloud

IBM’s approach to cloud computing

Service management – the critical enabler for cloud computing

IT infrastructure is reaching a breaking point.

85% idle

In distributed computing environments, up to 85% of computing capacity sits idle.

1.5x

Explosion of information driving 54% growth in storage shipments every year.

70¢ per $1

70% on average is spent on maintaining current IT infrastructures versus adding new capabilities.

$40 billion

Consumer product and retail industries lose about $40 billion annually, or 3.5 percent of their sales, due to supply chain inefficiencies.

33%

33% of consumers notified of a security breach will terminate their relationship with the company they perceive as responsible.

Infrastructure needs to become more dynamic …

VIRTUALISATION + STANDARDISATION + AUTOMATION = Cost ↓ Flexibility ↑

… to free budget for new investment and speed deployment of new capabilities.

“Self-service” plus standardisation drives lower costs and unlocks productivity

SELF-SERVE PORTAL → **SERVICE REQUEST** → **SERVICE PROVISIONING** → **DYNAMIC INFRASTRUCTURE**

Operations have industrialised to become smarter

Telcos automate traffic through switches to assure service and lower cost.

Manufacturers use robotics and standardised components to improve quality and lower cost.

Banks use automated teller machines to improve service and lower cost.

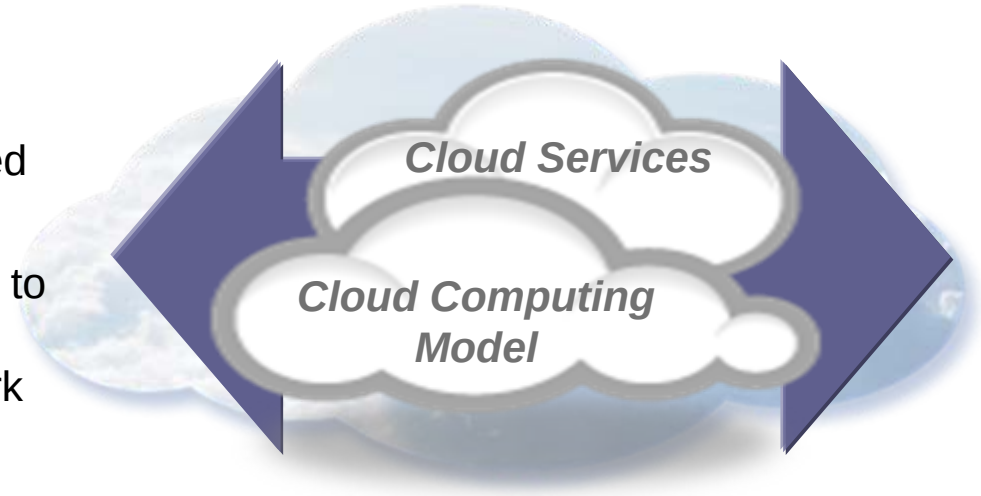
… breakthroughs like these are enabled by service management systems.

New consumption and delivery models drive new sourcing options and business flexibility

New Delivery Models

Private …

- Privately owned and managed
- Access limited to client and its partner network



Public …

- Service provider owned and managed
- Access by subscription

…Customisation, efficiency, availability, resiliency, security and privacy

…Standardisation, capital preservation, flexibility and time to deploy

GOVERNANCE

IT also needs to become smarter … about workloads.

- Understanding workloads is critical to helping businesses optimise their infrastructure.
- Companies run many different workloads with investments in multiple types of platforms, applications, tools and skills.
- “One size fits all” doesn’t make sense for business models or the IT backbone that drives them.
- Workload characteristics will drive the rate and degree of standardisation of IT and business services

Analytics

Collaboration

Development and Test

Desktop and Devices

Infrastructure

Business Services

IBM is introducing 3 new choices to deploy workloads that matter to you for greater efficiency, productivity and control.

Smart Business Services – cloud services delivered

1. *Standardized services on the IBM cloud*
2. *Private cloud services, behind your firewall, built by IBM*

Smart Business Systems – purpose-built infrastructure

3. *Pre-integrated, workload optimized systems*

Analytics

Collaboration

Development and Test

Desktop and Devices

Infrastructure

Business Services

New deployment choices.






	Analytics	Collaboration	Development and Test	Desktop and Devices	Infrastructure (compute / storage)	Business Services
Smart Business on the IBM Cloud Standardized services on the IBM Cloud		Lotus Live	Smart Business Development & Test on the IBM Cloud	Smart Business Desktop on the IBM Cloud	Information Protection Services; Computing on Demand	
Smart Business Cloud Private *cloud services*, *behind your firewall,* built and/or managed by IBM	Smart Analytics System		Smart Business Test Cloud	Smart Business Desktop Cloud	Scale out File Services	
Smart Business Systems Pre-integrated, workload optimized systems	Smart Analytics Accelerator		IBM CloudBurst w/Quickstart Svcs		IBM CloudBurst w/Quickstart Svcs	Smart Business for SMB (backed by the IBM cloud)

Available **Future**

Development and Test workloads are well suited to cloud delivery

A great place to start cloud deployment

- Development/Test environments are frequently an ideal workload with which to pilot cloud technologies
  - 30-50% of any given IT environment is devoted to test/dev purposes
    - Yet most test servers run at less than 10% utilisation, if they are running at all !
  - Setting up and taking down test environments is extremely labour-intensive, error prone and slow
    - 30% of all defects are caused by wrongly configured test environments
  - It's not the live production environment
- A Development/Test Cloud can enable faster time to innovation and lower the cost per unit of innovation
  - Testing backlog is often very long and single largest factor in the delay new application deployments

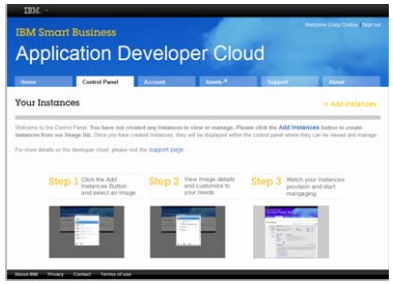
Development and Test

IBM Smart Business Test Cloud

A secure, private cloud environment clients can use to test applications before sending them to production

- Creates a more efficient test environment that improves productivity and reduces costs
- Includes an operating system, middleware, storage, network and virtual images, along with pre-integrated set of services, from planning through implementation
- Clients can leverage their existing systems or the new IBM CloudBurst “appliance”

Private Cloud



Public Cloud

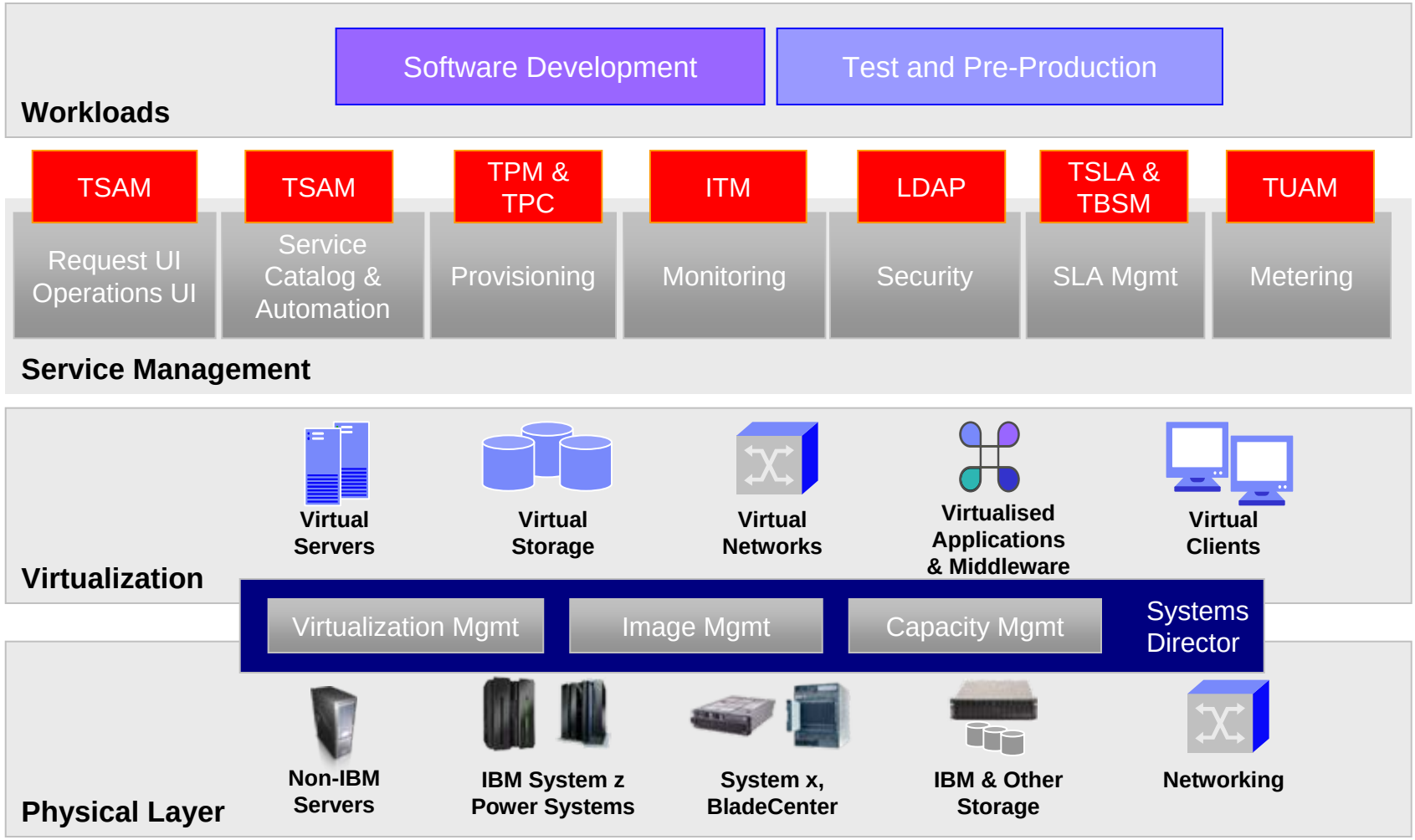
Tivoli. software

Tivoli Service Automation Manager

Customer Benefits

- Reduce IT labour cost by 50% for configuration, operations, management and monitoring of test environments
- 75% capital utilisation improvement and significant license cost reduction
- Reduce test provisioning cycle times from weeks to minutes
- Improve quality – eliminate 30% of defects that come from faulty configurations

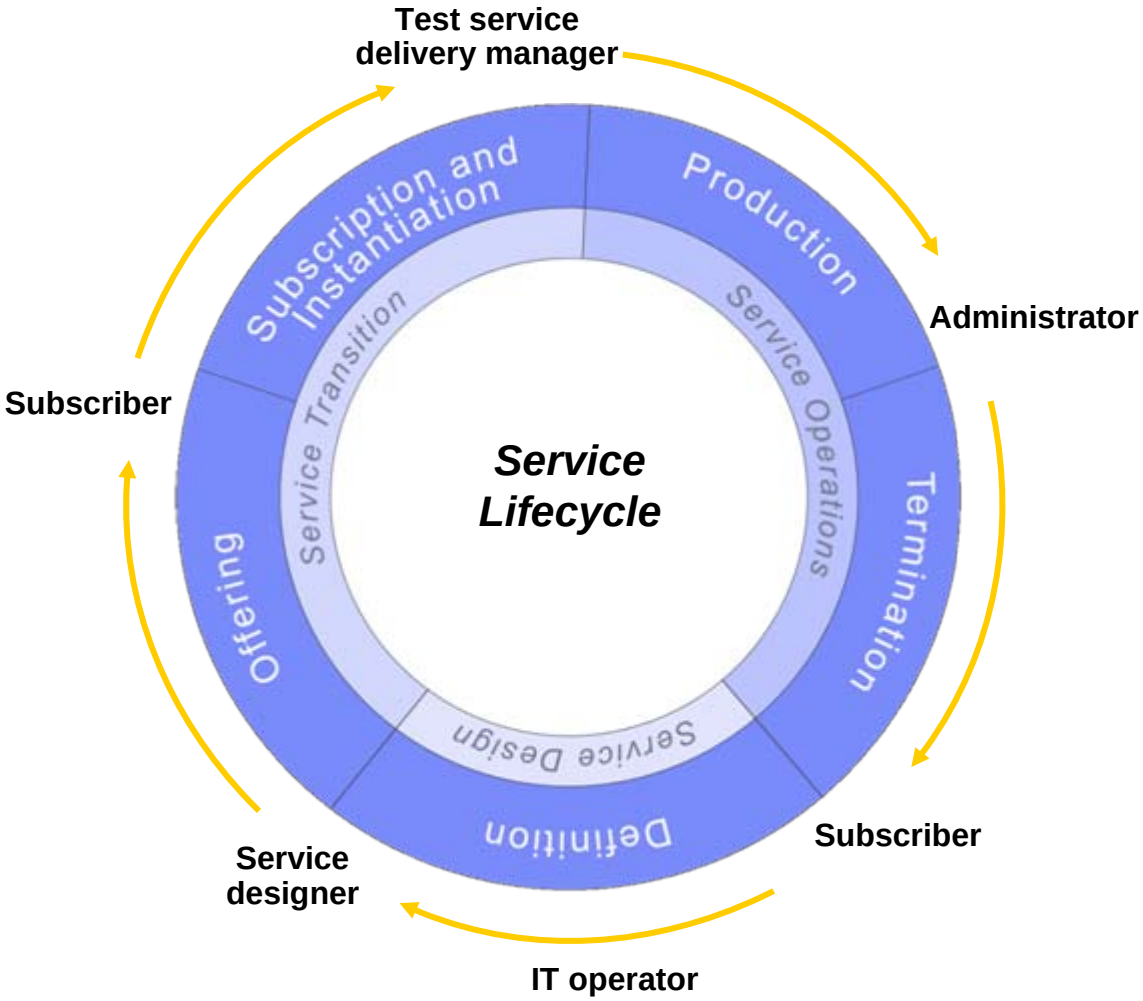
Automated service management is the central ingredient in building a cloud environment



The Tivoli Service Automation Manager enables a shorter service lifecycle

TSAM helps automate the full service life cycle:

- Define services in the catalog
- Publish services and make available
- Request initiated from subscriber, process or workflow
- Resources are scheduled or reserved
- Provision resources, which may include:
  - Infrastructure: systems
  - Software: operating system and middleware
- Deprovision resources
- [Retire the service]



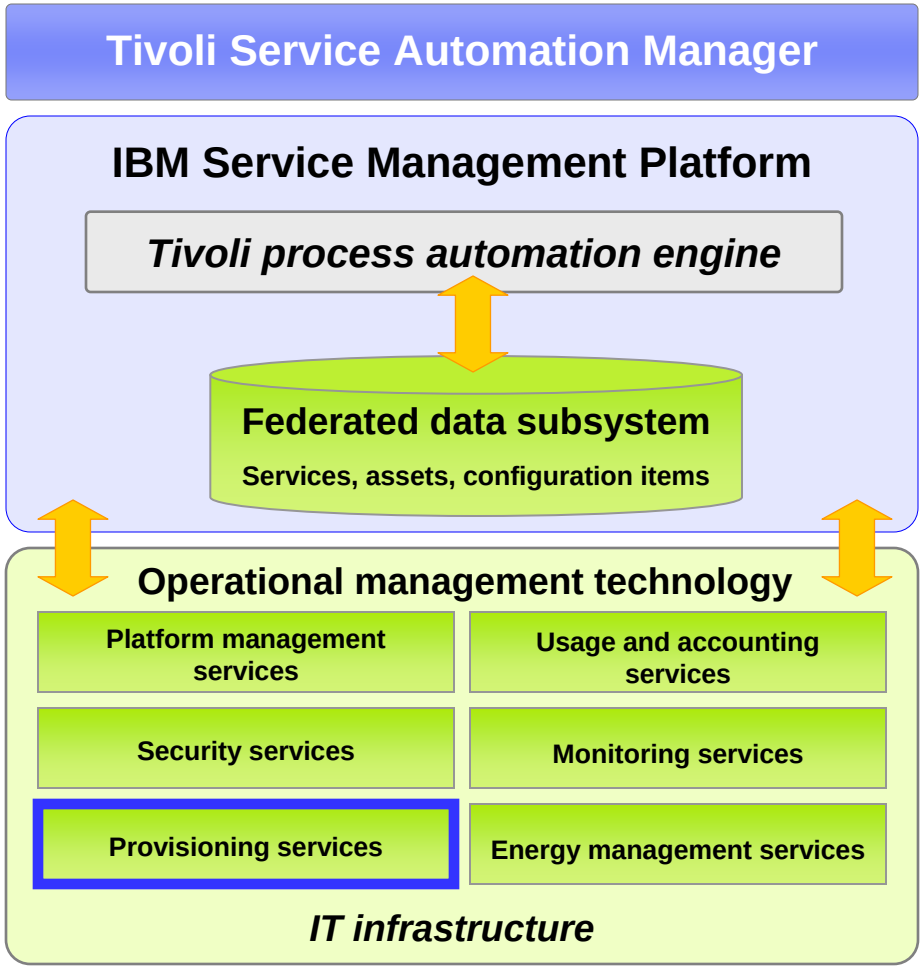
The IBM service management platform helps enable these capabilities in your private test cloud

IBM Tivoli® Service Automation Manager

- Built on top of the IBM Service Management Platform
- Orchestrates technology, processes, people and data to provide cloud computing services and service management of cloud computing

Tivoli Provisioning Manager

- Provides rapid provisioning of physical and virtual resources



What makes IBM's approach smarter?

Workload Optimized

- Infrastructure optimized for specific workloads, tasks, or services in ways that deliver orders of magnitude better performance, scale and efficiency.

Service Management

- Provides visibility, control and automation across the business and IT infrastructure to accelerate the delivery of high quality services.

Flexible Delivery Choices

- New delivery choices characterized by self-service, elastic scaling and rapid provisioning for optimal performance with reduced costs and risk.

…..looking at IT service delivery from the business' perspective.

IBM Infrastructure Strategy & Planning for cloud computing

Helping you develop a cloud strategy, architecture, and roadmap

Features:

- Business and IT executive workshop to identify where and how cloud computing can drive business value.
- Assessment of the current environment to determine strengths, gaps and readiness.
- Develop the value proposition for cloud computing in the enterprise
- Strategy, plan, architecture, and roadmap to successfully implement the selected cloud delivery model.

Benefits:

- **Lower Cost** – Identify opportunities to reduce capital and operating expense across the infrastructure.
- **Improve Service** – Streamline processes and services, improve efficiency and effectiveness**.**
- **Reduce Risk** – Architect a secure and resilient model that mitigates operational exposures and protects data.
- **Faster Deployment** – Build support for the cloud initiative and remove impediments

In Summary … there is opportunity in the shift to a smarter planet.

- Growth of instrumentation, interconnection and intelligence in the world will drive the emergence of IT and business services ... and the requirement for service management systems.
- New IT consumption and delivery models are very compelling for some workloads today – and will position your enterprise for the future.
- IBM offers new choices to:
  - Reduce infrastructure and operational costs.
  - Accelerate service deployment and return on investment.
  - Deliver consistent, secure services.