

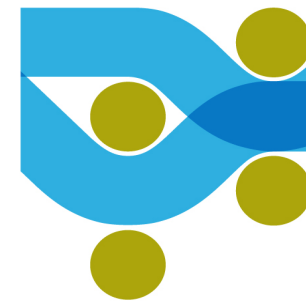
Session 4

Bertrand Raillard – IBM Tivoli ATG Customer Solutions - ISM



## Smart Decisions for a Smarter Planet

LEARN NEW IDEAS TO STAY AHEAD  
OF THE MARKET!



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# CloudBurst

## Créer votre Cloud privé simplement

# Agenda



- **What is Cloud computing?**
- **IBM Cloudburst architecture**
- **Cloud capabilities and Demonstration**



# What is 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.

It's time to start thinking differently about infrastructure.

# IT needs to become smarter & infrastructure needs to become dynamic

*“Clouds will transform the information technology (IT) industry... profoundly change the way people work and companies operate.”*

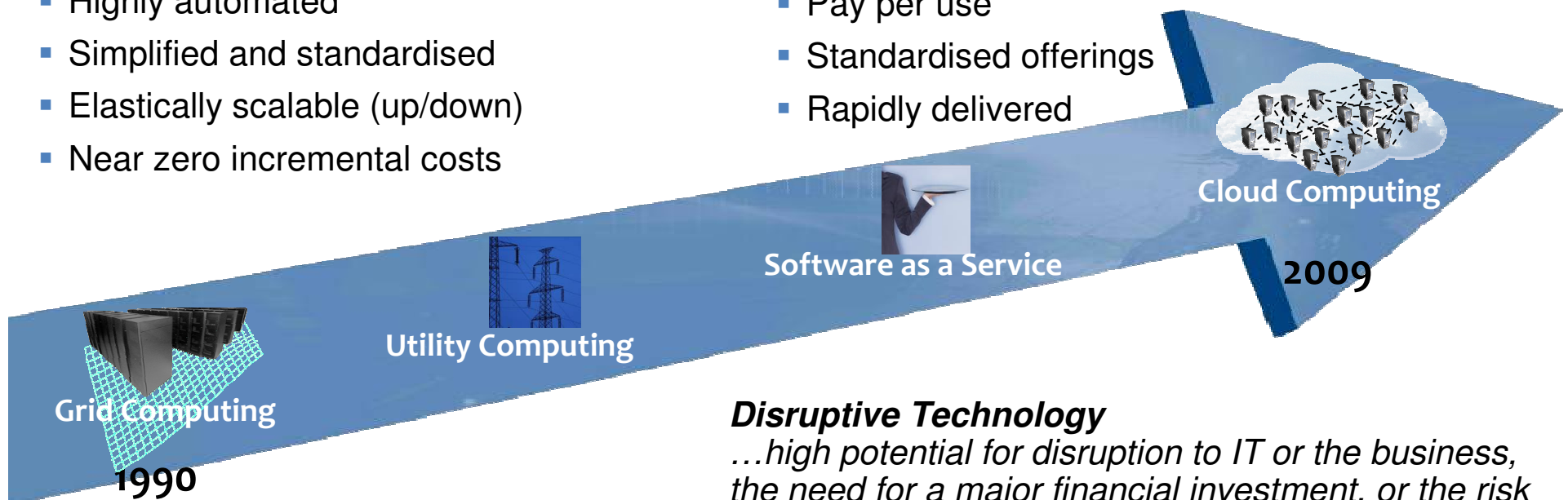
The  
Economist

## From Cloud provider perspective

- Virtualised resources
- Highly automated
- Simplified and standardised
- Elastically scalable (up/down)
- Near zero incremental costs

## From Cloud user perspective

- Easy to consume
- Pay per use
- Standardised offerings
- Rapidly delivered

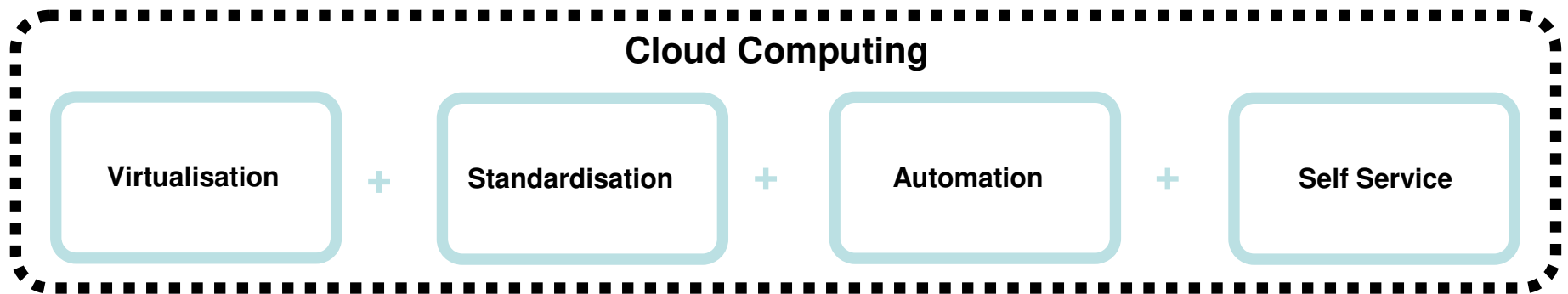




## **Disruptive Technology**

*...high potential for disruption to IT or the business, the need for a major financial investment, or the risk of being late to adopt.*





# Cloud computing is more than the sum of the parts...






- With**  
- Enables flexibility
  - Increase utilisation
  - Energy efficient
  - Soft configuration
  - Infrastructure abstraction




- Without**
- Physically constrained
  - Capital intensive
  - Hard configuration
  - Linked to PO process

- With**  
- Simplification
  - Few configurations
  - Enables automation
  - Easier support

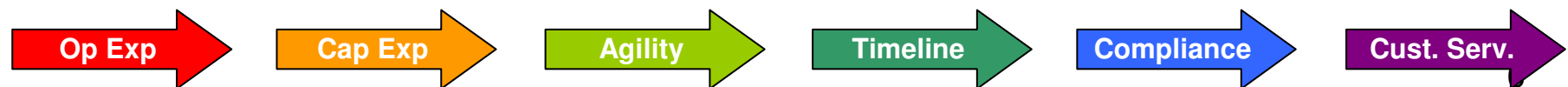
- Without**
- Physically constrained
  - Many configurations

- With**   
- Low human involvement
  - Rapid deployment & mgt
  - Repeatable config
  - Improves compliance

- Without**
- Manually intensive
  - Skill dependent
  - Error prone
  - Costly

- With**   
- User in control
  - Cost and usage choices
  - Increased visibility
  - IT/Business alignment

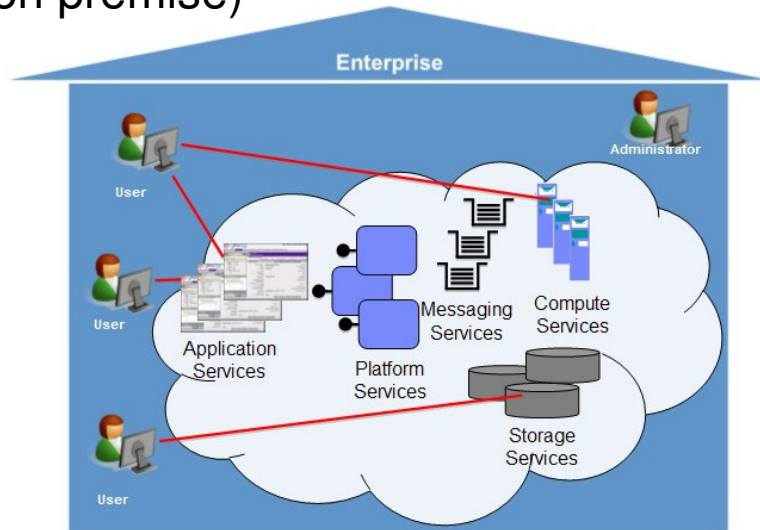
- Without**
- Dependency of availability of data centre staff
  - Lack of awareness



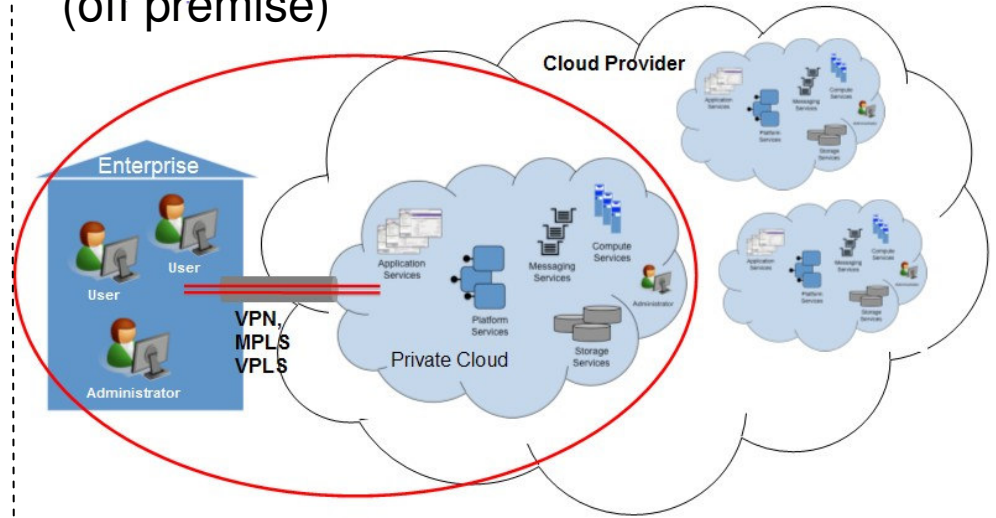
# Deployment models



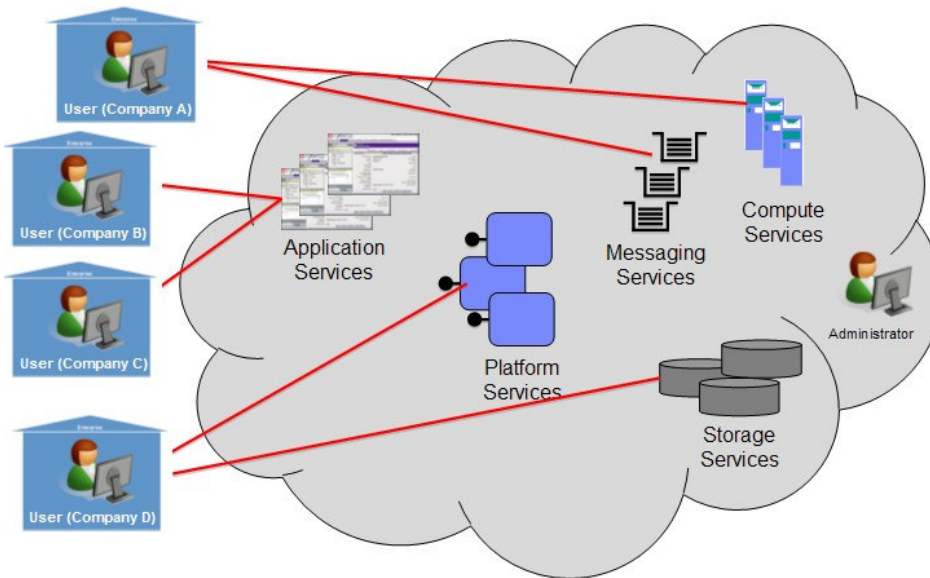
Private cloud  
(on premise)



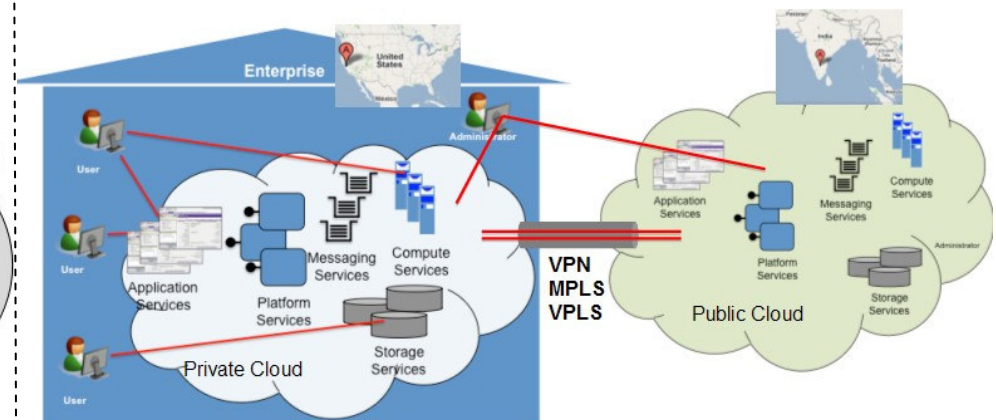
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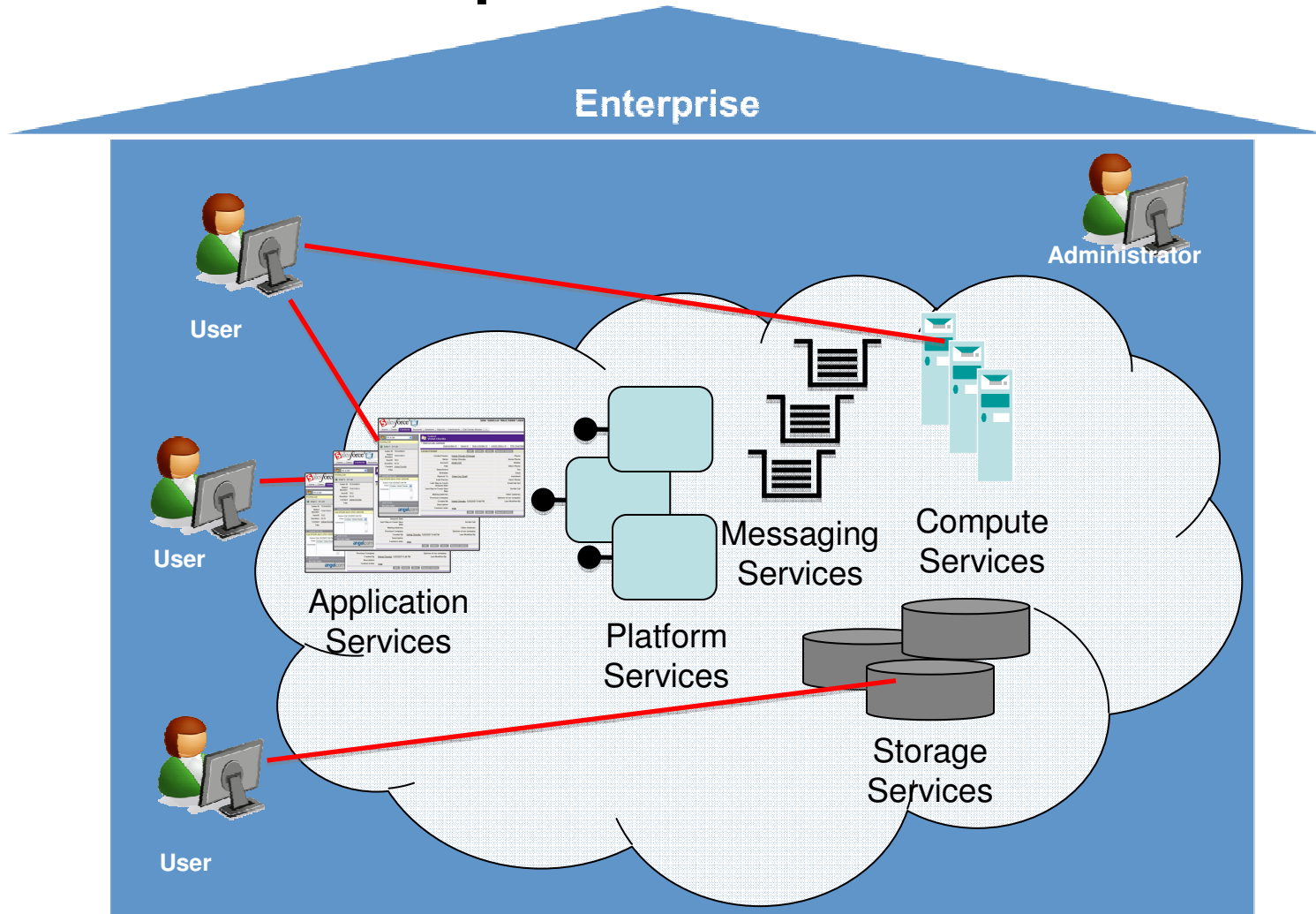
Public cloud



Hybrid cloud



# Private, on-premise Cloud



All resources are local and dedicated. All cloud management is local.





# Common pain points solved by Cloud delivery models

## Key Pain Points

- Lost business opportunity because IT too slow to react. Lack of agility.
- Long deployment timelines for new systems (weeks/months+).
- Operations that cross functional IT groups are slow and inefficient.
- Many steps are manual and prone to error.
- Huge up-front infrastructure investment for small projects or infrequent peaks.
- Server sprawl with low server/resource utilisation.
- Compliance, auditing, and security patching costly.
- Don't know what compute resources are used and what they cost.

## How Cloud Delivers Value

- ➔ Ability to dynamically scale IT services to meet business demands in real time.
- ➔ Automate the provisioning and deployment of new systems.
- ➔ Standardise and automate both requests and fulfilment across IT silos.
- ➔ Utilise repeatable, standardised and automated procedure to reduce errors.
- ➔ Abstracts IT services from IT resources facilitating reuse & overflow pooling.
- ➔ Leverage dynamic allocation linked to a reservation system for higher utilisation.
- ➔ Standardise and reduce number of configurations used.
- ➔ Integrated, usage-based metering, billing and license compliance.



# Cloud Computing Addresses Key Challenges

Achieving changes in orders of magnitude in various areas

## From state

## To state

### Better

Every system is unique, few common configurations.

**Standardised delivery models**  
utilise service catalog of standard components.

Template and catalog based configurations

Many configurations, difficult to manage.

**Consistency of configuration**  
driving compliance, easier support & auditing, consistent security.

Few configurations, reduced compliance.

### Faster

Weeks or months to provision new systems

**Deploy new systems faster**  
shorter leads times, quicker to market, agility, competitive advantage

Hours or minutes to provision new system

Complex, slow process, low perceived business value

**User/IT self service**  
improving customer satisfaction and responsiveness

Responsive, user in control, value recognised.

### Cheaper

10's servers per administrator

**Improve server/admin ratio**  
E2E service management, drive down operational costs

100's or 1000's of servers per administrator

<10% average CPU / server utilisation. PUE metric > 2

**Improve server & power utilisation**  
cost avoidance on new hardware, energy & cooling costs.

>60-80% CPU / server utilisation. PUE metric < 1.5

Many roles & resources involved in new deployments

**Low or No touch deployment**  
drive down operational costs and manage thru full life-cycle

Minimised human intervention to deploy systems



# IBM Cloudburst architecture



# Management concerns in cloud architecture

## Virtualized Resource Management

- Deploy cloud services on virtualized resources
- Manage virtual resources

## Heat and Power Management

- Control Energy Consumption

## Usage Metering and Accounting

- Flexible support of delivery models

## Service Automation Management

- Interpret and Execute Build- and Management Plans
- Orchestrate Management Componentry

## Security

- Design for Multi-Tenancy
- Protect assets through Isolation, integrity, image- risk and compliance management

## Image Management

- Design, build and manage images for cloud services

# IBM CloudBurst



- A **service delivery platform** that is pre-integrated at the factory.
- **Built-for-purpose** based on the architectural requirement of specific workloads.
- Delivered and supported as a **single product**.
- **Prepackaged, pre-configured** servers, storage, networking, software and installation services needed to stand up a **private cloud**.

## ***Installation & Configuration:***

- Deploy and integrate BladeCenter hardware in customer data center and network.
- Configure local storage area network.
- Configure users and security profiles.
- Configuration and discovery of virtualized compute, network and storage resources.
- Configure self- service portal.

## ***On site introductory training:***

- Overview and hands-on platform training including topics like:
- BladeCenter, local SAN and network switch management.
- Administrator and user level training.

## ***Cloud Software Configuration:***

- Systems Director 6.1.1 with BOFM, AEM; ToolsCenter 1.0; DS Storage Manager for DS4000 v10.36; VMware VirtualCenter 2.5 U4; LSI SMI-S provider for DS3400
- VMware ESXi 3.5 U4 hypervisor on all blades
- Tivoli Provisioning Manager v7.1
  - DB2 ESE 9.1; WAS ND 6.1.0.13; TDS 6.1.0.1
  - Special purpose customized portal and appliance wizard that enables client portal interaction
- Tivoli Monitoring v6.2.1, OS pack

## ***Base Hardware Configuration:***

- 1 42U rack.
- 1 3650M2 Systems Management Server.
- 1 HS22 cloud management blade.
- 1 BladeCenter H chassis with redundant Ethernet and Fibre Channel switch modules.
- 3 managed HS22 blades.
- DS3400 FC attached storage.



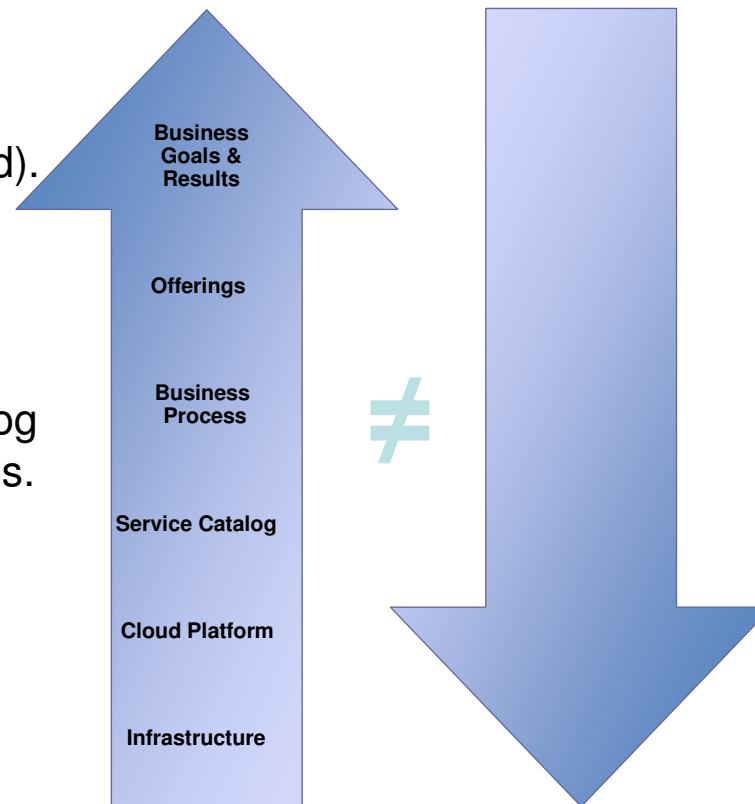
# Cloudburst Capabilities & Demonstration

# Implementation Approach

Top-down or bottom-up approach likely to produce different results

## Bottom-up approach

- Fit Cloud into existing landscape (brown field).
- Integrate with existing hardware, storage, network, security.
- Build up service catalog with existing workloads.
- Optimise & automate processes.
- Incrementally extend Cloud offerings.



## Top-down approach

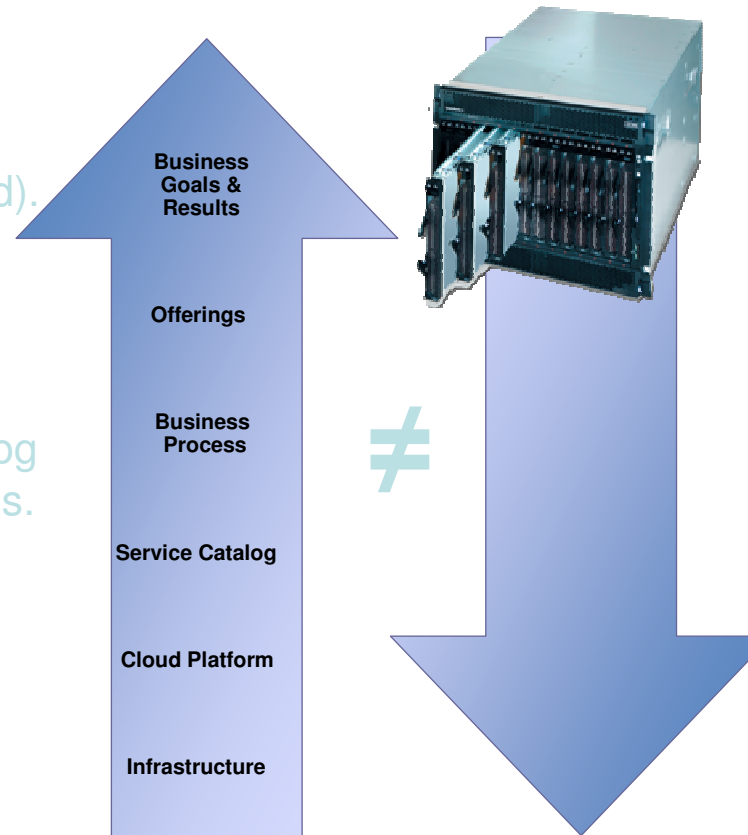
- Define standardised service offerings.
- Optimise business processes to achieve goals / KPIs.
- Build simplified cloud environment (green field).
- Build up new service catalog.
- Migrate workloads to simplified model.

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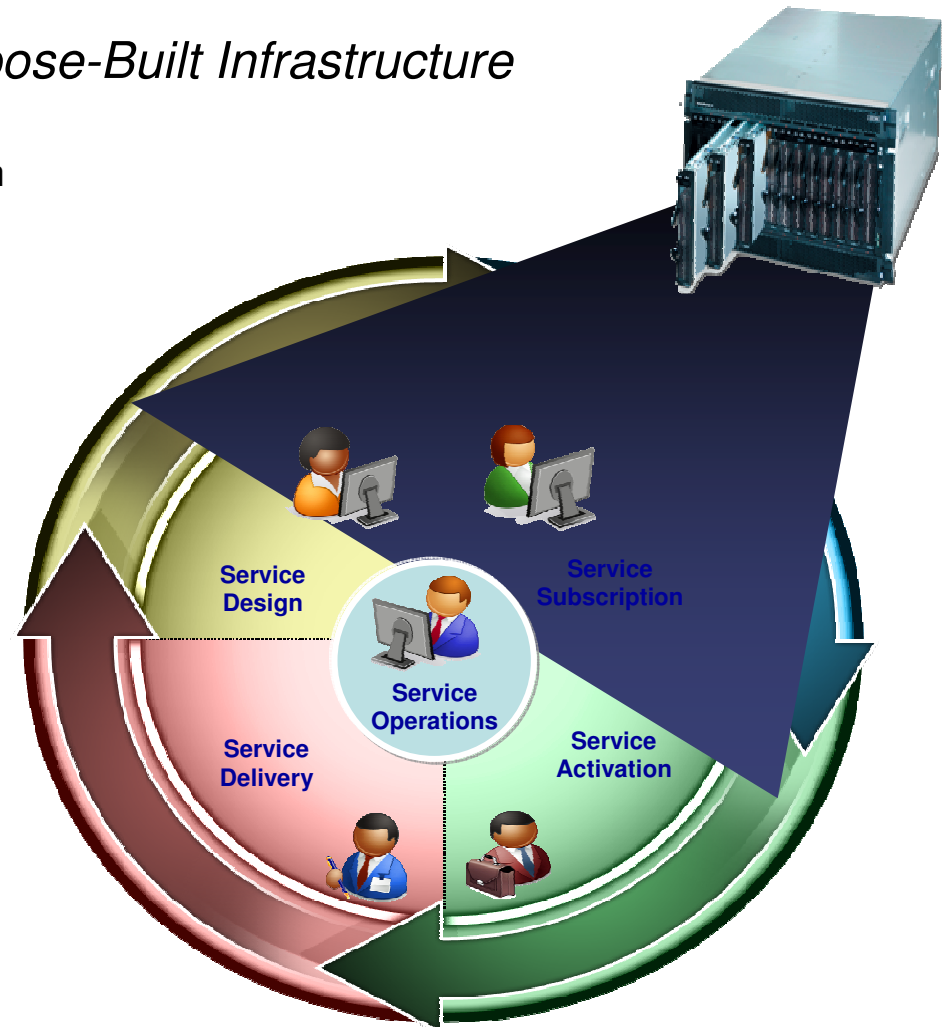
# IBM is Introducing IBM CloudBurst

... *Smart Business Systems, Purpose-Built Infrastructure*

Integrates the service management software system with network, servers, storage, quickstart services, and financing as an integrated offering to deliver an internal private cloud

## Benefits

- ✓ **Improved innovation** - Dramatically improve business value and IT's effect on time-to-market by enabling the business workloads to rapidly and accurately be deployed when and where they are needed.
- ✓ **Decrease operational expenses** – Gain productivity increases in IT labor costs through automation. Maximize capital usage and reduce added capital expense.
- ✓ **Reduce complexity and risk** - With automation and standardization the human error factor is minimized.

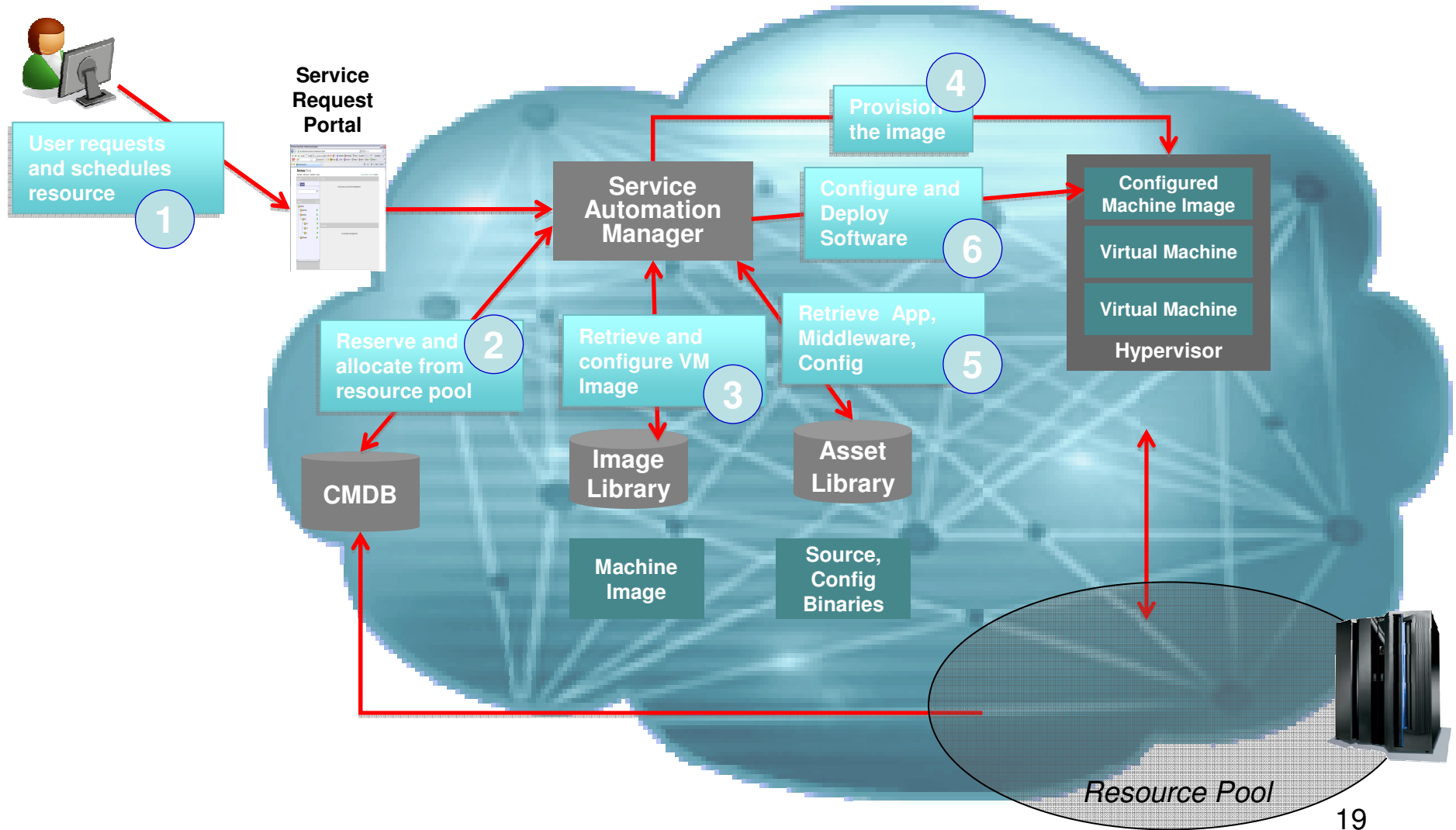




# Cloud capabilities and Demonstration

# Cloud service management:

## Basic request driven cloud provisioning workflow





# Demo scenarios

- Requester Create a New Server Request
- Admin Cloud show (optional)
  - Service Instance down to Workorder topology
  - TPM Workflow progress
- Showing Service design (optional)
  - Catalog Offering
  - Service Topology
    - Management Plan



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**Thank you!**

For More Information: [www.ibm.com/cloud](http://www.ibm.com/cloud)