IBM

Rethink IT. Reinvent Business.

Cloud Computing

Build a low-touch, highly scalable cloud with IBM SmartCloud Provisioning

Cloud computing is fundamental to changing the economics of business infrastructures and speeding the delivery of innovative products & services

Improve security and compliance control posture

Embrace new business opportunities while maintaining control and mitigating risk.

Improve speed and dexterity

Speed the delivery of new offerings and services by creating new models of self-service and deployment.

Deliver IT without boundaries

Implement new systems and management processes that simplify access to information in order to deliver better business outcomes.

Create new business value

Empower internal and external communities to define and create new offerings and services.

2

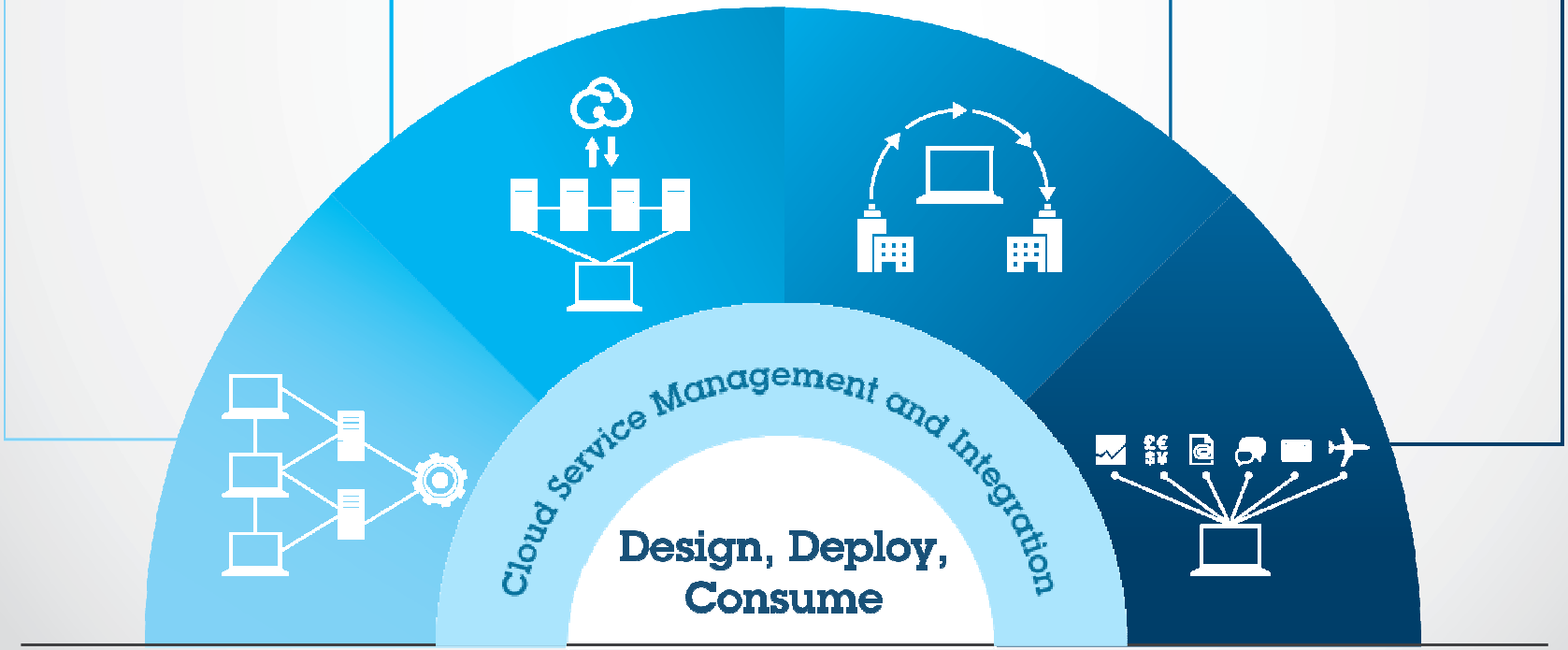
Adoption patterns are emerging for successfully beginning and progressing cloud initiatives

IaaS: Cut IT expense and complexity through a cloud enabled data center

PaaS: Accelerate time to market with cloud platform services

Innovate business models by becoming a cloud service provider

SaaS: Gain immediate access with business solutions on cloud



IBM delivers prescriptive, repeatable cloud solutions for our clients' most pressing priorities.

Cloud Enabled Data Center

Integrated service management, automation, provisioning, and self service

Projects to get started:

- Create a Cloud Strategy and Roadmap
- Consolidate and Virtualize your Infrastructure
- Image and Virtual Environment Management
- **Implementing an Entry Cloud Infrastructure**
- Implementing an Advanced Cloud Infrastructure
- Access Compute and Storage as a Service

Cloud Platform Services

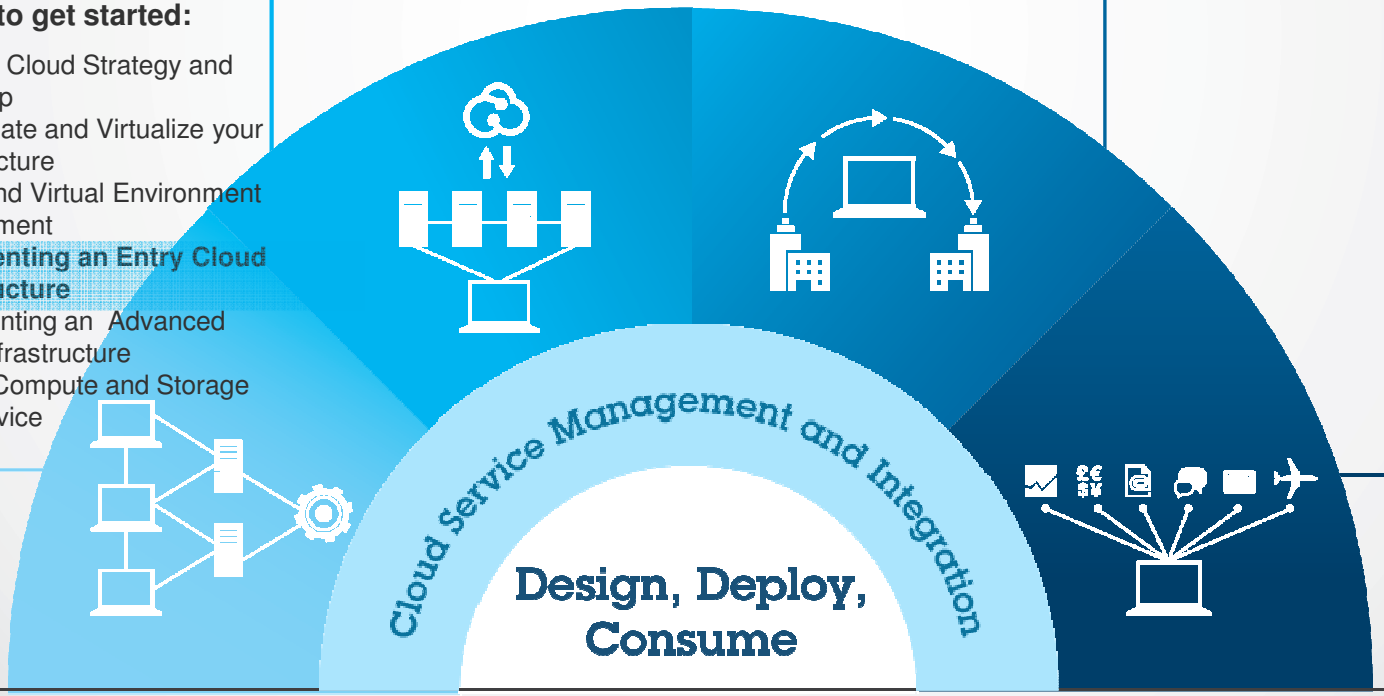
Pre-built, pre-integrated IT infrastructures tuned to application-specific needs

Cloud Service Provider

Advanced, reliable, highly secure and scalable platform for creating, managing, and monetizing cloud services

Business Solutions on Cloud

Capabilities provided to consumers for using a provider's applications running on a cloud infrastructure

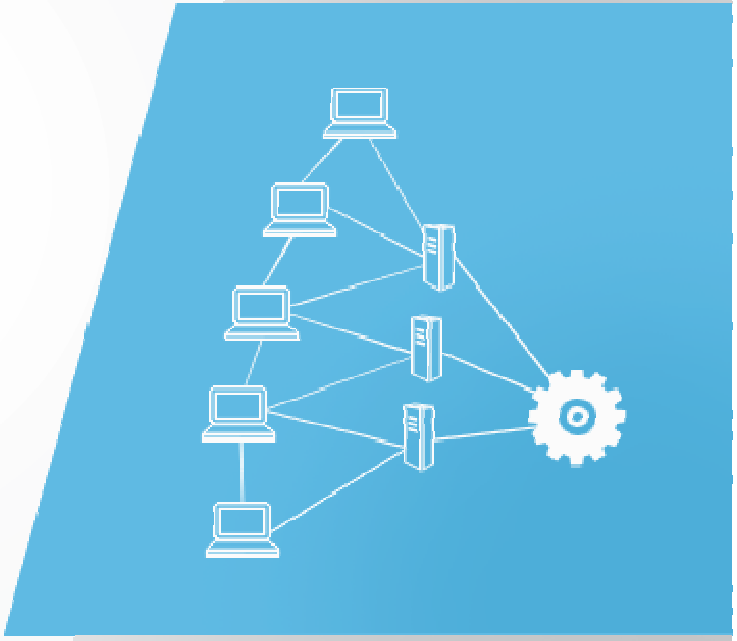


Build a low-touch, highly scalable cloud with IBM SmartCloud Provisioning

IBM SmartCloud Provisioning is a true Infrastructure-as-a-Service cloud, reducing cost and providing a highly scalable, rapid-deployment environment with near- zero downtime and automated recovery across heterogeneous platforms.

Key benefits:

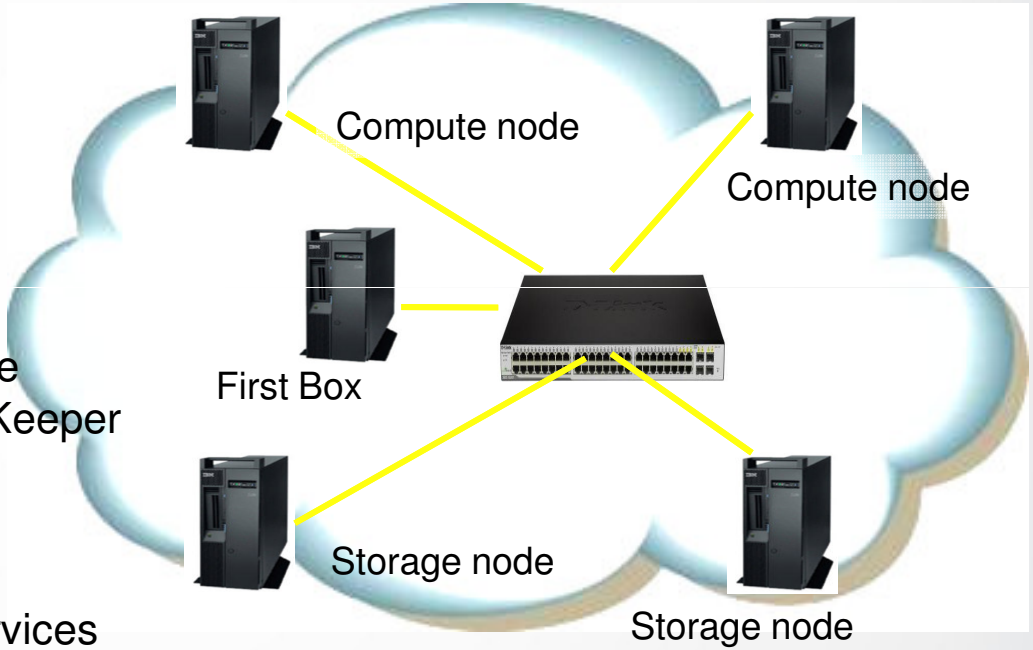
- **Rapid scalable deployment** designed to meet business growth with near-instant deployment of 100s of virtual machines
- **Reliable, non-stop cloud** capable of automatically tolerating and recovering from software and hardware failures
- **Save IT labor resources at scale** by enabling self-service request and highly automated operations
- **Reduce complexity** through ease of use and improve time to value



Quickly Get Started with SmartCloud Provisioning

- Quickly stand up a cloud
  - Start small and scale based on need
  - No additional pre-reqs such as databases, app servers, messaging middleware
  - Freedom of choice for hypervisors
    - Avoid expensive vendor lock in
    - VMWare ESX, KVM, Xen
- Highly cost effective solution
  - Requires no additional hypervisor management tools
  - Requires no HA hardware or software
  - Based on Apache Hadoop and ZooKeeper Technology
- Rich set of interfaces into the cloud
  - Web Interface, scripting and web services
  - All function can be driven by a user or by scripts for complete automation

IBM SmartCloud Provisioning

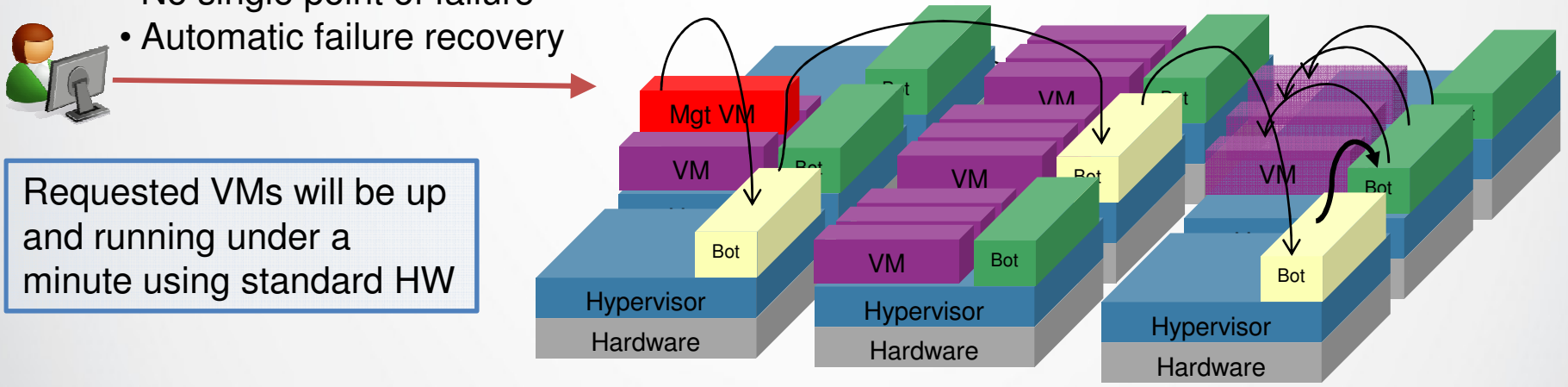


- Out-of-the-box and running in less than 4 hours
- Get started with only 4 servers

Provides Unparalleled Scalability, Speed and Fault Tolerance

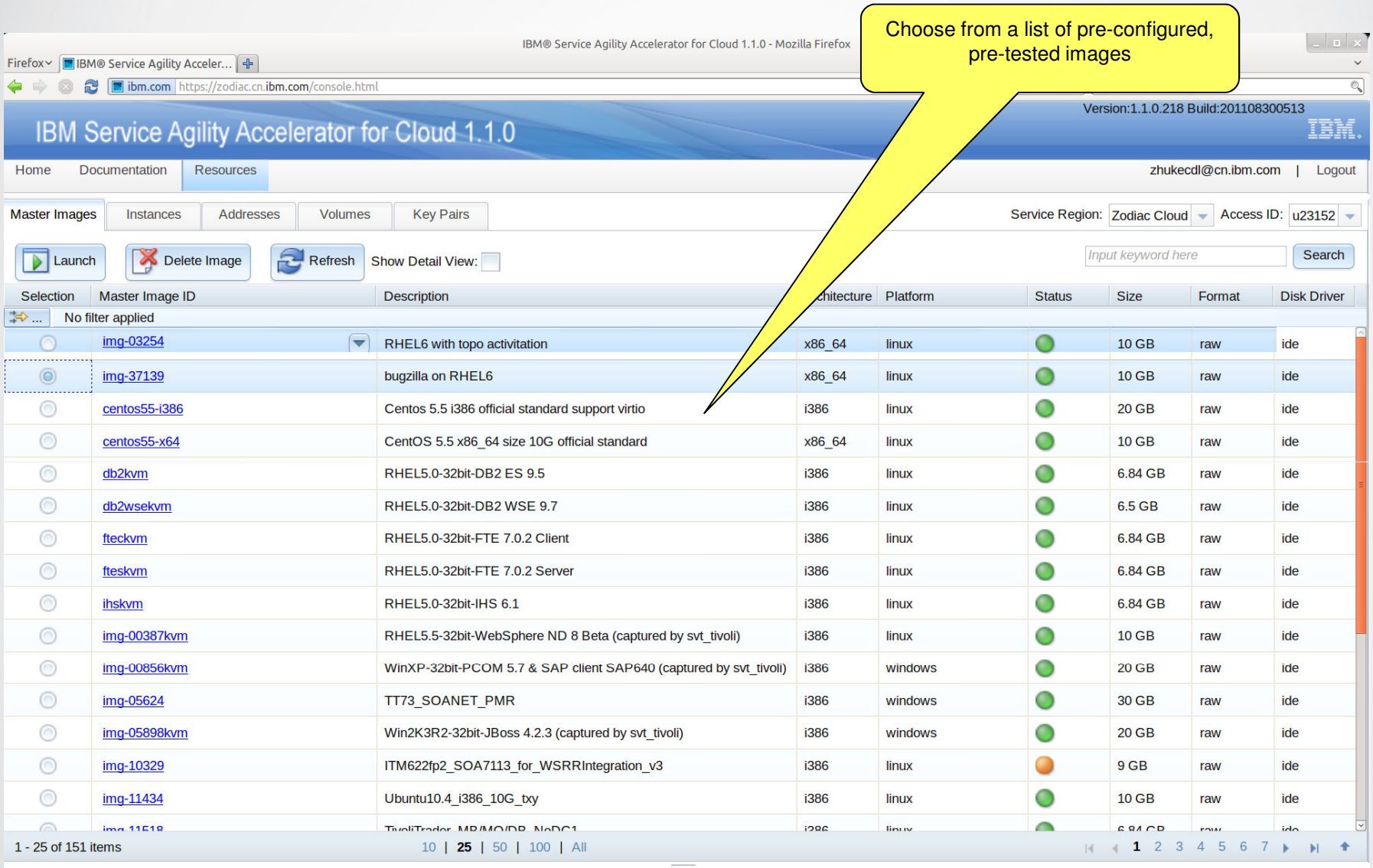
IBM SmartCloud Provisioning

- It's **Fast**
  - Can start 100 VMs in under 3 mins
  - Can start a single VM and load OS in under 10 seconds
  - Can go from bare metal to ready for work in under 5 minutes
- It **Scales** up to and beyond 50,000 VMs in an hour (50 nodes)
  - Add capacity by simply plugging in a blade or server
  - Writes only the data you change
  - Peer-peer architecture to avoid traditional bottlenecks
- It's **Fault-Tolerant**
  - "Live Update" capability to patch or upgrade the Cloud
  - No single point of failure
  - Automatic failure recovery

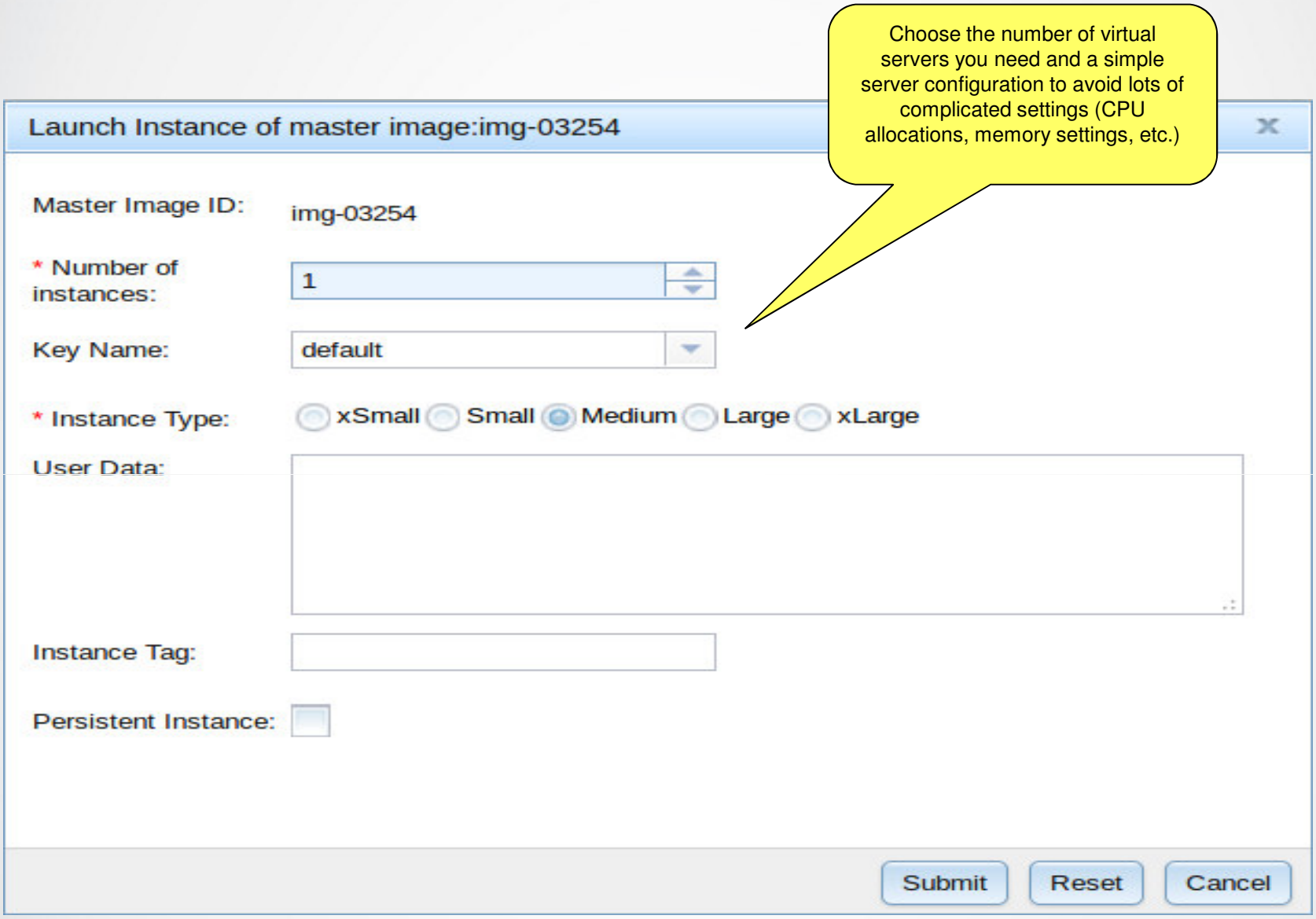


Requested VMs will be up and running under a minute using standard HW

UI, Command line, Web Service to select Images

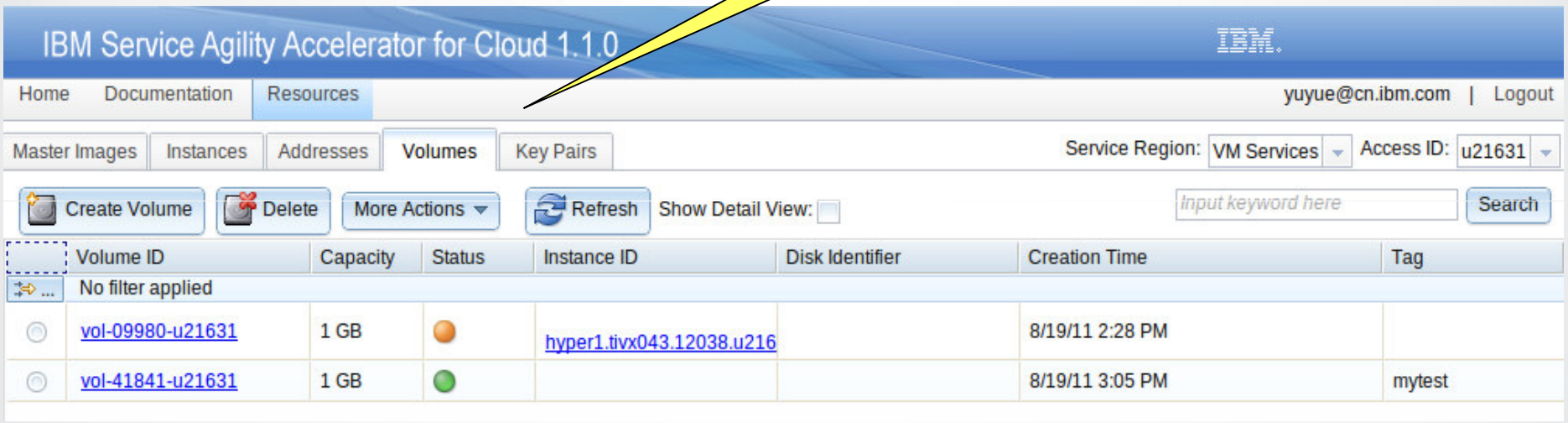


UI, Command Line, Web Service to Create Virtual Servers



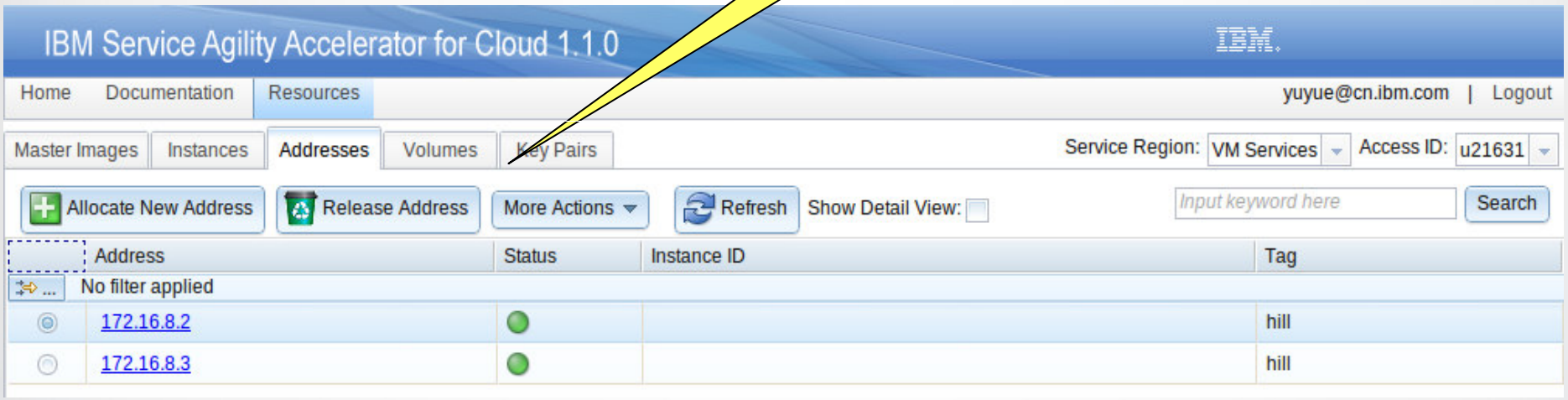
UI, Command Line, Web Service to Attach Storage

Optionally, add one or more storage volumes to your virtual server



UI, Command Line, Web Service to Bind IP Addresses

Optionally, add “public” IP addresses to your virtual servers so that other machines can reach them easily



Case Study: Leveraging IBM SmartCloud Provisioning throughout the Development Lifecycle

Business Challenge

Hardware constraints
- Significant number of machines required to support development life-cycle
- Low HW utilization rates
- Forced to use outdated HW

Time constraints
- Required time to setup a complex topologies
- Significant time spent on setup rather than testing

Skills requirements
- Training engineers to setup complex software stack

Solution

Leverage SmartCloud Provisioning to rapidly stand up development and test environments
- Currently using SmartCloud in 28 development and test projects in Tivoli
- Reduced setup time from 2 hours to 5 minutes
- Returned 356 old physical machines to surplus
- Enables more time to be spent validating software instead of setting up environments