

Cloud: A New Paradigm in Business Technology

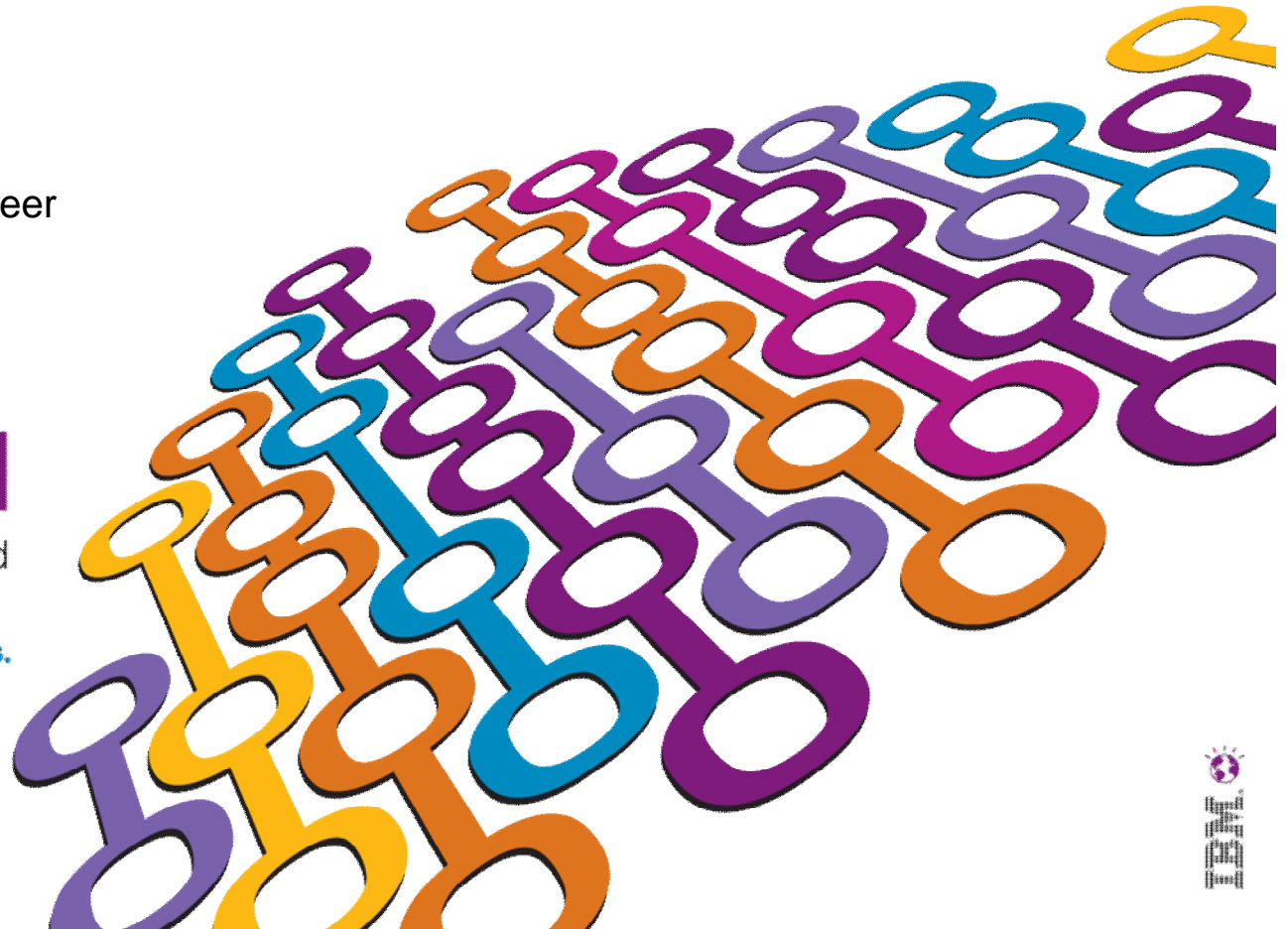
Jason McGee
IBM Distinguished Engineer
WebSphere Cloud

IBM Software

Impact2011

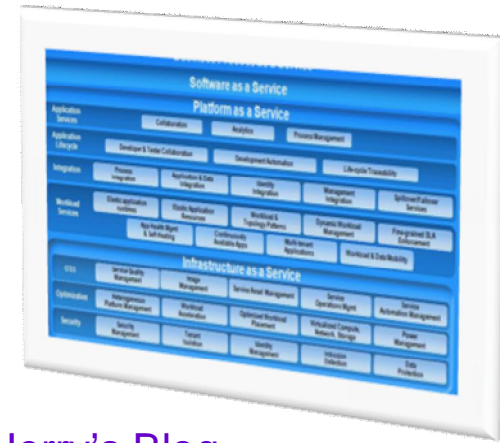
Changing the Way Business and
IT Leaders Work

Optimize for Growth. Deliver Results.



Top 10 IBM Cloud Attributes

- 1 **Standards Based** – Design once, deploy many
- 2 **Virtualization** – Atomic versus molecular
- 3 **Versatile Workloads** – From web to BPM
- 4 **Versatile Deployments** – *Hetero-deployitus*
- 5 **Elasticity** – Grows to the right size
- 6 **Density** – Shared middleware (Admin:Tenant)
- 7 **Security and Isolation** – Get off of my cloud!
- 8 **Resilient Discrimination** – Biased and keeps going
- 9 **Integrated** – Extends beyond boundaries
- 10 **Simplicity** – Self service, appliance, hosted



Jerry's Blog –
google: "cuomo websphere"

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My Top 10 IBM Cloud Attributes
gcuomo | Yesterday 12:34 PM | Tags: cloud | Comments (1) | Visits (117)

My Top 10 IBM Cloud Attributes
Next week is IMPACT 2011. Robert LeBlanc will be hosting a general audience session on IBM Cloud. Jason McGee and I will be covering a part of this session called "Architecting the Cloud." In 15 minutes, Jason and I will split the time to share our Cloud Reference architecture (which I will

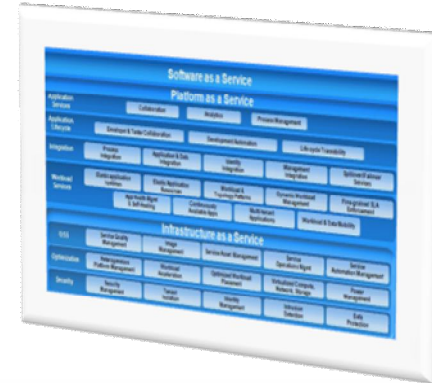
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1 Standards Based – design once, deploy many

- § Freedom of choice
- § SOA and service based
- § Internet technologies – e.g., REST/HTTP, SOAP/HTTP
- § Open Virtual Format

Join us at: www.cloudcustomerCouncil.org



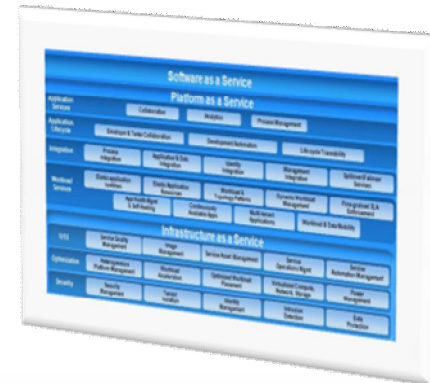
2 Virtualization – Atomic versus molecular

- § Server virtualization uses Images, which are like “atoms”
- § Enterprise Application virtualization requires image collections, which are like “molecules”
 - Atoms bound together with a purpose
 - Preconfigured, best practices
 - Patterns that capture topology and behavior



3 Versatile Workloads – From web to BPM

- § Support pluggable run-times
 - Enterprise Runtimes – JEE
 - Script Centric – PHP, Ruby
 - Integration – Messaging, ESB
 - Business Centric – Rules, Events, BPM
- § Tenant brings applications and policies, cloud provides the rest
 - Policies for Scale, Security, Transactions



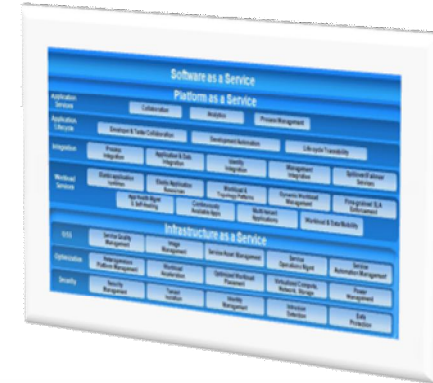
4 Versatile Deployments – Hetero-deployitus

- § IBM cloud supports multiple deployment platforms
 - IBM & Non IBM hardware
- § Automation scripts and published SPIs



5 Elasticity – Grows to the right size

- § Reacts to demand
- Increase or decrease capacity to meet SLAs
- § Data Caching and Replication
- § Policies enable elasticity
- Business and Tenant



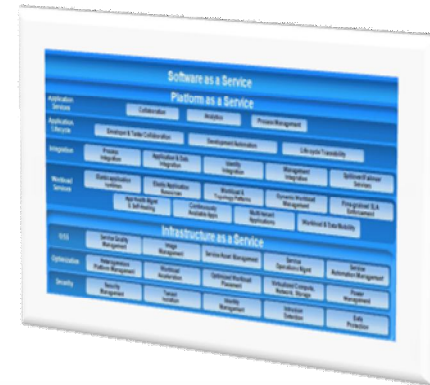
Density – Shared middleware (Admin:Tenant) 6

- § Sharing Middleware is the foundation of PaaS
- How many applications can fit into a square foot of rack space
- § Multi-tenancy is key to achieving density
- § Dense, shared middleware improves Admin per Tenant ratio
- Drives down people cost and improves accuracy of deployments



7 Security and Isolation – Get off of my cloud!

- § Tenant Isolation is almost an opposing force to density (or sharing)
 - Isolation policies dictate which workloads can be co-located with others and how much dedicated resource an application gets
- § Security at the edge of the cloud
 - Intrusion detection and application firewall



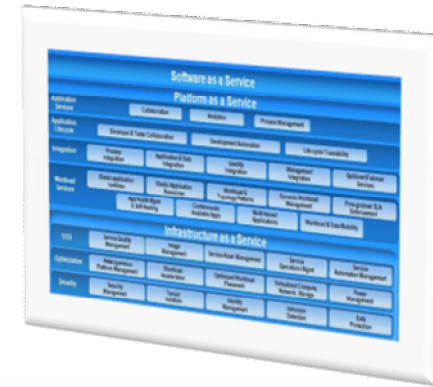
Resilient Discrimination – Biased and keeps going 8

- § The autonomic nature of clouds puts an extra emphasis on resiliency
- § Keys to a resilient cloud
 - Redundancy via replication
 - Data Analytics (e.g., intelligent log mining)
 - Intelligent Workload Management – governs work based on business importance



9 Integrated – Extends beyond boundaries

- § You have choices to build, partner or rent
- § Hybrid solutions are the most prudent form of cloud computing
- § Key to the success of hybrid solutions
 - API Integration, security, monitoring, governance
- § Cast Iron hybrid integration provides thousands of pre-determined integrations for quick adoption of cloud services
 - Most popular scenario is data synchronization between public and private cloud services



10 Simplicity – Self Service, Appliance, Hosted

- § Perhaps the most important and elusive of the attributes
 - Self-service, web-based portals, with first-class mobile support
 - Appliance delivery: Rack it, stack it, bring your own hardware, point the appliance at it, and away you go
 - Host it – www.ibm.com/smartcloud



Begin with Cloud Now

IBM Workload Deployer

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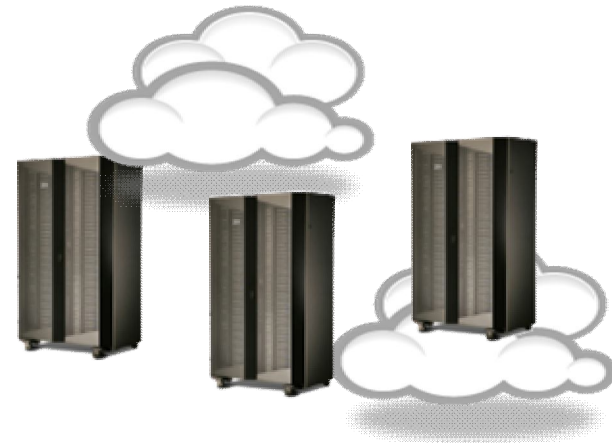
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IBM Workload Deployer

- § Workload Patterns
- § Bring-your-own Hardware
- § Improved time to value through faster deployment
- § End-to-End Lifecycle Management
- § Elasticity
- § Simplicity
- § Ready-to-Run Appliance Packaging



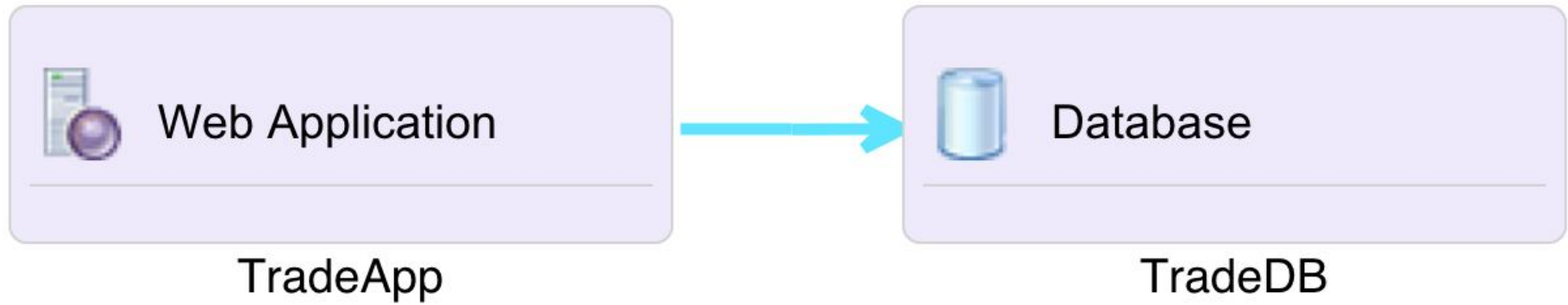
4 Versatile Deployments

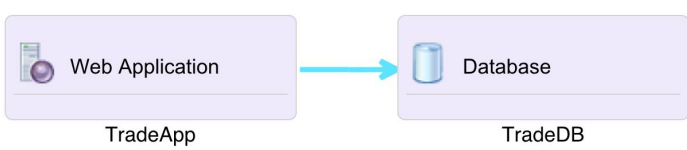
3 Versatile Workloads



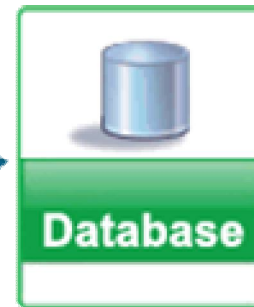
IBM Workload Deployer

2 Virtualization – Atomic versus molecular





Deployed
to the
Cloud





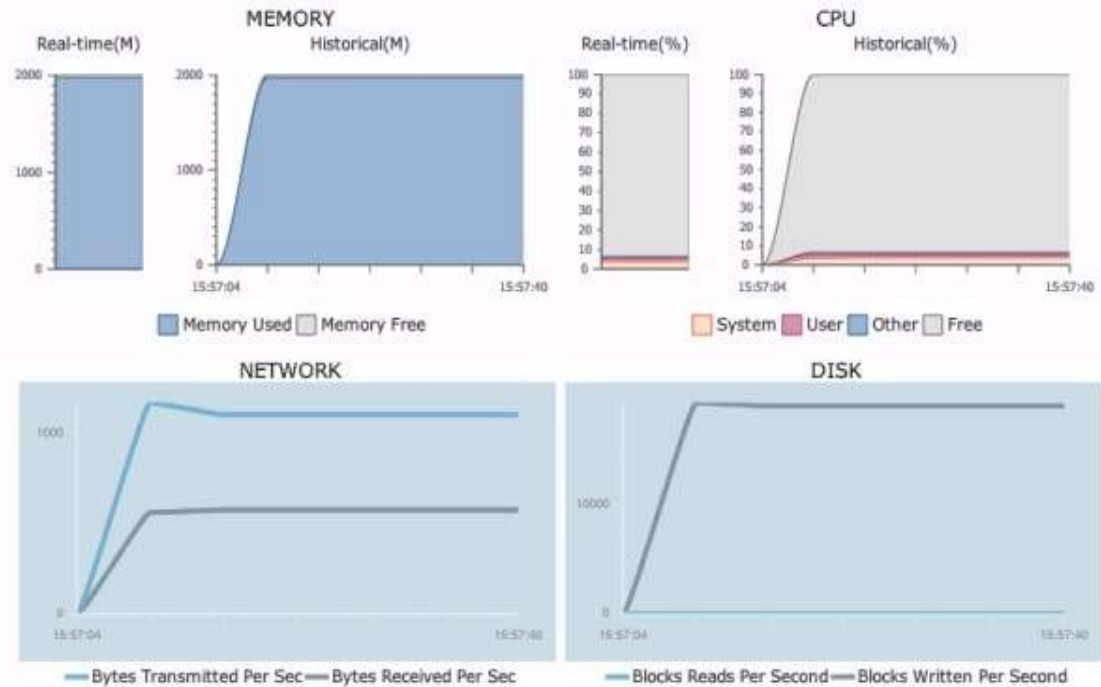
IBM Workload Deployer

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Virtual Machine Monitoring Middleware Monitoring Operation Configuration Logging

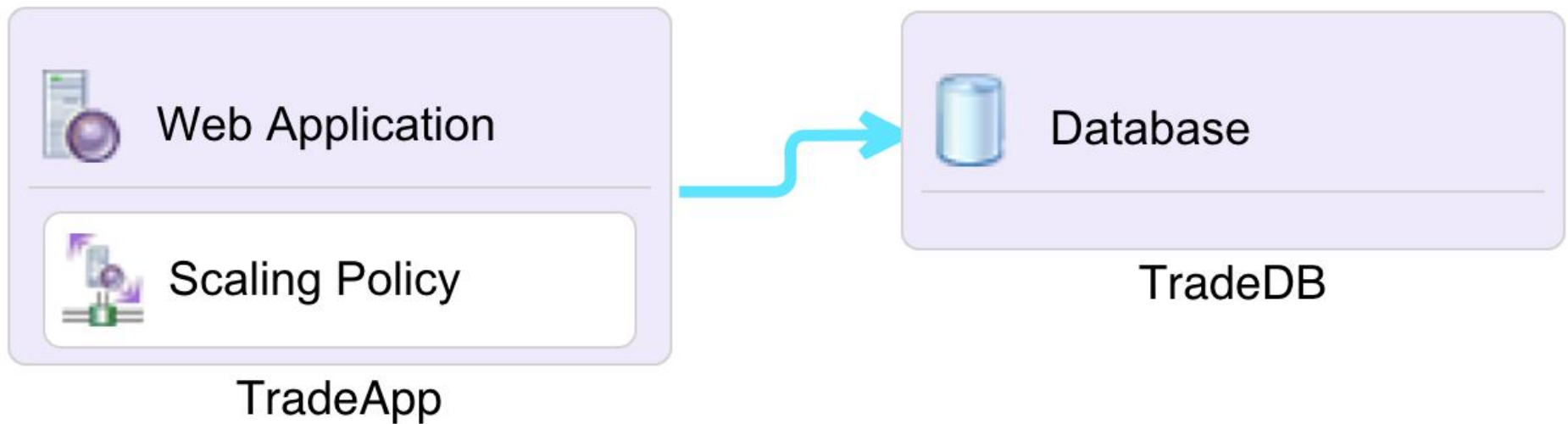
Normal Warning Critical Help

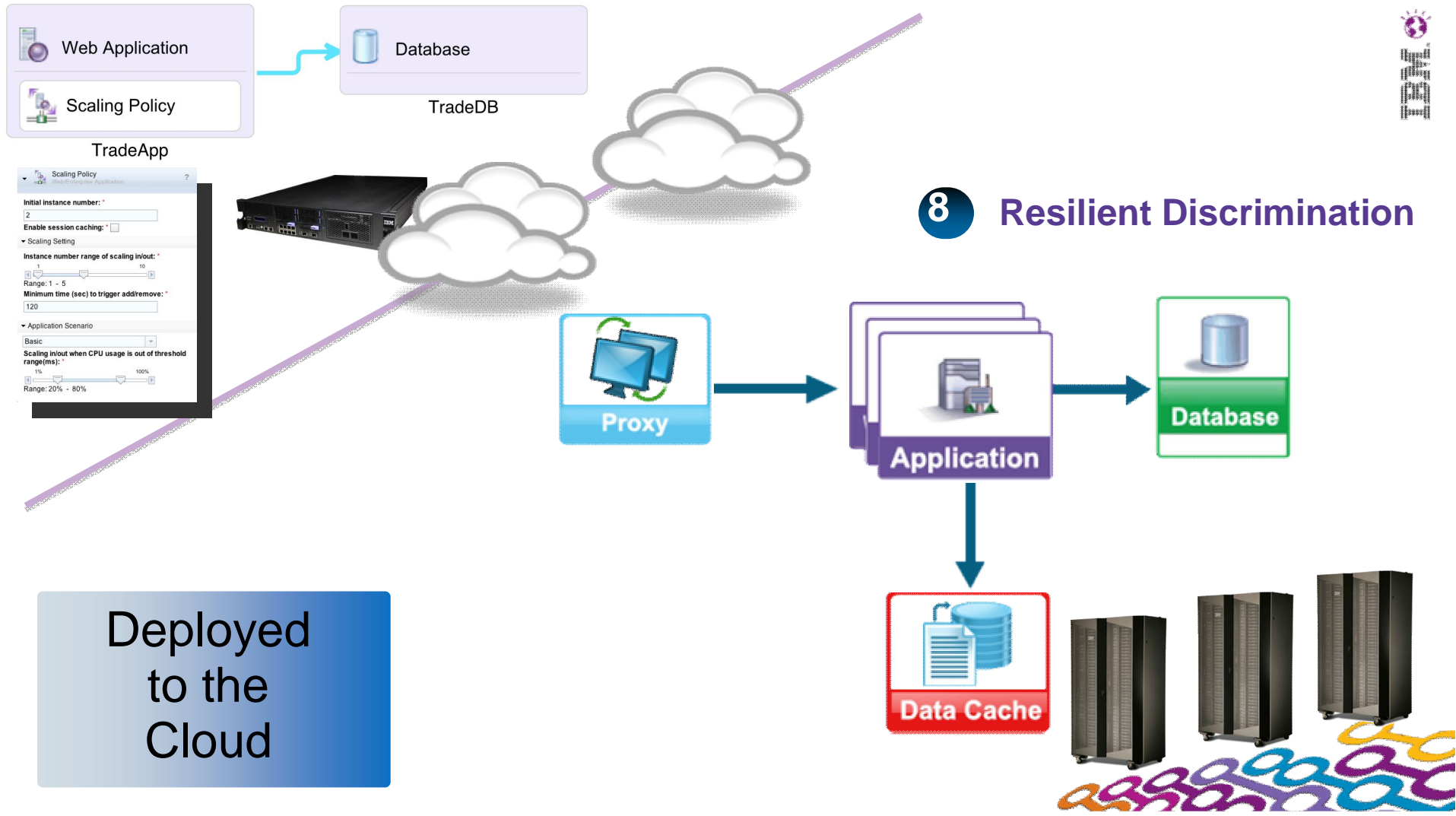
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application_wxs-catalog.1	9.42.77.5	Warning
application-was.1	9.42.77.6	Warning
database-db2.1	9.42.77.4	Warning



IBM Workload Deployer

5 Elasticity – Grows to the right size





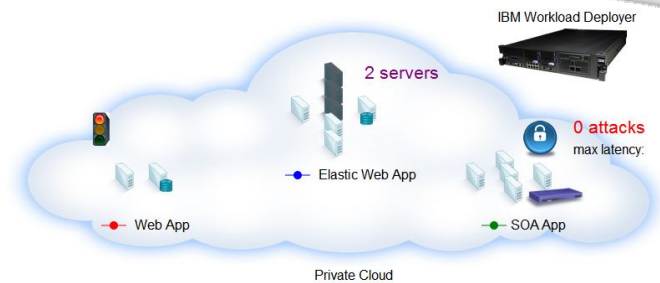
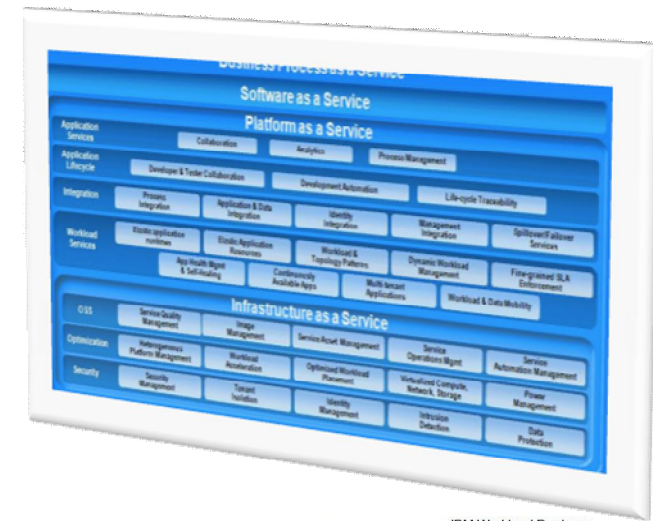
Architecting the Cloud

IBM's Cloud Architecture is delivering real client value

- § Standards based – giving freedom of choice
- § Versatility around workloads and deployment platforms
- § Qualities of Service
- § Flexible Deployment Models

IBM's Cloud Offerings simplify the delivery of these capabilities

- § For example, IBM Workload Deployer



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