

The IBM Platform Computing HPC Cloud Service

Solution Overview

Industry-leading workload management

- 20 years managing distributed scale-out systems with 2000+ customers in many industries
- High performance workload management combined with intelligent resource scheduling engine
- Unmatched scalability (small clusters to global grids) and production-proven reliability
- Heterogeneous – manages System x and Power plus 3rd party systems, virtual and bare metal, accelerators / GPU, cloud, etc.
- Shared services for both compute and data intensive workloads
- Integrated solutions with vertical reference architectures

23 of 30
largest
commercial
enterprises

60% of top
financial
services
companies

Over 5M CPUs
under
management

Elastic Storage (GPFS) - The Industry Standard for High Performance, Scalable Storage

- 15 years in the marketplace
- Broad adoption across many industries
 - **Technical computing** - Government, Educational
 - **Enterprise computing** - Business Analytics, Financial Services, Electronic Design Automation, Life Sciences, Oil & Gas Exploration, Media
- Over 3,000 customers world-wide
- Growing in double digits year to year
- Industry proven, minimizing risk

What's driving our clients to the Cloud

- Strategic direction set by CxO – Moving IT to the cloud across the business
- Demand for greater flexibility to meet varying workload demands
- No spare capacity in current data centres
- Re-focus IT staff to higher value work to better serve business needs
- Compute demands are increasing but staffing budgets are not
- IT expected to deliver greater agility to better serve needs of the business
- Reduce capital expenditure and move from capx to opex IT model
- New business models made possible by cloud adoption (ISV SaaS)
- Low capital outlay test / dev environments for migrations, new developments
- Deploying shared resources for collaboration, joint research, sub-contractors

But ...

Deploying high-performance applications in the cloud can be harder than it seems!



Challenges deploying applications in the cloud

- Performance



Clients may experience poor or unpredictable performance making it impossible to guarantee service levels

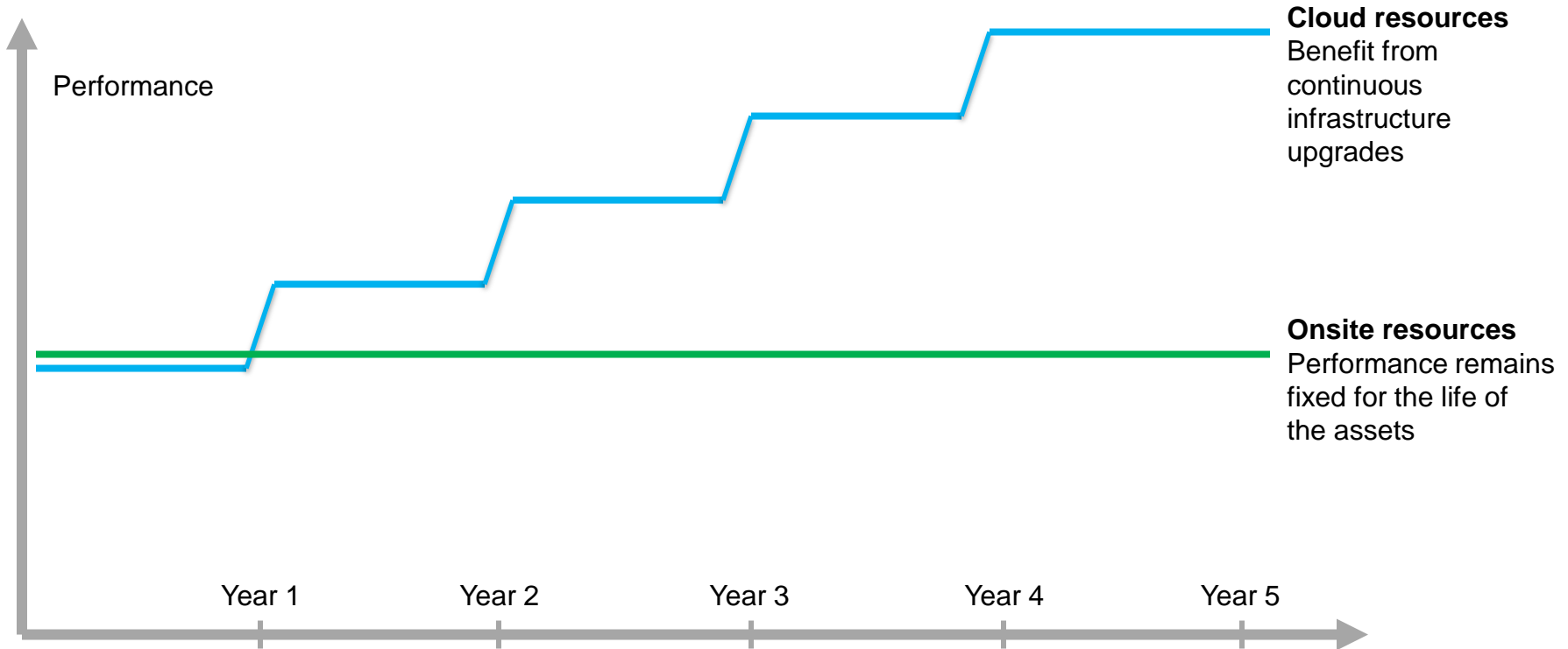
Exceptional performance

- Bare-metal, dedicated infrastructure
- Fast networks, specialized hardware
- Advanced data management

Meet performance goals in less time at a lower cost

Exceptional performance

Benefit from continual technology refresh



Challenges deploying applications in the cloud

- Performance
- Privacy & security concerns



Concerns about placing sensitive data on a shared infrastructure where it may be visible to others, legal requirements, geographic boundaries etc..

Security and data integrity

- Dedicated, isolated environment
- Each cluster isolated on private VLAN
- Secure, encrypted tunnel
- Secure, reliable file system
- Decommissioned disks scrubbed with DoD approved methods



Challenges deploying applications in the cloud

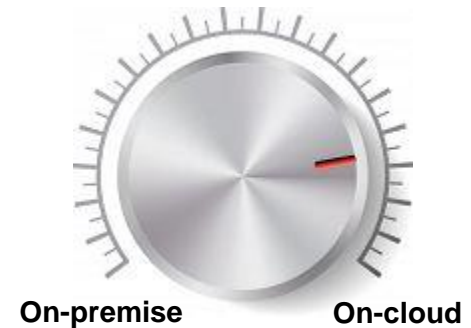
- Performance
- Privacy & security concerns
- Lack of cost transparency



Concerns about escalating costs and being locked into a “public cloud only” approach without the freedom to run applications locally as needs evolve

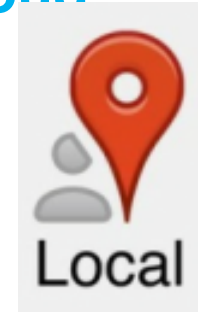
Cost transparency & flexibility assured

- Dial resources up and down as needed
- Retain flexibility to deploy on-premise or in the cloud
- Burst to cloud resources based on business policies
- Reporting, usage-based accounting



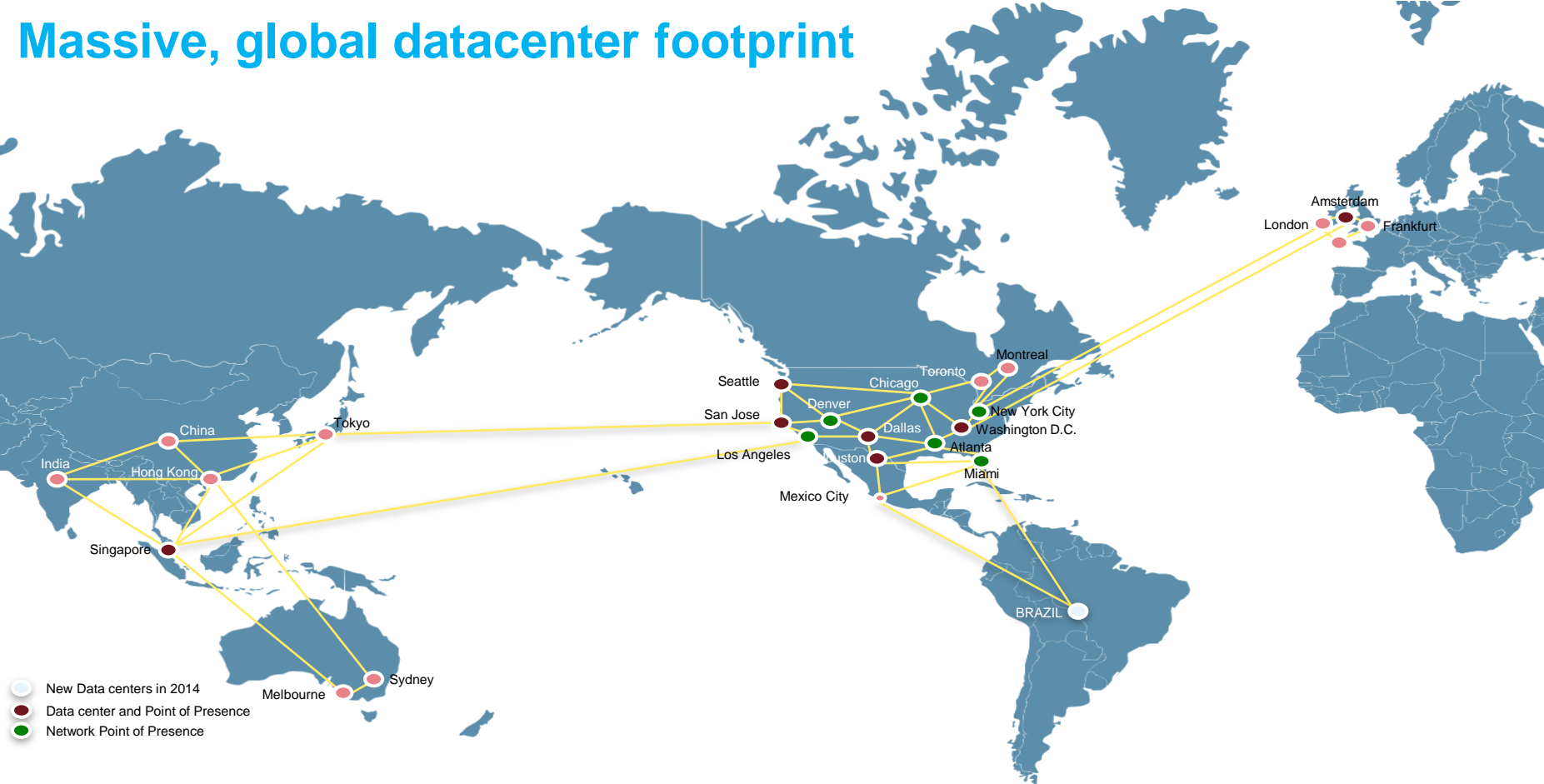
Challenges deploying applications in the cloud

- Performance
- Privacy & security concerns
- Lack of cost transparency
- **Local points of presence**



Local in-country presence for better network performance, or to meet specific legal or regulatory requirements

Massive, global datacenter footprint



Massive, global datacenter footprint

- 100,000+ servers
- 21,000 customers
- 20,000,000 active domains
- 40 data centers, 5 continents
- Global DNS, DDOS mitigation

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an IBM Company

**{ Platform
Computing**

Challenges deploying applications in the cloud

- Performance
- Privacy & security concerns
- Lack of cost transparency
- Local points of presence
- **Unique requirements**



Some applications have unique requirements – fast interconnects, parallel file systems, specialized hardware

Challenges deploying applications in the cloud

- Performance
- Privacy & security concerns
- Lack of cost transparency
- Local points of presence
- Unique requirements
- Support



You are an expert in your application, but you don't want to be an expert in cluster and workload management. Also, you may not have budget for additional required infrastructure

7x24 Platform Computing Cloud Operations Team

7x24 proactive support, automated alerting / notification

HW usage accounting, flexible reporting & billing

Extensive pre-delivery testing – flex up / flex down

Secure VPN tunnel, hybrid cloud configuration

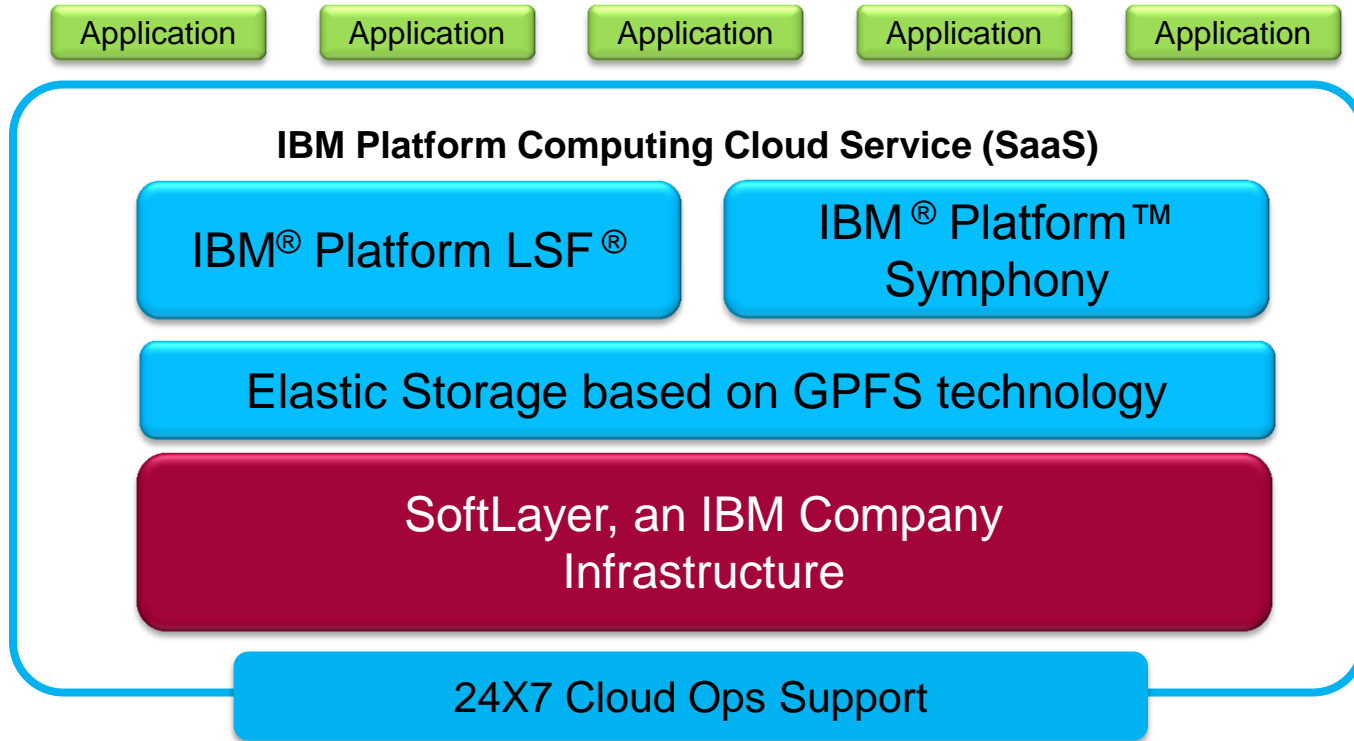
IBM® Platform LSF® or IBM Platform™ Symphony deployment

Optional parallel file system for data management

OS Installation & configuration

Physical provisioning of bare-metal infrastructure

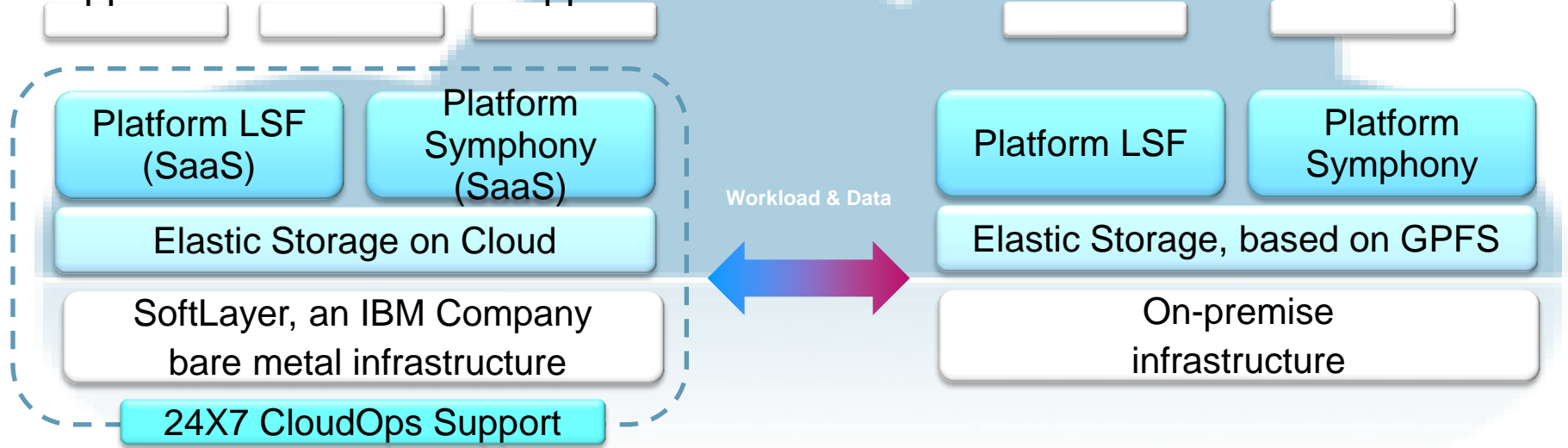
IBM Platform Computing Cloud Service



Two main cloud models – Stand Alone or Hybrid

ISV Apps / In-House Codes / Applications

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Platform Computing Cloud Service

Ready to use, high performance cluster in the cloud

Local Infrastructure

Platform LSF or Platform Symphony cluster or grid

The IBM Platform Computing Cloud Service

- Purpose-built for high-performance applications
- Deployed and managed by the experts
- Best-in-class cluster and workload management
- Dedicated infrastructure for outstanding performance
- Hybrid cloud for cost transparency and flexibility
- Multiple points of presence and additional security
- Proactive, top quality support



Thank You