Hyperion Focus 2015

EPM Hosting

Cloud vs Hosting vs On Premise

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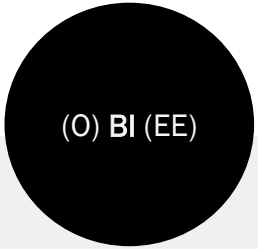
Infratects

Hosting options?

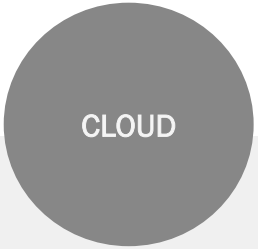
and what works best for your EPM environment?

Some Popular Buzzwords

Data sets so large or complex that traditional data processing applications are inadequate



A set of techniques and tools for the transformation of raw data into meaningful and useful information for business analysis purposes



Computing and storage solutions delivering various capabilities to store and process data in third-party data centers. **It relies on sharing of resources to achieve coherence and economies of scale**

Cloud, do I have a choice?

PUBLIC CLOUD

- Hosted with a third-party datacentre
- Using Shared Resources
- Using Shared Connection (The Internet)
- Pay per Use
- Easy upscaling

PRIVATE CLOUD

- Hosted with a third-party datacentre
- Shared or Dedicated Resources
- Using Private Connection
- Pay per Use
- Easy upscaling

HYBRID CLOUD

- Making use of multiple Cloud environments
  - or
- Making use of Cloud and Internal Platform

Key characteristics Hosting options

CLOUD	HOSTING	ON PREMISE
• Third Party Datacentre • Shared infrastructure • Shared or private connectivity • Design per available building blocks • Applications pre-installed • Fixed patch routine • Pay per Use	• Third Party Datacentre • Shared or dedicated infrastructure • Private or internal connectivity • Custom design • Custom application deployment • Patching on request • 1 to 3 year contracts	• Internal or Third Party Datacentre • Shared or dedicated infrastructure • Internal connectivity • Custom Design • Custom application deployment • Patching on request • Contract with internal IT

Hyperion and Hosting

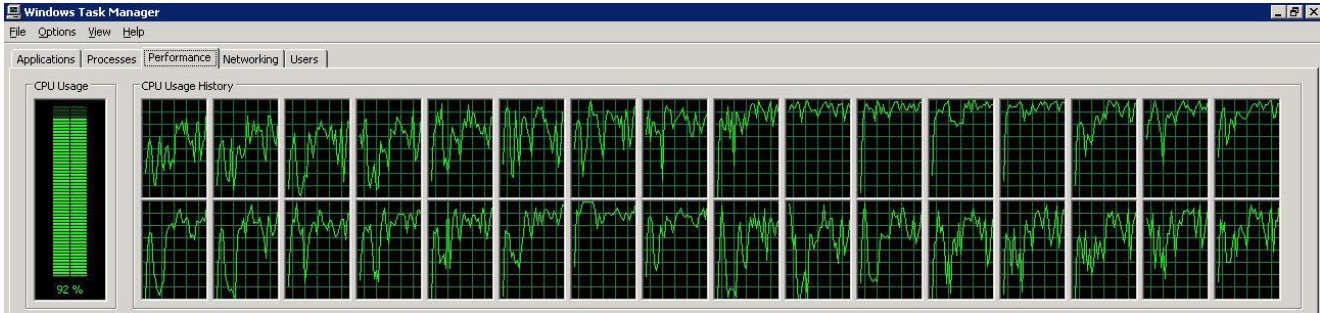
What to bear in mind

Hyperion and Hosting

- Very resource intensive
  - Multi-dimensional applications
  - Calculating through large amounts of data
  - CPU/RAM/Disk utilization extremely high
- Size for Peak usage
  - Utilization up to 100% during reporting
  - Under 10% outside of reporting

Example HFM Production server during Reporting

>200 concurrent users



Hyperion and Hosting

- Application and usage unique per organization
  - Difficult to benchmark
- Limited knowledge IT departments and IT providers
  - Suite of products & components
  - Complex software architecture
- Sensitive financial data
  - Laws & regulations (SOX, data protection, etc)
  - Location & Security

Hyperion and Hosting

- Design criteria
  - Very resource intensive
  - Size for Peak usage
  - Application and usage differ per organization
  - Limited knowledge IT departments and IT providers
  - Sensitive financial data

Cloud benefits and drawbacks

How does a Cloud setup look like?

Cloud benefits and drawbacks

- Cost savings 30% to 70%
  - Use less hardware resources
  - Use shared infrastructure components and high utilization of these shared components
  - Use less staff for management and support, and/or outsource/offshore staff
  - You're paying less because you get less

- Drawbacks
  - Limited influence on performance
  - Fluctuating system performance
  - Low quality support & services

Cloud benefits and drawbacks

- Cloud is flexible and resilient
  - Scalable - add system resources when required
  - Quick deployment extra (virtual) machines
  - High available platform and Disaster Recovery by design
- Drawbacks
  - Upscaling *(adding additional virtual resources)* does not improve underlying architecture
  - Outscaling *(adding additional virtual servers)* might be easy, but requires reconfiguration of EPM stack
  - High availability and DR often a black box for client.
  - Due to shared infrastructure ad-hoc DR tests not always possible

Cloud benefits and drawbacks

- Cloud pricing is transparent
  - Pricing per Virtual system and virtual resources (vCPU, vRAM, vDisk)

- Drawbacks
  - Virtual resources do not guarantee anything about the underlying physical resources actually used or available. (Example: Your complete Production environment could run on a single 6 year old commodity server)

Cloud benefits and drawbacks

- Lower cost – because you're getting less
- Flexible and resilient – not always true or insufficient
- Maintenance – is included, but not always as flexible
- Transparent pricing – not really because it's based on Virtual

Cloud benefits and drawbacks

Top 5 Challenges Change with Cloud Maturity

Place	Cloud Beginners	Cloud Explorers	Cloud Focused
#1	Lack of resources/expertise (35%)	**Complexity of building a private cloud (32%)**	Security (19%)
#2	Security (32%)	Security (30%)	Compliance (18%)
#3	Compliance (28%)	**Managing multiple cloud services (30%)**	Managing costs (18%)
#4	Governance/control (28%)	Lack of resources/expertise (26%)	Managing multiple cloud services (17%)
#5	Managing costs (27%)	Compliance/governance/control (24%)	Governance/control (17%)

Source: RightScale 2015 State of the Cloud Report

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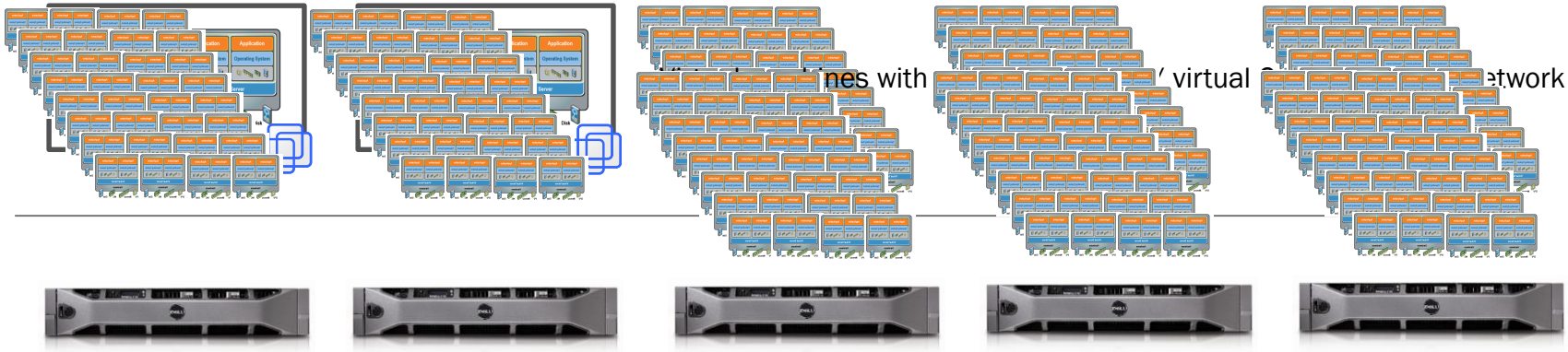
A typical Cloud infrastructure

Cloud Infrastructure

- Customer gets Virtual systems with Virtual resources

- The underlying physical infrastructure is shared
  - With other virtual machines, other applications, other customers
  - There’s no insight or guarantees about the underlying infrastructure
  - Resources can be overcommitted
  - No or limited quality of service

Cloud Infrastructure



Shared Network

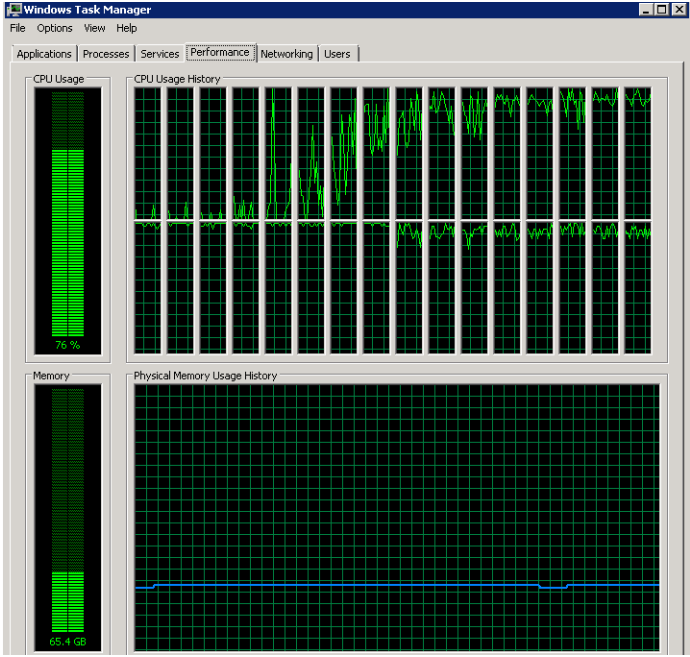
Shared Storage

This is what you want!

What you often get!

Cloud benefits and drawbacks

- Benchmark test (AEX listed customer app)
  - Hosted with top15 largest IT provider worldwide
  - Full year HFM consolidate all with data
  - Standard Cloud @ Customer → Fluctuation 2 to 5 hours
  - Physical @ Infratects Lab → 43 minutes
  - Physical @ Infratects Lab → 5.5 minutes (v11.1.2.4)



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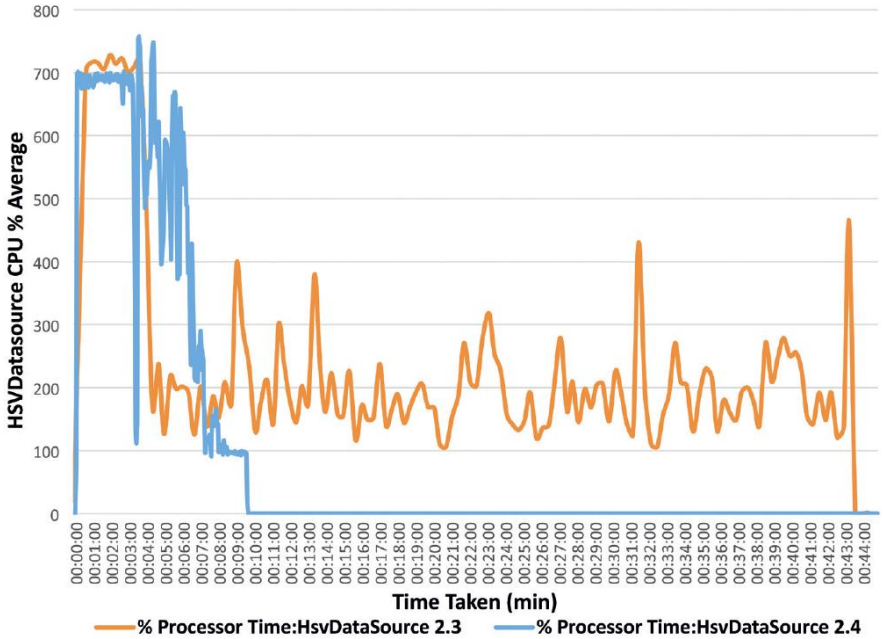
11.1.2.4 and Cloud

8 Threaded Consolidation HFM 11.1.2.3 vs 11.1.2.4



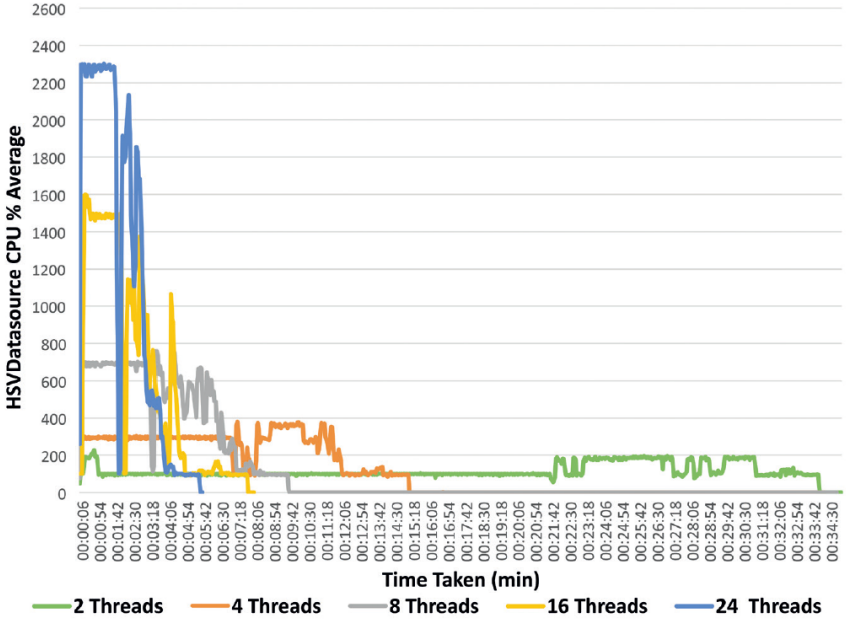
✓ 75% improvement in consolidation times

✓ Marked improvement in the running of concurrent consolidation performance

Consolidation on the same data set on the same hardware: Dell PowerEdge R820 – Intel Xeon E5-4640 2.4GHz 4 Socket x 8 Cores (32Cores Total, HT Disabled), 256GB RAM, SSD, Windows 2008 R2

11.1.2.4 and Cloud

Consolidation times for varying numbers of thread values



✓ # of consolidation threads > 8 ⇨ greater results

✓ The bigger & more hierarchical application ⇨ better performance by increasing the consolidation threads

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11.1.2.4 and Cloud

POV Consolidated (2200 entities)	9.3.1 – 8 Threads, Physical Server*	11.1.2.4 – 4 Threads Virtual Server**	11.1.2.4 – 24 Threads, Physical Server***
1 Year All with Data	2h:00m	1h:13m	0h:24m
1 Period All with Data	0h:22m	0h:15m	0h:4m

**HP ProLiant BL460c G1 - 8 Core 2.5 GHz Windows 2003*

*** VMWare – 4 vCPU 12GB RAM*

****Dell PowerEdge R820 – Intel Xeon E5-4640 2.4GHz 4 Socket x 8 Cores (32Cores Total, HT Disabled), 256GB RAM, SSD, Windows 2008 R2*

EPM in the Cloud

Some examples and best practices

EPM in the Cloud, Oracle examples

- PBCS and EPRCS only EPM applications at this moment
- ARCS, OTPCS and FCCS *(not HFM)* announced
- OMCS previously known as OnDemand.
  - EPM Hosting in a Oracle datacentre
  - Custom design, custom build, custom versions and patch cycles

- Oracle's xCS infrastructure not a typical cloud setup
  - True cloud driven application, not an Infrastructure as a Service
  - PBCS offered with minimum of 10 users
  - Per user set, additional dedicated resources are offered (slice of Exalytics)
  - Need more performance, get more users
  - Introducing whitelisting. You control who can see the logon page

EPM in the Cloud, Infratects examples

- **EPM Cloud** (everything virtual)
  - Small application, Low performance requirements, Small user base
  - Shared connectivity, private VLAN and Portal
- **Hybrid EPM Cloud** (mixed virtual/physical)
  - Small to Medium application, Medium performance requirements, up to Medium user base
  - Production using dedicated physical servers for high demanding products (HFM, Essbase, RDBMS)
  - Private connection
- **EPM Hosting** (everything dedicated)
  - Medium to Large application, Medium to High performance requirements, Medium to Large user base
  - Customized solution where all hardware is dedicated for the customer's EPM solution (no shared components)
  - Complies with any requirement: Performance, Security, Auditing, High Availability, DR, etc

EPM in the Cloud, Infratects examples

- Key facts about Infratects EPM Cloud solutions
  - 75% use dedicated EPM Cloud with dedicated physical servers for Production
  - 25% using standard/hybrid Cloud
  - 40% include Disaster Recovery services

- Key Customer requirements for EPM Cloud / EPM Hosting
  - High Performance
  - Hyperion expertise
  - Security
  - Customization/integration
  - Customized support and maintenance schedules
  - Connectivity and performance optimization end users

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EPM in the Cloud - Do's and Don't's

- Don't assume Cloud providers know and understand what you need
- *Involve an EPM functional and infrastructure specialist to assist throughout the process*

- Don't adjust your EPM environment to fit the Cloud standards
- *Adjust the Cloud standards to your EPM environment requirements*

- Don't focus only on all the benefits of using the Cloud
- *Focus on what you want to achieve. Understand and accept the drawbacks*

Questions

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Thank you!


EPM Maestro


Merlin xl


AMOSCA
Balancing Business and Systems


VertexFusion


keyteach


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