

Hyperion Focus 17

Proactively Monitoring and Maintaining your EPM Systems

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AMOSCA



Speaker Biography

- Graduated in Mathematics and Engineering in 2000
- Worked in software implementation since graduation
- Hyperion / Oracle EPM since 2006
- Consulting - Infrastructure architect and Technical support
- System manager - HFM, FDM(EE), Planning, Essbase, DRM, Strategic Finance
- Complementary systems – Maestro, Merlin, CXO Cockpit, Qlik, UPK...
- ERP systems - Sage X3, Microsoft Axapta
- Overall owner for almost 200 servers for various systems





Presentation overview

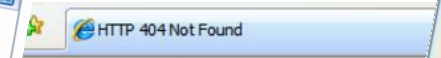
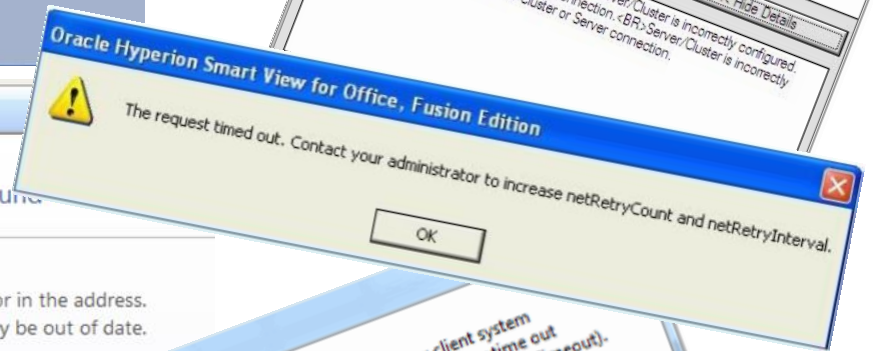
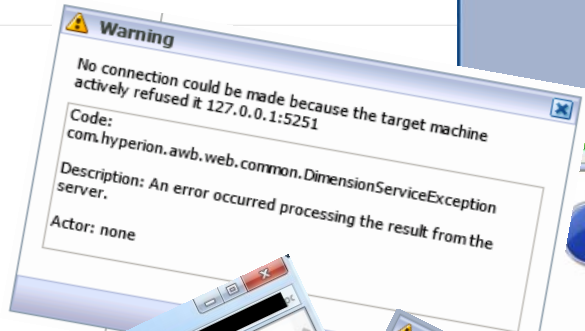
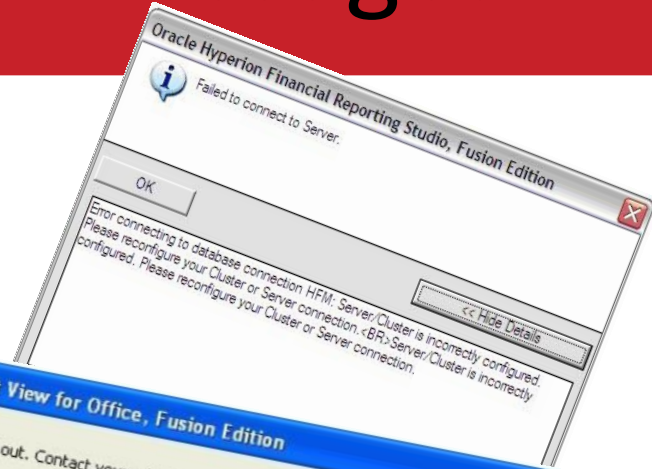
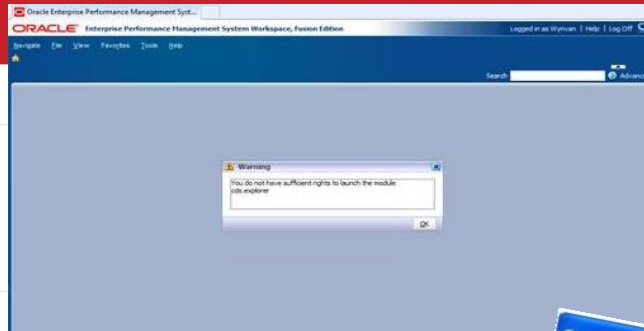
- Introduction
- Application and Service availability
- Health, monitoring and performance
- EPM installation information
- Maintenance, administration and tuning
- AMOSCA can help

Numerous error messages



Not Found

The requested URL /website/about was not found on this server.

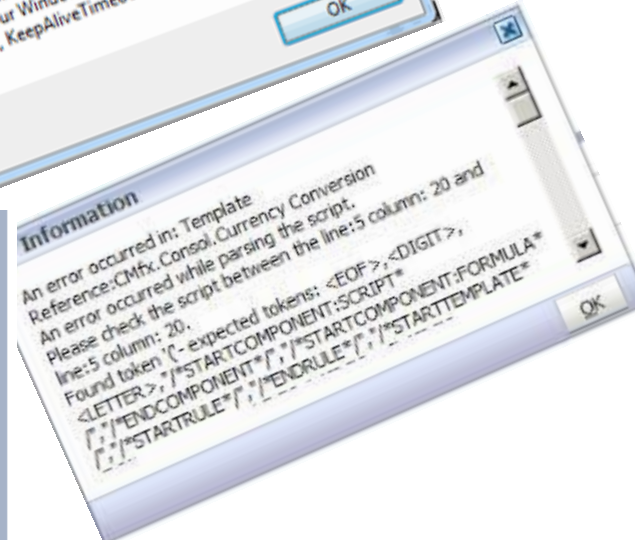
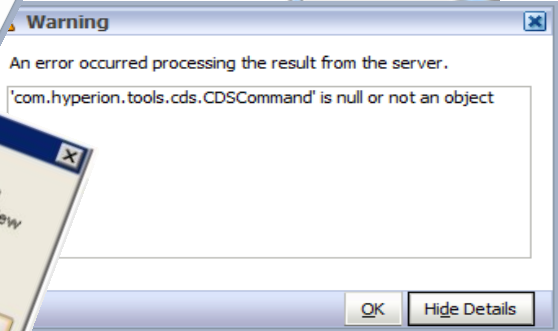
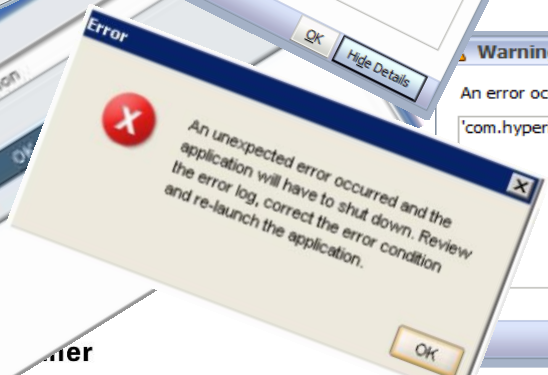
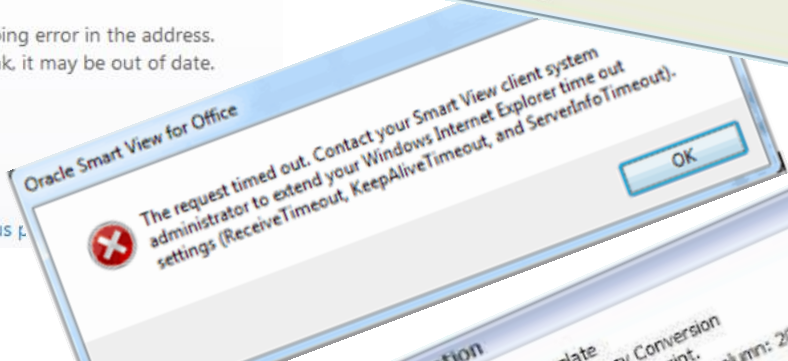
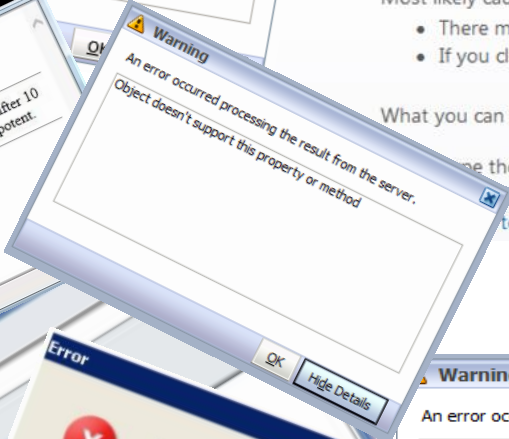


Most likely causes:

- There might be a typing error in the address.
- If you clicked on a link, it may be out of date.

What you can try:

- Re-enter the address.
- Click the back button to return to the previous page.



Aaaaarrrrrhhhhh !



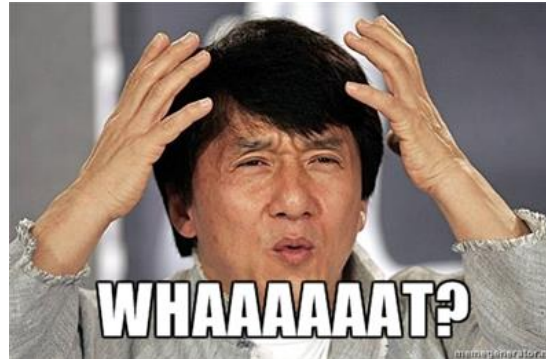
Proactively Monitoring and Maintaining your EPM Systems

Why do I care? We outsource IT and it's someone else's problem

We've outsourced IT and now I no longer have a friendly local IT contact to assist.

Our CFO and Shareholders will not tolerate late submissions!

We paid a fortune for this system and the implementation. It must be available!



Fully managed solution and it's part of the service

Didn't IT just invest a fortune in virtualisation so why worry?

Don't IT have tools to do this already?

I used to be able to access the servers but they took it away

Application and Service availability

- What does this actually mean?
- Why monitor?
- What to monitor?
- Who's responsible?
- What's it going to cost?
- Maintenance?
- Is there a tangible benefit?

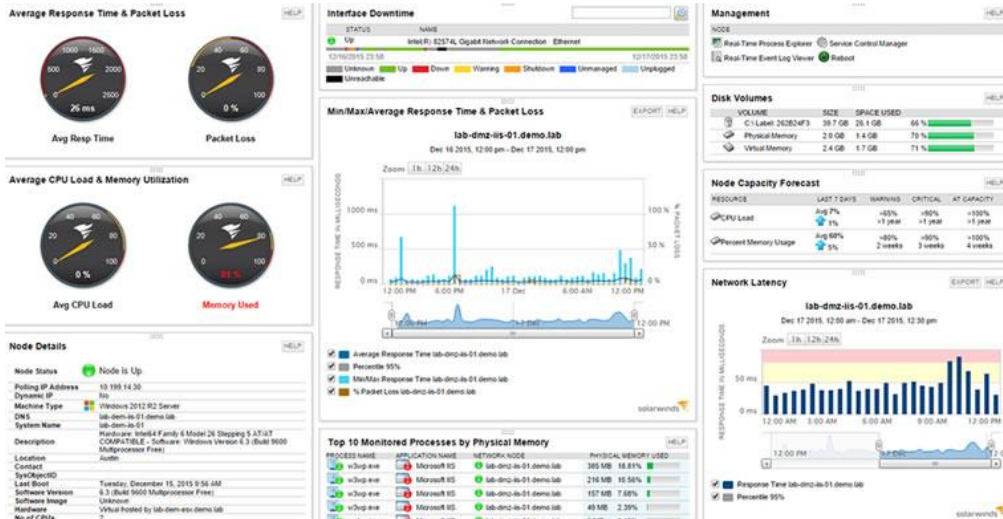




Application and Service availability

Start with the basics first and then move to more complex:

- Servers online
- Databases online
- The servers are contactable on the network (LAN, WAN)
- EPM services running
- Ports open
- URLs available
- Response times



Leverage existing 3rd party tools already owned by IT

- Numerous products available with detailed dashboards
- A product for IT management and operations
- May not monitor EPM specific components

If outsourced, define some tests to perform (however basic) to ensure systems are available.

Server Health and Availability



Server is online and responding

CMD> ping <server>

```
C:\Users\AMOSCAAdmin>ping localhost

Pinging VM-EPM-WEB124.amosca.local [::1] with 32 bytes of data:
Reply from ::1: time<1ms
Reply from ::1: time<1ms
Reply from ::1: time<1ms
Reply from ::1: time<1ms

Ping statistics for ::1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Server uptime

- Regular maintenance windows and service/server restarts

```
C:\Users\AMOSCAAdmin>systeminfo | find /i "boot time"
System Boot Time:          26/07/2017, 15:28:10
```

CMD> systeminfo

File system health

- Daily/Weekly/Monthly report
- Alerts for passing thresholds

Daily Drive Utilisation Report

VM-EPM-WEB124

Drive	SizeGB	UsedGB	FreeGB	Usage
C:	32	24.37	7.29	<div style="width: 76.15%; background-color: red;"></div>
D:	64	47.25	16.63	<div style="width: 73.83%; background-color: red;"></div>
E:	100	85.97	13.90	<div style="width: 85.97%; background-color: red;"></div>
S:	16	6.06	9.91	<div style="width: 37.88%; background-color: red;"></div>

Report run 11/09/2017 13:31:42 by AMOSCA\amoscaadmin

Disc usage trends and forward planning

- Disc. Data will grow with time
- CPU. More applications or complex calculations
- Memory. Total usage but also individual processes





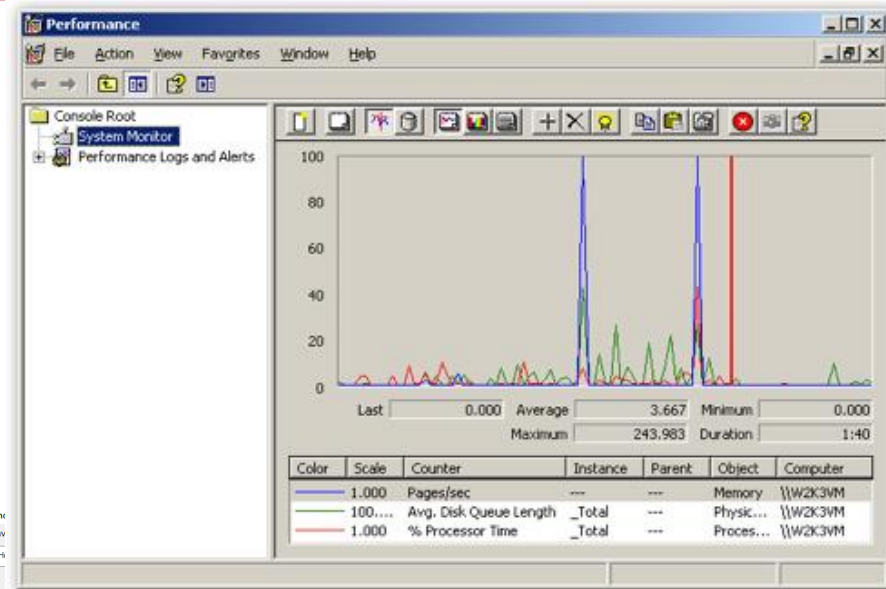
Server Health and Availability

Monitor Disc (% available and activity IOPs), CPU and Memory usage

Use Windows “performance monitor” to capture statistics. These statistics tend to show true peaks.

Use statistics captured by virtualisation.

Warning: These are summarised values, So peaks and troughs will be smoothed out



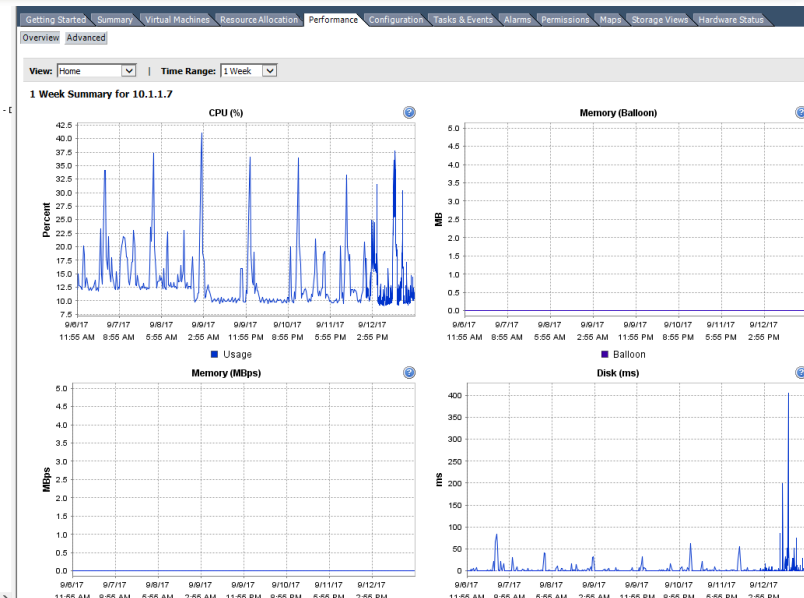
The screenshot shows the vCenter Server Settings page for Statistics. It includes a sidebar with navigation options and a main area for configuring statistics intervals.

Statistics
Select settings for collecting vCenter statistics

Interval Duration	Save For	Statistics Level
<input checked="" type="checkbox"/> 5 Minutes	1 Days	1
<input checked="" type="checkbox"/> 30 Minutes	1 Week	1
<input checked="" type="checkbox"/> 2 Hours	1 Month	1
<input checked="" type="checkbox"/> 1 Day	1 Years	1

The screenshot shows the vCenter Server Hosts tree view. The tree is expanded to show the AMOSCA VMHosts folder, which contains several virtual machines and their associated services.

- AMOSCA-SQL.amr
- AMOSCA-SQL.3
- AMOSCA VMHosts
 - 10.1.1.6
 - Disused
 - Hyperion (other)
 - Hyperion 11.1.2.1
 - Hyperion 11.1.2.2
 - Hyperion 11.1.2.4
 - VM-EPH-ESBX124
 - Linux VM Backups (Clones) - C
 - New EPH 11.1.2.3
 - Operational
 - Other
 - RDBMS
 - Report Authority
 - VM-DB-HSSQL
 - 10.1.1.7
 - Disused
 - Hyperion (other)
 - Hyperion 11.1.2.1
 - Hyperion 11.1.2.2
 - Hyperion 11.1.2.3
 - Hyperion 11.1.2.4
 - VM-EPH-DRM
 - VM-EPH-TOOL5124
 - VM-EPH-WEB124
 - Operational
 - Other
 - RDBMS
 - Report Authority





SQL Database

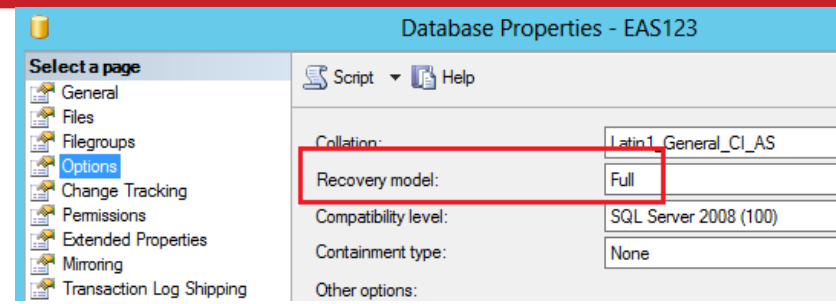
SQL database recovery model: Full vs Simple

If using full model, manage transaction logs effectively. Also ensure you have the capability to be able to recover effectively!

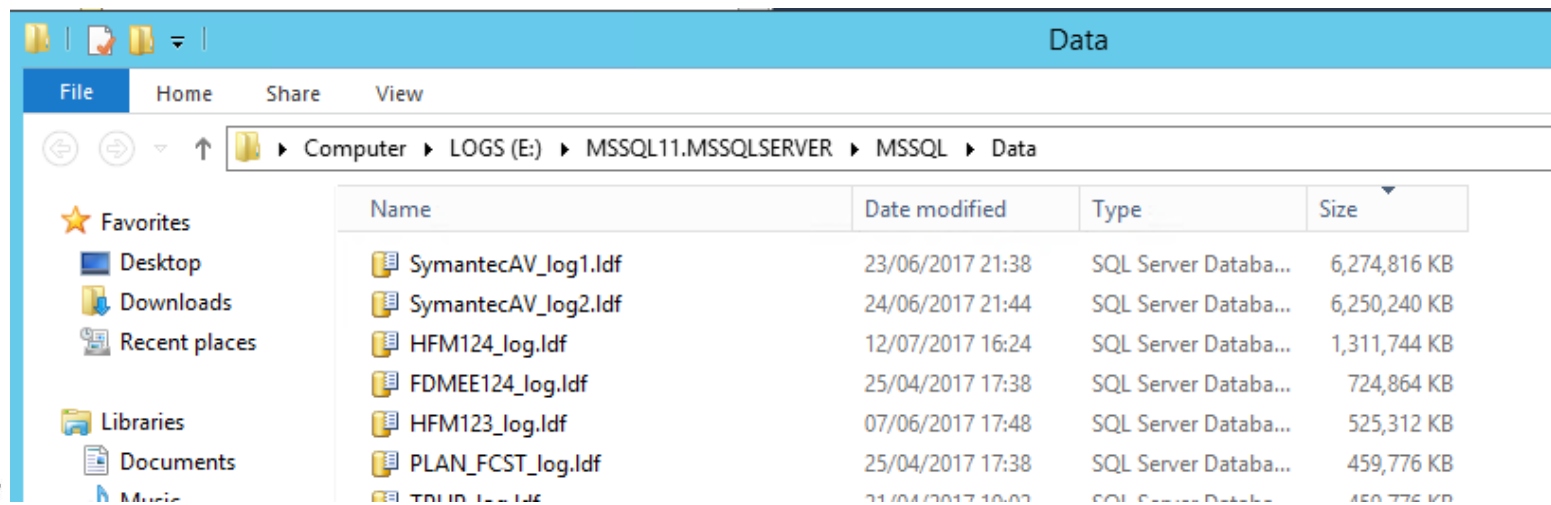
Disc usage monitoring or individual transaction log file (e.g. HFM/FDM)

HFM Copy App drops and recreates tables which can lead to huge transaction logs very quickly

Maintenance plans – standard tasks: Daily backup, DB restructure, index rebuild, log history.



- Maintenance Plans
 - All User Databases Daily Transaction Log
 - All User Databases Weekly Full
 - Back up System Databases Daily
 - Clean Up History Weekly
 - Clean Up Maintenance Plan History Weekly
 - Reorganize Indexes Weekly





Oracle Database

- Appropriate maintenance plans and monitoring
- Review EPM **installation, tuning and HFM admin** guides which has a lot of technical setup information and best practice dedicated to Oracle RDBMS

Products (in an Oracle Instance)	Database Parameter
Shared Services, Reporting and Analysis, Financial Management (HFM), EAS, HPCM, Performance Scorecard, Planning.	<p>PROCESSES=1500</p> <ul style="list-style-type: none">- whatever is needed to support the expected number of applications and application servers. Important Note: Further increase this value to 2500, if you have large deployment with many managed servers running e.g. 22 or 27.
	<p>Set OPEN_CURSORS=7000</p> <ul style="list-style-type: none">- the default value for this parameter is too small for systems such as WebLogic Server / HFM.- It is important to set the value of OPEN_CURSORS high enough to prevent system from running out of open cursors.- Note: assuming that a session does not open the number of cursors specified by OPEN_CURSORS, there is no added overhead to setting this value higher than actually needed.
	<p>Set CURSOR_SHARING</p> <ul style="list-style-type: none">- changing this parameter to the suggested value will increase the performance, and will not impact any data results. <p>Important Note: Suggested setting for CURSOR_SHARING: <i>For all HFM releases prior to 11.1.2.2.300 – FORCE</i> <i>For all HFM releases 11.1.2.2.300 and later - EXACT</i></p>
	<p>Set SESSION_CACHED_CURSORS parameter.</p> <ul style="list-style-type: none">- the default value is 50. To evaluate the accuracy of the value, set to 50 and then evaluate if this is enough. If it's not enough then increase to 100.
	<p>Set OPTIMIZER_INDEX_COST_ADJ to 50</p> <ul style="list-style-type: none">- setting of 50 makes the index access path look half as expensive as normal.

Oracle® Hyperion Financial Management Administrator's Guide

The screenshot shows a navigation bar with a home icon and arrows. The main content area is titled "Tuning Guidelines for Oracle 11g Databases". Below the title, there is a section for "Related Topics" with a list of links: Oracle Initialization Parameters, CURSOR_SHARING, MEMORY_TARGET, and MEMORY_MAX_TARGET.

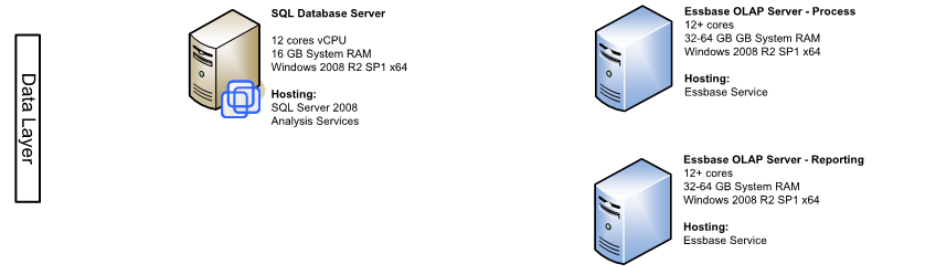
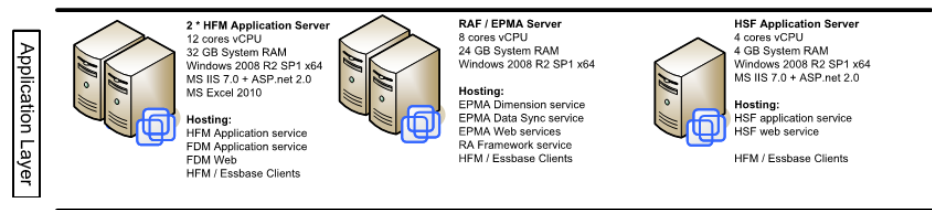
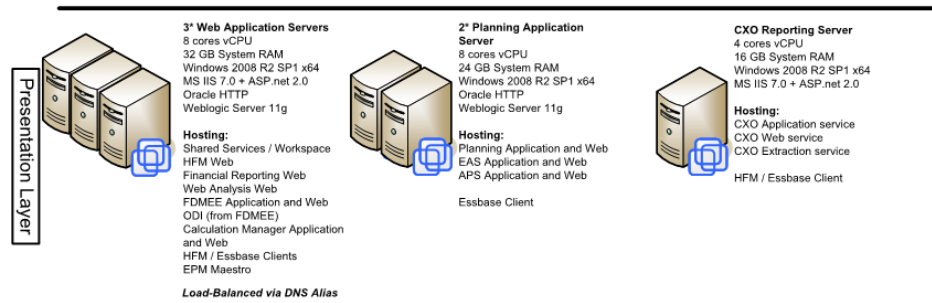
- Oracle database implementations are normally more complicated and there is a DBA team that are hands-on

EPM Services



- Numerous EPM System windows services
- **Don't forget database server processes!**
- Normally distributed across several servers
- Reliable stop / start scripts required to manage
- Monitor and alerting of status

- Oracle Hyperion Administration Services - Java Web Application (epmsystem1)
- Oracle Hyperion CALC Manager - Java Web Application (epmsystem1)
- Oracle Hyperion EPMA Data Synchronizer - Java Web Application (epmsystem1)
- Oracle Hyperion EPMA Server (epmsystem1)
- Oracle Hyperion EPMA Web Tier - Java Web Application (epmsystem1)
- Oracle Hyperion Essbase Studio Server (epmsystem1)
- Oracle Hyperion FDM Enterprise Edition - Java Web Application (epmsystem1)
- Oracle Hyperion Financial Data Quality Management - Task Manager (epmsystem1)
- Oracle Hyperion Financial Management - DME Listener (epmsystem1)
- Oracle Hyperion Financial Management - Management Service (epmsystem1)
- Oracle Hyperion Financial Management - Web Service Manager (epmsystem1)
- Oracle Hyperion Financial Management - Web Tier (epmsystem1)
- Oracle Hyperion Financial Reporting - Java Web Application (epmsystem1)
- Oracle Hyperion Foundation Services - Managed Server (epmsystem1)
- Oracle Hyperion Integration Services (epmsystem1)
- Oracle Hyperion Planning - Java Web Application (epmsystem1)
- Oracle Hyperion Profitability - Java Web Application (epmsystem1)
- Oracle Hyperion Provider Services - Java Web Application (epmsystem1)
- Oracle Hyperion Reporting and Analysis Framework - Java Web Application (epmsystem1)
- Oracle Hyperion Reporting and Analysis Framework (epmsystem1)
- Oracle Hyperion RMI Service (epmsystem1)
- Oracle Hyperion Strategic Finance - Java Web Application (epmsystem1)
- Oracle Hyperion Strategic Finance - Server (epmsystem1)
- Oracle Hyperion Web Analysis - Java Web Application (epmsystem1)
- Oracle Process Manager (epmsystem1)
- Oracle Process Manager (ohsInstance3250625901)



- Services can start but will not initialise and stop (e.g. no DB connectivity)
- Scheduled periodic restarts
- Co-ordinate with backups to give full cold backups (weekly)
- Monitor memory – application changes can have significant impact



Ports and Web Pages

EPM ports available

CMD> netstat

CMD> telnet

```
C:\Users\AMOSCAAdmin>telnet localhost 19000_
```

```
C:\Users\AMOSCAAdmin>netstat -ano | find /i "19000"
TCP 0.0.0.0:19000 0.0.0.0:0 LISTENING 4676
TCP 10.1.1.15:19000 10.1.1.52:64433 ESTABLISHED 4676
TCP 10.1.1.15:19000 10.1.1.52:64434 ESTABLISHED 4676
TCP 10.1.1.15:19000 10.1.1.52:64470 ESTABLISHED 4676
TCP 10.1.1.15:19000 10.1.1.52:64471 ESTABLISHED 4676
TCP 10.1.1.15:19000 10.1.1.59:61903 ESTABLISHED 4676
TCP 10.1.1.15:19000 10.1.1.59:62072 ESTABLISHED 4676
TCP 10.1.1.15:19000 10.1.1.68:56928 ESTABLISHED 4676
TCP 10.1.1.15:19000 10.1.1.68:57932 ESTABLISHED 4676
TCP 10.1.1.15:19000 10.1.1.77:49473 ESTABLISHED 4676
TCP 10.1.1.15:19000 10.1.1.77:49567 ESTABLISHED 4676
TCP 10.1.1.15:19000 10.1.1.121:60670 ESTABLISHED 4676
TCP 10.1.1.15:53336 10.1.1.15:19000 TIME_WAIT 0
TCP 10.1.1.15:53382 10.1.1.15:19000 TIME_WAIT 0
TCP 10.1.1.15:53433 10.1.1.15:19000 TIME_WAIT 0
TCP [::]:19000 [::]:0 LISTENING 4676
```

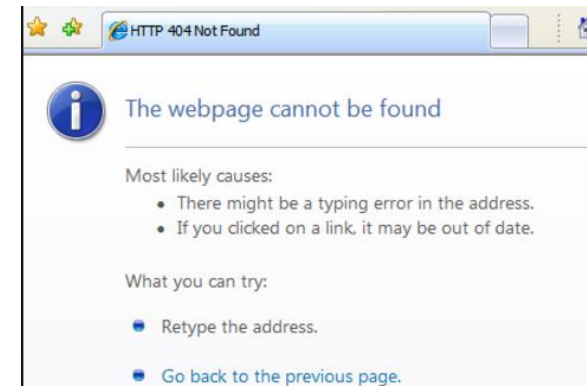
>PowerShell script<

```
PS D:\AMOSCA\AT_Test_Scripts\Check_Response_Time> .\Check_Port_Available2-this_one.ps1
UM-DB-MSSQL.amosca.local: Port 1433 is open
UM-EPM-WEB124.amosca.local: Port 80 is open
UM-EPM-WEB124.amosca.local: Port 9000 is open
UM-EPM-WEB124.amosca.local: Port 19000 is open
UM-EPM-DRM.amosca.local: Port 80 is open
```

Web pages available

Website Availability Report

URL	Status Code	Status Description	Response Length	Time Taken
http://epm124.amosca.local:19000/interop/index.jsp	200	OK	901	74.7958
http://epm124.amosca.local:19001/workspace/index.jsp	0			
http://epm124.amosca.local:19000/calcmgr/index.htm	200	OK	354	57.3263
http://epm124.amosca.local:19000/raframework/index.jsp	200	OK	119	55.6798
http://epm124.amosca.local:19000/HyperionPlanning	200	OK	8407	171.8997
http://epm124.amosca.local:19000/aps	200	OK	595	51.8394
http://epm124.amosca.local:19000/hfmadf/faces/hfm.jsp	200	OK	8557	155.6814
http://epm124.amosca.local:19000/oracle-epm-fm-webservices/ApplicationService	200	OK	13832	192.4787
http://epm124.amosca.local:19000/easconsole/console.html	200	OK	4978	3667.6844
http://epm124.amosca.local:19000/drm-web-client/Logon.aspx	200	OK	85621	399.2642





Application availability

Monitor server processes (application program tasks) for existence and alert if missing.

HFM – HFMDatasource (pre-11.1.2.4), XFMDatasource (11.1.2.4):

- The “*datasource” tasks refers to the HFM cube in memory

```
CMD> tasklist | find /I  
"data"
```

```
-tasklist | find /i "data"  
XFMDatasource.exe 22128 Services 0 376,256 K
```

Name	Process name	CPU	PID	Memory
XFMDatasource Module	XFMDatasource.exe	0%	5104	264.3 MB
WMI Performance Adapter				

- Use EPM Maestro or a custom SDK script to simulate a login



Essbase

- The “*esssvr*” tasks refers to the HFM cube in memory

```
CMD> tasklist | find /I  
"ESSSVR"
```

Image Name	PID	User Name	CPU	CPU Time	Me...	Commit Size	Command Li
ESSSVR.exe	8460	SYSTEM	14	0:21:46	3,627,136 K	3,907,29...	"C:\Orade\

- Use Maxl / Esscmd scripts to periodically log into applications to check availability



Application availability

Detect Essbase database crashes

- Exception (xcp) files are created in the Essbase log folder
- Event is logged in Essbase.log and Application log file.
- Exception (xcp) file names are normally unique with a sequential number. Important to monitor to detect trends or process clashes.

```
[Thu Aug 14 02:48:20 2003]Local/T_ALLOCB///Info(1008108)
Essbase Internal Logic Error [7333]

[Thu Aug 14 02:48:20 2003]Local/T_ALLOCB///Info(1008106)
Exception error log [D:\HYPERION\ESSBASE\appT_ALLOCB\log00001.xcp] is being created...

[Thu Aug 14 02:48:22 2003]Local/T_ALLOCB///Info(1008107)
Exception error log completed -- please contact technical support and provide them with this file

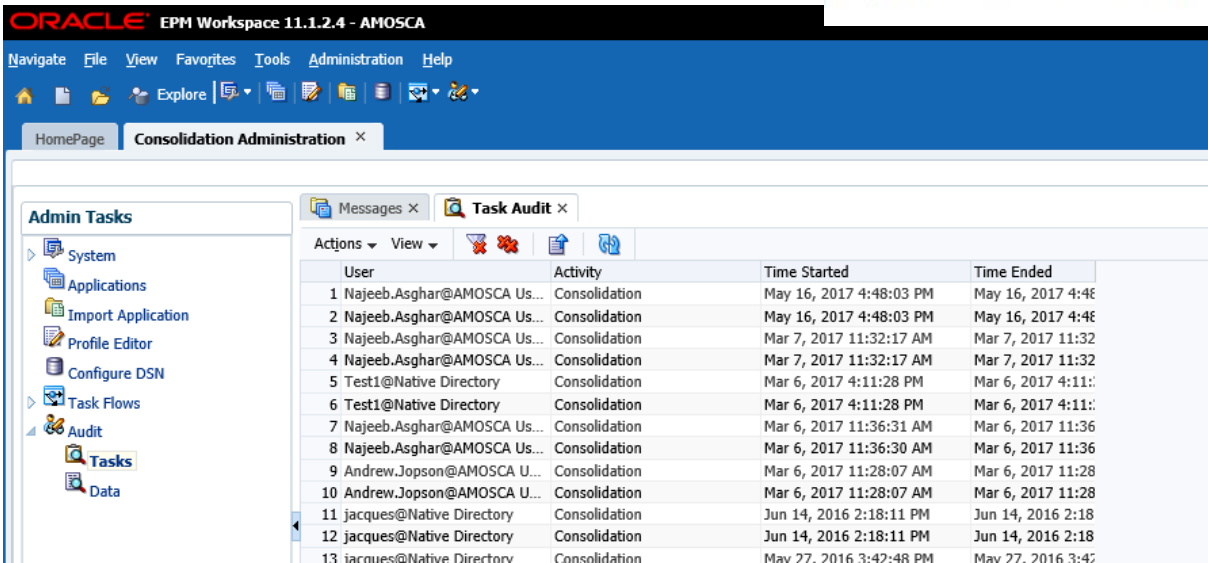
[Thu Aug 14 02:48:23 2003]Local/T_ALLOCB///Info(1002089)
RECEIVED ABNORMAL SHUTDOWN COMMAND - APPLICATION TERMINATING
```


Application performance



Monitor
Essbase/Planning
calculation times

```
MAXL> execute calculation 'Trigger'. 'Trigger'. 'LogLoad';  
  
OK/INFO - 1012675 - Commit Blocks Interval for the calculation is [3000].  
OK/INFO - 1012669 - Calculating [ Trigger(Trigger)].  
OK/INFO - 1012677 - Calculating in serial.  
OK/INFO - 1021004 - Connection String is generated.  
OK/INFO - 1021041 - Connection String is [DSN=TargetDB;UID=...;PWD=...].  
OK/INFO - 1021000 - Connection With SQL Database Server is Established.  
OK/INFO - 1021002 - SQL Connection is Freed.  
OK/INFO - 1012579 - Total Calc Elapsed Time for [LogLoad.csc] : [0.045] seconds.  
OK/INFO - 1013274 - Calculation executed.
```



Monitor HFM
consolidation times

General advice

- Control the scope to ensure it's repeatable
- Run a few times, then take the average



EPM installation information

Ensure you have a detailed record of the installation! There are many ways to setup an EPM system so it's important it's well documented.

EPM System Registry

This is a standard report which contains most settings.

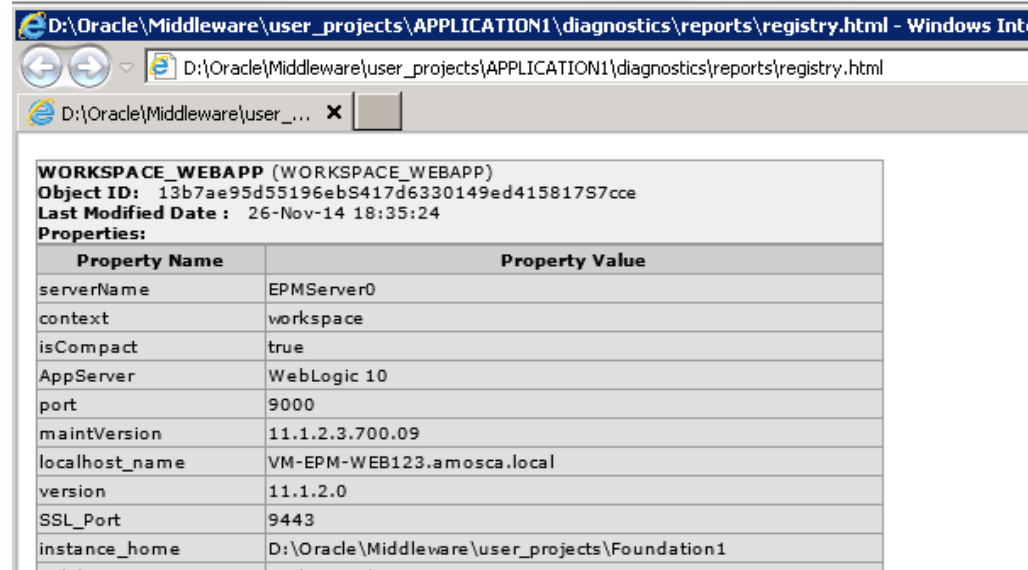
>epmsys_registry.bat

NOTE:

- Name is not unique and report will be overwritten, rename to current date
- Re-run before system changes and patching

Output is located:

D:\Oracle\Middleware\user_projects*<instance_name>*\diagnostics\reports\registry.html





EPM installation information

Deployment Topology Report

This is a more user friendly version of the previous report. Contains history of configuration tasks run and previous report results

>epmsys_registry.bat report deployment

EPM Deployment Topology Report (Release 11.1.2.4)

Logical Web Addresses
A Logical Web Address (LWA) is the address for the load balancer/web server that is used for server to server HTTP communication. Under standard deployment there is only one LWA address for a deployment.

http://VM-EPM-WEB124.amosca.local:19000
Calculation Manager Web Application
Disclosure Management Web Application
EPMA Data Synchronizer Web Application
EPMA Web Application
EPMA WebService
Essbase Administration Services Web Application
Essbase Provider Services Web Application
FDM Enterprise Edition Web Application
Financial Management ADF Web Application
Financial Management Web Service
Financial Reporting Web Application
Planning Web Application
Profitability Web Application
Reporting & Analysis Web Application
Shared Services Web Application
Workspace Web Application
http://VM-EPM-WEB124:19000
Data Relationship Management Web Application

Application Tier Components
This section lists the components configured for each EPM Instance in this deployment. It lists the following attributes for different kind of components.

- Weblogic - <Managed Server>: <Port> - <Domain> - <Java Web Application>
- Websphere - <Server>: <Port> - <Profile> - <Java Web Application>
- IIS - <IIS Web Application>: <Port>
- <Native Service>: <(Cluster Name)>: <Port(s)>

VM-EPM-WEB124.amosca.local (epmsystem1 - Windows NT (unknown) x64 - 12 GB - 2 Cores)
EPMA Dimension Server:5251,5255
Essbase Studio Server:5300,12080
Financial Management Server (HFM124):DCOM Ports
Foundation Agent - Reporting and Analysis Framework:6800-6805,6860,6861
IIS - EPMA WebService:80
OHS:19000
Planning RMI Registry:11333
WebLogic - :0 - EPMSysystem - Data Relationship Management Web Application
WebLogic - AdminServer:7001 - EPMSysystem - Console
WebLogic - EPMServer0:9000 - EPMSysystem - Calculation Manager Web Application
WebLogic - EPMServer0:9000 - EPMSysystem - Disclosure Management Web Application
WebLogic - EPMServer0:9000 - EPMSysystem - EPMA Data Synchronizer Web Application
WebLogic - EPMServer0:9000 - EPMSysystem - EPMA Web Application
WebLogic - EPMServer0:9000 - EPMSysystem - Essbase Administration Services Web Application
WebLogic - EPMServer0:9000 - EPMSysystem - Essbase Provider Services Web Application
WebLogic - EPMServer0:9000 - EPMSysystem - FDM Enterprise Edition Web Application
WebLogic - EPMServer0:9000 - EPMSysystem - Financial Management ADF Web Application
WebLogic - EPMServer0:9000 - EPMSysystem - Financial Management Web Service
WebLogic - EPMServer0:9000 - EPMSysystem - Financial Reporting Web Application
WebLogic - EPMServer0:9000 - EPMSysystem - Planning Web Application
WebLogic - EPMServer0:9000 - EPMSysystem - Profitability Web Application
WebLogic - EPMServer0:9000 - EPMSysystem - Reporting & Analysis Web Application
WebLogic - EPMServer0:9000 - EPMSysystem - Shared Services Web Application
WebLogic - EPMServer0:9000 - EPMSysystem - Workspace Web Application

VM-EPM-WEB124.amosca.local - epmsystem1 (02/02/2017)
This table lists configuration history of activities on the specified date and server combination.

Start Time	Duration	Action	Component	Comment
12:37	12:14	Generate Report	EPM Validation Tool	101 Pass, 60 Fail
23:49	03:03	Generate Report	EPM Validation Tool	160 Pass, 2 Fail

Output is located:

D:\Oracle\Middleware\user_projects\<instance_name>\diagnostics\reports\deployment_report_YYMMDD_HHMMSS.html





EPM installation information

EPM diagnostic report

This will check the installation. Will validate that all installed components are accessible.

Could be used as a "quick and dirty" monitoring tool.

>validate.bat

NOTES:

- Run for each instance
- Additional useful options available:
-noPack / -silent / -console

Oracle EPM System Diagnostics
Generated on 08/10/2017 12:53 PM
Validation run on VM-EPM-WEB124.amosca.local
Build version: 11.1.2.4.0.9952
EPM System Diagnostics info: 11.1.2.4.0 drop 13 build 9601-on-12/12/2014 10:46 AM
OS name: Windows Server 2012 R2 Standard
OS version: 6.3
EPM System Instance location: D:\Oracle\Middleware\user_projects\epmsystem1

Test Status	Service	Test Description	Duration
Hyperion Foundation			
PASSED	Audit	Validating that Audit has been initialized	0 seconds
PASSED	CES	Validating that CES has been initialized	0 seconds
PASSED	CFG: Configuration	Validating that configuration tasks have been completed	0 seconds
PASSED	CSS	Validating that CSS has been initialized	0 seconds
PASSED	DB: Database Connectivity	Checking connection to database jdbc:weblogic:sqlserver://VM-DB-MSSQL.amosca.local:1433;databaseName=FND124	0 seconds
PASSED	EXT: External Authentication	Check Native Directory external authentication provider configuration	0 seconds
PASSED	EXT: External Authentication	Check AMOSCA Users external authentication provider configuration	0 seconds
FAILED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/mappingtool/faces/info.jspx Error: Bad response codes with both GET and POST methods: 404 and 404 Recommended Action: Check that the application is started	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/interop	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/calcmgr/index.htm	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/raframework/index.jsp	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/profitability/ping.jsp	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/HyperionPlanning/	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/DataSync	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/awb/conf/AwbConfig.xml	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/workspace/status	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/hr/status.jsp	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/aif/faces/setup/Main.jspx	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/hyperion-bpma-server/Applications.asmx	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/hfmadf/faces/hfm.jspx	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/oracle-epm-erpi-webservices/RuleService	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/aps	0 seconds
PASSED	HTTP: HTTP	Checking availability of HTTP context http://VM-EPM-WEB124.amosca.local:19000/oracle-epm-fm-webservices/ApplicationService	0 seconds
PASSED	HUB	Validating that HUB has been initialized	0 seconds

Output is located:

D:\Oracle\Middleware\user_projects\\diagnostics\reports**instance_report_YYMMDD_HHMMSS.html**



Application administration

- HFM
 - » Manage Task, Data audit and Error tables
 - Less than 500,000 records
 - Manually extract / purge via consolidation administration or use EPM Maestro
 - Automate as part of a weekly / monthly maintenance routine
 - » Manage the HFM error log
 - » Automate / schedule CopyApp's
- Essbase / Planning
 - » Restructure or export data/clear/import
 - » Essbase SSAudit files and Planning Audit tables
 - » Clear zero's
 - » Schedule calculation scripts
 - » Scheduled metadata loads
 - » Archive log files and take appropriate backups
- General
 - » Daily backups (database and file system). NOTE: Files in use are unlikely to be backed up.
 - » Automate LCM exports and copy to "safe" location for quick refresh / restore
 - » Scheduled regular maintenance periods for backups, clear log files, etc



Application administration

HFM

- Review application / server settings against server resources
 - » HFM administration guide for descriptions of Data Caches, etc
 - » Use the HFM log detail
 - » Benchmark and make controlled changes
 - » Review server resources
 - » Monitor processes and review settings regularly

Essbase / Planning

- Review application / server settings against server resources
 - » Essbase administration guide for descriptions and guides for Index, Data File, Data caches
 - » Benchmark and make controlled changes
 - » Review server resources

General

- Review application / server settings against server resources

The screenshot shows the 'Consolidation Administration' application. The 'Manage Settings' tab is active, displaying a table of system settings. The 'Database Properties' section shows the database name 'ESBX124.Demo.Basic' and its status as 'Stopped'.

Name	Value	Description
1 AllowOverlappingConsolidation	1	Whether to display "Yes" button on the overlapping consolidation dialog allowing the user to run the consolidation.
2 AutoClearDeadTasks	1	Whether to automatically clear completed tasks from the system. 0 - Leave completed tasks in the system.
3 AutoClearEAFInfileTasks	86400	Number of seconds for the system to wait before automatically clearing an Extract Data task from the system.
4 ConsolidationMultiThreaded	2	Used for multiple settings related to how the consolidation process is run. Each setting can be enabled.
5 DataSize	500	Fetch size for table components in the UI. Value can be changed globally.
6 DefaultAdminPage	systemmessage	Default opening page for Consolidation Administration. Value can be changed globally.
7 DefaultColFetchSize	50	Default column fetch size on data forms and data grids. Value can be changed globally.
8 DefaultRowFetchSize	250	Default row fetch size on data forms and data grids. Value can be changed globally.
9 DSStartupOption	0	Default startup option for the application, if the application has to be started automatically along with the system.
10 EnableRulesLogging	0	Whether to enable rules logging. Used for debugging purposes to isolate rules issues. 0 - Disable logging.
11 EnableRunningTaskMask	0	Whether to mask user names in Running Task for other users if non-admin user is viewing it. 0 - Disable.
12 IcmSystemReportTranslation	0	Translation mode. Can override at Application, Server or combination of both. 0 - Default behavior.
13 MaxDataCacheSizeInMB	4500	Maximum amount of memory in MB that the application server allocates to store the cell values and calculations.
14 MaxFileSelectionOnLoad	10	Maximum number of files that could be selected in multiple files selection control.
15 MaxNumConcurrentConsolidations	8	Maximum number of concurrent consolidations allowed per application server per application.

The screenshot shows the Windows Registry Editor. The left pane shows the tree structure expanded to 'HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\JavaSoft\JRE\1.6.0_20\bin\jrock64'. The right pane shows the registry values for 'JVMOption22'.

Name	Type	Data
(Default)	REG_SZ	(value not set)
Env1	REG_SZ	HRAD\MDR\Oracl\Middlewre\EPMSys\11...
Env2	REG_SZ	GFONTRATH=D:\Oracl\Middlewre\jdk16_31_...
Env3	REG_SZ	DOMAIN_HOME=D:\Oracl\Middlewre\user_pro...
Env4	REG_SZ	PATH=D:\Oracl\Middlewre\patch_wls1036\pro...
Env5	REG_SZ	ESSBASEPATH=D:\Oracl\Middlewre\EPMSyste...
Env6	REG_SZ	ARBORPATH=D:\Oracl\Middlewre\EPMSyste...
EnvCount	REG_DWORD	0x00000006
JavaDll	REG_SZ	D:\Oracl\Middlewre\jrockit_160_37\bin\jrock...
JVMOption1	REG_SZ	-Djbo.amppool.doampooling=true
JVMOption10	REG_SZ	
JVMOption11	REG_SZ	
JVMOption12	REG_SZ	
JVMOption13	REG_SZ	
JVMOption14	REG_SZ	
JVMOption15	REG_SZ	
JVMOption16	REG_SZ	
JVMOption17	REG_SZ	
JVMOption18	REG_SZ	
JVMOption19	REG_SZ	
JVMOption2	REG_SZ	
JVMOption20	REG_SZ	
JVMOption21	REG_SZ	
JVMOption22	REG_SZ	



Benchmark

- Important to establish a base line performance for future comparisons.
- Establish benchmark figures against production application (during quiet times) but note that applications evolve and change so is not like for like, so...
- Create dedicated benchmark applications to retest against.
- Re-run benchmark tests regularly to build a history and identify changes early.
- Change as few configuration parameters as possible between tests to identify what works.
- Assigning more is not always beneficial – diminishing returns...



Benchmark

Why?

» Virtualisation provisioning.

- Normally under-utilised initially but planned to be over allocated to realise cost benefits.
- Host a variety of systems which have different resource requirements.
- Some applications are not resource demanding so can tolerate lag.
- Different systems are unlikely to be active concurrently.
- EPM activity normally peak early in month (data submissions) but will then tail off. Physical resource provisioning may not take this into account.



Benchmark

Why?

» Patching.

- Can introduce new functionality which sometimes can cause performance issues.
- Having those detailed repeatable tests will prove this, focus troubleshooting and reduce resolution times.

» Server and Data Centre technologies are constantly changing.

- Main driver for virtualisation to consolidate servers. More from less.
- More recently “hyper-converged” – all compute in a single module.
- Amazon, Google, Microsoft, Oracle and many others offer Platform-As-A-Service. Downside is that the hardware can change behind the scenes with potential for slower hardware which can significantly impact EPM performance (e.g. **processor speed**).



Benchmark

How?

- » Make use of the sample applications that come from Oracle for free.
- » Can be as simple as a representative Essbase calculation, HFM Translation/Consolidation, Database backup.
- » Could be application agnostic and just test general server performance, e.g. standard CPU, Disc I/O tests.
- » Can be very complex (and expensive) with user simulations (e.g. Load runner, HP-ALM).
 - Stress test to find limits of stability
- » Location benchmark tests because not everyone will be in the same location as the data centre.



Backup, Recovery, Refresh

- Understand your true business SLA's:
 - » RTO - Recovery Time Objective – “How long can the system be down”
 - » RPO - Recovery Point Objective – “How much data can be lost”
- How?
 - » VM Snapshots (ensure all are taken at the same time)
 - » Database and file system backups (cold vs hot, again time taken is important...)
 - » Exports, e.g. automated LCM exports
 - » Change control for artifacts
 - » Keep environments synchronised
- Regularly test the recovery process (and team) at least once or twice a year.
- Consider high available systems and virtualisation technologies to ensure system availability.
- Disaster recovery can be very complex with reliance upon numerous systems (Domain/Controllers, Active Directory, Network infrastructure).



AMOSCA can help

- Don't be scared. Start with the basics, something is better than nothing. Make use of what you already have! 😊
- AMOSCA's support centre already has the capability to provide system reviews, performance monitoring and tuning, installation reviews, advise on backup/recovery strategies.
- We are looking to enhance AMOSCA's support centre offering to include some of these capabilities with automated monitoring and alerting.
- Each implementation is unique so there may be a need for some customisation.
- Offer a "pick 'n mix" set of options to cater for your specific needs.
- Watch this space.



Questions



Hyperion Focus 17

Thank you

