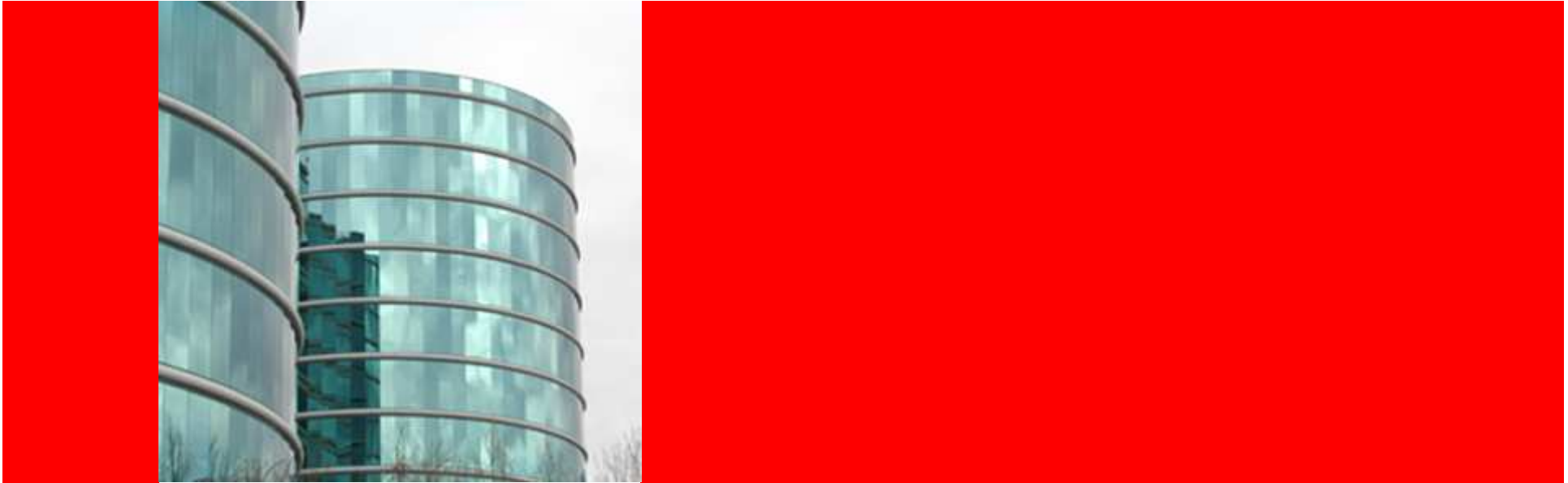


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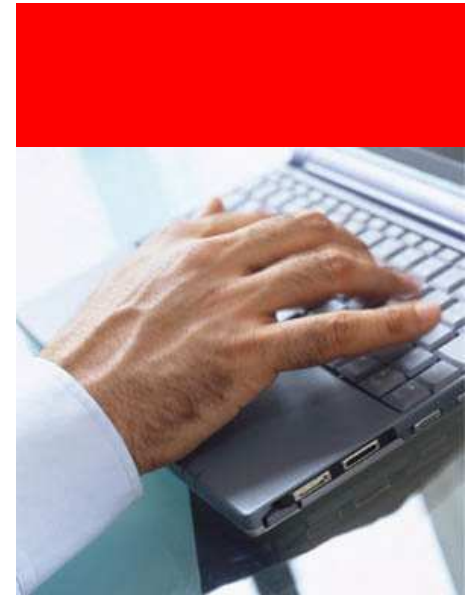
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Installing And Troubleshooting the 10.2 Grid Agent on OpenVMS

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The Grid Agent on OpenVMS

- Concepts
- Before The Installation
- The Installation
- Troubleshooting
- Appendix



Concepts





Concepts – from Pull to Push

- Pre 10.x OEM was a 'pull' concept

From the Console, you decided what data to 'pull' from the agent side

- 10.x Grid Agent 'pushes'

The Agent gathers system/database/listener information automatically and pushes the information to the Grid Console Repository



Concepts – From TCL to Perl

- Pre 10.x, TCL scripts were used
- 10.x Grid Agent employs Perl scripts



Concepts – Layout On OpenVMS

- One installation per cluster
- Easy setup for the other nodes
- Directory structure reflects cluster aware setup

Directory ORA_ROOT:[<nodename>.sysman]

config.DIR;1 emd.DIR;1 log.DIR;1 opmn.DIR;1 recv.DIR;1



Concepts – Supported Versions

- The 10.2 Grid Agent on OpenVMS is certified on the same OS versions as the 10.2 Database Product. i.e.
 - OpenVMS Alpha Server 8.2, 8.3-1
 - OpenVMS Integrity Server 8.2-1, 8.3-1H1
- Lowest version of database that can be monitored is 9.2
- 9.2 RAC can not be monitored
- Only targets on the same node can be monitored

Before the Installation





Before the Installation

- The Grid Control Agent for OPENVMS 10.2 is a **STANDALONE** product that **MUST** be installed in its own ORACLE_HOME
- The software can be downloaded from this URL:
<http://www.oracle.com/technology/software/products/oem/htdocs/agentsoft.html>
- ORA_BATCH_QUEUE_<NODENAME> must either exist as physical batch queue, or a logical must be defined with that name, pointing to a batch queue of your choice



Before the Installation

- Create an ORAINST.LOC to place the inventory in a specific place

In the Nodename subdirectory of the Install Account:

<DISK>:[<SWOWNER>.<NODENAME>]ORAINST.LOC


Example:

inst_group=MIDRANGE

inventory_loc=/DISK\$REFRESH/oragrid10/Inventory_grid

The Installation





The Installation – Files To Prepare

- Prepare the “oratab.” file

If databases are upgraded from pre-9.2 versions or created from scripts, you may not have this file.

```
$ set def sys$login
$ type [.alpha1]oratab.
V102R:/disk$refresh/v102r:N
# Entries are of the form:
# <ORACLE_SID>:<ORACLE_HOME>:<N|Y>:
```

NOTE: This is the Database System Identifier, not the RAC SID name.

Having this file in place allows the agent to populate TARGETS.XML.

The information in this file is uploaded to the Repository and your targets will be discovered

- Explicit noverify in “login.com”

```
$ set noverify          ! Due to bug 4889585
```



The Installation – Listeners

- All databases that you wish to discover must be up for the initial discovery process of the Agent
- All listeners that serve databases that you wish to discover through “oratab.” must be up
- The listener.ora file must contain a DESCRIPTION_LIST and DESCRIPTION line for each listener entry

```
LSNR_ALPHA =  
  (DESCRIPTION_LIST =  
    (DESCRIPTION =  
      (ADDRESS_LIST =  
        .....
```



The Installation - OUI

- IMPORTANT:

Target destination is a **separate** location from any other Oracle installation

- When the OUI asks about the Management Server Name, only enter:

`<nodename>.<domain>`

- If you are not sure what was entered, check that there is no double `http://` (after the installation finishes)

```
$ nodenm = F$TRNLNM("TCPIP$INET_HOST")
```

```
$ search ora_root:['nodenm.sysman.config]emd.properties repository_url
```



The Installation – Install Patches

- Install Mandatory Patches:

BUG 8432461 - PLACE HOLDER FOR 10.2.0.2 GRID CONTROL PATCH #5 Alpha

BUG 8432464 - PLACE HOLDER FOR 10.2.0.2 GRID CONTROL PATCH #5 Itanium



The Installation – Check Before The Start

- The Installation must be owned by the account that did the installation
- The agent will not start if there are file ownership issues
- The agent will not start if another account, other than the installation owner, tries to start the account
- You must run the following command before you can start the Agent:

```
$ emctl config agent updateTZ
```



The Installation – the Healthy Agent – The Startup

```
$ emctl start agent
```

```
Oracle Enterprise Manager 10g Release 10.2.0.2.0.
```

```
Copyright (c) 1996, 2006 Oracle Corporation. All rights reserved.
```

```
Error connecting to http://alpha1:1830/emd/main
```

```
Starting agent ...
```

```
Agent is initializing ...
```

```
    EMAgent status running as PID 2CC7C2F0...
```

```
    Response From Agent: running
```

```
Agent Version   : 10.2.0.2.0
```

```
OMS Version    : 10.2.0.1.0
```

```
Protocol Version : 10.2.0.0.0
```

```
Agent Home     : /disk$dedicated/soragrid102/alpha1
```

```
Agent binaries : /DISK$DEDICATED/SORAGRID102
```

```
Agent Process ID : 751289072
```

```
Parent Process ID : 0
```

```
Agent URL      : http://alpha1:1830/emd/main
```

```
Repository URL : http://omsnode.us.oracle.com:4889/em/upload/
```

```
Started at    : 2009-10-01 14:49:34
```

```
Started by user : SORAGRID102
```

```
Last Reload   : 2009-10-01 14:49:34
```

```
Last successful upload      : (none)
```

```
Last attempted upload      : (none)
```

```
Total Megabytes of XML files uploaded so far : 0.00
```

```
Number of XML files pending upload      : 9
```

```
Size of XML files pending upload(MB)    : 0.11
```

```
Available disk space on upload filesystem : 4.89%
```

```
Last attempted heartbeat to OMS : 2009-10-01 14:52:05
```

```
Last successful heartbeat to OMS : 2009-10-01 14:49:35
```



The Installation – The Healthy Agent – The Status

\$ emctl status agent

Oracle Enterprise Manager 10g Release 10.2.0.2.0.

Copyright (c) 1996, 2006 Oracle Corporation. All rights reserved.

Response From Agent: running

Agent Version : 10.2.0.2.0

OMS Version : 10.2.0.1.0

Protocol Version : 10.2.0.0.0

Agent Home : /disk\$dedicated/soragrid102/rtvms4

Agent binaries : /DISK\$DEDICATED/SORAGRID102

Agent Process ID : 751289072

Parent Process ID : 0

Agent URL : http://alpha1:1830/emd/main

Repository URL : http://oms.us.oracle.com:4889/em/upload/

Started at : 2009-10-01 14:49:34

Started by user : SORAGRID102

Last Reload : 2009-10-01 14:49:34

Last successful upload : 2009-10-01 14:59:46

Total Megabytes of XML files uploaded so far : 0.47

Number of XML files pending upload : 0

Size of XML files pending upload(MB) : 0.00

Available disk space on upload filesystem : 4.87%

Last successful heartbeat to OMS : 2009-10-01 15:01:39

The Installation – The Healthy Agent - Processes

```
$ sh sys/proc=ora_em*
```

```
OpenVMS V8.3 on node ALPHA1 1-OCT-2009 15:57:31.84 Uptime 37 04:30:56
```

Pid	Process Name	State	Pri	I/O	CPU	Page flts	Pages	
2CC7C2CB	ORA_EMWD_ALPHA1	HIB	6	847985	0	00:02:07.37	1187 974	B Daemon
2CC7C2F0	ORA_EMD_ALPHA1	LEF	6	302782	0	00:12:09.61	3902 4556	B Agent Process

```
$ sh queu/batch/full ora_batch_queue_alpha1
```

```
Batch queue ORA_BATCH_QUEUE_ALPHA1, available, on ALPHA1::
```

```
/AUTOSTART_ON=(ALPHA1::) /BASE_PRIORITY=4 /CPUDEFAULT=INFINITE  
/CPUMAXIMUM=INFINITE /JOB_LIMIT=100 /OWNER=[SYSTEM]  
/PROTECTION=(S:M,O:RSD,G:S,W:S)
```

Entry	Jobname	Username	Status
294	start_emwd	SORAGRID102	Executing
Submitted 1-OCT-2009 14:49:47.31 /KEEP			
/LOG=\$1\$DGA121:[SORAGRID102.sysman.log]start_emwd_ALPHA1.log; /NOPRINT			
/PRIORITY=100			
File: _\$1\$DGA121:[SORAGRID102.sysman.bin]start_emwd.com;1 (executing)			
295	start_emagent	SORAGRID102	Executing
Submitted 1-OCT-2009 14:49:49.97			
/LOG=\$1\$DGA121:[SORAGRID102.sysman.log]start_agent_alpha1.log;			
/PRIORITY=100			
File: _\$1\$DGA121:[SORAGRID102.sysman.bin]start_emagent.com;4 (executing)			



The Installation – Post Install

- If the "oratab." file is not set up, or the listener or database are not up during initial install, or the listener.ora file is not complete, this can be remedied after the installation
- Check if emd.properties needs any customization

```
$ nodenm = F$TRNLNM("TCPIP$INET_HOST")
```

```
$ edit ora_root:['nodenm.sysman.config]emd.properties
```



The Installation – Post Install – Cluster Deployment

- \$ emctl deploy agent /DISK\$REFRESH/ORAGRID102/ALPHA3 ALPHA3:1830
ALPHA3
%DCL-I-SUPERSEDE, previous value of EMSTATE has been superseded
%DCL-I-SUPERSEDE, previous value of EMSTATE has been superseded
Creating shared install...
Source location: /DISK\$REFRESH/ORAGRID102
Destination (shared install) : /disk\$refresh/oragrid102/alpha3
DeployMode : agent

Creating directories...
Creating targets.xml...
Creating emctl control program...
Creating emtgtctl control program...
Setting log and trace files locations for Agent ...
\$
- \$ emctl config agent updateTZ
On each additional node



The Installation – Post Install – Cluster Deployment

- Per the readme, implement the following DCL code to set up the environment for the Agent and start it (parts of the code is adapted here for Cluster Deployment):

```
$ define ORA_BATCH_QUEUE_<nodename> <your_batch_queue>
$ define ORA_AUTO_INSORACLE "TRUE"
$ define EMAGENT_PERL_TRACE_LEVEL 1
$ ! This is so EMAGENT_PERL.TRC file gets written
$ nodenm = F$TRNLNM("TCPIP$INET_HOST")
$ define EMAGENT_PERL_TRACE_DIR -
"/your_disk/agent_install_location/"nodenm'/sysman/log"
$ ! Unix format
$ @your_disk:[agent_install_location]orauser.com
```

Troubleshooting





Troubleshooting – Startup Logs

- ORA_ROOT:[SYSMAN.LOG]:


start_agent_<nodename>.log
start_emwd_<nodename>.log
- Check if there is any obvious issue



Troubleshooting – Trace And Log Files

Directory ORA_ROOT:[alpha1.sysman.log]

^.emagent_perl.trc;5
agabend.log;1
emagent.log;1
emagent.nohup;5
emagent.trc;1
emagentfetchlet.log;1
emagentfetchlet.trc;1
emagent_perl.trc;1
emagent_plugin.trc;1
emctl.log;1
emdctl.log;1
emdctl.trc;1
nfsPatchPlug.log;1
patchAgtStPlugin.log;1



Troubleshooting – Enabling debug

- If and when requested by Oracle Support, you can enable debug and tracing in emd.properties
- Supported levels: DEBUG, INFO, WARN, ERROR
- EMAGENT_PERL_TRACE_LEVEL=DEBUG
- Other examples:
 tracelevel.upload=WARN
 tracelevel.reload=WARN
 tracelevel.TargetManager=WARN
 tracelevel.recvlets=WARN

There is many more parts of the Agent that can have debug enabled



Troubleshooting – Trace and Log Files

Current information can only be seen when the agent is shut down and information is written to the file:

2009-10-01 14:49:34 Thread-0x7ADD71D8 **Starting Agent** 10.2.0.2.0 from /DISK\$DEDICATED/SORAGRID102 (00701)

2009-10-01 14:49:44 Thread-0x7ADD7008 [Database Instance] InstanceProperty (DBVersion) is marked OPTIONAL but is being used (00506)

2009-10-01 14:49:45 Thread-0x7ADD7008 [Cluster Database] InstanceProperty (DBVersion) is marked OPTIONAL but is being used (00506)

2009-10-01 14:49:45 Thread-0x7ADD7008 [Load Balancer Switch] InstanceProperty (snmpTimeout) is marked OPTIONAL but is being used (0♦

2009-10-01 14:52:05 Thread-0x7ADD71D8 **EMAgent started successfully** (00702)

2009-10-01 16:32:17 Thread-0x1113B88 <HTTP Listener> Agent Signaled to EXIT by emctl (00800)

2009-10-01 16:32:19 Thread-0x7ADD71D8 **EMAgent normal shutdown** (00703)



Troubleshooting – Network Communications

- NSLOOKUP must work from agent to console, and vice versa, on both the node names and the IP addresses. Information coming back must match
- Observe upper and lower case in node names. SSL specifically is very picky about this. Use the exact node name for the OMS as it appears on the OMS OS itself
- Use wget to make sure http on the OMS side is not locked.
`$wget http://<nodename>:4889/em/upload`
 - **wget an open source tool available on the internet
- The OMS can stay secured, but must be unlocked for an unsecured agent to be able to reach it. See [Note 428874.1](#) How to tell if the EM OMS is locked or unlocked



Troubleshooting – Network Communications

- The upload url from emd.properties as specified in REPOSITORY_URL must answer

<http://<omsnodename>:4889/em/upload>

<https://<omsnodename>:1159/em/upload>

- It should answer with

Http XML File receiver

Http Receiver Servlet active!



Troubleshooting – Network Communications


- The network connection between the Agent machine and the Grid Console must have an acceptable speed
- If the connection is slow, there may be a build up of xml files on the Agent side and the Agent will stop
- Emd.properties setup decides how many MB and how many files are allowed to be waiting for upload:

The maximum number of megabytes(MB) the upload manager will support in the
upload directory before temporarily disabling collections, logging and tracing

UploadMaxBytesXML=50

The maximum number of files the upload manager will support in the
upload directory before temporarily disabling collections, logging and tracing

UploadMaxNumberXML=5000



Troubleshooting – Upload Issues

- If needed, and xml file build-up is an issue, the area can be cleaned out completely with the Agent down:

```
$ nodenm = F$TRNLNM("TCPIP$INET_HOST")  
$ del ora_root:['nodenm.sysman.emd.collection...']*.*;*  
$ del ora_root:['nodenm.sysman.emd.state...']*.*;*  
$ del ora_root:['nodenm.sysman.emd.upload...']*.*;*  
$ del ora_root:['nodenm.sysman.emd]agntstmp.txt;*  
$ del ora_root:['nodenm.sysman.emd]lastupld.xml;*  
$ del ora_root:['nodenm.sysman.emd]protocol.ini;*
```




Appendix





Appendix - Reference Documentation

- Introductory generic documentation for Oracle Enterprise Manager
http://www.oracle.com/pls/db102/portal.portal_db?selected=16

- OpenVMS specific documentation

Installation Guide for Oracle 10.2 on OpenVMS

http://download-west.oracle.com/docs/cd/B19306_01/install.102/b25414/a_opflex.htm#CBBGJJAG



Appendix - Reference My Support Articles

- All the information in this presentation and more is available in the following articles:

Note 739445.1 Title: VMS: Getting started with the 10.2 Grid Control Agent on OpenVMS

Note 739440.1 VMS: EM GRID CONTROL AGENT 10.2. readme_agent_vms.txt and aaa_readme.txt

Note 370565.1 Required TCPIP setup for Oracle 10G on OpenVMS



Appendix - Get An OpenVMS Analyst

If you feel your issue would be better handled by an analyst with OpenVMS skills, please do NOT hesitate to request a transfer to the Support team that handles Service Requests on OpenVMS.

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