These release notes contain important late-breaking information about Oracle Snap Management Utility for Oracle Database.

Technical Support
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For all technical support issues, please log on to http://support.oracle.com

Supported database layouts
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DATABASE Storage type
Filesystem (NFS/dNFS)

Offline (Cold) Backup
Database files can be in one or more shares.
Database files may span shares and pools within the same storage head.

Online (Hot) Backup
Database datafiles must be in separate shares from the database archived logs.
Database files may span shares and pools within the same storage head.

ASA

Offline (Cold) Backup
Database files are in a diskgroup that uses external redundancy and consists of one or more iSCSI LUNs. LUNs must not be partitioned. Cloning with ASM requires Oracle Database 11g version 11.2.0.2 or later.

Online (Hot) Backup
Not supported.

FOR BOTH ASM and NFS/dNFS

Offline (Cold) Backup
Control files, datafiles, and logs (online and archive) must reside on the Oracle ZFS Storage Appliance.

Important: Previously, all of the database shares had to reside with one head of a clustered Oracle ZFS Storage system. With the Snap Management Utility 1.2 release, this is no longer a requirement. Shares can span both heads of a clustered appliance.

Supported Database Configurations by Storage Type and Host OS
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**Storage Type**

**Filesystem (Kernel NFS)**

**Oracle LINUX/RED HAT LINUX (5.5, 5.6, 5.7, 6.3, 6.4)**
Supported

**Oracle SOLARIS (Oracle SOLARIS 10 UPDATE 7 OR LATER)**
Supported

**MICROSOFT WINDOWS (WINDOWS 2008 R2)**
Supported

**Storage Type**

**Filesystem (Direct NFS)**

**Oracle LINUX/RED HAT LINUX (5.5, 5.6, 5.7, 6.3, 6.4)**
Requires Oracle Database 11g R2 or later
For clone operation in this OS, the software will not create or modify the oranfstab file, but will only update the system mount table with entries for the clone shares.

**Oracle SOLARIS (SOLARIS 10 UPDATE 7 OR LATER)**
Requires Oracle Database 11g R2 or later
For clone operation in this OS, the software will not create or modify the oranfstab file, but will only update the system mount table with entries for the clone shares.

**MICROSOFT WINDOWS (WINDOWS 2008 R2)**
Requires Oracle Database 11g R2 or later; static location layout due to bug 13571798. See My Oracle Support (MOS) at http://support.oracle.com, metalink doc 1452760.1 for more information. This release only supports adding single network paths to the filesystem shares in the oranfstab file.

Storage Type
ASM

Note: ASM_DISKSTRING parameter settings.
(Use of ASMLib is not supported.)

Oracle LINUX/RED HAT LINUX (5.5, 5.6, 5.7, 6.3, 6.4)
ASM cloning is not supported on Linux version 5.5.
External redundancy only; cloning requires Oracle Database 11.2.0.2 or later due to bug 9316059.

Diskgroup members must be physical or raw disks. Virtual Pseudo disks which are used with advanced I/O such as ASMLib, MPIO, logical volume groups, device-mapper, are not supported.

Parameter default is /dev/raw/*. Must append ASM_DISKSTRING parameter with the value /dev/the softwareasm/*. See My Oracle Support (MOS) at http://support.oracle.com metalink doc 9316059.8 for more information on this bug and other the software issues.

Oracle SOLARIS (Oracle SOLARIS 10 UPDATE 7 OR LATER)
External redundancy only; cloning requires Oracle Database 11g version 11.2.0.2 or later due to bug 9316059.

Diskgroup members must be physical or raw disks. Virtual Pseudo disks which are used with advanced I/O such as ASMLib, MPIO, logical volume groups, device-mapper, are not supported.

Parameter default is /dev/rdsk/*. Leave default as is.
See My Oracle Support (MOS) at http://support.oracle.com metalink doc 9316059.8 for more information on this bug and other the software issues.

MICROSOFT WINDOWS (WINDOWS 2008 R2)
External redundancy only; cloning requires Oracle Database 11.2.0.2 or later due to bug 9316059.
Diskgroup members must be physical or raw disks. Virtual Pseudo disks which are used with advanced I/O such as ASMLib, MPIO, logical volume groups, device-mapper, are not supported.

Parameter default is `*\.*\ORCLDISK*` Leave default as is. See My Oracle Support (MOS) at http://support.oracle.com metalink doc 9316059.8 for more information on this bug and other the software issues.

Known Issues
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Issue: the software cannot import an RMAN backup of a standby database because of missing archived logs.

Analysis: The software can only import a self-contained, consistent RMAN backup as described in the following knowledge articles --

Oracle Support Document 1419923.1 (How to make a consistent RMAN backup in an Standby database in Active DataGuard mode) can be found at: https://support.oracle.com/epmos/faces/DocumentDisplay?id=1419923.1

Oracle Support Document 1292126.1 (How to take consistent backups at standby site) can be found at: https://support.oracle.com/epmos/faces/DocumentDisplay?id=1292126.1

Beginning with Oracle Database 11g release 11.2.0.4 it is now possible to create a consistent backup of a standby database from RMAN with the fix for Bug 8740124 (Current standby redo log group should be included in the database backup by RMAN [Doc ID 8740124.8]). This bug fix is also available for releases 11.2.0.3 and 11.2.0.2 with patch 15704456 (https://support.oracle.com/epmos/faces/PatchDetail?patchId=8740124&requestId=15704456).

The following is a sample RMAN script that can be used to create a consistent, self-contained backup of either a primary or standby database on two shares of an Oracle ZFS Storage Appliance. The datafiles and archived logs are placed in separate shares to allow any clone databases created later to have the appropriate layout for online backups.

```
configure controlfile autobackup on;
run {
  # this undoc command will ensure that no autobackup is generated
  # at the end of this script
  set nocfau;
```
allocate channel ch01 device type disk format '/rman01/%U';
allocate channel ch02 device type disk format '/rman02/%U';
backup as copy database channel ch01 plus archivelog channel ch02;
backup as copy current controlfile channel ch01;
}

Workaround: N/A

Issue: A non-oracle delegated user receives the following error when creating a clustered database clone --
PRCD-1025 : Failed to create database Xxxxxxx
PRKH-1014 : Current user "<non-oracle-delegated-user>" is not the oracle owner user "<oracle-user>" of oracle home "<oracle-home>"
(18548477)

Analysis: In order to run database commands, you must be the oracle owner user (that is, "oracle") or belong to the OSDBA group. The one exception is when adding a database using the srvctl add database command. This command currently requires that the user creating a database instance needs write access to the Oracle home for that database. Only the oracle owner user has write access to an Oracle home. Therefore the oracle owner user must be used to add the database.

Workaround: Use the oracle owner user with the host account.

Issue: When testing or using the storage account from a task, a corrupt packet error occurs --
storage login failure java.io.IOException: storage <hostname> login: Packet corrupt (18792380)

Analysis: The third party library the software uses for SSH client connections to host systems and storage appliances appears to have a minor incompatibility with the SSH server used on the storage appliance. The result is when an incorrect password is specified for the storage account the corrupt packet error occurs.

Workaround: Correct the password for the storage account.

Issue: RMAN import tasks fail with remote command execution has been terminated abnormally (18836712)

Analysis: This occurs primarily on Oracle Solaris 10 systems which use an older version of the SSH software (Sun_SSH_1.1.4). It appears to be triggered during low memory conditions or when there is limited shared memory available for a new database instance that is created during an RMAN import.
Workaround: Free up memory on the clone target host system and try the task again.

Issue: After taking an offline backup of a standby database, its open mode is mounted and not read only or read only with apply (18889963)

Analysis: The software currently supports basic Data Guard configurations. The software will not re-enable active Data Guard modes for any database after a backup.

Workaround: Enter the appropriate SQL commands to change the open mode to the desired state.

Issue: After restoring a standby database, the open mode is mounted and not read only or read only with apply (18890026)

Analysis: The software currently supports basic Data Guard configurations. The software will not re-enable active Data Guard modes for any database after a restore.

Workaround: Enter the appropriate SQL commands to change the open mode to the desired state.

Issue: Java exceptions are seen in the the software log during startup (18891853)

Analysis: The first time the software runs it will create the necessary keystores, database and miscellaneous files in the software data directory. The software determines when to create new keystores when it fails to open and read an existing keystore. The open exception is recorded in the software log.

Workaround: N/A

Issue: When restoring a primary database in a Data Guard configuration, the correct force logging mode is not set (18898697)

Analysis: A snap restore of a primary database in a Data Guard environment is not recommended. This will cause the Data Guard configuration to become invalid because the primary database will become "younger" than the standby databases. If the primary database needs to be restored due to corruption or data loss, then a switchover or failover to one of the standby databases in the Data Guard configuration should be done. The primary database can then become a standby database and can be restored and brought up to date and then resume the primary database role in the Data Guard configuration.
The software is not designed to perform switchover or failover in a Data Guard environment to address issues with the primary database. In general the software should only be used with a standby database in a Data Guard environment. Most of the use cases call for using the standby database in a Data Guard configuration.

Workaround: Use standard Data Guard practices to address data loss issues with a primary database.

Issue: During a snap backup of a database using filesystem storage type, the software will not detect if some database files are using non-appliance storage (19060075)

Analysis: Before performing a snap backup operation the software queries the database to get a list of its data files, control files, log files and archived log files. It then checks to see if each file is using appliance storage or other storage. If some data files are using appliance storage but other data files are using other storage the software will not detect that and will continue with the snap backup operation.

Workaround: Verify all data files, control files, log files and archived log files are using appliance storage. The following queries can be used to verify the file paths of these database files --

datafiles -- select name from v$datafile;
controlfiles -- select name from v$controlfile;
log files -- select member from v$logfile;
archived log files -- select name from v$archived_log where deleted = 'NO' and creator in ('ARCH', 'FGRD', 'LGWR') and standby_dest = 'NO';

Issue: When creating new disk groups for an ASM clone database, the software reports the errors:
ORAA-15032: not all alterations performed
ORAA-15017: diskgroup "<disk-group>" cannot be mounted
ORAA-15063: ASM discovered an insufficient number of disks for diskgroup "<disk-group>"
(18334130)

Analysis: The software currently requires that the Grid owner user and Oracle owner user be the same.

Workaround: The Oracle home used for the clone database must use a Grid home that is owned by the same Oracle user owner.

Issue: Snap Backup fails on Oracle Database 10g RAC with 'getcrshome does not exist'.
Analysis: The software tries to run the getcrshome command when first connecting to a clustered database. This command returns the associated CRS (cluster ready services) or Grid home the database is using. The getcrshome command is not available with Oracle Database 10g. It was first introduced in Oracle Database 11g.

Workaround: The user can create a two-line shell script in the Oracle home that will echo the ORA_CRS_HOME for the database:

$$ cd $ORACLE_HOME/srvm/admin$$ cat >getcrshome
#!/bin/sh
echo <ORA_CRS_HOME value>
^D

$ chmod +x getcrshome
The ORA_CRS_HOME can be obtained by running the following command on the database host:
$ grep ORA_CRS_HOME /etc/init.d/init.crsd
ORA_CRS_HOME=<path>
That <path> should be echoed from the getcrshome shell script.

Issue: When stopping the Windows Oracle SMU service a dialog displays "Windows could not stop the Oracle SMU Service -- Error 109" (16188990)

Analysis: The software service program is not shutting down cleanly during the shutdown event. It is not properly notifying the Windows Service Controller about the shutdown and is not responding completely to those events.

Workaround: The software service and server program are actually shutdown so this error can be safely ignored for now. In a future release, we will add the shutdown logging capability to the software service program.

Issue: When creating a clone ASM database the software reports the following errors:
ORA-15032: not all alterations performed
ORA-15017: diskgroup "<disk-group>" cannot be mounted
ORA-15013: diskgroup "<disk-group>" is already mounted
(16227035)

Analysis: When creating a clone ASM database the software will mount the clone diskgroups in order to make them available to the clone database. The clone diskgroups are named according to the clone database name (db_name). If there is another ASM database running on the clone host with the same
names, the clone diskgroups cannot be mounted.

Workaround: Use a different database name (db_name) for the clone database.

Related Documentation
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All Oracle ZFS Storage Appliance and Oracle Disk Storage Systems products

Oracle Snap Management Utility for Oracle Database Documentation sets,
including:
User Guide
Security Guide
Third Party Licenses and Notices
Release Notes

are located at:
http://docs.oracle.com/cd/E39520_01/index.html

Feedback
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