this point, then you can restore the database backup later and open it without performing media recovery. But you will, of course, lose all transactions that occurred after the backup was created.

8.1.2 About Inconsistent RMAN Backups

Any database backup that is not consistent is an inconsistent backup. A backup made when the database is open is inconsistent, as is a backup made after an instance failure or `SHUTDOWN ABORT` command.

When a database is restored from an inconsistent backup, Oracle Database must perform media recovery before the database can be opened, applying changes from the redo logs that took place after the backup was created.

> **Note:**
>
> RMAN does not permit you to make inconsistent backups when the database is in `NOARCHIVELOG` mode. If you employ user-managed backup techniques for a `NOARCHIVELOG` database, then you must not make inconsistent backups of this database.

If the database runs in `ARCHIVELOG` mode, and you back up the archived redo logs and data files, inconsistent backups can be the foundation for a sound backup and recovery strategy. Inconsistent backups offer superior availability because you do not have to shut down the database to make backups that fully protect the database.

8.2 About Online Backups and Backup Mode

32

You can create RMAN backups or user-managed backups.

When performing a user-managed backup of an online tablespace or database, an operating system utility can back up a data file at the same time that the database writer (DBWR) is updating the file. It is possible for the utility to read a block in a half-updated state, so that the block that is copied to the backup media is updated in its first half, while the second half contains older data. This type of logical corruption is known as a fractured block, that is, a block that is not consistent with an SCN. If this backup must be restored and the block requires recovery, then recovery fails because the block is not usable.

For third-party snapshot technologies, you must use one of the following techniques to eliminate the risk of creating fractured blocks:

- Ensure that the snapshot technology complies with Oracle requirements for online backups
- Take the database or data files offline
- Place the database in backup mode before using a third-party snapshot backup

Unlike user-managed tools, RMAN does not require extra logging or backup mode because it knows the format of data blocks. RMAN is guaranteed not to back up fractured blocks. During an RMAN backup, a database server session reads each data block and checks whether it is fractured by comparing the block header and footer. If a block is fractured, then the session rereads the block. If the same fracture is found,

offsite backup

An SBT backup that requires retrieval by the media management software before RMAN can restore it. You can list offsite backups with `RESTORE ... PREVIEW`.

online backup

32

A backup of one or more data files taken while a database is open and the data files are online.

online redo log

The online redo log is a set of two or more files that record all changes made to the database. Whenever a change is made to the database, Oracle generates a redo record in the redo buffer. The LGWR process writes the contents of the redo buffer into the online redo log.

The current online redo log is the one being written to by LGWR. When LGWR gets to the end of the file, it performs a log switch and begins writing to a new log file. If you run the database in `ARCHIVELOG` mode, then each filled online redo log file must be copied to one or more archiving locations before LGWR can overwrite them.

See Also: archived redo log

online redo log group

The Oracle online redo log consists of two or more online redo log groups. Each group contains one or more identical online redo log members. An online redo log member is a physical file containing the redo records.

online redo log member

A physical online redo log file within an online redo log group. Each log group must have one or more members. Each member of a group is identical.

operating system backup

See user-managed backup

operating system backup and recovery

See user-managed backup and recovery

Oracle Enterprise Manager Cloud Control

The primary product for managing your database is Oracle Enterprise Manager Cloud Control (Cloud Control), a Web-based interface. After you have installed the Oracle Database software, created or upgraded a database, and configured the network, you can use Cloud