

# Business Continuity with Backup & Restore

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# What does Backup Database do?

- Backs up an entire database, transaction log, or one or more files or filegroups



# Use Backups

- Best way to avoid data loss
- CBRE Principle
- Many options available
  - Full database backup is a good starting point
  - Series of transaction log backups as well is much better
- You have to take backups to be able to use them
- You have to have valid backups to be able to use them
  - Ensure the backup file itself is not corrupt

# How many SQL Server Backup Types?



# Answer



- Full backup
- Full differential backups performed between full database backups
- Partial backups
- Partial differential backups performed after a partial backup
- File and filegroup backups
- File differential backups performed after a file or filegroup backup
- Transaction log backups
- Copy-only backups

# Did you Know?

- During a full database or differential backup, SQL Server backs up enough of the transaction log to produce a consistent database?
- Only a full database backup can be performed on the master database?

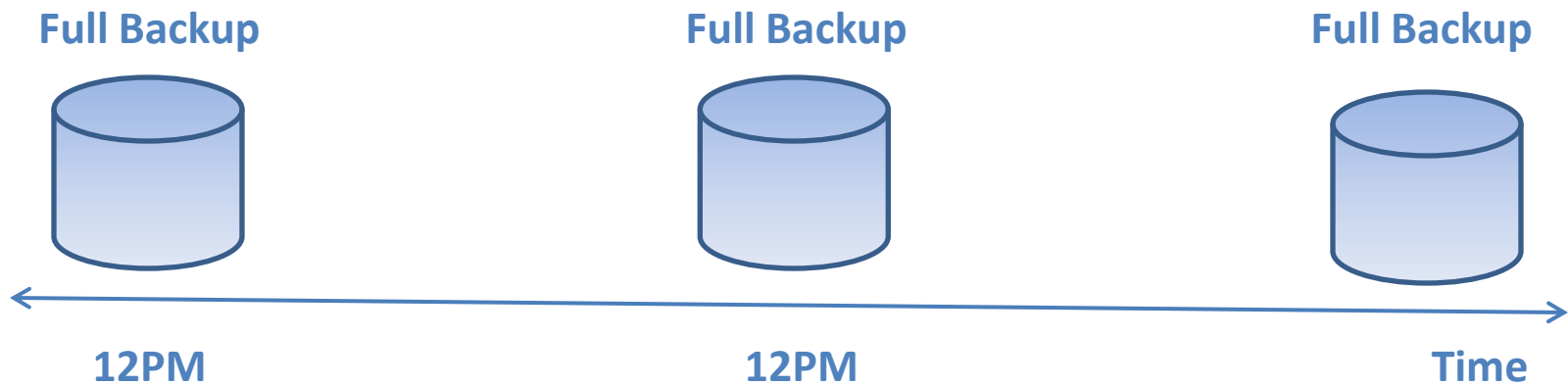


# Designing a Backup Strategy

- When do applications access the database?
- How frequently are changes and updates likely to occur?
- Are changes likely to occur in only a small part of the database or in a large part of the database?
- How much disk space will a full database backup require?

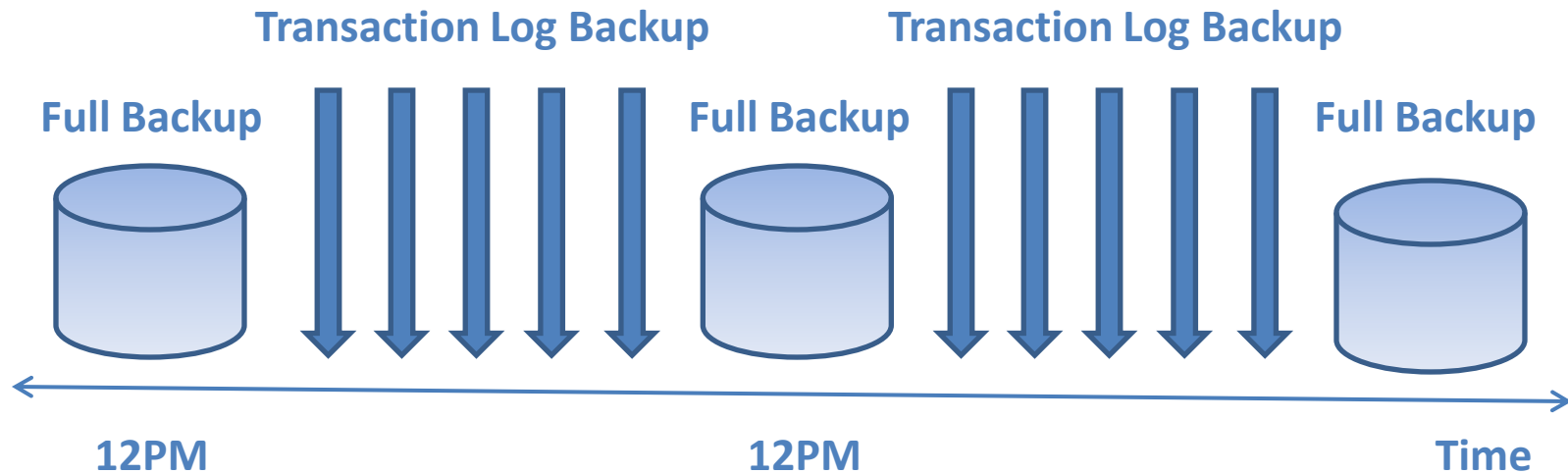
# Full Database Backup

- ✘ Only as good as your last Full Backup
- ✘ Significant exposure to data loss



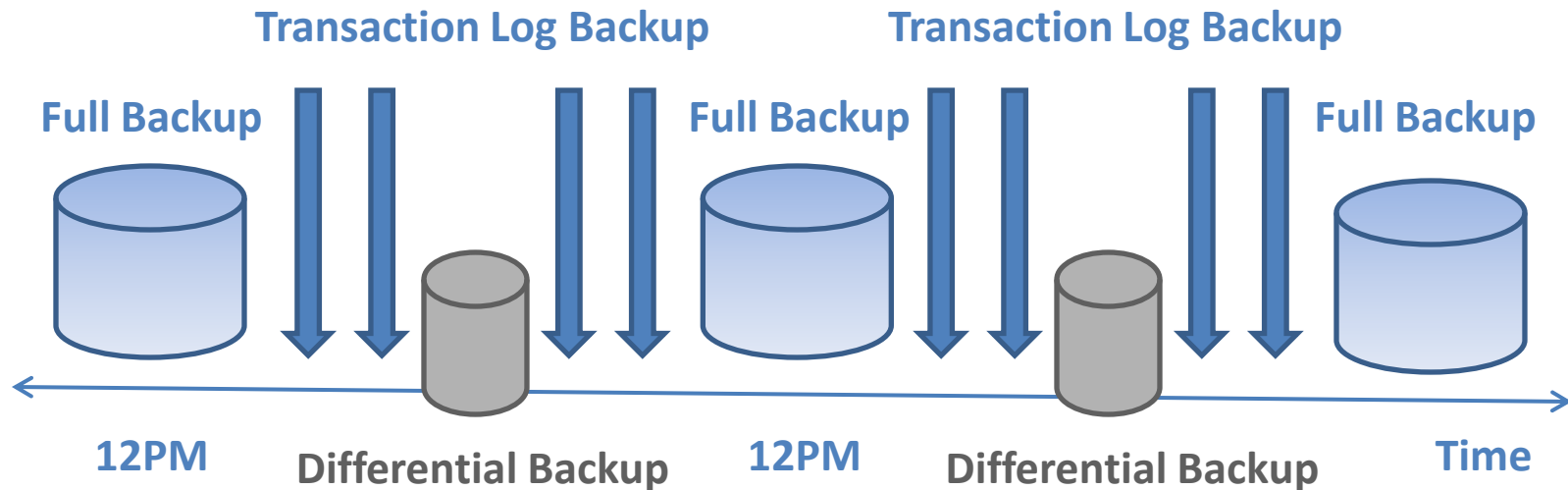
# Database & Transaction Log Backup

- ✓ Supports all recovery types
- ✓ Can achieve up-to-the-minute recovery
- ✗ Restoring a large number of logs can take a long time



# Full & Differential & Transaction Log Backup

- ✓ Differential Database backups are only the extents changed since the last full database backup
- ✓ Simplifies recovery time by allowing you to recover the database, the last differential, and the logs



# Backup & Restore Demo



# What's new?

- Partial Backups
- Online Restore
- COPY\_ONLY
- Backup Compression



# Partial Backups

- Partial backups introduced in SQL Server 2005
- Improve flexibility for backing up VLDB's
- Resembles a full database backup
  - does not contain all the filegroups
  - contains all the data in the primary filegroup & every read/write filegroup
  - Can include optionally-specified read-only files
- Excludes read-only filegroups
  - READ\_WRITE\_FILEGROUPS

# Online Restore

- Supported in SQL Server 2005 Enterprise Edition and later versions
- A file, page, or piecemeal restore is online by default
  - Databases that contain multiple filegroups can be restored and recovered in stages
- A database is considered to be online when the primary filegroup is online
  - Database remains online
  - Only data being restored is unavailable

# Using COPY\_ONLY

- A COPY\_ONLY backup is a backup that is independent of the backup sequence
  - Normally a backup affects how backups are restored
- SQL Server 2005 Management Studio does not support copy-only backups
- COPY\_ONLY has no effect when it is specified with a Differential Backup

# Backup Compression

- Storage costs
  - Significant reduction in backup sizes
  - Translates directly into savings
- Reduces backup window
- Backup Compression can be used with in Log Shipping

# What's New Demo



# Questions

