



Best Practices For Upgrading to TSM 6

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Agenda

1. The Basics
2. Planning & Preparing for Upgrade
3. Upgrade Methods
4. Performance Considerations
5. Example of Upgrade Timings
6. FAQs
7. Example - Windows In-place Network Upgrade Using Wizard (if time permits)





The Basics

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The Basics

- Major restructuring of the TSM database – DB2
- Why do this ?
 - Current DB is reaching its limits in terms of size, performance, and function
 - Position for long term growth
 - New functionality (Dedup and Node Replication etc)
 - Online reorgs – no need for auditdb
 - Free TSM development resources DB maintenance
- Performance goal is to provide “equivalent performance”
 - Compared to Version 5.5
- No DB2 skills required to run TSM 6
- Yes, there will be new function
 - Not part of this discussion
- !! Not the solution to every problem !!



The Basics

- Increase in real memory recommendations
 - Min now 12 GB but more recommended to accommodate DB2/TSM,dedup and node replication
- Increase in TSM DB size possible / probable
 - DB2 space will expand and contract based on workload
- Increase in overall recovery log size (up to 128 GB)
 - **Only support for roll-forward mode**
- DB Upgrade process includes:
 - Prepare current TSM server Database
 - Extract all DB entries from current TSM DB
 - Insert all DB entries into DB2 via TSM
 - Time consuming upgrade when compared to previous TSM software upgrades
- Fall back is re-install of previous code and DB
 - Potentially more complex than previously experienced
 - No exposure to data loss if you plan ahead



What you get and what you do not get

- New database
 - DB2 is external to TSM, installed with TSM package
 - Must use the DB2 image that is installed with TSM
 - Don't install on a system with DB2 already installed
- One-to-One relationship between TSM instance and database instance
 - No merge of multiple TSM instances into one database
 - Can run multiple TSM / database instances on same OS image
- No Cross platform upgrade
 - For instance, you cannot upgrade from TSM on Windows to TSM on AIX



What you get and what you do not get

- Theoretical DB size will increase, BUT ...
 - Recommended maximum DB size is currently 4 TB with TSM 6.3
 - Plan for equivalent number of objects
 - New function will add to DB growth
- New Recovery Log mechanism
 - DB2 logs will require more disk space
 - Active and Archive logs
 - Comprises of 512MB files
 - Size depends on activity and DB Backup frequency
- Can **NOT** run different versions of TSM on same OS instance
 - Same restriction as prior releases



Upgrade Utility

- Upgrade utility is a separate install package
 - Can coexist with existing TSM versions
 - Download DB Server-Upgrade Utility Package (from the ftp site)
<ftp://service.boulder.ibm.com/storage/tivoli-storage-management/maintenance/server-upgrade>
 - Use an upgrade utility version that is greater than, or equal to, the level of the TSM server you are upgrading, is required; eg: a TSM 5.5.2 Server requires TSM 5.5.2 Upgrade Utility or higher
 - Installed on V5 server only - may require a system reboot on Windows

Upgrade process:

1. Upgrades existing DB to V5.5.x
 2. Extracts from existing V5.5.x database
 3. Inserts into DB2 using TSM server (not the utility itself)
- Source server is down during extract process
 - If TSM V5.5.x, existing TSM server can restart afterwards
 - If prior to V5.5.x, the DB needs to be restored first





Planning and Preparing for TSM v6

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Preparation

- READ documentation
 - TSM Server Upgrade Guide (GC27-4017-00 for V6.3)
 - TSM InfoCenter
 - READMEs for the DB Upgrade (latest updates)
- OS Levels
 - Be current – check web and documentation
 - Check SP and Maintenance Levels different for V6.3 (no Windows 2003)
- TSM Levels
 - Recommended starting point is TSM V5.5.2
 - May need to upgrade TSM clients
 - Automatic Deployment for TSM Clients with TSM V6.3
- Consider 24X7 requirements for TSM availability
 - Applications such as CDP, Content Manager, and Space Manager *assume* TSM server is always available

Preparation

- Disk space planning
 - Upgrade process creates new database
 - Determine and configure DB2 space before starting the upgrade
 - DB2 active and archive logs will need space
 - Raw logical volumes are no longer supported for the db and logs
- Time
 - How long can your TSM server be down ?
 - Estimate the extract and insert processes
 - Plan for 5GB/hr to 10GB/hr for an upgrade process
- Verify your monitoring applications support TSM V6
 - TSM Operational Reporting needs new xml template for V6
 - <http://www-304.ibm.com/support/docview.wss?uid=swg27019794>



Preparation

- TSM Health Check
 - Consider an IBM TSM Health Check before upgrade
- TSM V5 Database Fragmentation
 - A higher level of fragmentation results in a more efficient database insertion process. The reason is that fragmented data on the V5 system can use multiple threads and processors on the V6 system.
- Do **NOT** reorganize the Tivoli Storage Manager V5 database before the Upgrade
 - The reason is that faster throughput can be obtained when the source database does not contain long sequences of pages allocated to a single database table.
- Turn Off Database reorgs
 - Turn off database reorgs (fixed in 6.3.1) when inserting records to TSM 6
 - ALLOWREORGTABLE NO
 - ALLOWREORGINDEX NO



Preparation - Estimating Disk Requirements

Item	Type	Same system Media	Same system Network	New system Media	New system Network
Active Log (1)	Disk	16GB (Min)	16GB (Min)	16GB (Min)	16GB (Min)
Log Mirror	Disk	Log Size	Log Size	Log Size	Log Size
Archive Log	Disk	Log Size +	Log Size +	Log Size +	Log Size +
V5 DB	Disk	Current DB	Current DB	0	0
V5 Rcvylog	Disk	Current Log	Current Log	0	0
DB2 DB (2)	Disk	DB Util% + 50%	DB Util% + 50%	DB Util% + 50%	DB Util% + 50%
DB Backup (2)	Seq Media	DB Util%	DB Util%	DB Util%	DB Util%
Extract(2)	Seq Media	DB Util%	0	DB Util%	0
Total Disk	Disk				
Total Seq	Seq Media				

Note 1: Active log is a function of daily activity – increase to 48 GB for Dedup

Note 2: V6 DB, DBB, and Extract are a function of current DB utilization

Preparation – Recommended for 100GB utilized db

Item	Disk Size (allowing for growth)
Instance Directory (dsmserv.opt etc)	2 GB
TSM Database	200 GB
TSM Active Log	128 GB
TSM Archive Log	300 GB
Optional: Log Mirror for the Active Log	
Optional: Failover Location for Archive Log	

Preparation

- Picking the first TSM to upgrade
 - Ideal first candidate is small, stand-alone TSM
 - Do you use Library Sharing ?
 - Library Manager must be at a higher level than Library Clients
 - Library Clients must be at a supported level (V5.5 for TSM 6.3 until Dec 2012)
 - Do you use LANFree ?
 - Storage Agents must be at a supported level
- Multiple TSM instances
 - How many upgrades can you do in a weekend ?
 - IP Address and Interconnectivity considerations
 - If upgrade in place, must upgrade all TSM instances
- Test, test, test
 - Have a real test system
 - Test the upgrade process
 - Test upgrade with a large DB to make your own estimate of time
 - Test the upgraded database and also back-out procedure



TSM Storage Agent and Library Client Compatibility

If you have a TSM Server at this level:	It is compatible and is supported with these TSM Storage Agent and Library Client Levels
Tivoli Storage Manager Version 6.3	6.3, 6.2, 6.1, and 5.5 *
Tivoli Storage Manager Version 6.2	6.2, 6.1, and 5.5
Tivoli Storage Manager Version 6.1	6.1, 5.5, and 5.4
Tivoli Storage Manager Version 5.5	5.5 and 5.4
Tivoli Storage Manager Version 5.4	5.4

- * = TSM 5.5 Storage Agent and Library Client will be supported with TSM 6.3 Server (Library Manager) during the upgrade of TSM 5.5 servers to TSM 6.3, through December 31st, 2012



TSM Client/Server Compatibility

If you have a TSM Client at this level:	It is compatible and is supported with these TSM Servers/Storage Agents Levels
Tivoli Storage Manager Version 6.3	6.3, 6.2, and 6.1
Tivoli Storage Manager Version 6.2	6.3, 6.2, 6.1, and 5.5
Tivoli Storage Manager Version 6.1	6.3, 6.2, 6.1, and 5.5
Tivoli Storage Manager Version 5.5	6.2, 6.1, 5.5, and 5.4 6.3*
Tivoli Storage Manager Version 5.4	5.4

- * = TSM 5.5 clients will be supported with TSM 6.3 servers and storage agents during the upgrade of TSM 5.5 servers to TSM 6.3, through December 31st, 2012

Recommended Memory Requirements

- TSM 6.3 requires significantly more memory per instance than TSM 5.

Operating System	Non-Dedup	Dedup	Heavy Load
* Windows 32 bit	4 GB	n/a	n/a
Windows 64 bit	12GB	16GB	32GB
AIX 64 bit	12GB	16GB	32GB
Linux 64 bit	12GB	16GB	32GB
Solaris 64 bit	12GB	16GB	32GB

* only 1 instance allowed and no dedup

Preparing for the Upgrade

1. Check upgrade documentation for changes.
2. Check prerequisites (prc/mem/disk and OS).
3. Download and install the TSM Upgrade Utilities (V5 server only).
4. Prepare space for upgrade – V6 will require more space than V5.
5. Modify server before upgrade.
 - reusedelay settings on storage pools – may need to go back to V5
 - delete volhist type=dbb todate=-(number of days to go back to)
6. Disable sessions.
7. Backup storage pools.
8. Backup TSM database.
9. Backup volhist and devconfig.
10. Make copies of dsmserv.opt, dsmserv.dsk, devconig and volhist.
11. Run sample commands across TSM V5 DB to text file..
12. Stop TSM server – Halt.

Preparing for the Upgrade

- Run the sample scripts against TSM V5 database just before upgrade. Example in Appendix A of the TSM 6.3 Upgrade Guide.

```
select node_name, count(*) as "Number of Filespaces" from filespaces group by node_name order by
select platform_name, count(*) as "Number of Nodes" from nodes group by platform_name
select count(*) as "Number of Administrators" from admins
select node_name, sum(num_files) as "Number of Backup Files" from occupancy where type='Bkup'
group by node_name
select node_name, sum(num_files) as "Number of Archive Files" from occupancy where type='Arch'
group by node_name
select count(*) as "Number of schedule Associations" from associations
select count(*) as "Number of Backupsets" from backupsets
select count(*) as "Number of Client Option sets" from cloptsets
select count(*) as "Number of Collocation Groups" from collogroup
select count(*) as "Number of Archive CopyGroups" from ar_copygroups
select count(*) as "Number of Backup copyGroups" from bu_copygroups
select count(*) as "Number of Data Movers" from datamovers
select count(*) as "Number of Device Classes" from devclasses
select count(*) as "Number of Domains" from domains
select count(*) as "Number of Drives" from drives
select count(*) as "Number of Libraries" from libraries
select count(*) as "Number of Library Volumes" from libvolumes
select count(*) as "Number of Volumes" from volumes
select count(*) as "Number of Management Classes" from mgmtclasses
select count(*) as "Number of Node Groups" from nodegroup
select count(*) as "Number of Device Paths" from paths
select count(*) as "Number of Policy Sets" from policysets
select count(*) as "Number of Client schedules" from client_schedules
select count(*) as "Number of Admin schedules" from admin_schedules
select count(*) as "Number of Server Scripts" from scripts
select count(*) as "Number of Servers Defined" from servers
select count(*) as "Number of Servers Groups Defined" from server_group
```





Upgrade Methods to TSM V6

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TSM v5.5 to v6.x upgrade options

- For customers with short data retention policies (30-180 days)
 - Install new TSM v6.x server and start doing all backups to that server
 - Use the TSM v5.5 server for recoveries of older backup versions
 - Once all old backup data is expired, decommission the TSM v5.5 server
- For customers that can tolerate a small amount of backup downtime
 - Install a new TSM v6.x server
 - Use the included wizard-based utilities to migrate the TSM v5.5 database to the new TSM v6.x DB2 database
 - The amount of time required depends on the number of records to migrate
 - Once the migration is done, start all backup services from the new server and decommission the old one
- For customers that cannot tolerate any backup system downtime
 - Leverage the Butterfly Migration services to copy the TSM database in the background
 - Once the process is complete and tested, switch over to the new system and decommission the old one



Upgrade Methods

- Upgrading the DB and not doing TSM Export/Import or Butterfly, you have 2 choices:
 - Upgrade using command line utilities – manual process
 - DB2 utilities
 - Dsmupgrd preparedb, dsmupgrd extractdb, dsmserv insertdb
 - Upgrade using TSM Upgrade Wizards
 - **Highly** recommended to use these
 - Less complex than command line utilities
 - Not only is the DB upgrade done, but the ability to do DB Backups is also mostly configured.
 - Wizard will also create & configure your server/database instance for you prior to doing the upgrade
 - Wizards are supported on all TSM Server platforms

Phases of the Database (DB) Upgrade Process

Phase	Notes
DB Backup (Occurs on Source Server)	
DSMUPGRD PREPAREDB (Occurs on Source Server)	<p>Prepares 5.x DB for upgrade, Does the following:</p> <ol style="list-style-type: none">1. Does an upgrade of DB to 5.5.2. Checks for known Database problems.3. Backs up devconfig file to configured devconfig files. <p>Should finish in around 10 minutes</p>

Phases of the DB Upgrade Process

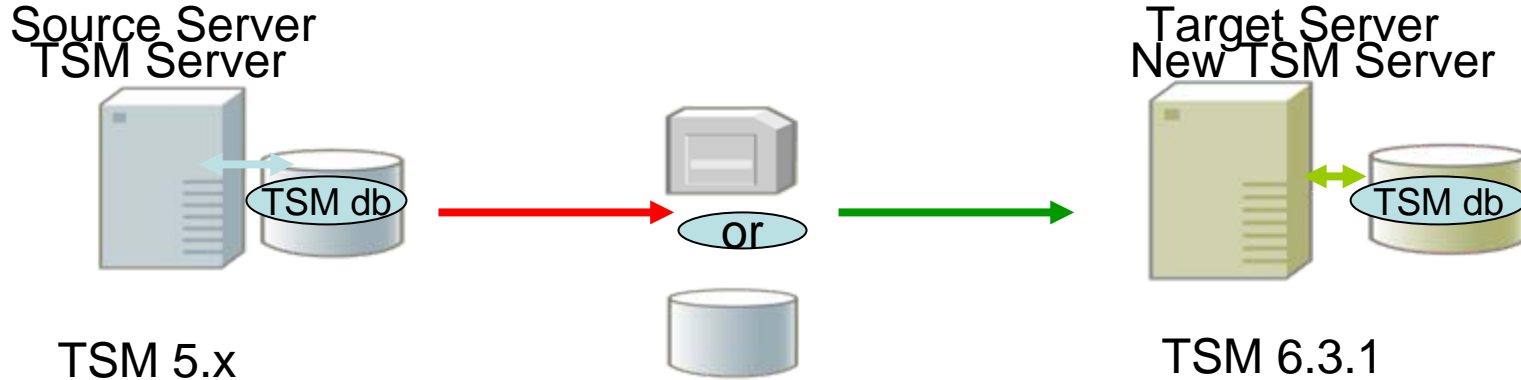
Phase	Notes
DSMUPGRD EXTRACTDB (Occurs on Source Server)	<p>Extracts DB to either media or sends it over the network.</p> <p>If writing to media, this step takes about as long as a DB Backup.</p> <p>If writing to network, it depends on network speed or speed of insertdb process.</p>
DSMSERV LOADFORMAT (Occurs on Target Server)	<p>Creates the instance, Initializes the new DB, and does an initial backup of the new DB.</p> <p>This step takes around 10 minutes.</p>

Phases of the DB Upgrade Process

Phase	Notes
DSMSERV INSERTDB Insert records (Occurs on Target Server)	Inserts information into DB using the DB2 load utility. Speed is hardware dependent. See performance section. Expect 5 -10 GB/hr for this part
DSMSERV INSERTDB Integrity Check (Occurs on Target Server)	Builds the table Indices and verifies the integrity of the tables. This phase may take as long as the previous phase.
DSMSERV INSERTDB Update phase (Occurs on Target Server)	The update phase updates selected records in the TSM 6 database to conform to the requirements of TSM 6. Mostly used to merge information from multiple TSM 5.5 tables into a single TSM 6 table. Again, this phase takes about as long as the previous insertdb phases.



Upgrade to New System External Media



1. Dsmupgrd preparedb
2. dsmupgrd extractdb

3. Install TSM 6.3.1
4. dsmserve loadformat
5. dsmserve insertdb manifest

Extractdb/dsmserve insertdb

Upgrade to New System Network

Source Server
TSM Server



TSM 5.x

1. Dsmupgrd preparedb

4b. dsmupgrd extractdb

Extractdb/dsmserv insertdb

Target Server
New TSM Server



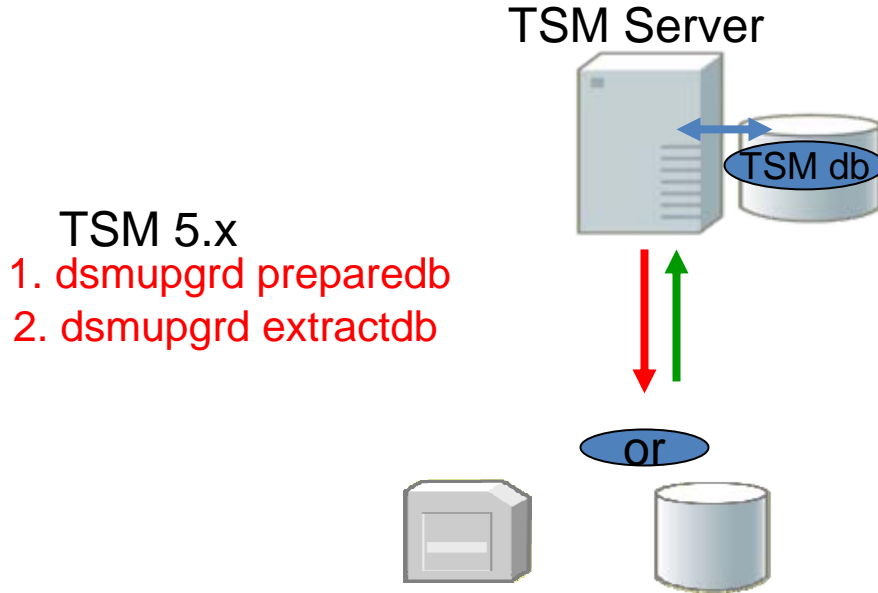
TSM 6.3.1
DB2 V9.7.5

2. Install TSM 6.3.1

3. dsmserv loadformat

4a. dsmserv insertdb

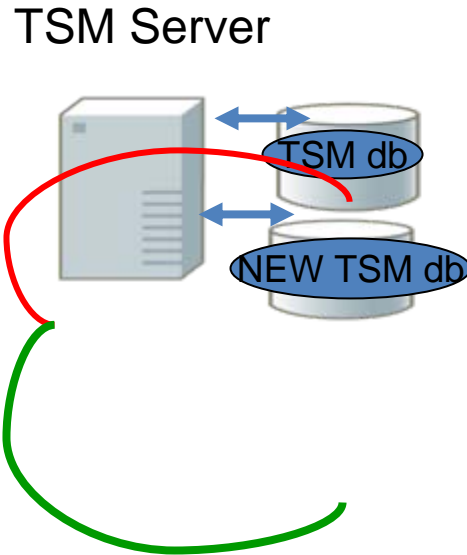
Upgrade In-Place Process External Media



TSM 6.3.1.0
DB2 V9.7.5

3. Remove TSM 5.x code
4. Install TSM 6.3.1
5. dsmserve loadformat
6. dsmserve insertdb manifest

Upgrade In-Place Process Network



TSM 5.x

1. Dsmupgrd preparedb

5b. dsmupgrd extractdb

TSM 6.3.1.0

2. Remove TSM 5.x code

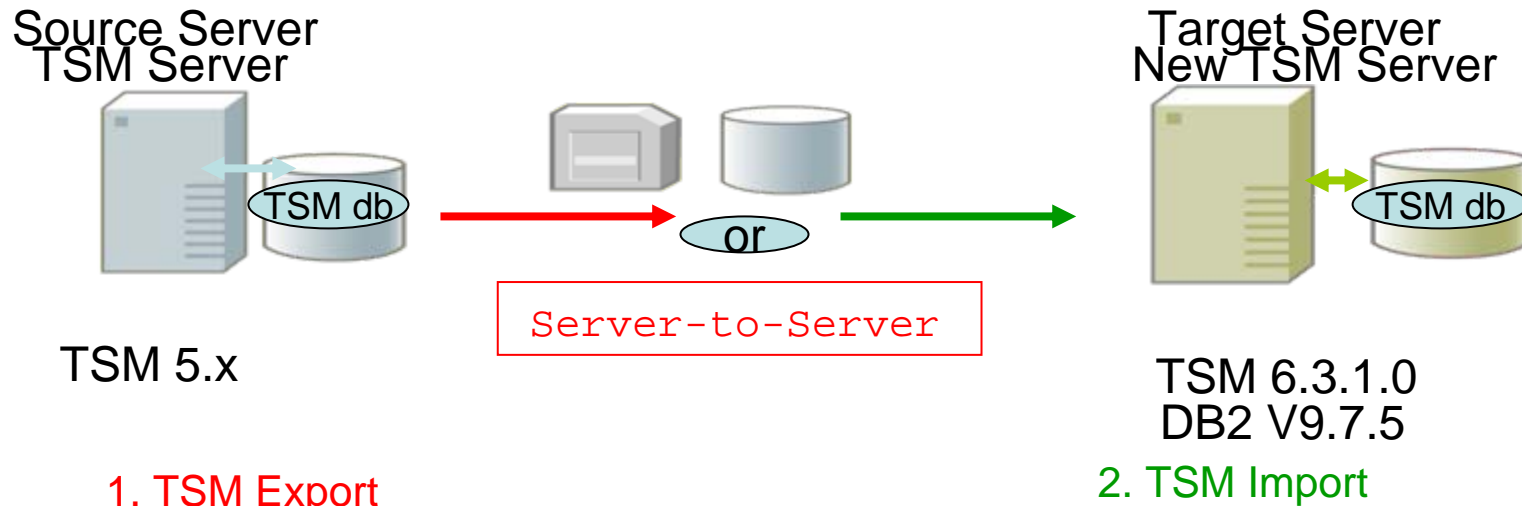
3. Install TSM 6.3.1

4. dsmserv loadformat

5a. dsmserv insertdb

Extractdb dsmserv insertdb

TSM Export/Import to New System Process



Why Use the DB Upgrade Wizards?

- They **greatly** simplify the upgrade process. Here is a **portion** of the process flow for one of the upgrade methods (upgrade to new system using network) after V6 install completed for Windows:
 1. Run the `dsmupgrd preparedb` command on source TSM 5.x system, check for errors.
 2. Create the `userid`, instance directories, DB/LOG for the instance.
 3. Login with instance user.
 4. For all the directories that were created, Ensure the access permissions are set correctly.
 5. Change the access permissions for the storage disk pools so that the instance ID can write to them.
 6. Create the DB2 instance using the `db2icrt` command



Why use the DB Upgrade Wizards?

7. Copy the original V5 dsmserv.opt, devconfig and volhist file to new TSM server. Remove any obsolete options from dsmserv.opt
8. Set the DB2 default path variable using the following db2 command:
db2 update dbm cfg using dftdbpath
9. Format the new database using dsmserv loadformat, check for errors
10. Start the insert process on target server (dsmserv insertdb), wait for message ANR1336I indicating source server can be started.
11. When ANR1336I issued, now start source server (dsmupgrd extractdb)
12. Monitor for completion, and then check for errors.
13. Configure DB backup for TSM V6.
14. Create a Windows service for the TSM instance.

OR ...Just use the DB Upgrade Wizard.



*Performance considerations for the TSM V6
Database, Log and the Upgrade*

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Estimating time for the Upgrade of the DB

- Dependent on many factors
 - Size of DB being upgraded
 - Number and speed of processors
 - Storage device configuration
 - Upgrade method chosen
- Plan for 5-10 GB/hr for DB upgrade.



Items to consider for your DB Configuration

- Use fast disk. Using the slow internal disk included by default in most AIX servers, or using consumer grade Parallel Advanced Technology Attachment (PATA) / Serial Advanced Technology Attachment (SATA) disk in a Linux or Windows system will slow everything down.
- Use multiple database containers. (This is DB2 terminology for what TSM calls database directories.) Make sure each database directory is in a different filesystem / LUN. This improves performance because DB2 will stripe the database data across the various directories. TSM supports up to 128 directories for the DB.

Recommend using 4-8 directories for large TSM DB.

- Separate your TSM Components (DB LUNs, Log LUNs, Storage Pool LUNs)
- Enable read cache for the database file systems, and enable write cache if the disk subsystem supports it.

Items to consider for the V6 Logs

- The Logs have sequential IO access.
- Use dedicated disks for the active/archive logs. If these are shared with other applications you will experience slowdowns when logs are being copied for archiving purposes.
- If possible, disable read cache for the active logs (they are only read at initialization), but enable write cache for them.



Example of Upgrade Timings

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Example of customers upgrade timings

Type	V5 DB Size Used	Extract Size	Extract Time	Insert Time
AIX	225 GB	130 GB	2hr 49min	26hr 12min
Windows	62 GB	30 GB	42 min	27hr 54min
Windows	64 GB	33 GB	37 min	3hr 9min
Windows	94 GB	52 GB	1hr 19min	7hr 44 min
Windows	183 GB	94 GB	1hr 55 min	12hr 33min

Every customer is different ! So test if possible



TSM V6 Install / Upgrade FAQs

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TSM V6 Install / Upgrade FAQs

Q: I am currently running my TSM Server on a 32-bit Windows® platform. Can I move to a 64-bit platform as part of the V6 upgrade?

A: Yes

Q: When upgrading a TSM server V5.5.x to TSM V6, is it possible to omit the dsmupgrd preparedb and sufficient to issue a dsmupgrd extractdb?

A: No, DSMUPGRD PREPAREDB is required first. It's especially important if you're upgrading from a version earlier than 5.5, as it will upgrade the database version to 5.5. But even if you are already at 5.5, we require that it be run.... it just doesn't have quite as much to do in that case.

TSM V6 Install / Upgrade FAQs

Q: How large will the TSM V6 DB be after the upgrade ?

A: During the beta, over 200 customers participated and approximately 80 databases were tested with the upgrade process across multiple platforms. In general, the DB size after the upgrade was completed was roughly the same size. In some cases a 2X increase in size was seen. For planning purposes, customers should use a value of 50% larger than the original utilized space value of their V5 database.

Q: Can I get the 6.3 version of the Administration Center for use with my 5.5 or 5.4 server without installing a 6 server?

A: Yes The 6.3 Tivoli Storage Manager Administration Center will work with server versions 5.3.x, 6.2.x, 6.1.x, 5.5.x and 5.4.x.

Q: Can I get the 6.3 version of the TSM Reporting and Monitoring for use with my 5.5 or 5.4 server without installing a 6 server?

A: Yes The 6.3 TSM Reporting and Monitoring will work with server versions 6.3.x 6.2.x, 6.1.x, 5.5.x and 5.4.x.

TSM V6 Install / Upgrade FAQs

- Q.** How does the database upgrade utility react if the existing database has corruption? Will the update utility detect the corruption? Is it necessary to audit the db first then do the upgrade?
- A.** The TSM V6 Database Upgrade Utility will detect database corruption and attempt to repair the faulty items. The upgrade utility will generate messages when corruption is

```
ANR1525I INSERTDB: Updated 3,340,601 of 369,553,981 database entries in 9:10:58.
ANR1525I INSERTDB: Updated 3,340,601 of 369,553,981 database entries in 9:40:58.
ANR1525I INSERTDB: Updated 3,340,601 of 369,553,981 database entries in 10:10:58.
ANR1525I INSERTDB: Updated 369,553,981 of 369,553,981 database entries in 10:22:57.
ANR1338E One or more constraint violations were detected. Examine log file constrnt.log for details.
ANR1396E INSERTDB: Process 1, database insert, has completed with errors.
ANR1397I INSERTDB: Found 189 database objects.
ANR1398I INSERTDB: Processed 189 database objects.
ANR1399I INSERTDB: Failed to process 0 database objects.
ANR1517I INSERTDB: Processed 1,152,166,382 database records.
ANR1518I INSERTDB: Read 134,963,543,883 bytes.
ANR1519I INSERTDB: Elapsed time was 26:12:05.
ANR1445I INSERTDB: Throughput was 4912.37 megabytes per hour.
ANR1446I RUNSTATS: Table updating statistics started.
ANR0136I Table updating statistics performed successfully for 116 of 116.
ANR1528I RUNSTATS: Table updating statistics completed in 00:00:24.
```



TSM V6 Install / Upgrade FAQs

Q: DSMSEV INSERTDB repeatedly issues status message ANR1525I with no sign that any progress is being made?

A: This lack of change in status is not the sign of a problem. The repeated issuance of the ANR1525I is an indication that INSERTDB is still running, even if the statistics that the messages report do not change.

```
ANR1379I INSERTDB: Read 93,420,536,357 bytes and inserted 642,103,245 database
entries in 6:40:36 (13343.78 megabytes per hour).
ANR1364I Input volume H:\75357599.ost closed.
ANR0136I Table updating statistics performed successfully for 4 of 4.
ANR1524I INSERTDB: Beginning database update phase.
ANR1525I INSERTDB: Updated 2,376 of 198,697,949 database entries in 0:20:32.
ANR1525I INSERTDB: Updated 2,376 of 198,697,949 database entries in 0:50:33.
ANR1525I INSERTDB: Updated 2,376 of 198,697,949 database entries in 1:20:38.
ANR1525I INSERTDB: Updated 2,376 of 198,697,949 database entries in 1:50:40.
ANR1525I INSERTDB: Updated 2,376 of 198,697,949 database entries in 2:20:43.
ANR1525I INSERTDB: Updated 2,376 of 198,697,949 database entries in 2:50:46.
ANR1525I INSERTDB: Updated 2,376 of 198,697,949 database entries in 3:20:49.
ANR1525I INSERTDB: Updated 2,376 of 198,697,949 database entries in 3:50:51.
ANR1525I INSERTDB: Updated 198,697,949 of 198,697,949 database entries in 3:53:05.
ANR1395I INSERTDB: Process 1, database insert, has completed.
ANR1397I INSERTDB: Found 102 database objects.
ANR1398I INSERTDB: Processed 102 database objects.
ANR1399I INSERTDB: Failed to process 0 database objects.
ANR1517I INSERTDB: Processed 642,861,739 database records.
ANR1518I INSERTDB: Read 93,509,935,330 bytes.
ANR1519I INSERTDB: Elapsed time was 12:33:29.
ANR1445I INSERTDB: Throughput was 7101.26 megabytes per hour.
ANR1446I RUNSTATS: Table updating statistics started.
ANR0136I Table updating statistics performed successfully for 116 of 116.
```



TSM V6 Install / Upgrade FAQs

Q: What do I need to do if I need to restart the upgrade process?

A: The upgrade process is **not** checkpoint restartable. If for any reason the process fails or is cancelled, it needs to be restarted from the beginning.

If you are using the extract to media method for upgrade and have completed the extract, you can restart the upgrade from the insertdb step after cleaning up directories and reformatting the DB:

```
db2 start database manager
```

```
db2 drop db TSMDB1
```

```
Clean up directories, logs, database backups
```

TSM V6 Install / Upgrade FAQs

Q: What if I need to go back to my previous V5 TSM?

A: If source server is TSM 5.3 when dsmupgrd preparedb is done:

You need to restore your DB from backups prior to restarting your server

You need to re-install TSM 5.3 from installation media if using in-place upgrade methods

A: If source server is TSM 5.4 when dsmupgrd preparedb is done:

You need to restore your DB from backups prior to restarting your server

You need to re-install TSM 5.4 from installation media if using in-place upgrade methods

A: If source server is TSM 5.5.x when dsmupgrd preparedb is done:

You will **NOT** need to restore your DB from backups prior to restarting

You will need to re-install TSM 5.5 from installation media if using in-place upgrade methods





*Example – Windows in place network upgrade
using wizard*

Pulse2012

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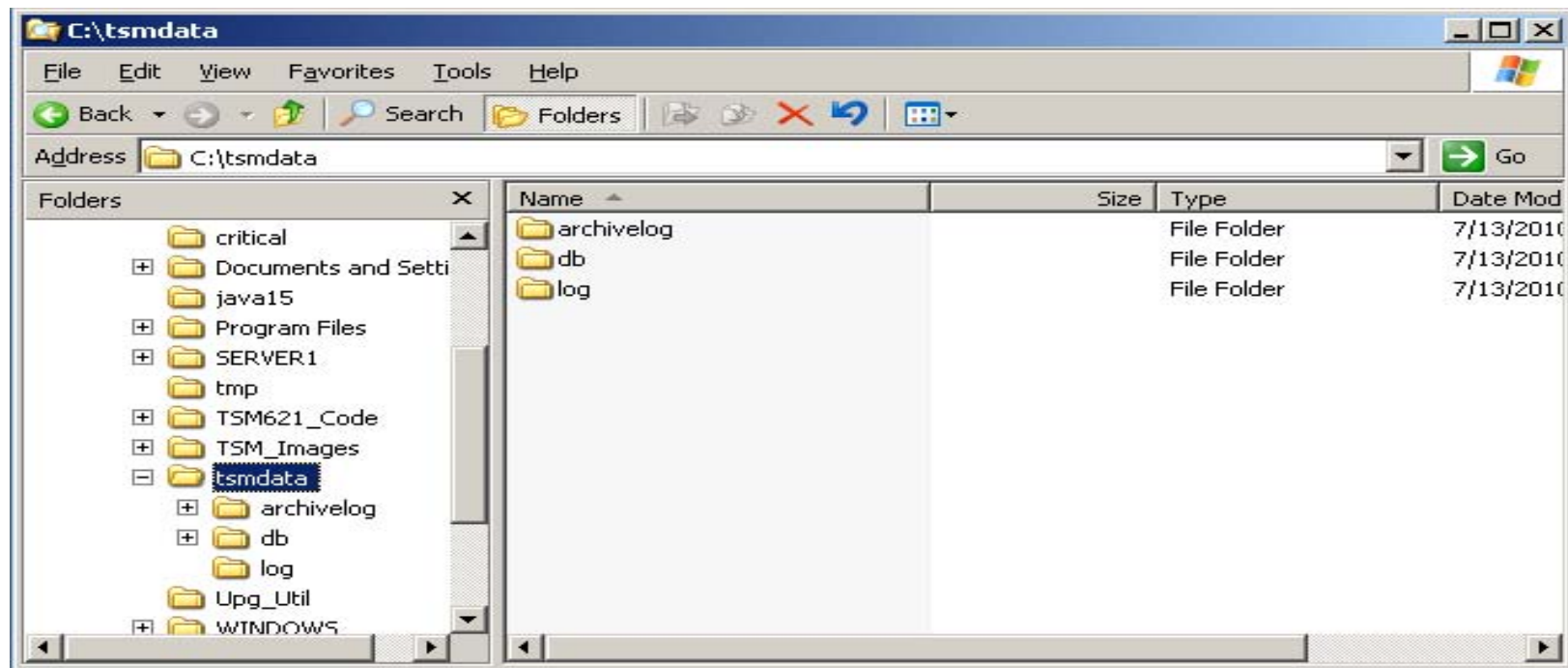
May 31 – June 1

Sheraton on the Park Hotel, Sydney

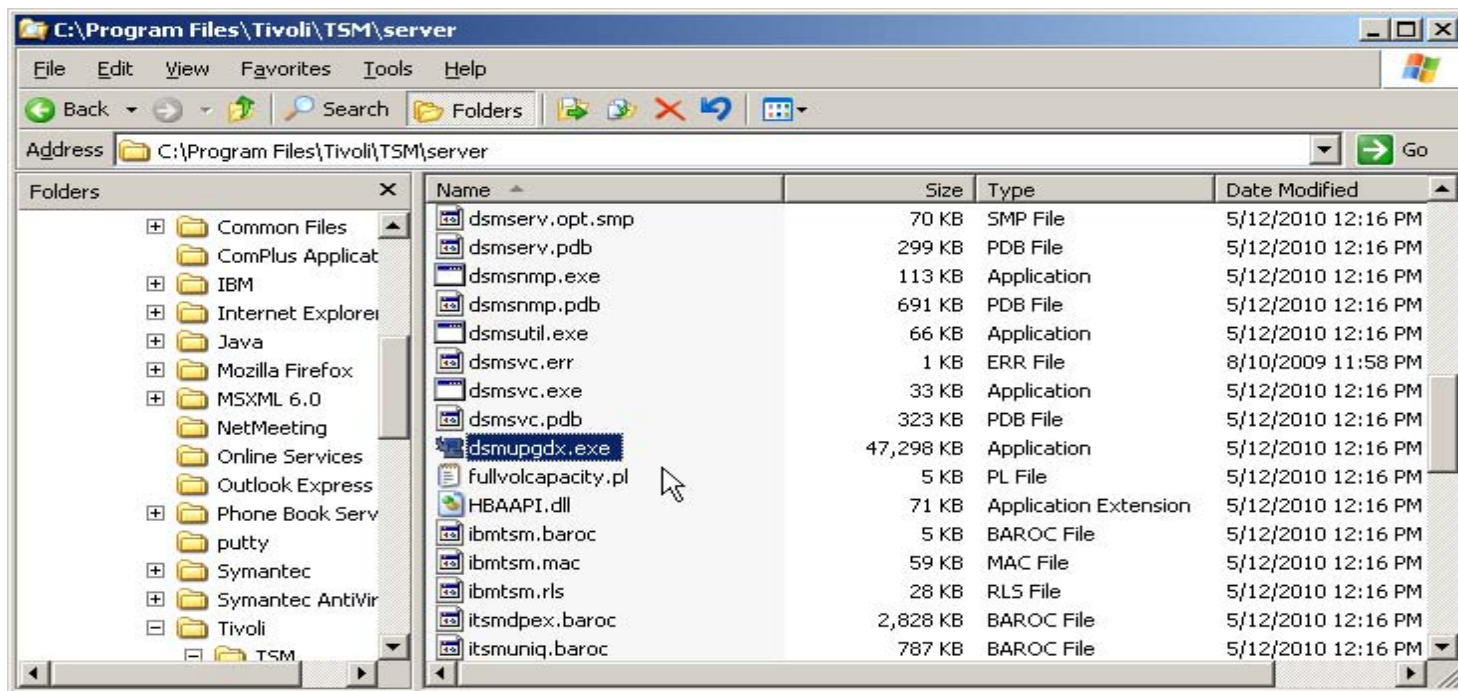
This example assumes that the following steps have already been completed

- TSM Upgrade Utility has been installed (5 mins)
- TSM V5 software has been removed (5 mins)
- TSM V6 software had been installed (20 mins)

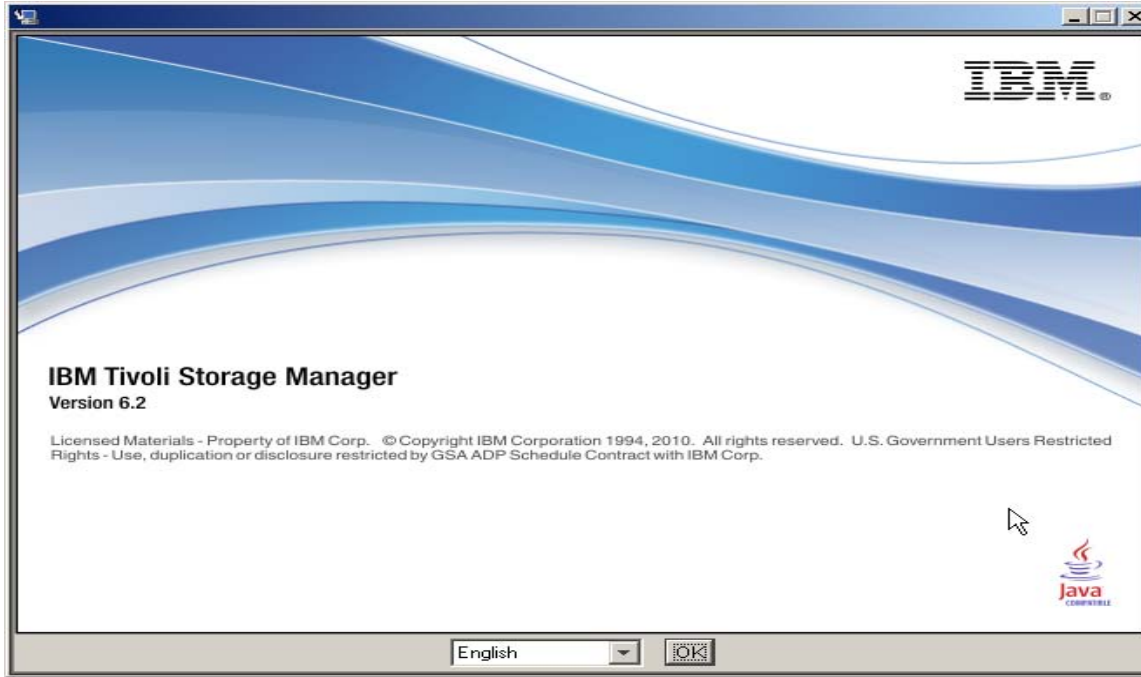
Create new TSM directory structure



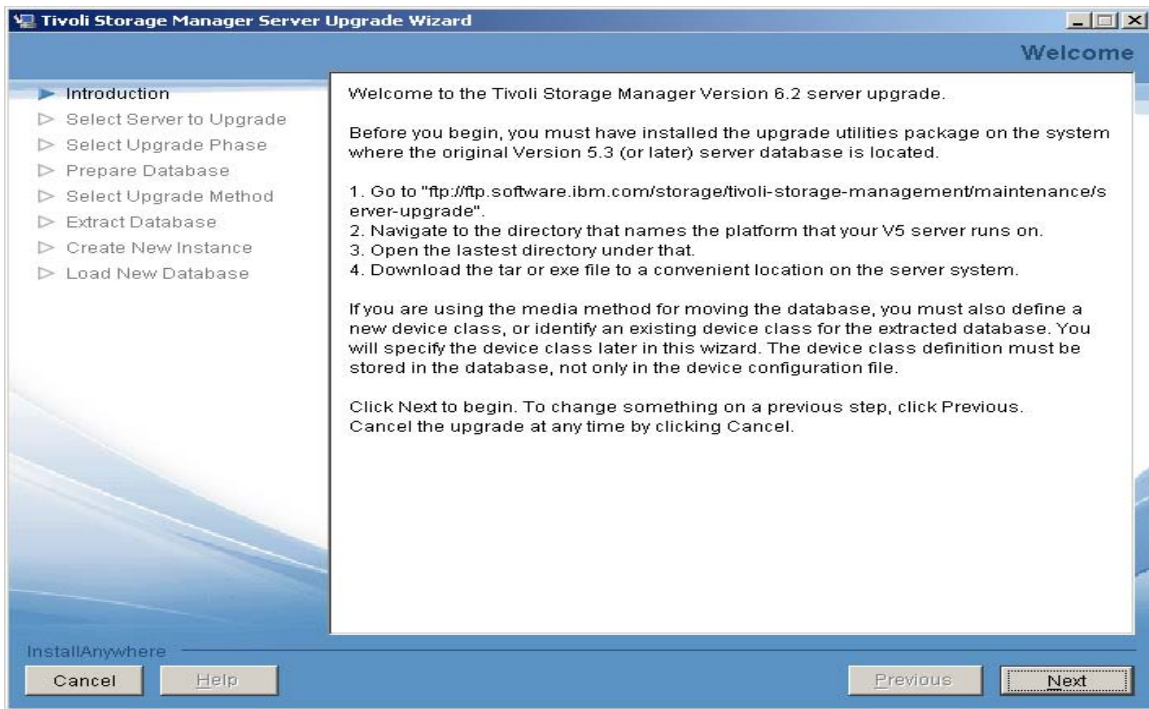
Run the TSM upgrade wizard – dsmupgdx.exe



TSM upgrade wizard – language screen



TSM upgrade wizard – intro screen



TSM upgrade wizard – select upgrade type

The screenshot shows the 'Target System Authentication' step of the Tivoli Storage Manager Server Upgrade Wizard. The left sidebar contains a list of steps: Introduction (checked), Select Server to Upgrade (selected), Select Upgrade Phase, Prepare Database, Select Upgrade Method, Extract Database, Create New Instance, and Load New Database. The main area contains instructions and two radio button options. The first option, 'The server being upgraded is on this system', is selected. The second option, 'The server being upgraded is on a remote system', is unselected and includes three input fields for 'Host name of remote system:', 'Administrator or root user ID:', and 'Administrator or root password:'. A note at the bottom states: 'Note: When you click Next, the wizard will attempt to establish a connection to the local machine. Ensure that File and Print Sharing is enabled and that your firewall allows connections to port 445.' The bottom of the window features 'Cancel', 'Help', 'Previous', and 'Next' buttons.

Tivoli Storage Manager Server Upgrade Wizard

Target System Authentication

Specify the system on which the server to be upgraded resides. If the system is not the local system, specify the necessary credentials with which to log in.

The server being upgraded is on this system

The server being upgraded is on a remote system

Host name of remote system:

Administrator or root user ID:

Administrator or root password:

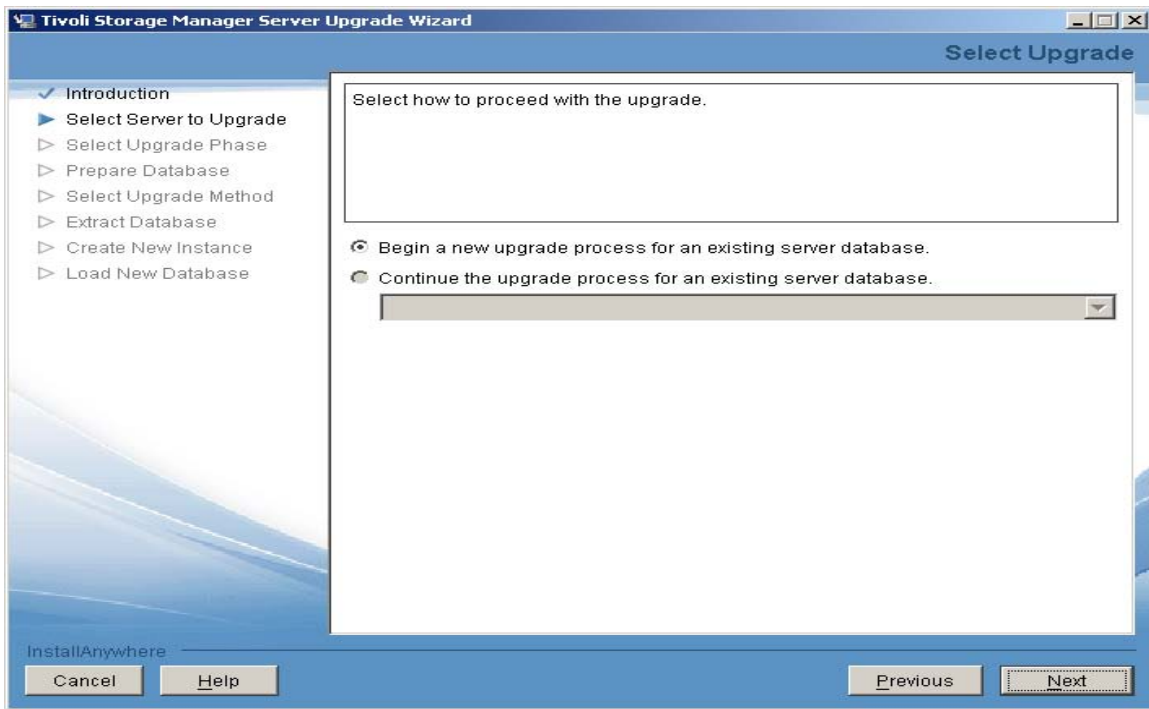
Note: When you click Next, the wizard will attempt to establish a connection to the local machine. Ensure that File and Print Sharing is enabled and that your firewall allows connections to port 445.

InstallAnywhere

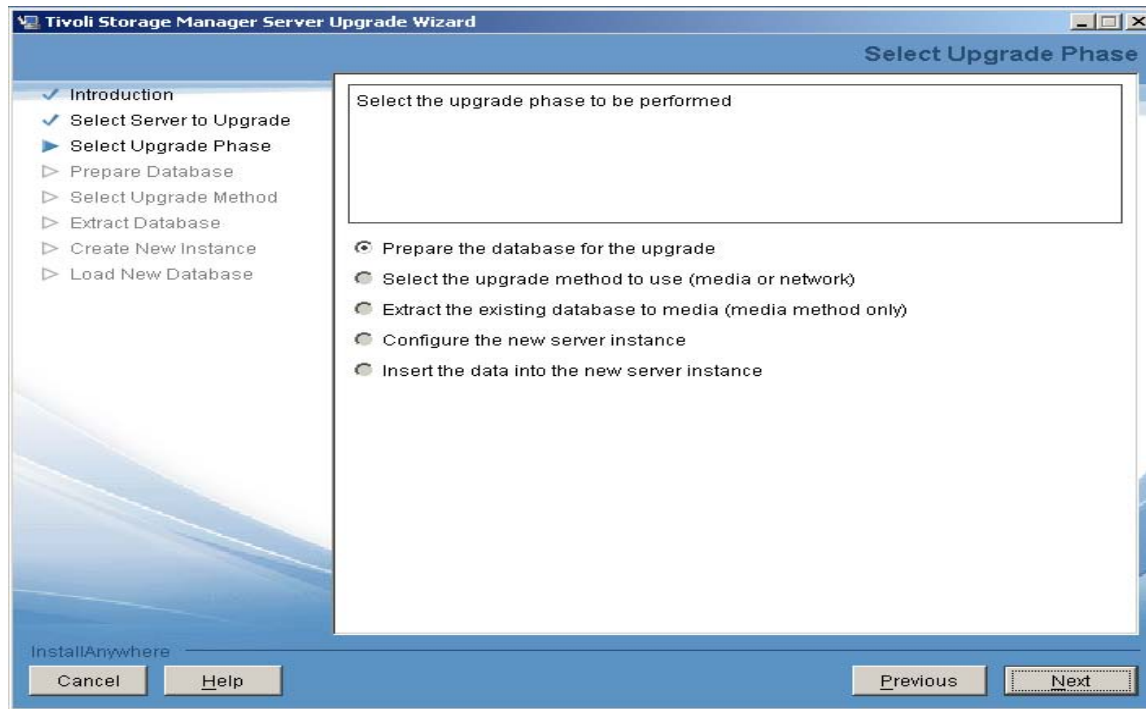
Cancel Help Previous Next



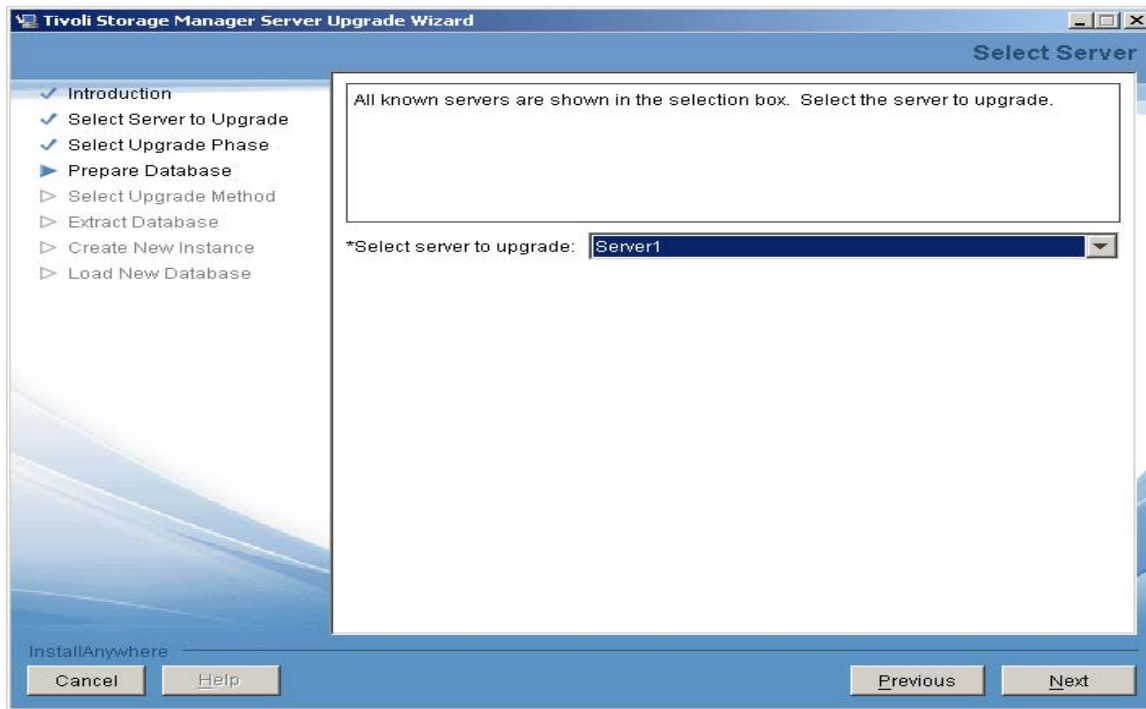
TSM upgrade wizard – select new upgrade



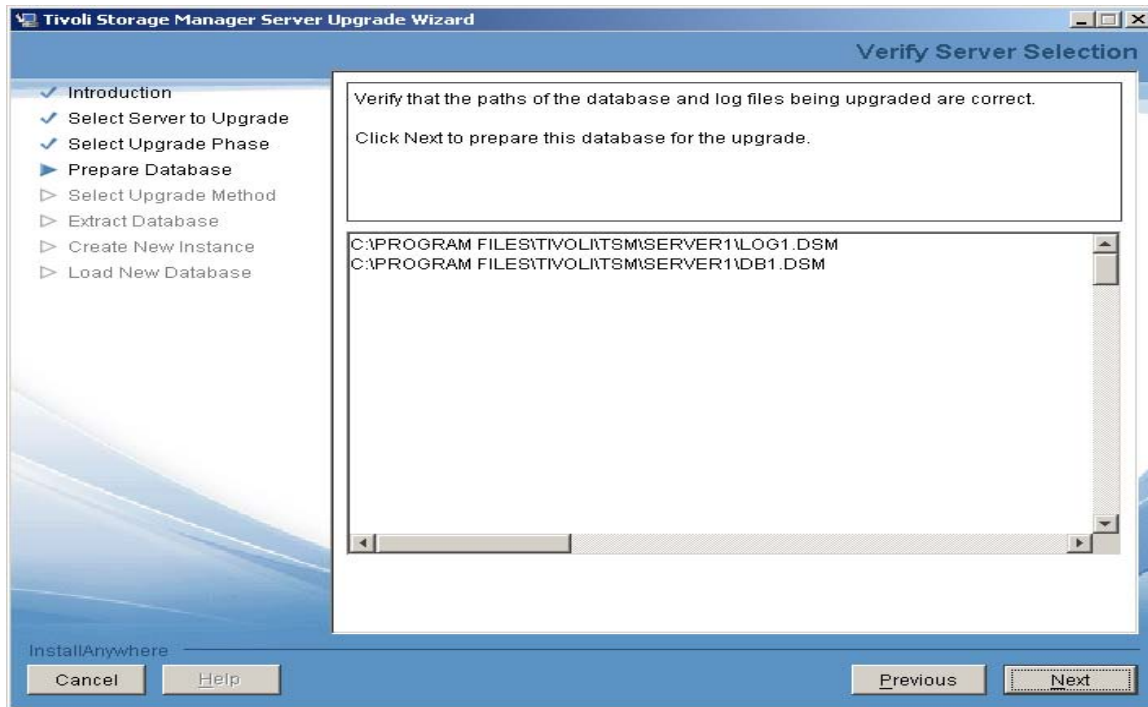
TSM upgrade wizard – select prepare db



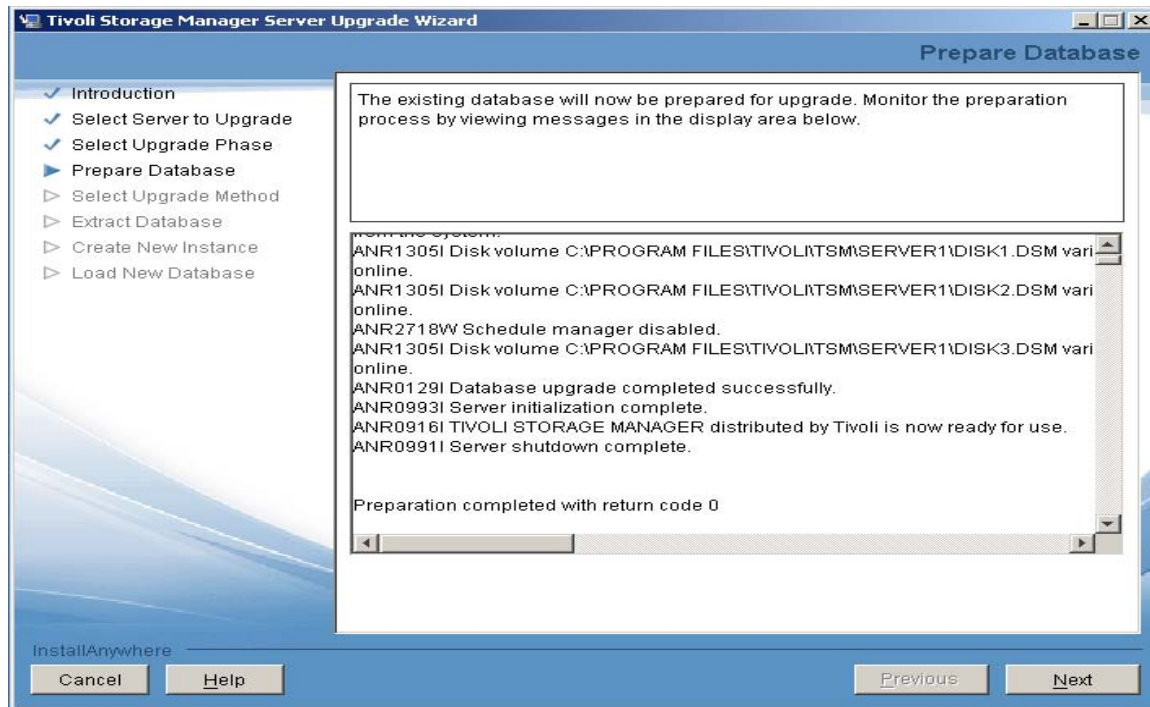
TSM upgrade wizard – select server to prepare



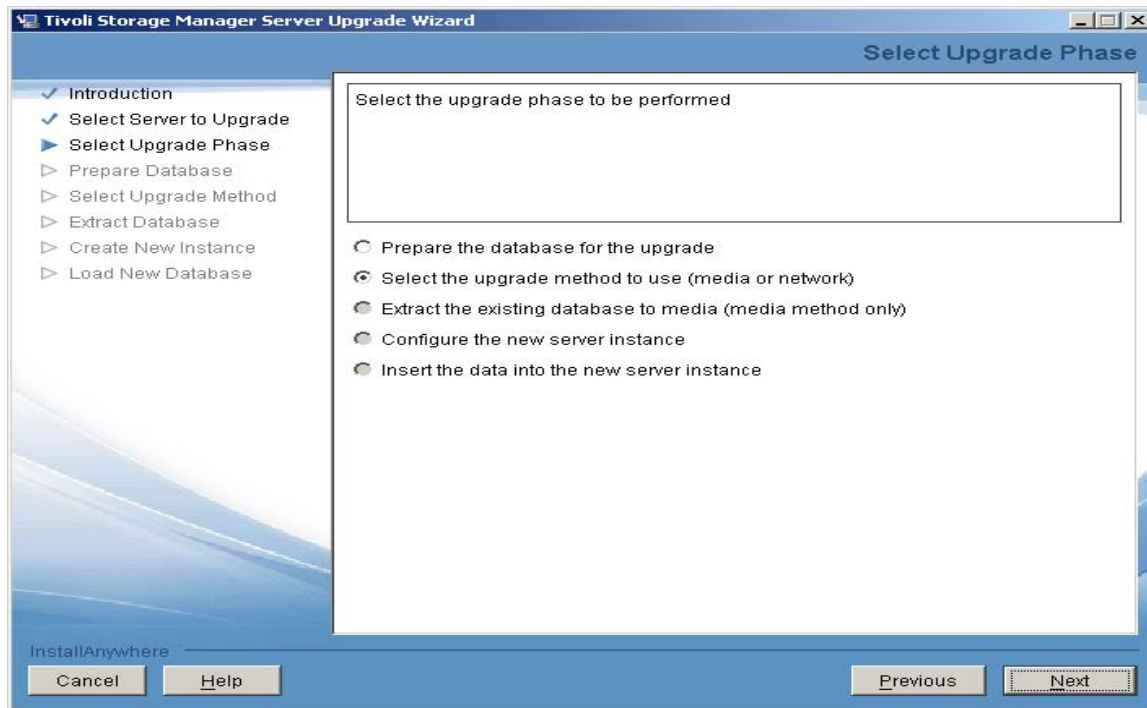
TSM upgrade wizard – verify V5 db and log files



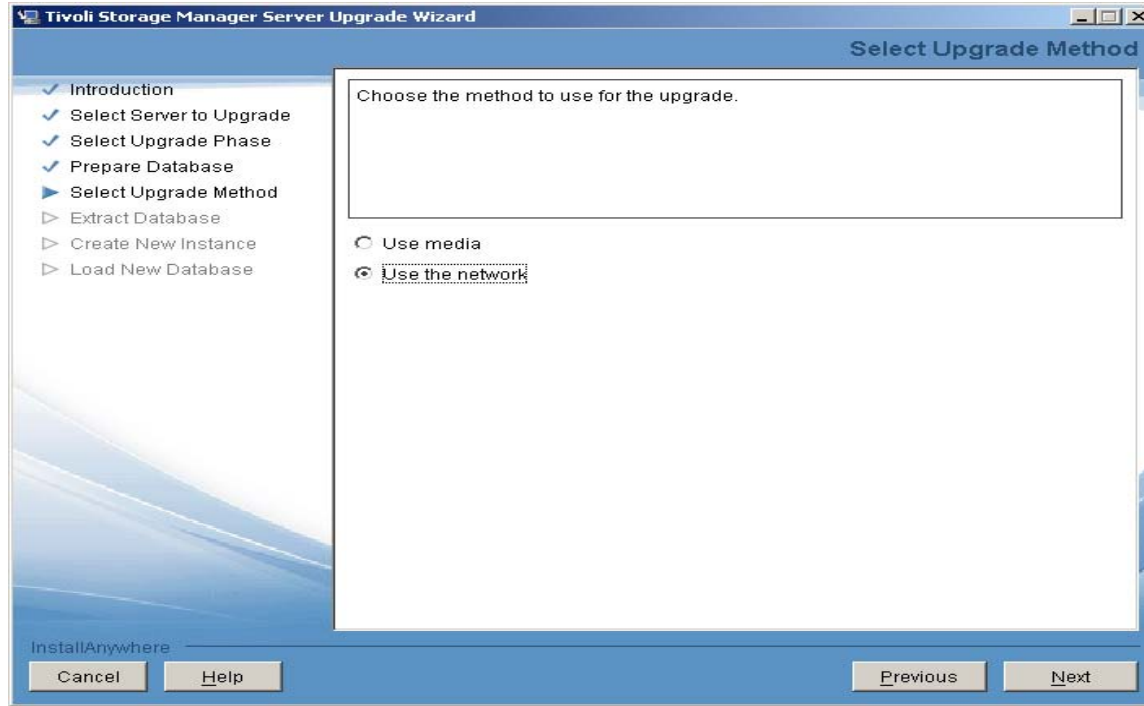
TSM upgrade wizard – prepare db completes



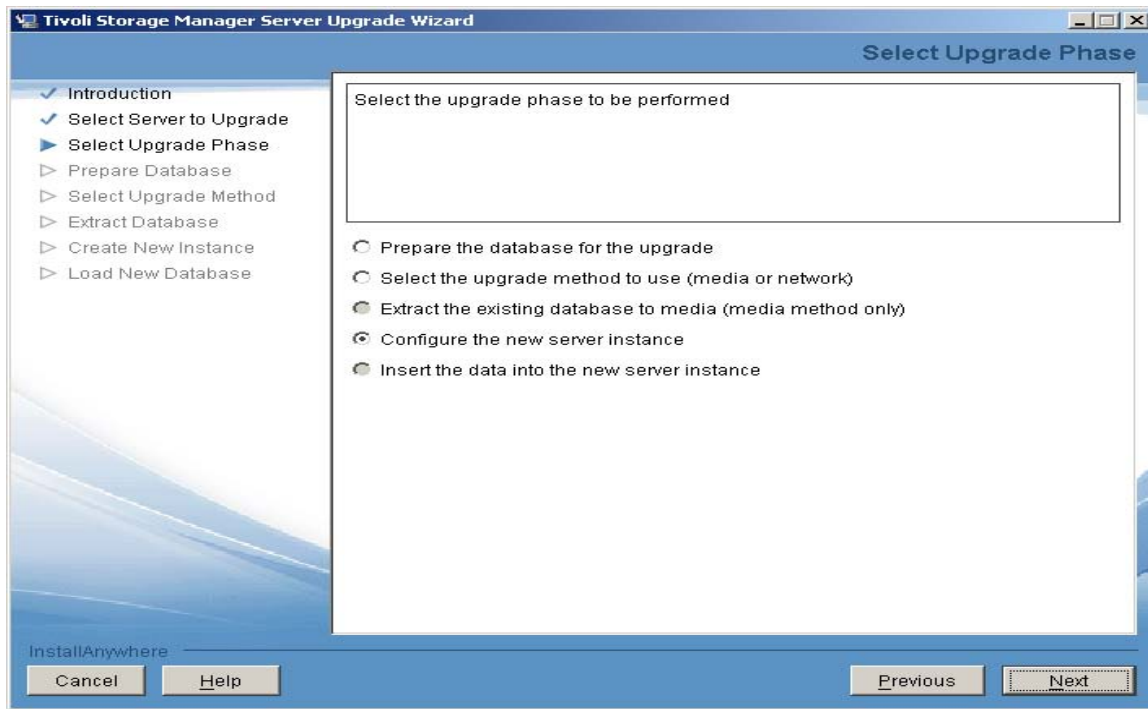
TSM upgrade wizard – select upgrade method



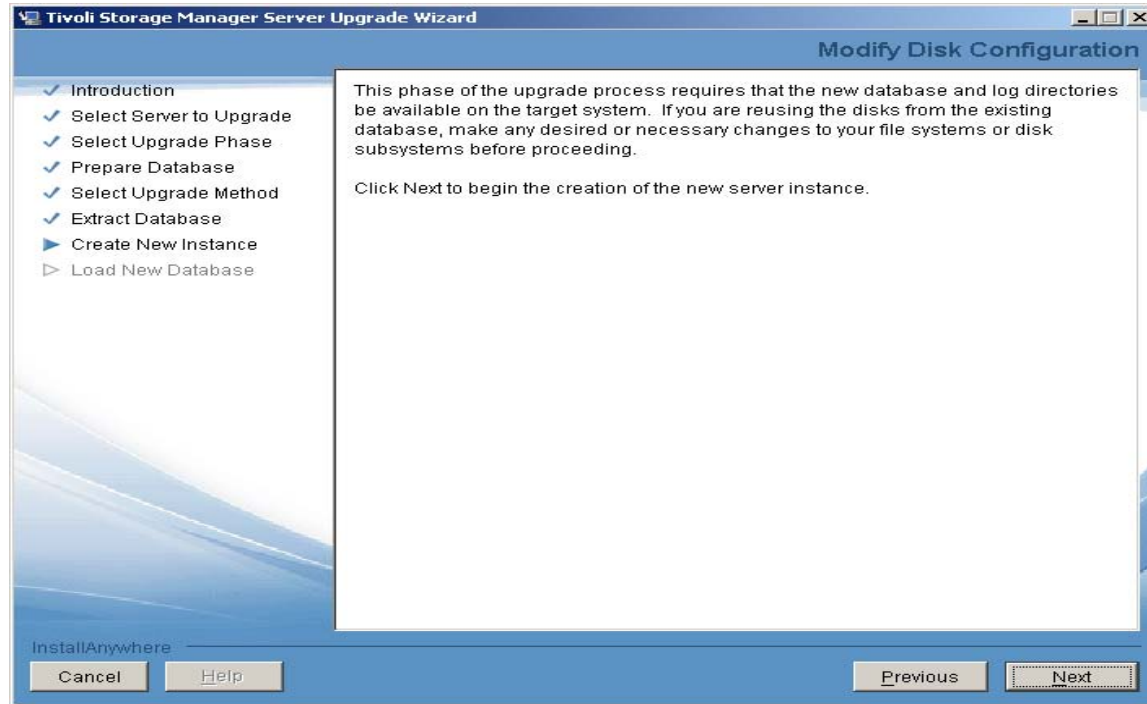
TSM upgrade wizard – select ‘Use the network’



TSM upgrade wizard – configure new instance



TSM upgrade wizard – new disk structure must be in place before continuing



TSM upgrade wizard – enter instance userid

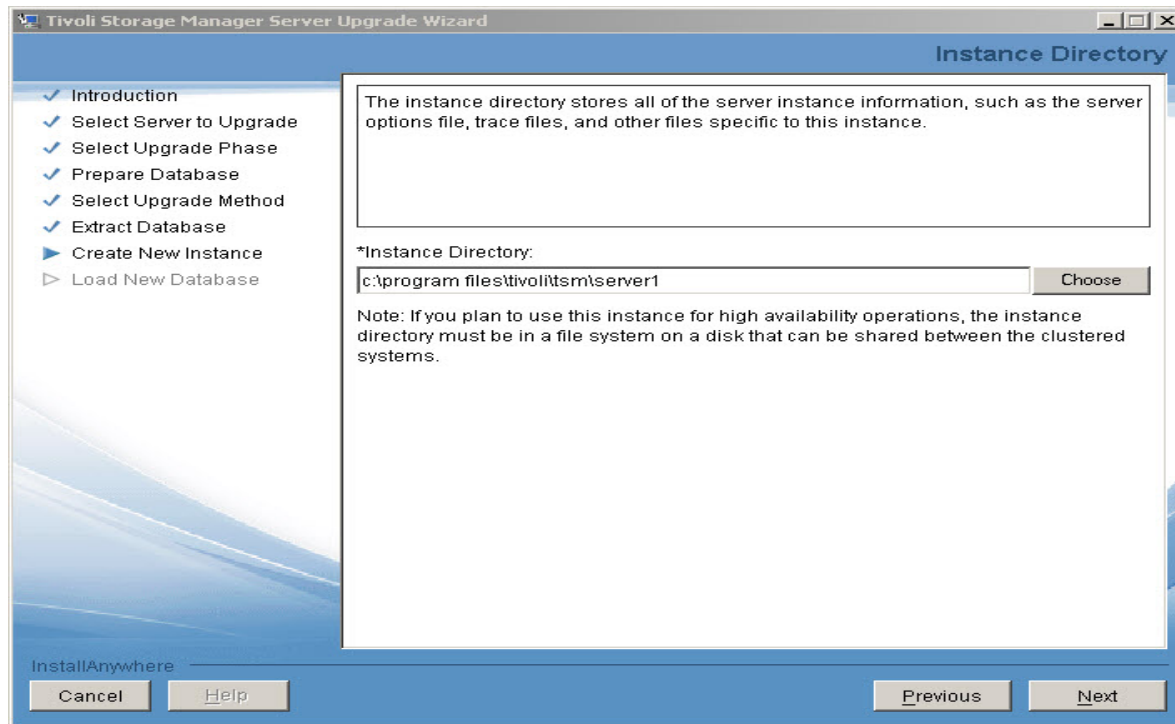
The screenshot shows the 'Instance User ID' step of the Tivoli Storage Manager Server Upgrade Wizard. The window title is 'Tivoli Storage Manager Server Upgrade Wizard' and the subtitle is 'Instance User ID'. On the left, a navigation pane shows the following steps: Introduction, Select Server to Upgrade, Select Upgrade Phase, Prepare Database, Select Upgrade Method, Extract Database, Create New Instance (highlighted), and Load New Database. The main area contains a text box with instructions: 'Specify the instance name of the new instance. Also, specify the user ID and password under which the database manager for this instance will run.' Below this are three input fields: 'Instance:' with 'Server1', 'User ID:' with 'tsmsvr1', and 'Password:' with '*****'. A red annotation '8 chars or less' is placed over the User ID field. A note at the bottom states: 'Note: When you click Next, the wizard will attempt to establish a connection to the local machine. Ensure that File and Print Sharing is enabled and that your firewall allows connections to port 445.' At the bottom left, there is a 'Cancel' button and a 'Help' button. At the bottom right, there are 'Previous' and 'Next' buttons. The 'InstallAnywhere' logo is visible in the bottom left corner of the window.

Unix
unique user id per instance

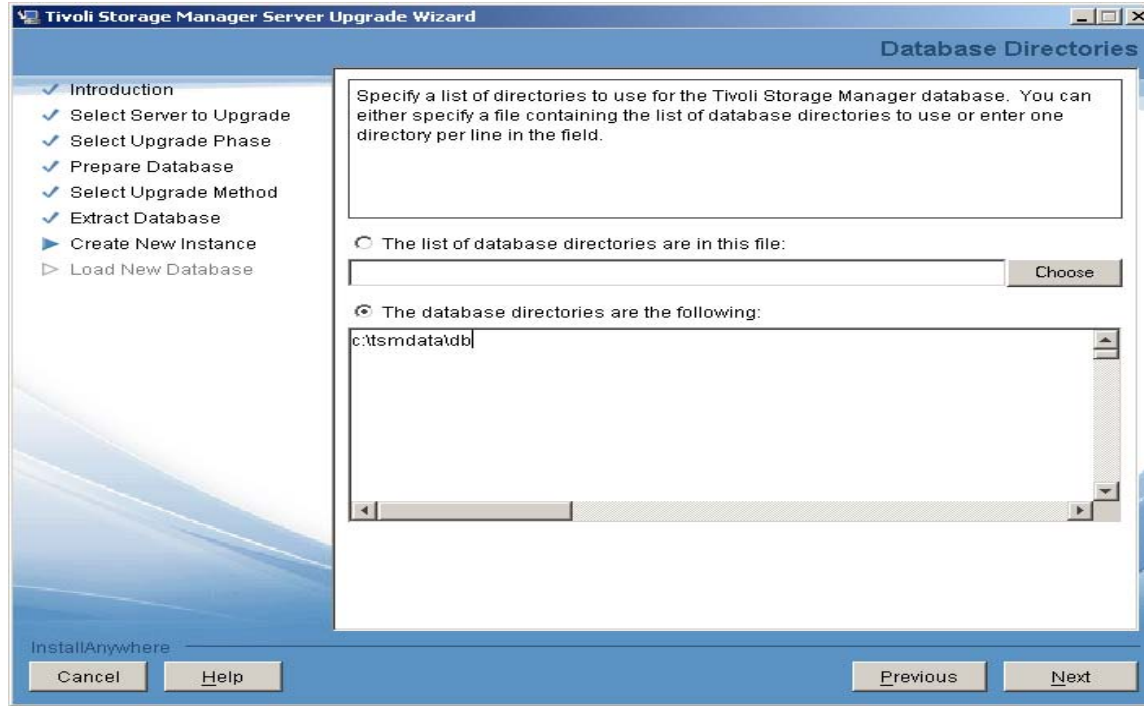
Windows
can use same user id for all instances



TSM upgrade wizard – select server instance dir



TSM upgrade wizard – enter tsm db directories

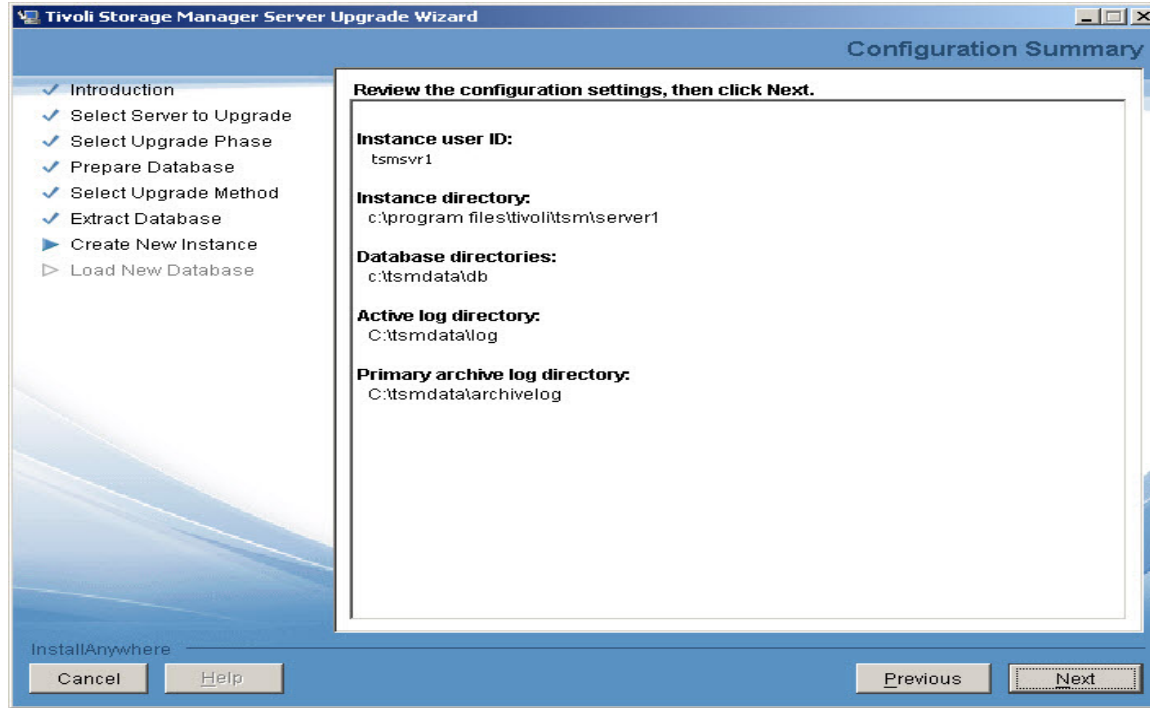


TSM upgrade wizard – enter log size and dirs

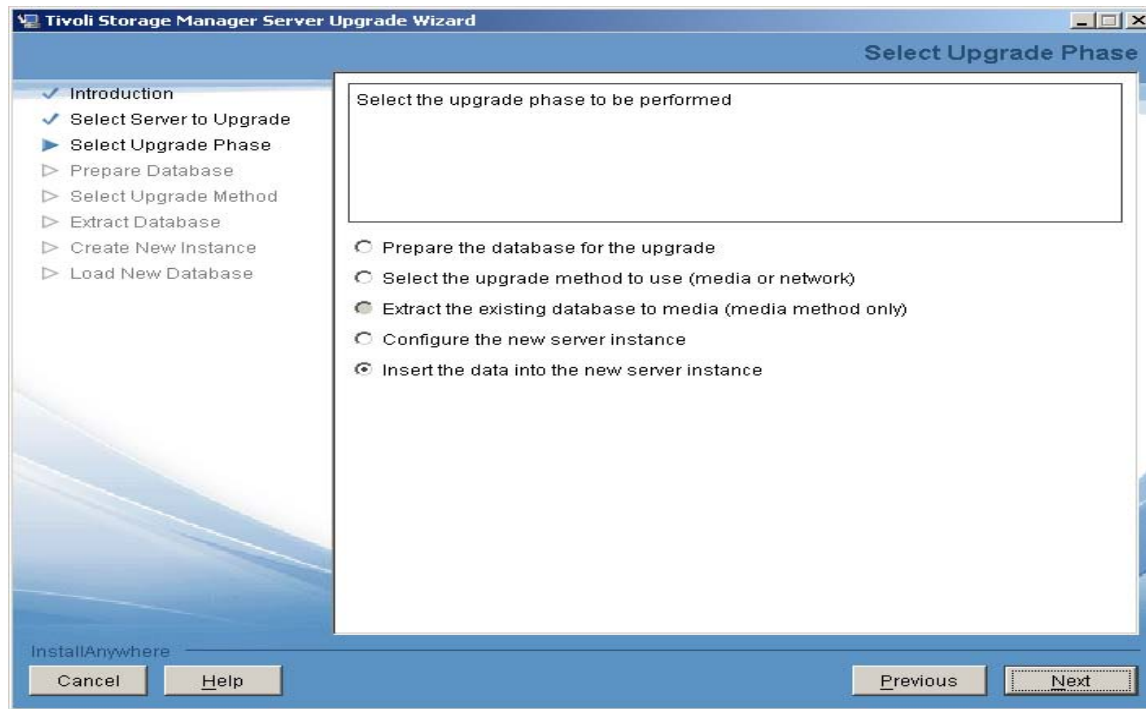
The screenshot shows the 'Tivoli Storage Manager Server Upgrade Wizard' window, specifically the 'Recovery Log Directories' step. The left sidebar contains a list of steps: Introduction, Select Server to Upgrade, Select Upgrade Phase, Prepare Database, Select Upgrade Method, Extract Database, Create New Instance (highlighted), and Load New Database. The main area contains a text box with the instruction 'Specify the directories for the database recovery logs.' Below this are several fields: '*Active log size (GB):' with a spinner box set to '16'; '*Active log directory:' with a text box containing 'C:\tsmdata\log' and a 'Choose' button; '*Primary archive log directory:' with a text box containing 'C:\tsmdata\archivelog' and a 'Choose' button; 'Active log mirror directory:' with an empty text box and a 'Choose' button; and 'Secondary archive log directory:' with an empty text box and a 'Choose' button. At the bottom, there are 'Cancel', 'Help', 'Previous', and 'Next' buttons, along with the 'InstallAnywhere' logo.



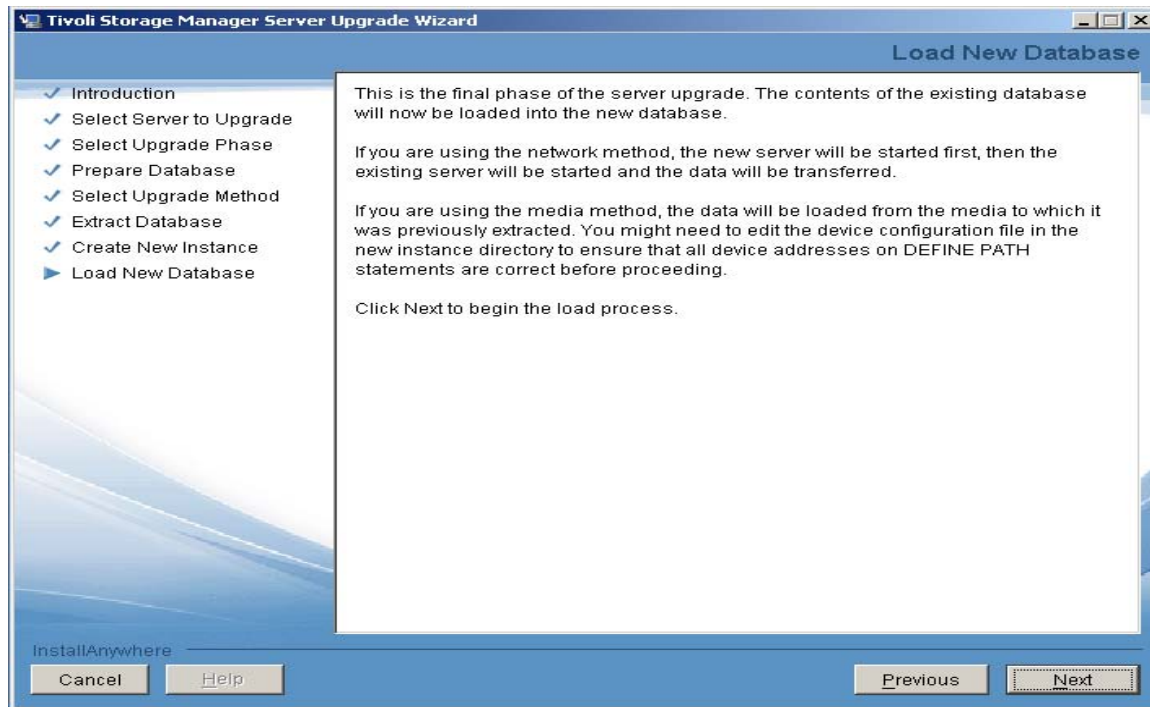
TSM upgrade wizard – review configuration



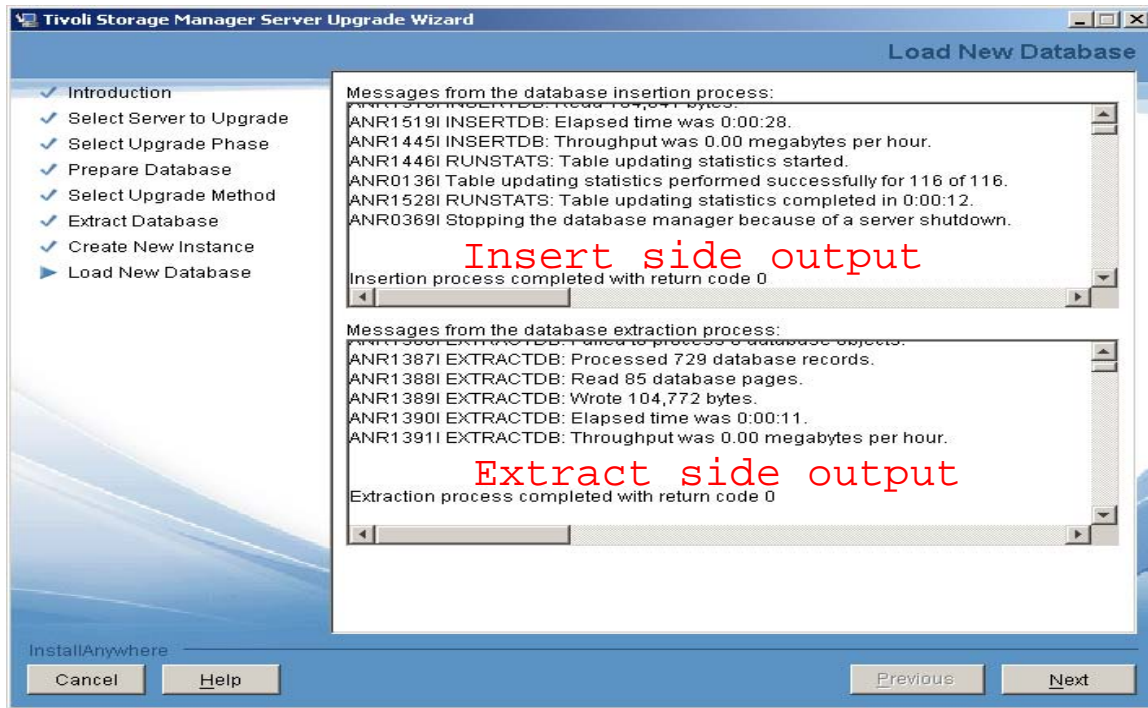
TSM upgrade wizard – select insert data



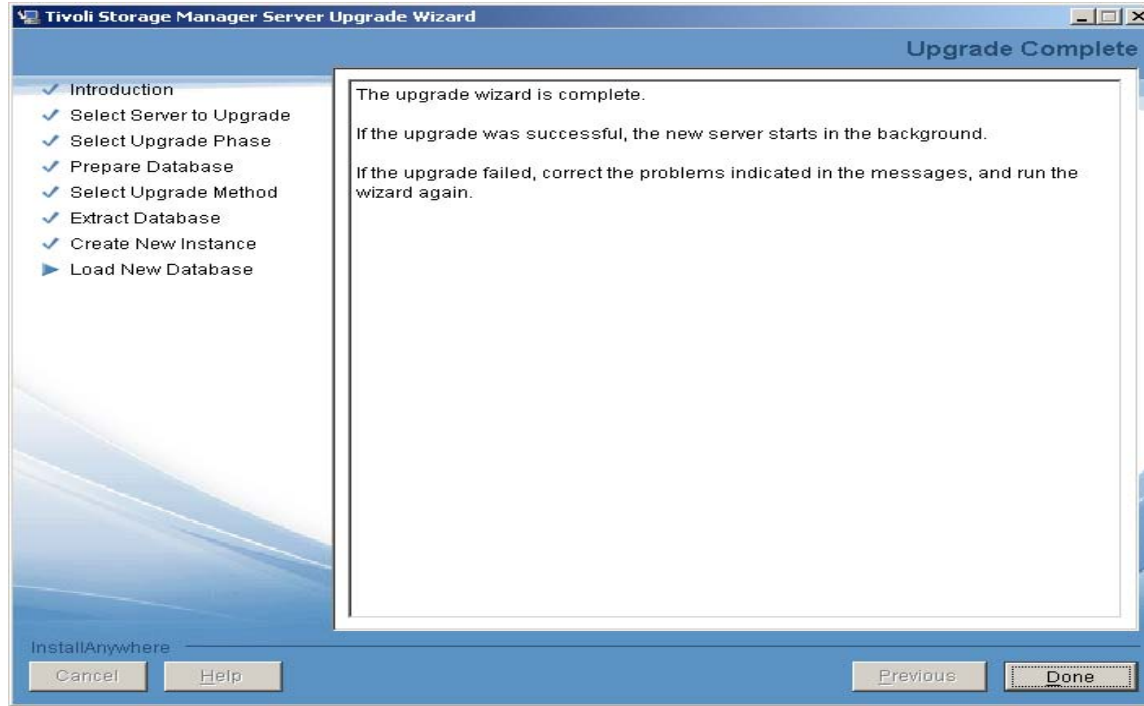
TSM upgrade wizard – load new db screen



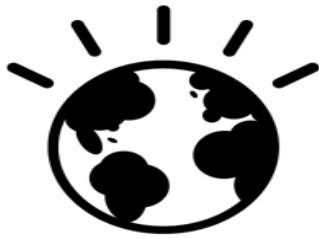
TSM upgrade wizard – load new db status



TSM upgrade wizard – completion screen



THANK YOU and Q&A



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