Advanced IUM Understanding – Session 1.3

- Presenter:
- Date:
- Duration:

- Ujjwal Barman
- June,2009
- 1 days

Agenda

- Data Backup and Recovery
- Solid Database Recovery, IUM Logging, Basic Logging
- Basic Log File Locations, Logging Tools: LogLooker, Database Admin: DBLooker
- Troubleshooting and Debugging

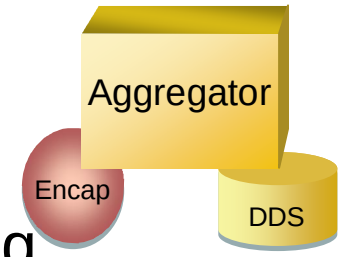
IUM Back-up and Recovery

- These are recommendations of WHAT to back-up within IUM, NOT HOW to back-up.
- Everyone has a different back-up method.

IUM Back-up Recommendations

Data	Description
Collector Data and Configuration	Dynamic data. Use the Collector Online Backup utility. The big advantage is not stopping collectors and also one utility can backup different datastore types – db's or files.
Input Data	Dynamic data. Files or data stored in a local file system before being read into L1 collectors. Can use file system back-up.
Config Server store	Dynamic data during development phase. Config file containing configuration for all collectors, NME schema and all templates. Its always worth backing this file up regularly, even if using Collector online backup.
IUM Log Files	Dynamic data. Use a file system backup to backup these files if you want to keep them longer than their configure rollovers.
IUM file system	Static data. Not required to be backed up frequently but as part of a file system backup to backup the folders and files of C:/Siu or /var/opt/siu /opt/SIU and /etc/opt/SIU.
Databases for Metadata and/or NMEData	Dynamic Data. Solid or Oracle DBs can be used for MetaData and/or NMEData. If you use the Collector Online Backup then database backup is not also required.
File-based NMEData	Dynamic Data. Need to back up NME data files created by collectors with FileJDBC or IDRJDBCDatastore. If you use the Collector Online Backup then this backup is not also required.

Collector Online Backup



- Provides a way to backup a collector without requiring the operator to stop the collector.
- Ensures that a restore puts the collector in a consistent state.
- Command line option - not run via Launchpad. Enables scripting integration.
- Order of collectors is important. For example, in a chain of collectors Collector1→Collector2 → Collector3, the order of the backup should be Collector3→Collector2→Collector1.

Collector Online Backup (continued)

- Backup:
  - In C:\Siu\bin\ or /opt/SIU/bin:
  - siubackup –n <collectorName> -backupDir <backupDirectory>

- ***Note**: Collector must be RUNNING when running this command.*

- Restore:
  - In C:\Siu\bin\ or /opt/SIU/bin:
  - siurestore –f <backupFile>

- ***Note**: The Collector must be STOPPED when running this command. Preferably, the collector should deleted, or at least cleaned.*

How does Online Backup work ?

Sequence:

1. Flushes are **disabled**
2. Aging of Data is **disabled**
3. Recovery and History Tables are **saved**
4. Data is **saved**
5. Flushes are **enabled**
6. Aging of Data **enabled**

How does Online Backup work ? (continued)

- A Backup directory for the collector is created (if it doesn't exist).

- For a Full Backup, the directory contains:
  - BackupHistory.xml
  - BackupHistory<timeStamp>.xml
  - <collectorName><timeStamp>FULL.jar

- For an Incremental Backup, the directory contains:
  - BackupHistory.xml (updated)
  - <collectorName><timeStamp><id>.jar

How does Collector Restore work ?

Sequence:

1. Files are Restored
2. Database Tables are Restored
3. Collector is Configured (unless –noConfig was specified)

Config Server store Backup

- Configuration Server Config File Backup
  - The **saveconfig** command creates a backup:
    In C:\Siu\bin or /opt/SIU/bin:

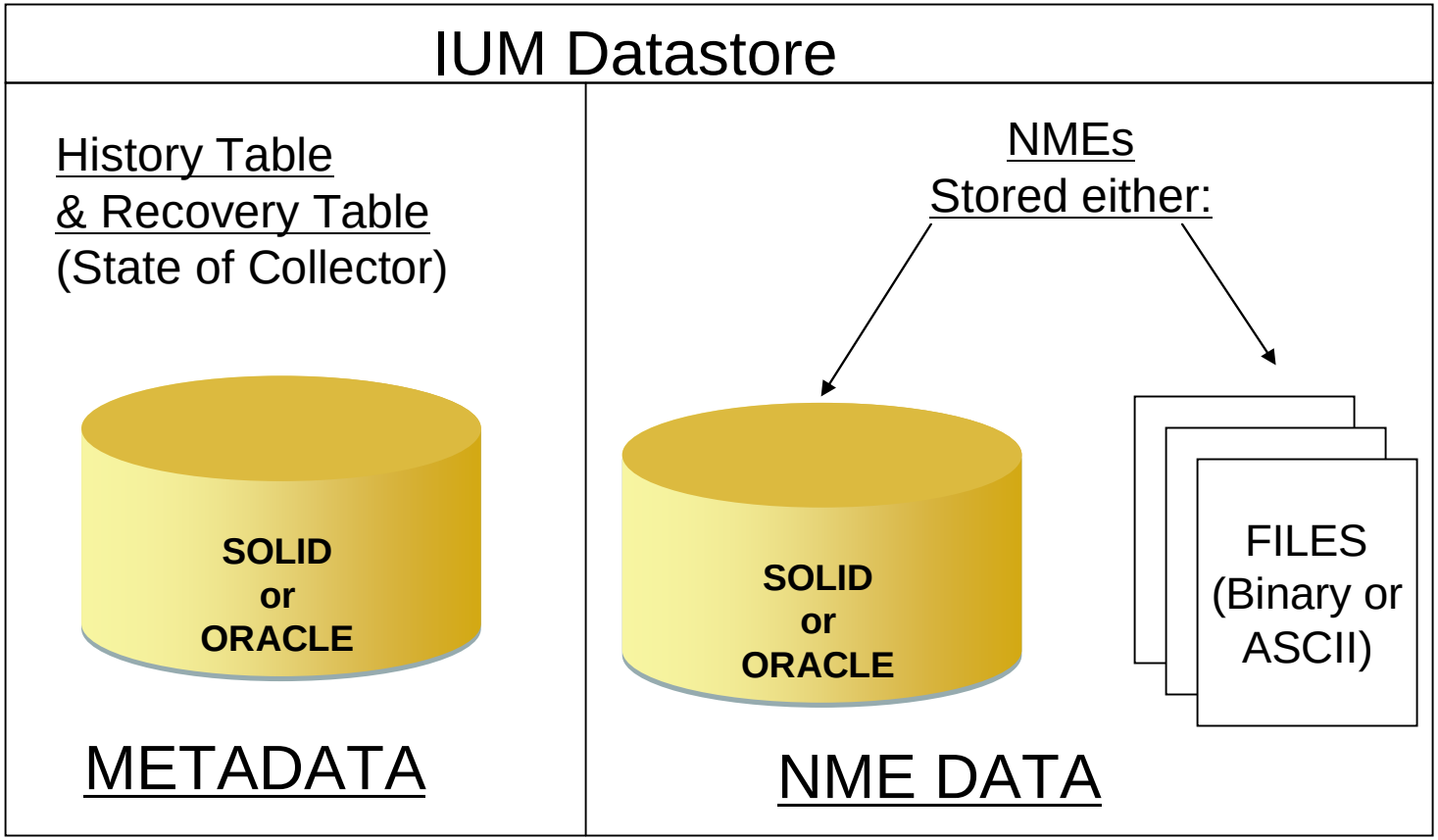
    saveconfig -p / -f <filename>.config

This will backup all collectors whether locally or remotely, plus the NME schema and all collector templates to one ascii file.

To backup the configuration into separate files for collectors, NMESchema, templates, etc = saveconfig –p / -f -dir <directoryname>

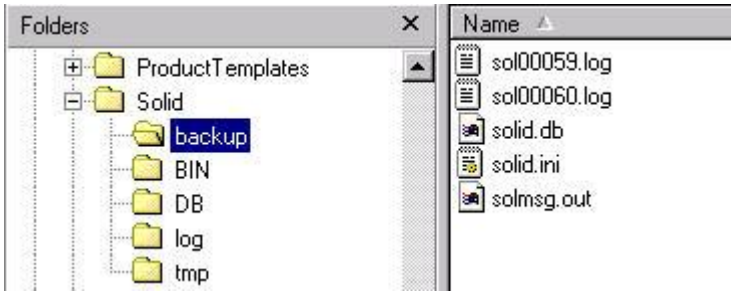
Note: Collectors do not need to be stopped during the backup of the Configuration Store

Datastore Database Backup



Database backup depends on which database is used - Solid or Oracle.
For either database type, it also depends how each collectors datastores are configured – to write MetaData to the database and optionally to write NME Data to the database.
Some deployments use multiple databases (geographically dispersed) or one centralized database for all collectors datastores.

Solid Database Backup




```
;Backup done each night at 01:00 and day at 11:00
At=01:00 backup, 11:00 backup
```

By default, a Solid backup occurs automatically at 11am and 1am every day to:
C:\Siu\var\Solid\backup or
/var/opt/SIU/Solid/backup

This is configured in the Solid configuration file:
C:\Siu\Solid\bin\solid.ini or
/opt/SIU/Solid/bin/solid.ini

You can edit this file to change the time and/or frequency of Solid backups.

Use separate physical disks for database, backup, and logfiles. (By default, all directories are relative to the **solid.ini** file)

If you are using Collector Online Backup, you do not need to run a Solid database backup as well.

Solid Database Recovery

There are Two options for recovery:

1. Recover to current state of failure
   - copy the backup db files to the database directory C:\Siu\var\Solid\db or /var/opt/SIU/Solid/db
   - copy the logfiles from the backup directory to the log dir (Do NOT overwrite the existing logfiles)
   - start the SOLID server
   - recovery is automatic

2. Return to state at backup
   - delete the current logfiles from the log directory
   - copy the db files to the database directory C:\Siu\var\opt\Solid\db or /var/opt/SIU/Solid/db
   - start the SOLID server process

IUM Logging

There are different logging capabilities available:

- Basic Logging
- Centralized Logging:
  - Using SYSLOG
  - Logging integration with OpenView Operations

These different logging methods are all fully documented in the Foundation Guide manual.

Basic Logging

Log Files – Levels:

- Set in LaunchPad – or suing the siucontrol command:
  0 = Critical
  1 = Accounting
  2 = Error
  3 = Warning
  4 = Informative (default setting)
  5 = Debug
  6 = Debug2
  7 = Debug 3
  8 = Debug 4
- View in LaunchPad or in C:\Siu\var\log or /var/opt/SIU/log

Basic Log File Locations

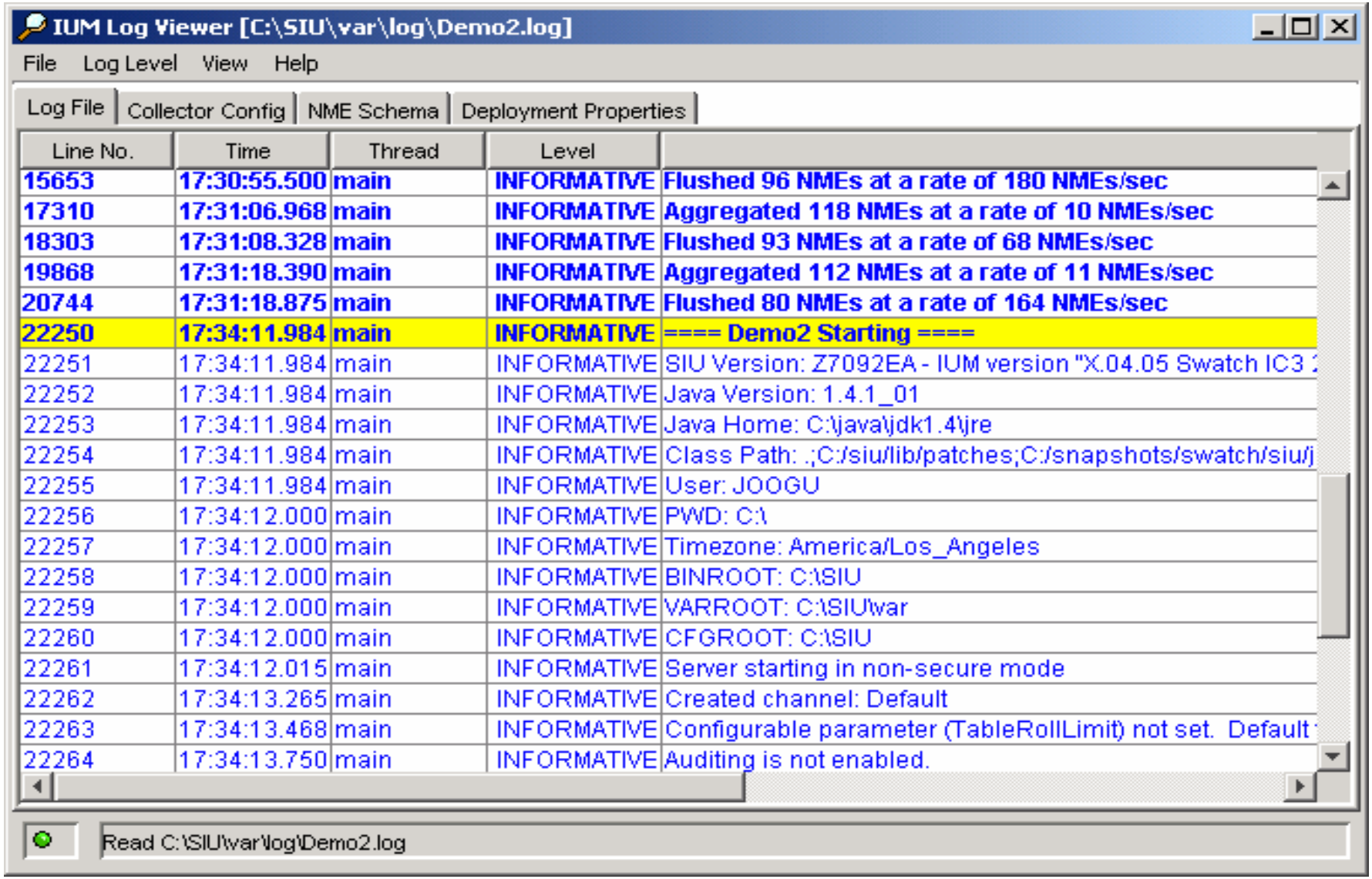
- Location =

  C:\Siu\var\log – NT
  /var/opt/siu/log – UX
- Naming Convention:
  <collector_name>.log
  <collector_name>.logOLD – rolled-over Logs
- LOGLINELIMIT – controls log size before roll-over
  Set to 0 = no rollover
  Default is 5120 lines.

Logging Tools: LogLooker

- Graphical Log viewer for the IUM Log file
  - Color codes messages by log level
  - Dynamically displays messages by log level
  - Filters out messages you don't want to see (similar to the UNIX grep command).
  - Find (and Find next) feature that will highlight matches on the message text
  - Sorts messages by contents of any column
  - Displays configuration of collectors, properties, or the NME schema, if present in the log file.
  - Is available on request.

Logging Tools: LogLooker (continued)



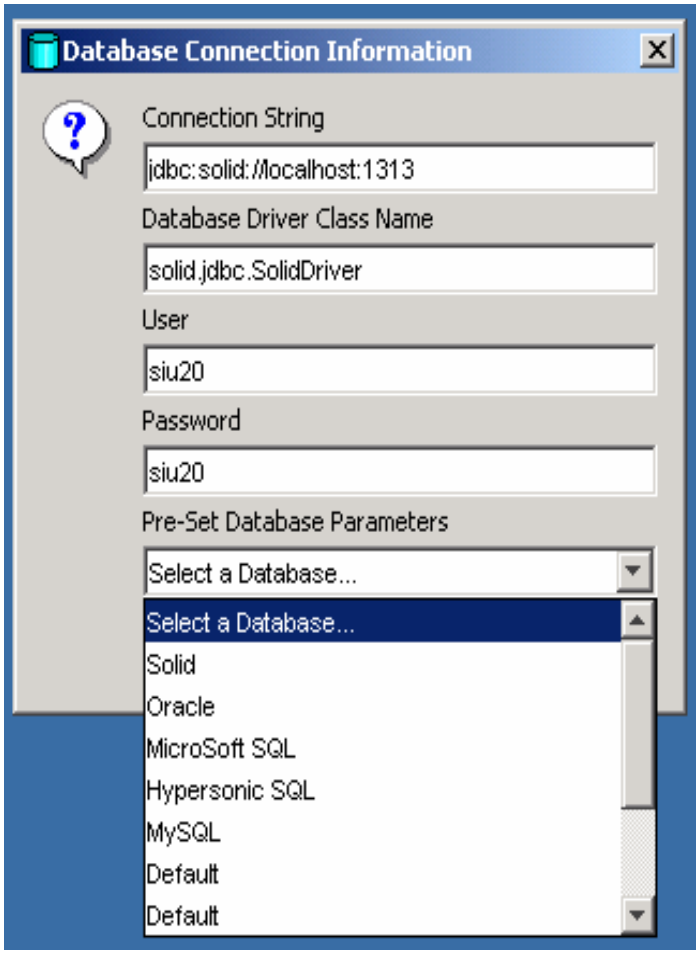
Database Admin: DBLooker

- Graphical Database Browser customized to view IUM database contents.
- Displays IUM datastore tables in an organized way.
- Provides the ability to sort and filter table columns.
- Can run SQL commands directly.
- Can administer Solid and Oracle databases

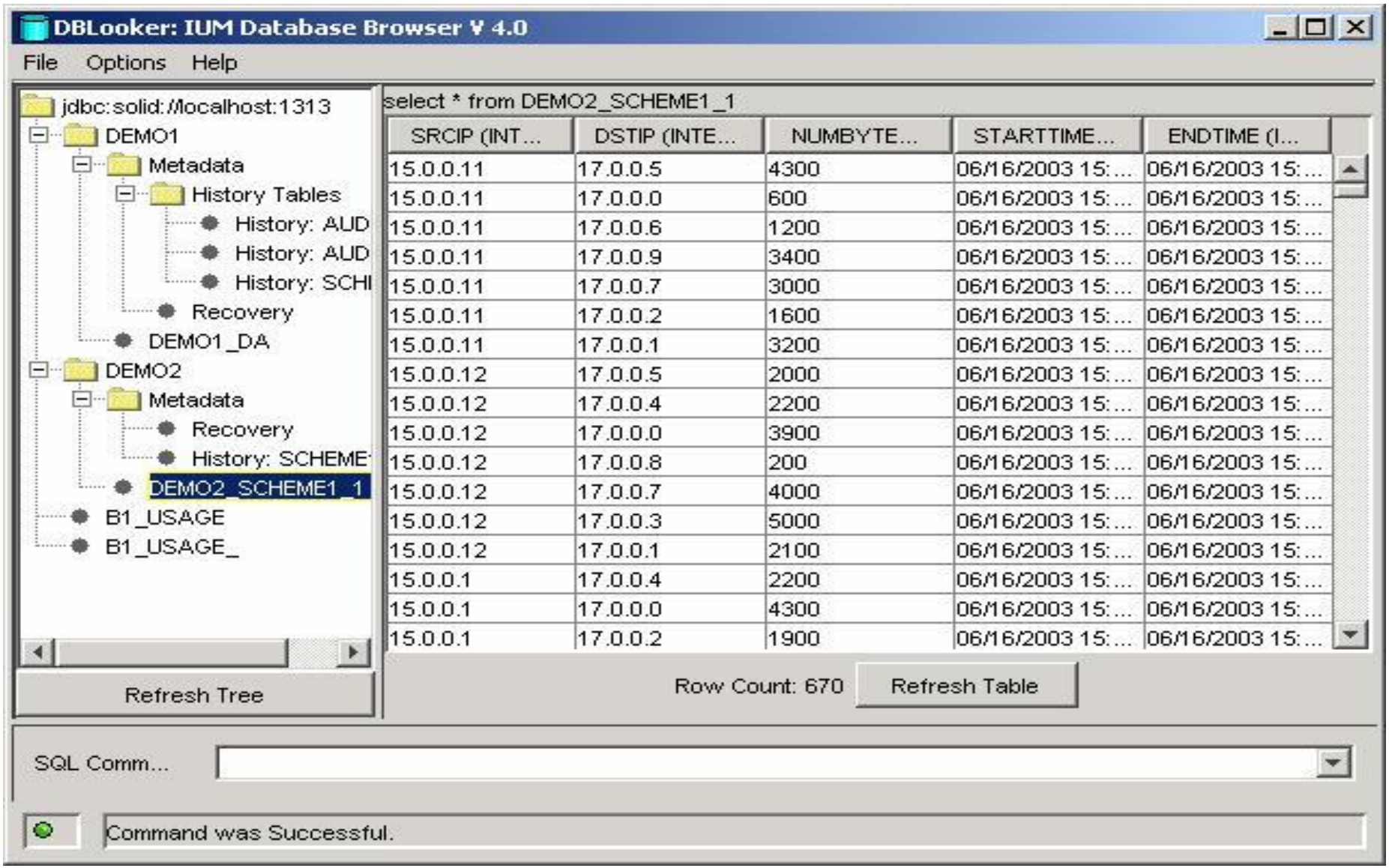
- Available on request.

Database Admin: DBLooker (continued)

- Includes JDBC parameter templates for Solid, Oracle, MySQL, and Hypersonic SQL.
- Can connect to any JDBC database.
- Has built in JDBC drivers for Solid and Oracle.
- Can specify any external JDBC drivers to use instead of built in drivers.



Database Admin: DBLooker (continued 2)



Troubleshooting

- Check all the IUM related process (in unix/HPUX/Linux) and service(windows) are running.

In unix run the following command to see the IUM related processes:

Ps –ef | grep SIU

It should show you that Configserver, Adminagent and Solid DB is running.

In case of windows go to services and check the services for the same.

- Check if all the related NME files are uploaded with the correct type description
- If the associated directories are created.
- Check the log files under the specified location. In UNI/HPUX all collector related logs will be under /var/opt/SIU/logs . And in windows under C:\SIU\var\logs
- Use unix level commands to grep each of the log files to see the error and check the corresponding collector code having error.

Troubleshooting Continued..

- Please refer the document for detailed list and steps

Internet Usage Manager

Troubleshooting Guide

- *Now Please start practicing with IUM , try playing around with it to know more...*

- *Thank You for Attending....*