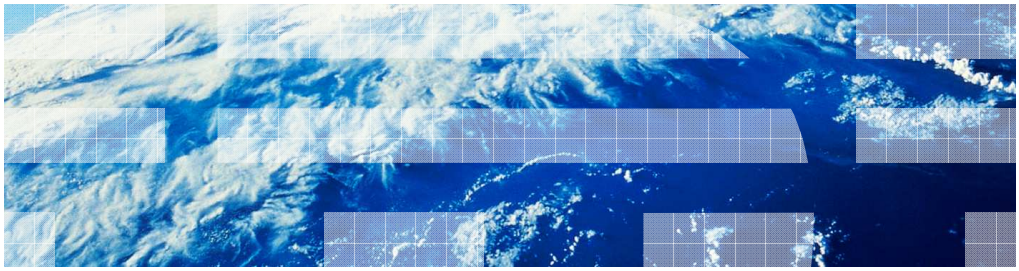
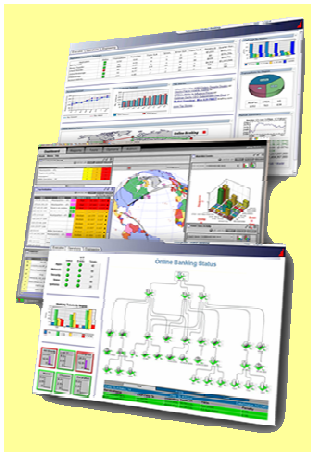
IBM Tivoli Netcool Performance Manager 1.3 Wireline Component

Aggregation sets

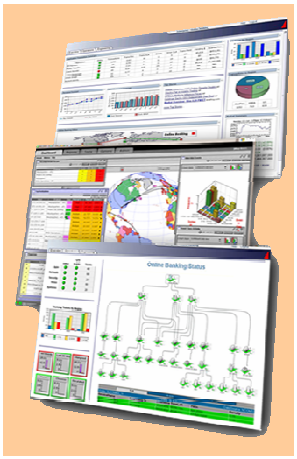


This IBM Education Assistant module describes aggregation sets in IBM Tivoli® Netcool® Performance Manager Wireline Component.

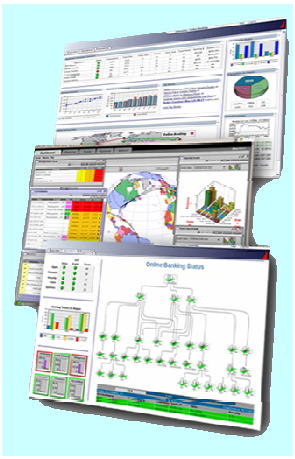
Specific reports for specific users



Seattle Sales Team



Network Operations Center

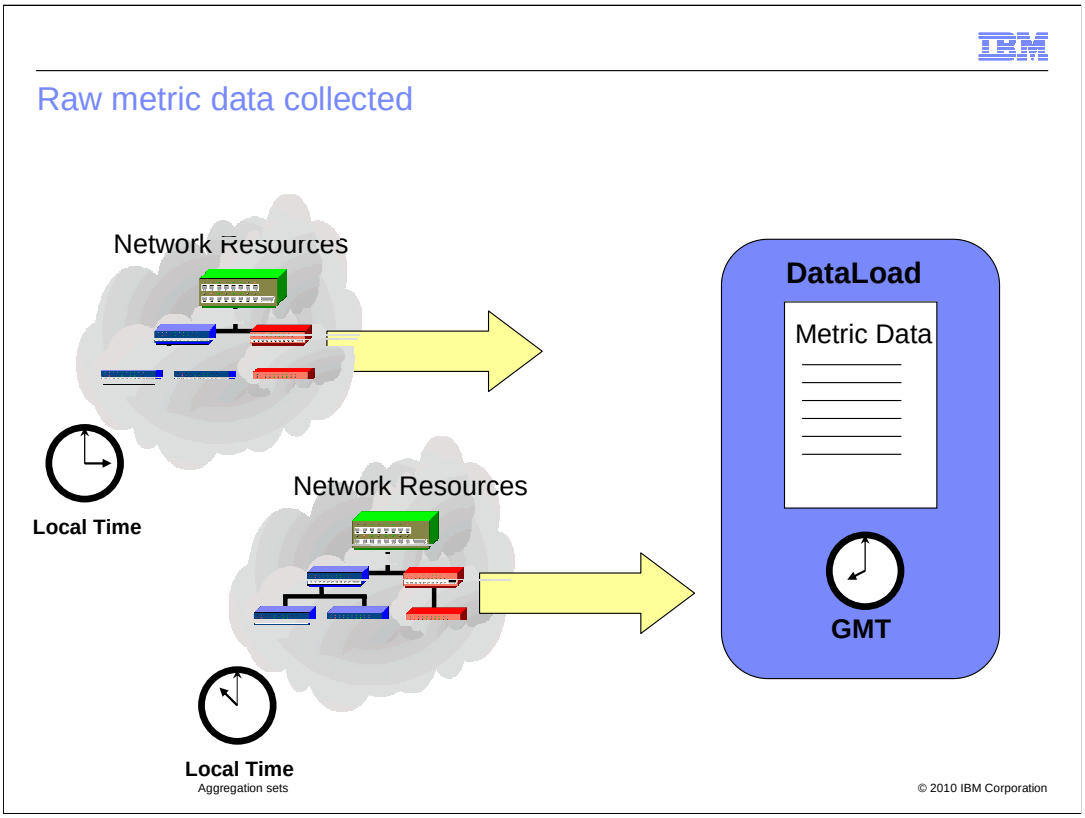


Paris Customer

Aggregation sets

The data that report users need is organized into report groups. The report grouping structure and membership within a group determines how data is aggregated. The product can be configured to group subelements by customer. Each customer group contains a set of subelements whose data is aggregated in context of other group members. Individual subelement metrics can be used by multiple report groups, as required.

Report groups can be created based on the needs of users for specific data in reports. An NOC might require data to be grouped by equipment type. A marketing team in Seattle might need data to be grouped for their sales territory. A customer in Paris might need data that is specific to their account. A specific time zone must often be assigned to the data for a report group to provide an appropriate time context for the users of the reports.



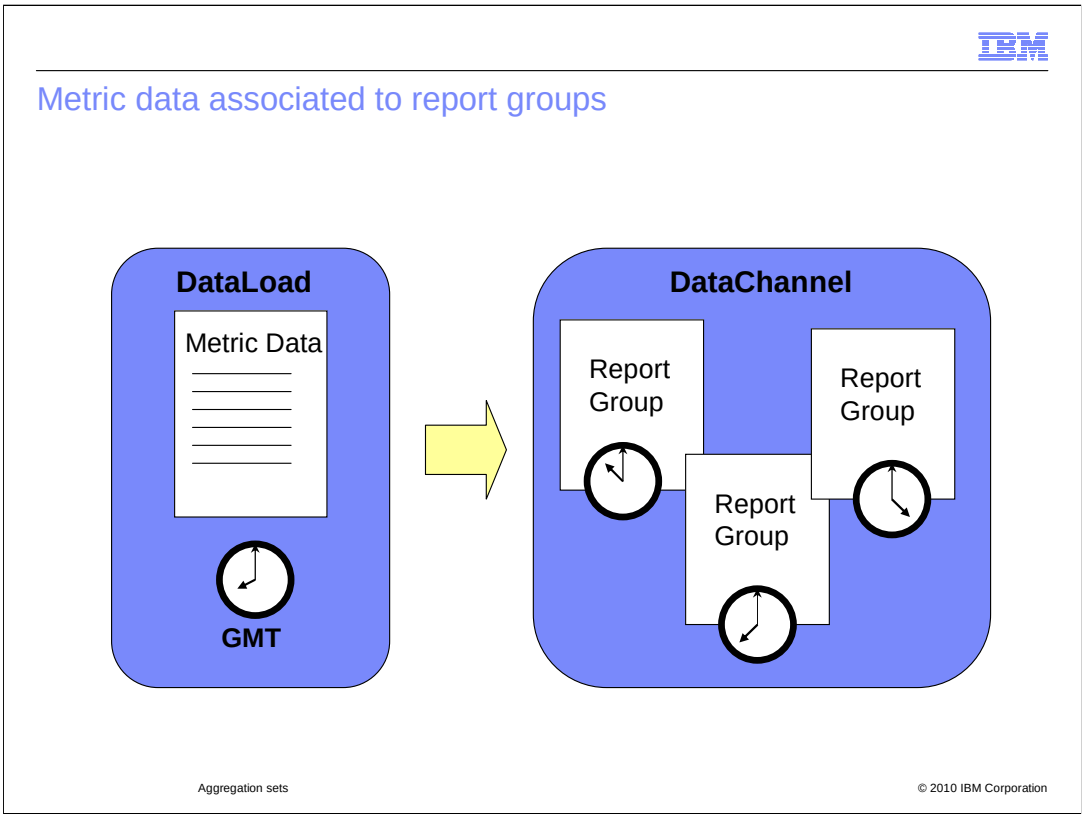
Raw metric data is collected by the DataLoad. It is collected from Simple Network Management Protocol, Bulk, or Universal Bulk Adaptor sources. The raw metric data consists of these data, a resource ID, a metric ID, a metric value, and a time stamp.

The resource ID (RID) is a unique database identifier for a subelement.

The metric ID (MID) is a unique database identifier for the collection metric.

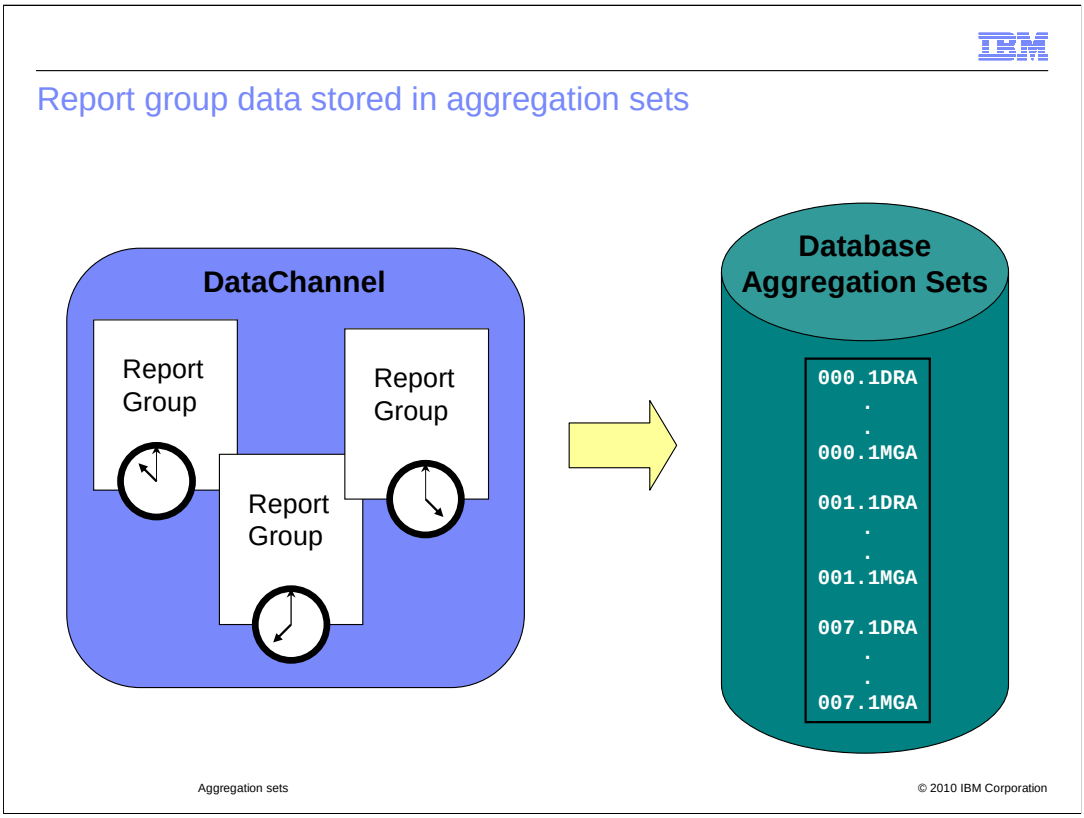
The metric value (Val) is the value of the collected metric.

The time stamp (Date) is the date and time that the metric was collected, expressed in Greenwich Mean Time (GMT).



The DataChannel receives the data from the DataLoad collector. It then computes aggregations for time intervals, days, weeks, and months, and by group membership, as required.

The DataChannel assigns a specific time zone to the aggregated data, as needed, depending on whether that time zone is configured. If Tivoli Netcool Performance Manager Wireline Component is reporting on resources in more than one time zone, adding multiple time zones can help in report interpretation. A separate group hierarchy is required for each time zone. Multiple time zones are not mandatory, but can be useful in applications such as volume-based billing.



The aggregated data must then be stored in the database. The data that is needed for reports is stored in aggregation sets. It is ready to be used immediately in reports. No calculation or grouping is required within the database; it occurred in the DataChannel. The aggregation sets are database structures that have a time zone associated with them. The product installs aggregation set 0, and assigns it the GMT time zone, by default.

A set of subelement metrics, for example, a single interface, is aggregated by time. These metrics are stored in the database as 1DRA, 1WRA, and 1MRA. The D,W, and M stand for daily, weekly, and monthly. The RA stands for raw aggregation.

A set of subelement metrics, for example a group of interfaces, is aggregated by group and time. These metrics are stored in the database as 1DGA, 1WGA, and 1MGA. Again, D, W, and M stand for daily, weekly, and monthly. The GA stands for group aggregation.

The aggregated data is placed into the database in the appropriate aggregation set. If the EST time zone is assigned to aggregation set one, report data stamped with the EST time zone is in the aggregation set starting with 001.1DRA.

A report group should be assigned to a relevant aggregation set. The aggregation set has a time zone associated with it. The aggregation set is assigned to the report group when the report group is linked to a time zone.

Configuring an aggregation set

```
# pwd
/
# id
uid=0(root) gid=0(root)
# . /opt/datamart/dataMart.env
# create_modify_aggset_def
```

Aggregation sets

The tool that is used to create an association between a time zone and aggregation set is found in the path of the datamart home directory. Set the datamart environment variables and run the **create_modify_aggset_def** command.

Provide password for PV_ADMIN ID

```
-------------------------------------------------
Netcool/Proviso Database
Date: Mon Oct  4 12:17:58 CDT 2010
Script name: create_modify_aggset_def
Script revision: 1.7
   - Aggregation set creation
   - Aggregation set modification
   - DST configuration for an aggregation set
-------------------------------------------------

  Database user................. : [ PV_ADMIN ]
  Database user password........ : [  ]

Menu :

   1. Input password for PV_ADMIN.
   2. Configure an aggset.
   0. Exit

Choice : 1

==> Enter password for PV_ADMIN : pv

==> Re-enter password : pv
```


At the prompt, provide the password for the database ID, known as PV_ADMIN. You are prompted to re-enter it.

Configure the aggset

```
-------------------------------------------------
Netcool/Proviso Database
Date: Mon Oct  4 12:23:07 CDT 2010
Script name: create_modify_aggset_def
Script revision: 1.7
   - Aggregation set creation
   - Aggregation set modification
   - DST configuration for an aggregation set
-------------------------------------------------

  Database user................. : [ PV_ADMIN ]
  Database user password........ : [ ******** ]

Menu :

   1. Input password for PV_ADMIN.
   2. Configure an aggset.
   0. Exit

Choice : 2
```


Enter **2 Configure an aggset** at the prompt.

A list of currently configured aggregation sets

```
==> Press <Enter> to continue ....

_____________________________________________________________________________________________
The following Time Zones are defined into the Database :
_____________________________________________________________________________________________

id | Date   (in GMT)     | offset in  | Name                            | Aggset status
   |                     | seconds    |                                 |
_____________________________________________________________________________________________

 0 | 1970/01/01 00:00:00 |          0 |             Greenwich Mean Time |  Aggset created
 0 | 2010/05/12 20:05:33 |     -18000 |  Central Standard Time_2010_DST |  Aggset created
 0 | 2010/11/07 07:00:00 |     -21600 |      Central Standard Time_2010 |  Aggset created
 0 | 2011/03/13 08:00:00 |     -18000 |  Central Standard Time_2011_DST |  Aggset created
 0 | 2011/11/06 07:00:00 |     -21600 |      Central Standard Time_2011 |  Aggset created
 0 | 2012/03/11 08:00:00 |     -18000 |  Central Standard Time_2012_DST |  Aggset created
 0 | 2012/11/04 07:00:00 |     -21600 |      Central Standard Time_2012 |  Aggset created
```

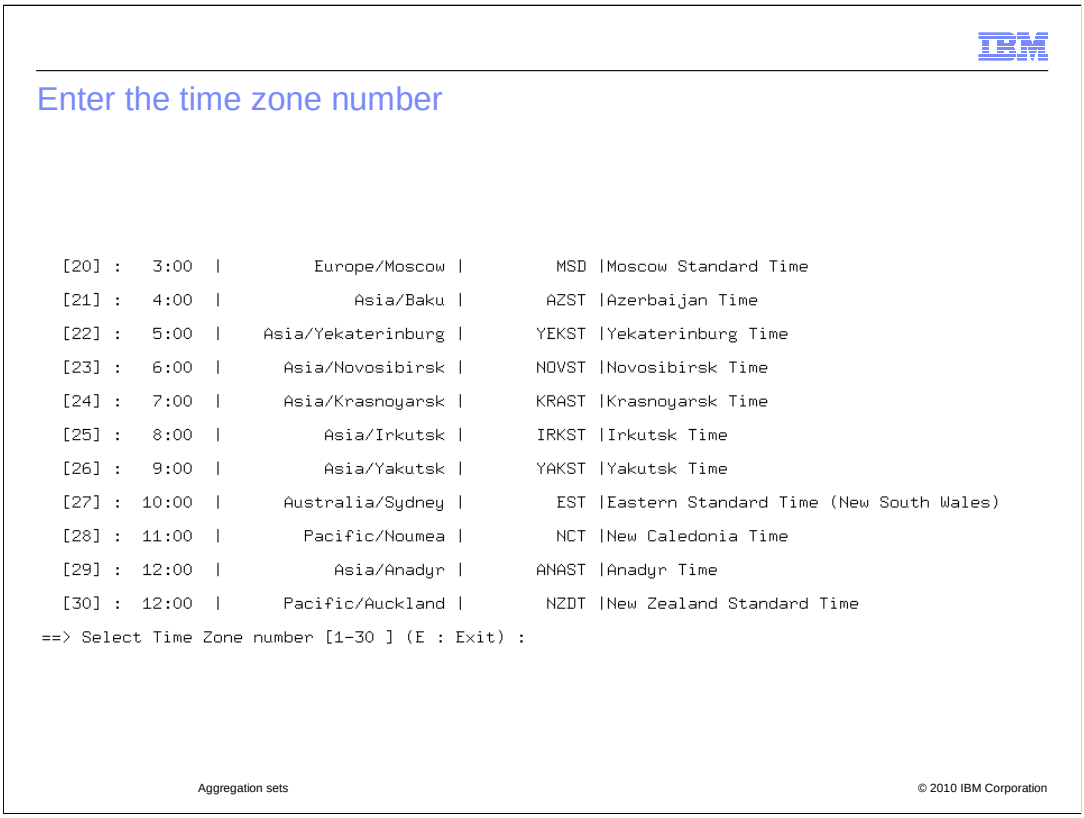

A list of the currently configured aggregations sets and the time zones that are associated with the aggregation sets is returned.

Time zones to associate with the aggregation set

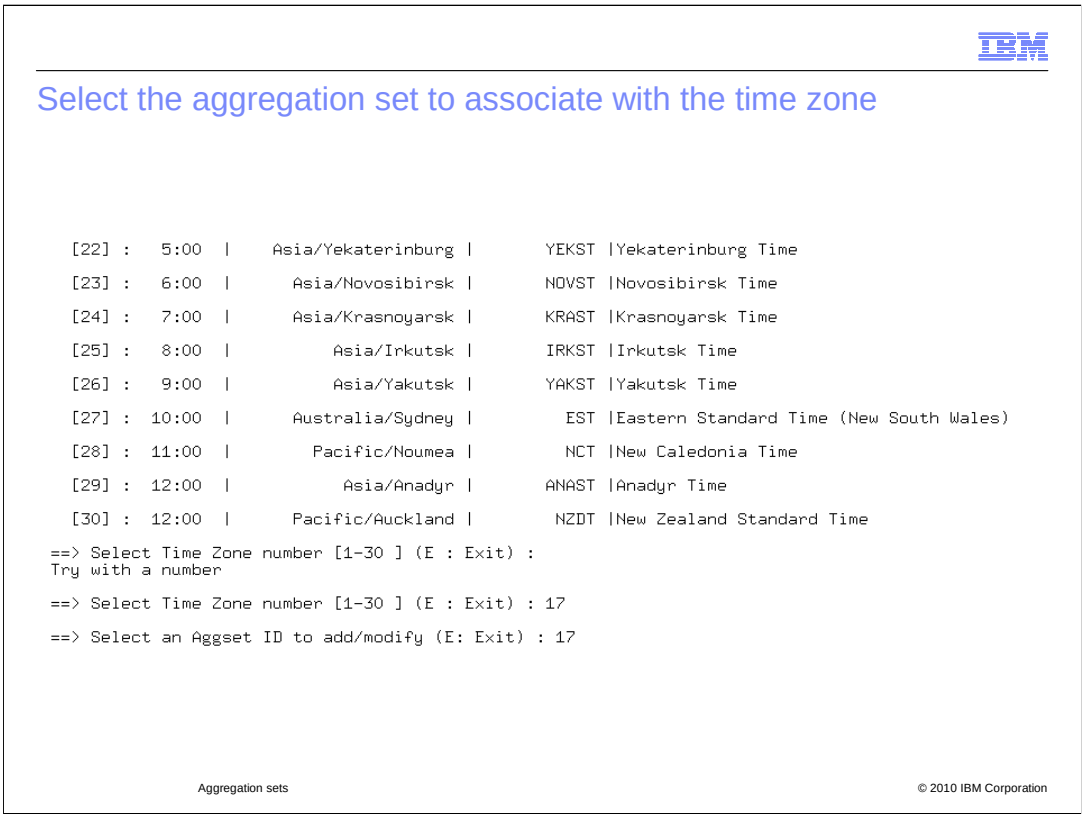
```
==> Press <Enter> to continue ....

 Num    | OffSet  | Time zone Name          | Short       | Long
        | Hours   |                         | Description | Description
-------------------------------------------------------------------------------
  [ 1] :    0:00  |          Europe/London  |         BST |Greenwich Mean Time
  [ 2] : -10:00   |           America/Adak  |        HADT |Hawaii-Aleutian Standard Time
  [ 3] : -10:00   |      Pacific/Rarotonga  |         CKT |Cook Is. Time
  [ 4] :  -9:00   |                     AST |        AKDT |Alaska Standard Time
  [ 5] :  -9:00   |      America/Anchorage  |        AKDT |Alaska Standard Time
  [ 6] :  -8:00   |                PST8PDT  |         PDT |Pacific Standard Time
  [ 7] :  -7:00   |                MST7MDT  |         MDT |Mountain Standard Time
  [ 8] :  -6:00   |    America/Mexico_City  |         CDT |Central Standard Time
  [ 9] :  -6:00   |                CST6CDT  |         CDT |Central Standard Time
```

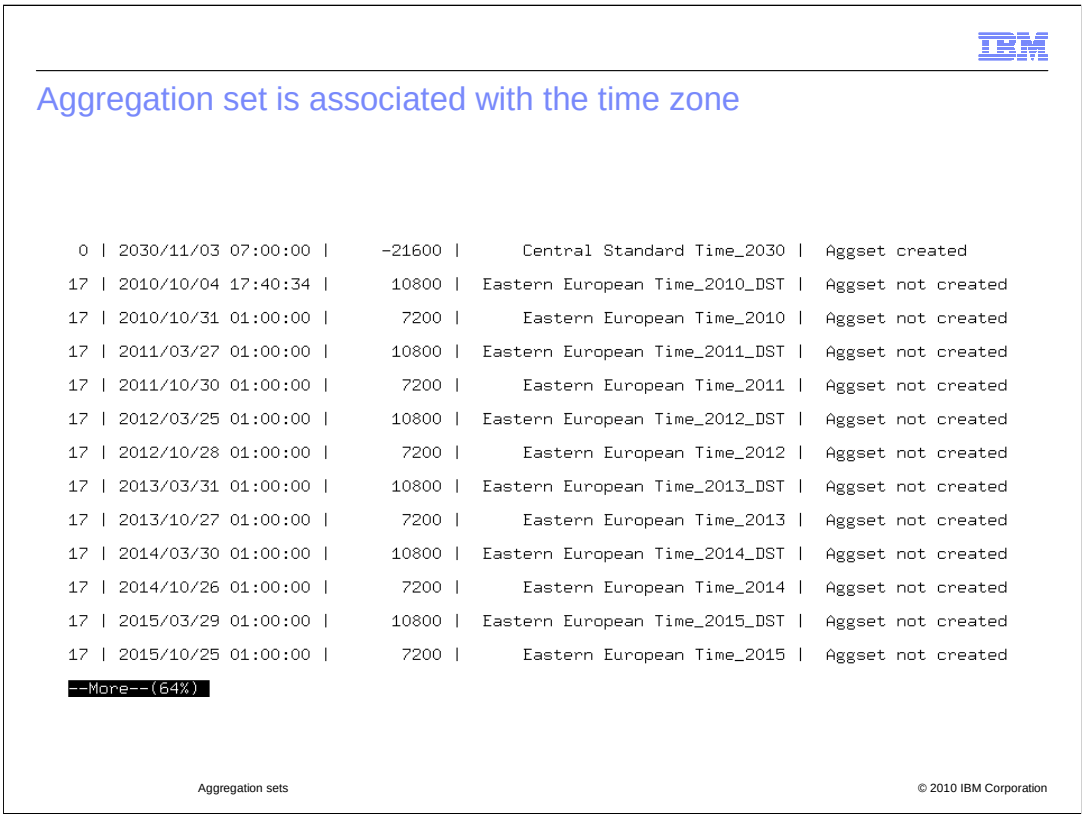

Look at the list of time zones and determine which time zone you want to associate with the aggregation set.



Enter the number of the time zone or type E to exit the tool.



Select an aggregation set to associate with the selected time zone. In the example, time zone 17 was selected. Notice that the tool rejects entries that are not valid.



After adding the aggregation set, the tool returns a display of the known aggregation sets. The aggregation set 17 exists, but does not have database definitions created for it. It displays **Aggset not created** for its entries in the list.

Associating a time zone to more than one aggregation set

```
==> Select Time Zone number [1-30 ] (E : Exit) : 17

==> Select an Aggset ID to add/modify (E: Exit) : 18

==> Does your Time Zone manage DST [Y/N] : Y
          Select Pvm_Aggset.Update_Aggset_Def( 17, 1, 18 )
                 *
ERROR at line 1:
ORA-20221: This timezone/DST combination is already configured to another
aggregation set
ORA-06512: at "PV_ADMIN.PVM_ERROR", line 137
ORA-06512: at "PV_ADMIN.PVM_AGGSET", line 732
ORA-06512: at line 1


==> Press <Enter> to continue ...
```

Aggregation sets

If you try to associate a time zone to more than one aggregation set, the attempt fails. The error, **This timezone/DST combination is already configured to another aggregation set**, is displayed.

Configuring the database components of an aggregation set

```
# pwd
/export/Proviso5.2/proviso/SOLARIS/DataBase/SOL10
# ls
common      content     dataconf    extraTools  instance    setup
# ./setup
```


The setup tool is in the product installation directory for database tools. It is used to create the database components of the aggregation set. Change to the appropriate directory for the database setup tool and issue the command.

Install the aggregation set

```
Netcool/Proviso  V5.2.0.0_R0_E2 20100329 - [Main Menu]

     1. Install
     2. Upgrade
     3. Uninstall

     0. Exit

Choice [1]>
```


Select option **1** to start the aggregation set installation process.

Select option 1 for configuration

```
Netcool/Proviso  V5.2.0.0_R0_E2 20100329 - [Install]
     1. Netcool/Proviso Database Configuration
     0. Previous Menu
Choice [1]>  1
```


The aggregation set requires database configuration.

Verify the location of PROVISO_HOME

```
Netcool/Proviso Database Configuration  V5.2.0.0_R0_E2 20100329

     1. PROVISO_HOME       : /opt/Proviso
     2. DATABASE_DEF_HOME  : -
     3. CHANNELS_DEF_HOME  : -
     4. AGGRSETS_DEF_HOME  : -

     5. Continue
     0. Exit

Choice [5]>  5
A copy of installation files exists in /opt/Proviso
Do you want to overwrite them ?  [Y] : n
```


If the location of PROVISO_HOME is correct, select option **5** to continue. Do not overwrite the existing installation files.

Select option 3 Aggregation set

```
Netcool/Proviso Database Configuration  V5.2.0.0_R0_E2 20100329

     1. Database
     2. Channel
     3. Aggregation set

     0. Exit

Choice [1]>  3
```


Select option **3** to continue configuring the database components of the aggregation set.

Provide database access credentials

```
Netcool/Proviso Aggregation Set  V5.2.0.0_R0_E2

     1. PROVISO_HOME   : /opt/Proviso
     2. ORACLE_HOME    : /opt/oracle/product/10.2.0
     3. ORACLE_SID     : PV
     4. DB_USER_ROOT   : -

     5. Continue
     0. Previous Menu

Choice [5]>  4
Enter value for DB_USER_ROOT : pv
```


Enter the value for DB_USER_ROOT. In the example shown, the value is **pv**.

Continue with the installation

```
Netcool/Proviso Aggregation Set  V5.2.0.0_R0_E2

     1. PROVISO_HOME  : /opt/Proviso
     2. ORACLE_HOME   : /opt/oracle/product/10.2.0
     3. ORACLE_SID    : PV
     4. DB_USER_ROOT  : pv

     5. Continue
     0. Previous Menu

Choice [5]>  5
```


After you provide the DB_USER_ROOT credentials, enter **5** to continue.

List the aggregation sets

```
Netcool/Proviso Aggregation Set  V5.2.0.0_R0_E2   - [installation options]

     1. List of configured aggregation sets
     2. List of installed aggregation sets
     3. Number of the aggregation set to install : -
     4. Channel where to install aggregation set : (all)
     5. Start date of aggregation set            : 2010.10.04-18

     6. Continue
     0. Back to options menu

Choice [6]>  1
Enter password for pv_ADMIN : pv
```


To see the aggregation sets that are configured, enter **1** and the password for PV_ADMIN.

List of configured aggregation sets

```
10-28-2012 01:00:00  Eastern European Time_2012                +2h
10-28-2018 01:00:00  Eastern European Time_2018                +2h
10-28-2029 01:00:00  Eastern European Time_2029                +2h
10-29-2017 01:00:00  Eastern European Time_2017                +2h
10-29-2023 01:00:00  Eastern European Time_2023                +2h
10-29-2028 01:00:00  Eastern European Time_2028                +2h
10-30-2011 01:00:00  Eastern European Time_2011                +2h
10-30-2016 01:00:00  Eastern European Time_2016                +2h
10-30-2022 01:00:00  Eastern European Time_2022                +2h
10-31-2010 01:00:00  Eastern European Time_2010                +2h
10-31-2021 01:00:00  Eastern European Time_2021                +2h
10-31-2027 01:00:00  Eastern European Time_2027                +2h

2 aggregation sets configured

Press enter...
```

Aggregation sets

The tool returns a list of the configured aggregation sets. In this example, the new aggregation set 17 is configured. Press Enter to continue with the installation of the aggregation set.

List the installed aggregation sets

```
Netcool/Proviso Aggregation Set  V5.2.0.0_R0_E2   - [installation options]

     1. List of configured aggregation sets
     2. List of installed aggregation sets
     3. Number of the aggregation set to install : -
     4. Channel where to install aggregation set : (all)
     5. Start date of aggregation set            : 2010.10.04-18

     6. Continue
     0. Back to options menu

Choice [6]>  2
============== LIST OF CREATED AGGREGATION SETS ==============
============ X: created ==== #: partially created ============

Channels  0
|         1
AggSets ------------------------------------------------------------------------
|    0    X

Press enter...
```


Select option **2** to see a list of installed aggregation sets. As seen in the example, only aggregation set **0** is installed.

Enter the number of the aggregation set to install

```
Netcool/Proviso Aggregation Set  V5.2.0.0_R0_E2   - [installation options]

     1. List of configured aggregation sets
     2. List of installed aggregation sets
     3. Number of the aggregation set to install : -
     4. Channel where to install aggregation set : (all)
     5. Start date of aggregation set            : 2010.10.04-18

     6. Continue
     0. Back to options menu

Choice [6]>  3
Enter Aggregation Set number between 1 and 998 : 17
```


Select **3** to set the number of the aggregation sets to install. In this example, you are installing the aggregation set number 17, which was configured previously.

Continue the installation of the aggregation set

```
Netcool/Proviso Aggregation Set  V5.2.0.0_R0_E2   - [installation options]

     1. List of configured aggregation sets
     2. List of installed aggregation sets
     3. Number of the aggregation set to install : 17
     4. Channel where to install aggregation set : (all)
     5. Start date of aggregation set            : 2010.10.04-18

     6. Continue
     0. Back to options menu

Choice [6]>  6
```


Select **6** to continue with the installation of the aggregation set.

Installation of the aggregation set begins

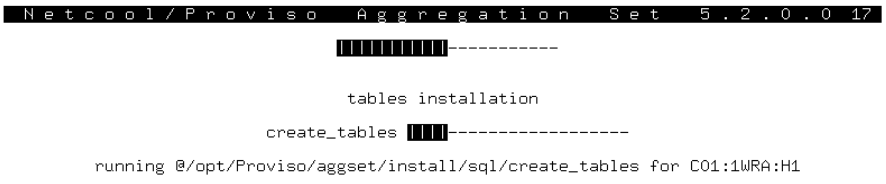
Press <ENTER> to begin editing parameter files with vi ...

The installation of the aggregation set begins. Press Enter to go to the next step. The next step displays a file that can be edited. In the example, the editor that was selected is **vi**. When the file is displayed in edit mode, save it without making changes. The aggregation set installation process continues.

Tablespaces are created

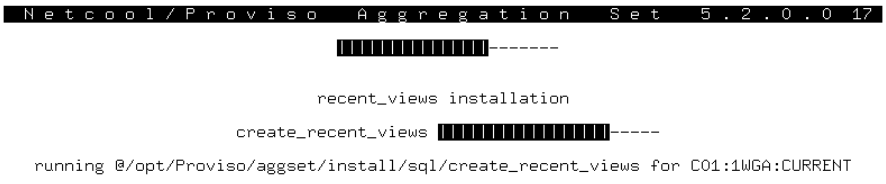
The tool creates tablespaces for the aggregation set. The tool provides continuous updates during the creation of the aggregation set in the database.

Tables are installed



After the tablespaces are installed, the tables are installed.

Views are installed



The tool provides installation status.

Aggregation set successfully installed

You see the successful installation of the aggregation set. In this example, aggregation set 17 was successfully installed.

Aggregation set created

0	2030/11/03 07:00:00	-21600	Central Standard Time_2030	Aggset created
17	2010/10/04 17:40:34	10800	Eastern European Time_2010_DST	Aggset created
17	2010/10/31 01:00:00	7200	Eastern European Time_2010	Aggset created
17	2011/03/27 01:00:00	10800	Eastern European Time_2011_DST	Aggset created
17	2011/10/30 01:00:00	7200	Eastern European Time_2011	Aggset created
17	2012/03/25 01:00:00	10800	Eastern European Time_2012_DST	Aggset created
17	2012/10/28 01:00:00	7200	Eastern European Time_2012	Aggset created

After completion of the installation of the aggregation set in the database, the aggregation set now shows that it is created.

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