

1 Introduction

What is Usage Monitor?

Proving completeness of the usage revenue stream is one of the key challenges for any Revenue Assurance (RA) department. Teams are often forced to manage with piecemeal controls over these major streams. These don't provide a complete picture and make problems and unwelcome trends difficult to spot.

Telecommunications Providers need an automated end-to-end reconciliation which builds up a clear overview of event-based revenue streams.

Cartesian can provide an operator with such a tool. Ascertain Usage Monitor (UM) examines throughput of event transaction files, volumes and trends. It can identify missing files, loss of records, excessive suspense or filtered records, files out of sequence, backlogs in processing and changes in trend outside acceptable thresholds. UM also generates data for Key Performance Indicators and raises alerts both externally and for reporting through the dashboard.

Design Principles

Every operator employs a different system architecture and choice of applications. Ascertain is designed to cope with this and it can model any kind of architecture, even handling event record files that get split or joined several times. And as a Provider's systems never stay static, there are features to easily accommodate changes to the core systems.

New checks can be added over time and the system can easily be extended to cover new flows and services. So an operator may initially use the system for the main retail billing chain, then extend it to cover the interconnect chain or perhaps Pay Per View or SMS events.

Ascertain UM makes use of various powerful common features, such as:

- **Network Visualisation** helps model the flow of information through systems and set up the appropriate checks and balances at different stages of the process
- **Configurable Metrics:** allowing permitted users themselves to refine how the KPIs are built, for example to flex the tolerances used. Ascertain now allows for reports to distinguish between different versions of the same KPI over time
- **Traffic Forecasting** allows actual traffic to be automatically compared to traffic predictions to reveal network problems
- **Olap Cube** utilisation, large data warehouse tables can be built and reported on so that the scope for drill-down from graphs and reports is greatly extended

Data is extracted from a variety of sources, such as processing logs from core systems (mediation, rating), remote database queries, emails of information from operators and so on. All data is processed by the Generic Data Loader and recorded in the Audit Database.

The goal is to work with existing data and logs so as not to impact the existing systems. This makes integration much more manageable.

Features and Benefits

Ascertain Usage Monitor simplifies through automation one of the primary tasks of the RA team which is to ensure that revenue flows are smooth and error-free. This achieves:

- *at-a-glance trend lines can be viewed at the start of day*, showing a variety of metrics, such as switch call volumes, adjustments, bill run values, etc. that have been processed overnight
- *exception reporting means you can get on with other work*: threshold checks allow specific tolerances to be configured and alarms to be generated only when they are exceeded. Tolerances can be set on any data item, such as percentage of records going into suspense, or total duration of traffic per day. Users can set the thresholds very flexibly to accommodate the different variations that operators have across their systems
- *end-of-month reporting is simplified*: performance indicators can be computed from the data collected and monitored through the dashboard
- *auditors' needs can be met day-in, day-out*: checks confirm the completeness of file processing and that all records are successfully passed from one system to the next in the switch to bill chain. These checks are tailored for each particular operator
- *follow-up can be monitored too*: any audit check failures or trends outside of the set thresholds can generate issues, which can be logged, grouped together appropriately, tracked until resolved. Issues can be filtered by type and severity and routed flexibly, and reported over time and by value

All of this is brought together in a dashboard which delivers a rich combination of graphs, reports, control indicators, KPIs, issues and alerts.

Modules

Ascertain UM 6.0 is made up of the following modules (Figure 1):

- Ascertain Usage Monitor 6.0
- Ascertain Issue Management Module 6.0
- Ascertain Framework 5.0 which comprises the following:
 - Web 5.0
 - Utils 5.0
 - Jobs 5.0
 - Directed Graph Framework 3.0
 - Generic Data Loader 3.0
 - Business Logic Engine 5.0
 - OLAP Reporting Tool 3.0
 - Report Deployment Module 3.0
 - Configurable Wizard Engine 2.0
 - Service Orientated Architecture 2.0

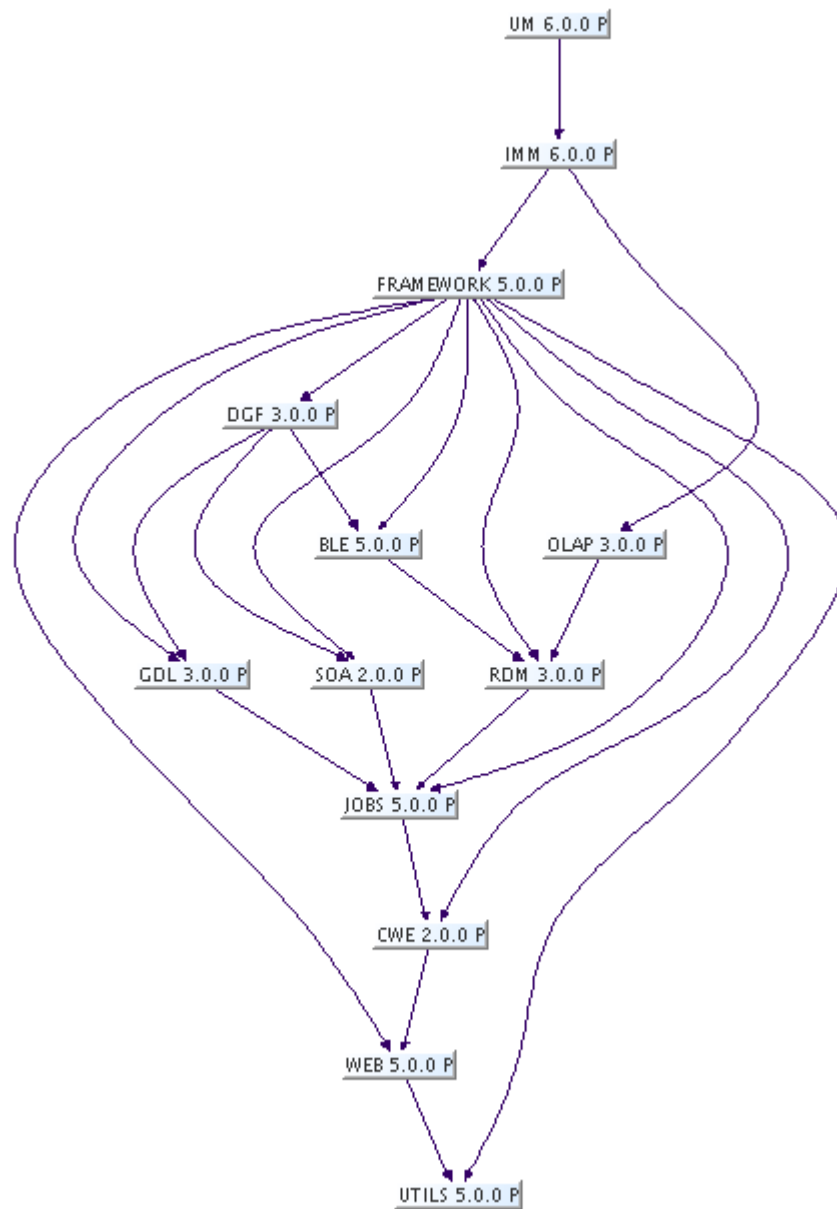


Figure 1 Module Graph showing the Usage Monitor Modules

2 Usage Monitor

Ascertain Usage Monitor (UM) is a comprehensive tracking system which ensures that revenue flows are smooth and error-free. The underlying processing of the data sets is carried out by a series of jobs.

UM Jobs

The UM application performs all processing using jobs set up with the standard Ascertain job functionality. Jobs carry out defined units of work within the application. There are a number of standard jobs that are used within UM, these are described in the following sections.



*For information regarding the standard job functionality see the **Jobs** section.*

All UM jobs are accessed in the same way by selecting the **Operations** menu from the toolbar which opens the **Ascertain Operation** screen. Select **Add Job** from the **Manage Jobs** menu (Figure 2).

The UM jobs available will depend on the project requirements.



Manage Jobs

[Add Job](#) | [Job Queue](#) | [Process Jobs](#) | [Scheduled Jobs](#)

Figure 2 Manage Jobs menu



*For information regarding the running and scheduling of jobs see the **Jobs** User Guide.*

UM Job Types

Jobs carry out defined units of work within the application. There are a number of standard types of jobs that are used within the UM application, these are as follows:

Job Type	Description
Import	Imports all of the usage data into the individual staging tables using Ascertain GDL
Load Staging Table	Merges the staging tables into the core UM database tables and produces aggregated daily summaries
Matching	Creates file sets to be used by the Metrics and Forecasting jobs
Metrics	Calculates the metrics, which are used to measure different aspects of network traffic for monitoring purposes
Metric Reconciliations	Calculates the comparisons between metrics in a billing chain to determine if there are any traffic problems
Forecasting	Calculates the forecasts, which allow historical patterns to be examined and tracked to make predictions about future data



Please note that the jobs must be run in the order specified above.

UM Jobs must be run in a sequential order, thus ensuring the data is processed appropriately. The ordering of the job types is as follows (Figure 3):

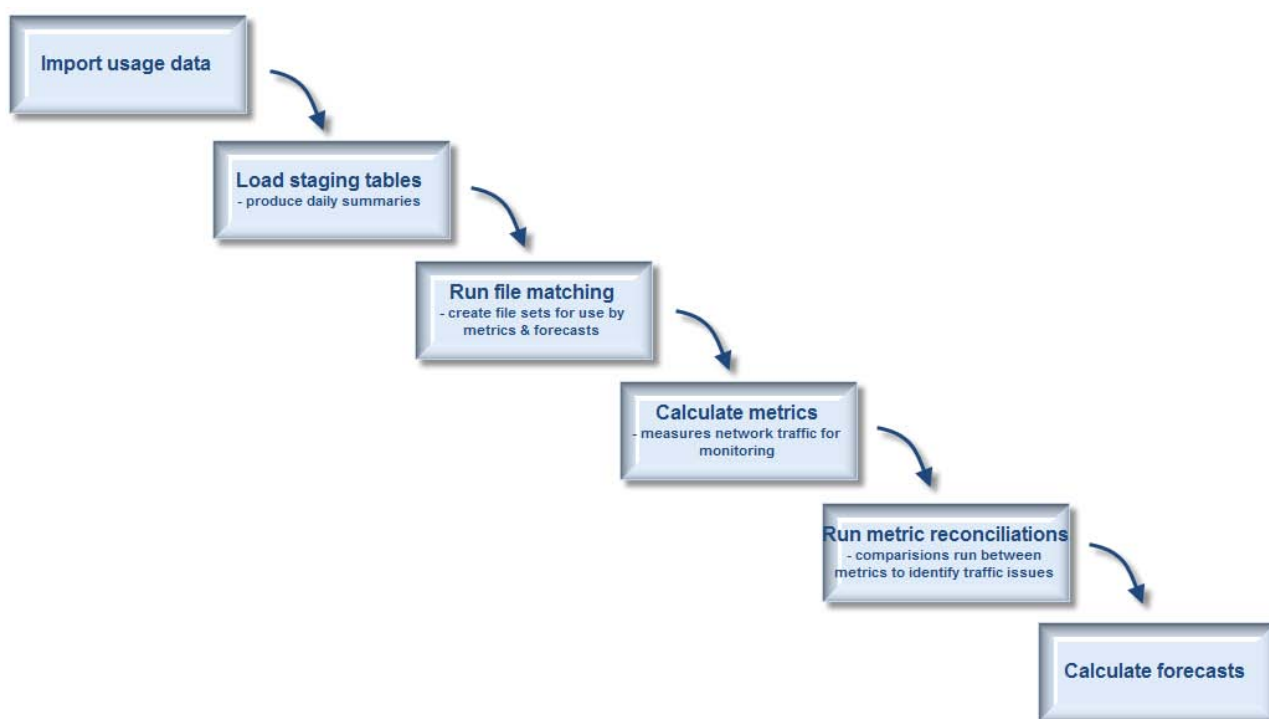


Figure 3 Sequential Ordering of the UM Job Types

Import Jobs

Please refer to the Ascertain GDL Administration Guide for information on importing data into the application.

Load Staging Table Jobs

Load Staged Data

This job loads the staging tables, checks for changes if files are reloaded and moves files from the fmo_match_queue_staging table to the fmo_match_queue and populates fmo_match_count. For reloaded files, any changes can either be provided by the external system or they will be calculated internally by UM. Y/N flags in the following fields of the LOG_RECORD_STAGING table are set when files are loaded:

IS_RELOAD	IS_DELTA	Load Type
N	N	Standard
Y	N	Reload - deltas are computed internally by UM
Y	Y	Reload - deltas provided by external system

Field descriptions are as follows:

Field Name	Description
IS_RELOAD	Y/N flag indicates whether the file is reloaded
IS_DELTA	Y/N flag indicates whether a reloaded file contains precomputed changes

Populate D_DAY and D_PERIOD

This job pre-populates essential day and time period data

Matching Jobs

The File Matching jobs determine which match operators should be executed based on the criteria selected when scheduling/running the job. These jobs return file sets to be used by the Metrics and Forecasting jobs. File Matching job option filters are linked (node/edge to file match definition). The following jobs are available:

Edge Checksum Matching

This job matches the checksums of data files from two or more edges.

Edge Filename Matching

This job matches the filenames of data files from two or more edges.

Edge Time Matching

This job matches the timing of data files from two or more edges.

Metric Config Edge Checksum Matching

This job matches the checksums of data files from two or more edges filtered by source or source type, as defined in the **Manage Metric Edge Associations** screen. The filesets are grouped by source or source type.

Metric Config Edge Filename Matching

This job matches the filenames of data files from two or more edges filtered by source or source type, as defined in the **Manage Metric Edge Associations** screen. The filesets are grouped by source or source type.

Node Matching

This job matches data files from a node.

Late File Processing

This job re-runs the time-based matching jobs when files are loaded late, i.e. after the matching jobs have already been run. A flag is passed to each match job to indicate that this is a re-run and the resulting file sets are stored and marked as re-runs to be processed by the **Filter Late Filesets** metric job

This method assumes that late arriving files have been queued in the LATE_FILE_MATCH_QUEUE, which would be the case for normal UM operation where the Generic Data Loader's Export, Transform and Load (ETL) function detects late arriving files and queues them up for further processing. The **Late File Processing** job works out what file matching and subsequent metrics need to be run.

For information on manually re-running a metric to include data that is missing due to late files, see the **Filter Late Filesets** metric job. The manual method is useful when the file sets that need to be re-created are known. It skips the LATE_FILE_MATCH_QUEUE.



*For further information on matching files, see the **File Matching** section.*

Metric Jobs

Metric Jobs allow measurements to be taken from the information contained in the database.

Calculating Metric Jobs

Calculating metric jobs work through each of the metric definition identifiers that have been selected and executes the calculations to generate the metrics. By default there are two different jobs available:

- **Node Metrics:** executes all the metric operators for the node specified
- **Edge Metrics:** executes all the metric operators for the edge specified



*For further information see the **Metric Definitions** section.*

Unloading Batch Data

The Unload Batch job enables an entire batch of data to be unloaded from the database. The job will update the database to reflect the removal of the file that corresponds to the submitting Batch Id specified in the job's parameters.



*Each individual data file that is extracted from a source system is treated as a batch within the UM application. For further information see **Batch History** section.*

Metric Regeneration

The Metric Regeneration job handles the submission of metrics for regeneration. The metrics in need of regeneration are identified as follows:

- when a threshold is adjusted and submitted the application checks for any existing issues using the affected threshold. If they are found to be affected and regeneration is specified then the identity of the metrics affected are added to the regeneration queue
- when a metric definition is modified and submitted the existing metrics are checked for impact. If they were generated by the changed metric definition within the configured regeneration date range the identities are added to the regeneration queue
- when files arrive late the file matching operators identify the metrics that were generated using file sets that have subsequently changed by late arriving files. The identity of the metrics affected are added to the regeneration queue

As metrics are added to the regeneration queue the reason for the submission is recorded.

Filter Late Filesets

This job processes the file sets produced by the **Late File Processing** job as follows:

- strips out any file sets that have not changed
- triggers the metric regeneration where file sets have changed

To manually re-run a metric to include data that is missing due to late files, carry out the following (the example here is for a node metric):

1. Rerun the **Node Matching** job in "rerun" mode.
Check after node matching that file sets have been queued up in FMO_FILESET_QUEUE with the rerun flag
2. Run the **Filter Late Filesets** metric job.
Check after Filter Late Filesets that the same entries in FMO_FILESET_QUEUE have had the rerun flag altered
3. Run the **Node Metric** (see **Calculating Metric Jobs**).
This creates a job to run metrics for all nodes or edges in the FMO_FILESET_QUEUE

This manual method is useful when the file sets that need to be re-created are known.

This skips the LATE_FILE_MATCH_QUEUE.



Refer to the **UM Job Parameters** section in the **Administration Guide** for further information

Metric Reconciliation Jobs

The metric reconciliation jobs calculate the comparisons between metrics in a billing chain to determine if there are any traffic problems.

Volumetric Reconciliation

There are three volumetric reconciliation jobs; these are applicable to timeslot reconciliations only. They are as follows:

- Volumetric Reconciliation
 - runs an individual metric reconciliation
- Volumetric Reconciliation by Billing Chain
 - runs all of the metric reconciliations for the chosen billing chain
- Volumetric Reconciliation by Category
 - runs all of the metric reconciliations for the chosen reconciliation category

Enter The Job's Optional Parameters



Metric Reconciliation	Mediation to Rating
Offset Days	None
Number of Days	1

Add ParametersResetCancel

Figure 4 Volumetric Reconciliation Job Parameters

The parameters on this screen are as follows:

Parameter	Description
Metric Reconciliation	Name of the reconciliation to run
Offset Days	Number of days in the past (relative to today) to start processing the reconciliation data from
Number of Days	Number of days to process the reconciliation for from the start date



For further information see the **Metric Reconciliations** section.

Fileset Reconciliation

There are four fileset reconciliation jobs which are only applicable to fileset reconciliations. These can be run as one off or persistent jobs. They are as follows:

- Fileset Reconciliation
 - processes everything in the reconciliation queue
- Fileset Reconciliation by Definition
 - processes a subset of the queue items based on the chosen definition
- Fileset Reconciliation by Definition and Edge
 - processes a subset of the queue items based on the chosen definition and edge
- Fileset Reconciliation by Edge
 - processes a subset of the queue items based on the chosen edge

Metric Reconciliation Regeneration

This job repopulates the metric queue from the metric regeneration queue. Metrics can then be recalculated by the standard metric job.

Forecasting Jobs

Forecasts allow historical patterns to be examined and tracked to make predictions about future data.

The Forecast generation job calculates the metric forecasts. A specific screen has been set up within UM to ensure that the correct job parameters are defined for the forecast (Figure 5).



Select Job Parameters



Absolute Date

☐

Wed, 9 March 2011

Rolling Date

☒

Offset

0 Days

▼

Sample Size

4 Weeks

▼

Forecast Duration

1 Week

▼

Metric

All

▼

Source

<None Specified>

▼

Edge

☒

Ericsson:Mediation

▼

Node

☐

Ericsson

▼

Submit

Cancel

Figure 5 Forecast Job - Select Job Parameters Screen

The parameters on this screen are as follows:

Parameter	Description
Absolute Date	User defined specific date at which the historical sample data will end and the forecast will start <i>This date should be set up in the past to ensure that the historical sample data is a complete data set</i>
Rolling Date	Date at which the historical sample data will end and the forecast will start, relative to today's date <i>This is calculated as the system date minus the offset number of days. This will always result in a date in the past to ensure that the historical sample data is a complete data set</i>
Offset	Number of days to offset the rolling date by
Sample Size	Size of the historical sample data (also known as seed data) to be used to generate the forecast <i>There must be a minimum of 4 weeks data to generate a forecast</i>
Forecast Duration	Number of weeks to forecast the metric into the future

Parameter	Description
Metric	Metric to be forecast <i>It is possible to select all of the metrics defined for the selected node or edge</i> <i>Please note that only metrics that have been assigned a forecast will be present in this list</i>
Source	Specific source of data to use
Edge	Specific edge to use for the forecast <i>It is possible to choose either an edge or a node to use for the forecast</i>
Node	Specific node to use for the forecast <i>It is possible to choose either a node or an edge to use for the forecast</i>



For further information see the **Forecasting** section.

System Jobs

System Jobs aid the administration of the application, enabling administrators to ensure that the system runs efficiently. The UM application performs all system processing using jobs set up with the standard Ascertain job functionality.



*For information regarding the standard job functionality see the **Jobs** section.*

All UM jobs are run in the same way by selecting the **Operations** menu from the toolbar which opens the **Ascertain Operation** screen. Select **Add Job** from the **Manage Jobs** menu (Figure 6).

The system jobs available will depend on the project requirements.



Manage Jobs

[Add Job](#) | [Job Queue](#) | [Process Jobs](#) | [Scheduled Jobs](#)

Figure 6 Manage Jobs menu



*For information regarding the running and scheduling of jobs see the **Jobs** section*

Updating Materialized Views

As UM can contain very large amounts of data materialized views are used for reports, summaries and pre-joined tables. They are similar to views, but as the data is actually stored in a table in the database rather than as a dynamic view, they are more appropriate to use with high data volumes.

When the data in the underlying tables change, for example when data is imported and file matching and metrics are run, the materialized views must be refreshed using the Updating Materialized Views job. Running this job on a regular basis ensures that the most recent data is being used.

Clearing Database Messages

Database messages contain temporary logging and debugging information. This information is held in the following database tables:

- `utils.messages` messages usually related to creating partitions
- `um.operator_log` output from UM operators such as the metrics

It is advisable to clear down these tables on a regular basis so that they do not get too large. This is done using the Clear Database Messages job which deletes the records in the above tables before a specified date.

Database Statistics

Databases store statistics which are used when performing queries on the stored data enabling more efficient querying of the data. There are two standard database jobs which manage statistics:

- Update Statistics – runs a standard Oracle utility to refresh the system statistics – this is a database intensive job
- Copy Statistics – if current statistics are expected to be similar to historical stats it is possible to copy statistics from the appropriate old partition to the new partition. This will negate the need to gather new statistics

Update Statistics

The **Update IM Database Statistics** or **Update UM Database Statistics** jobs create new statistics on the data contained in the database.



Creating statistics on large data sets is an intensive database action. Statistics should be copied from similar existing database statistics from a previous point in time where possible

Enter The Job's Optional Parameters



Gather Stats Option

Figure 7 Update Database Statistics

The parameters on this screen are as follows:

Field Name	Description
Gather Stats Option	Selects the method to select statistics from the database

Copy Statistics

The **Copy IM Statistics** or **Copy UM Statistics** jobs enable statistic sets from a previous point in time to be copied. Statistics should only be copied when the historical data has similar statistical characteristics. Typically data will have a daily, weekly or monthly pattern For this reason the default “offset” to copy statistics from is 1, 7 or 28 days before the date of the “target” partition to copy statistics to.



For IMM tables it is only possible to copy statistics to a current or future date as issues are always raised with today's date. For UM tables it also is possible to copy statistics to a date in the past allowing statistics to be copied for historical data loads.

The parameters associated with the job are as follows:

Field Name	Description
Statistics Group	Selects the partition statistics for IMM or UM tables
Copy Stats to	Selects the target date where the statistics are to be copied to
Copy Stats from	Selects the offset date to which the statistics will be copied to

Partitioning

Using Oracle partitioning is not mandatory with UM, however there are data warehousing components in the UM database and if the data volumes are at all significant then partitioning could make the difference between a fast analytical tool and an unusable system.

Without partitioning whole tables will be read to find pertinent data, this could result in queries taking very long amounts of time to return results due to the large volumes of data held within the tables. Using partitions means that Oracle's optimiser can read only those partitions that contain data applicable to the given query, thus reducing the time to produce results considerably.

The Partition jobs enable users to select the schema and criteria to be used for the partitioning.

Rebuilding Issue Indicator Reports

If an administrator adds a new node or edge to the UM environment then it is essential that the issue reports are rebuilt using this job. This ensures that the new node or edge is included in the issue reports and that the relevant data is then displayed in the tables.

Data Archive

The Archive Data job removes and archives usage data from specified tables in the application's database to an archive directory. It is possible to subsequently reload this data at a later date if required.

There are two data archive jobs:

- Archive IM Data Job
- Archive UM Data Job

Enter The Job's Optional Parameters



Days of data to keep

180 days

Add Parameters

Reset

Cancel

Figure 8 Archive Usage Data Optional Parameters Screen

The parameter on this screen is as follows:

Field Name	Description
Days of data to keep	Defines the number of days worth of data to keep, anything older than this will be archived and removed from the system <i>If a non-default value is selected, this is shown in italics</i>

UM Queue Management

The **UM Queue Management** screen is accessed by selecting the **Operations** menu from the toolbar which opens the **Ascertain Operation** screen. Select **Operator Queue** from the **Operational Summary Charts** menu (Figure 9).



Figure 9 Operator Queue Menu Item

The **UM Queue Management** chart (Figure 10) shows the three queues associated with core UM operations. Each of the operations is shown as the bar of a bar chart which is stacked, giving items that are pending and in progress. Once the items are processed they are removed from the queues and are no longer available for display. The raw values that make up the chart are displayed to the right of the chart.

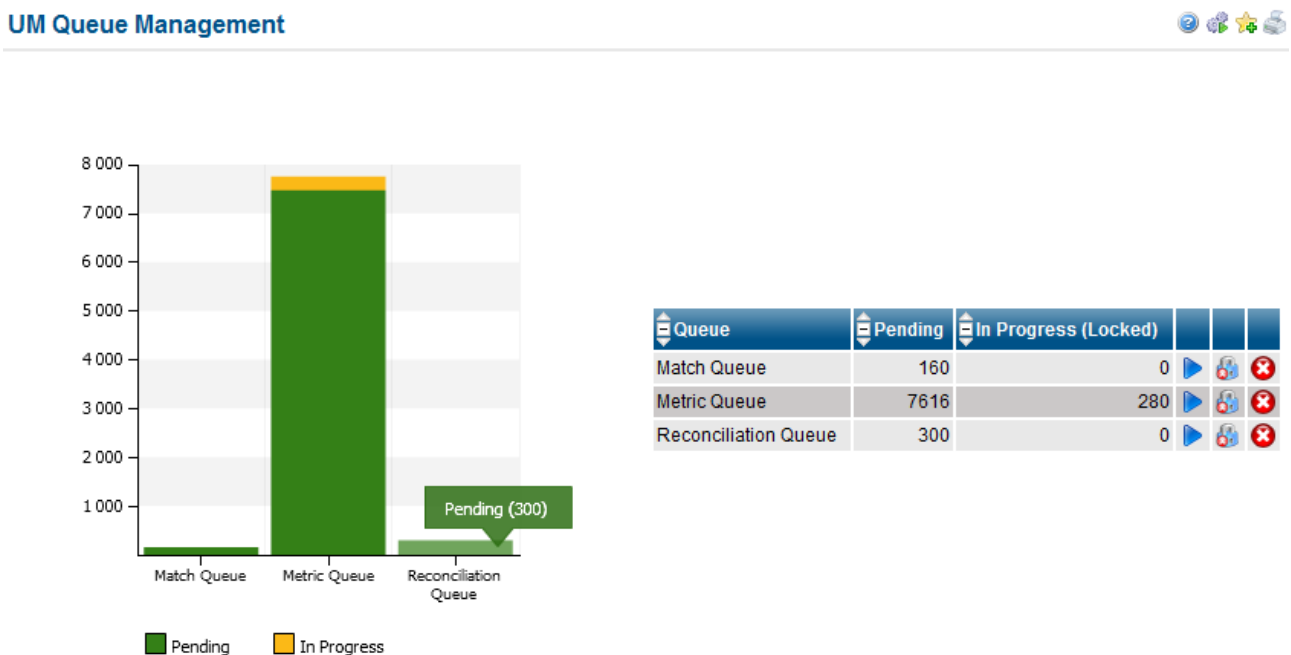


Figure 10 UM Queue Management Screen

The **UM Queue Management** Chart reports on the number of jobs in each of the following statuses:




Status	Colour	Description
Pending	■	Job in queue waiting to be run
In Progress	■	Job running currently

The chart also shows the numbers of items in each queue when the cursor is hovered over the bars within the chart.

The **UM Queue Management** table to the right of the chart shows the raw values that constitute the chart. The fields are as follows:

Field Name	Description
Queue	The queue type
Pending	The number of records in the Pending state
In Progress (Locked)	The number of records in the In Progress state <i>Records can become locked in the In Progress state as a result of the Job Server being restarted whilst they are processing</i>

The additional icons on this screen are used as follows:

Icon	Function
	Unlock all items in queue <i>Users can release locked records to allow them to be reprocessed</i>
	Delete all locked items in queue
	Delete all items in queue

UM Versioning

The reference data within Ascertain Usage Monitor (UM) is fully versioned. The following UM functional areas support versioning:

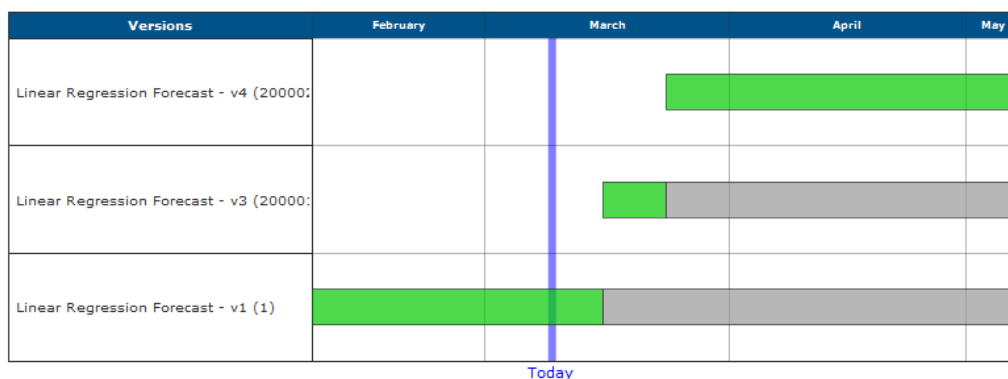
- Metric Reconciliations
- Metric Definitions
- File Match Definitions
- Forecast Definitions

Managing Versions

In order to analyse usage across a network correctly the UM application must be configured with information from the network. Different versions enable the configuration data within UM to be edited in a non-live environment. Versions can be scheduled to automatically become active at a specified time. This functionality enables UM to remain in a stable and live state whilst being updated.

Each definition can have one or more versions. If the user has sufficient privileges, these versions are managed on the **Manage Versions** screen, accessed via the **Configuration** toolbar > **Usage Monitor Configuration** > **Forecasting** > **Manage Forecast Definitions**. Click the Name of the chosen version, in this example a Linear Regression Forecast, on the **Manage Forecast Definitions** screen to open the **Manage Forecast Versions** screen (Figure 11). The version graphs are presented using Flash functionality.

Manage Forecast Versions



Page 1 of 1 (5 rows)

ID	Description	Parent	From	To	Status				
1	Linear Regression Forecast - v1		01 Jan 2010 12:34:56	01 Jan 2099 12:34:56	Active				
200000	Linear Regression Forecast - v2	Linear Regression Forecast - v1	09 Mar 2011 13:54:57	01 Jan 2099 12:34:56	Inactive				
200001	Linear Regression Forecast - v3	Linear Regression Forecast - v2	16 Mar 2011 13:56:29	18 Mar 2099 12:34:56	Active				
200002	Linear Regression Forecast - v4	Linear Regression Forecast - v3	24 Mar 2011 13:58:22	18 Mar 2099 12:34:56	Active				
200003	Linear Regression Forecast - v5	Linear Regression Forecast - v4	30 Mar 2011 13:58:51	18 Mar 2099 12:34:56	New				

Figure 11 Manage Forecast Versions Screen

In this example the **Manage Forecast Versions** screen lists the forecast versions that have been set up and allows users to add, copy, edit and delete forecasts.



Different columns and icons will be present depending on the type of definition, this screen is being used purely as an example.

The common fields on the **Manage Versions** screen are as follows:

Field Name	Description
ID	The version's database identification number
Description	Description of the version
Parent	Name of the version that was used to create this version if appropriate <i>This is populated when a version is copied and then edited to create a new version, see the section for more information</i>
From	Date that the version is valid from
To	Date that the version is valid until
Status	Status of the version <i>The different statuses can be either New, Active or Inactive. For more information on changing the status see the Changing Version Status section</i>




The common buttons and icons on the **Manage Versions** screen are as follows:

Active	Description
	Add a new version <i>New versions are created with no additional information assigned. For information regarding assigning operators see the managing operators section for the required definition</i>
	Copy a version to create a new one
	Edit a version
	Delete a version
	Update the status of a version <i>For further information see the Changing Version Status section</i>
	Edit the exception dates <i>Please note that this icon is only present on the Forecast Manage Versions screen, for further information see the Setting Exception Dates section</i>

Changing Version Status

A timeline representation of the active versions is displayed at the top of the **Manage Versions** screen (Figure 11). All active versions are displayed as a green bar depicting the time that the version has been set up for. The versions are displayed in order with the most recent **From** date at the top of the graph. The effective version is always the version with the most recent **From** date. Any part of the bar in grey indicates a period where the version is ineffective. The purple line represents today, this enables users to see at a glance which of the versions is effective today.

The status column can take one of three following forms as described in the table below:

Icon	Description
 Active	Indicates the version is active Clicking this icon will make the version inactive. A version that is active cannot be edited or deleted
 Inactive	Indicates the version is inactive and has been used Clicking this icon will make the version active. More than one version can be active at a time. A version that is inactive cannot be edited or deleted
 New	Indicates the version is new Clicking this icon will make the version active. Editing and deletion is not possible after a version has been made active. For a version to be made active an operator must be assigned to it


Setting Exception Dates

Exception dates can be set up for specific dates where the record counts may vary from the norm such as bank holidays and outages. Users can set up a percentage adjustment for these dates to bring them in line with a standard day.



Please note that the exception dates  icon is only present for forecast definitions.



It is possible to set exception dates for metrics and metric reconciliations, however this is configured in the assigned thresholds rather than in the metric and metric reconciliation definitions.

Click the exception dates  icon next to the chosen version on the **Manage Forecast Versions** screen (Figure 11) to open the **Manage Exception Date Associations** screen (Figure 12). If no exception dates have been set up, click the **Add** button to add dates as appropriate.

Manage Trend Exception Date Associations



Page 1 of 1 (2 rows)

Date ID	Date	Description	Adjuster	
6	25 DEC 2006	Christmas Day 2006	15	
7	26 DEC 2006	Boxing Day 2006	17	

Add

Figure 12 Manage Exception Date Associations Screen

This screen lists the exception dates that have been set up for the chosen version and allows users to add and delete exception dates. The fields on this screen are as follows:

Field Name	Description
Date ID	The exception date's database identification number
Date	Exception date
Description	Description of the date
Adjuster	Percentage adjuster to bring the data for this date in line with normal volumes

Adding New Exception Dates

1. Click the **Add** button at the bottom of the **Manage Exception Date Associations** screen (Figure 12) to open the **Exception Date Associations** screen (Figure 13).

Trend Exception Date Associations




Forecast Version	Linear Regression Trend (Percent) v3
Date Definition	01 Jan 2007 - New Years Day ▼
Adjust	17.0

Save Cancel

Figure 13 Exception Date Associations Screen

2. Select the required exception date from the **Date Definition** drop-down list and enter the percentage adjustment in the **Adjust** text box as appropriate.
3. Click the **Save** button to return to the updated **Manage Exception Date Associations** screen.

Deleting Exception Dates

1. Click the delete  icon next to the chosen exception date on the **Manage Exception Date Associations** screen (Figure 12)
2. The **Exception Date Associations** screen will be updated and the exception date will no longer appear on the list.

3 UM Menu

The UM menu items are accessed by users with sufficient privileges. Click the **Configuration** toolbar to open the **Ascertain Configuration** screen and select **Usage Monitor Configuration** from the **Configuration Navigation** menu (Figure 14).

Ascertain Configuration

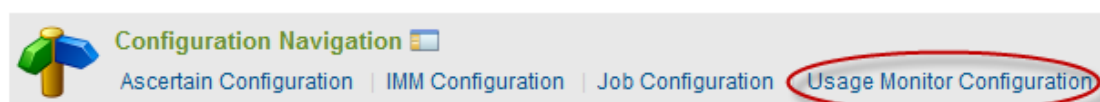


Figure 14 Usage Monitor Configuration Menu

The **Usage Monitor Configuration** screen (Figure 15) opens to display the configuration menu items specific to UM. The User Guide documents the **Usage Assurance Control Definitions** menu circled in Figure 15 below. The Administration Guide documents the remaining menus.

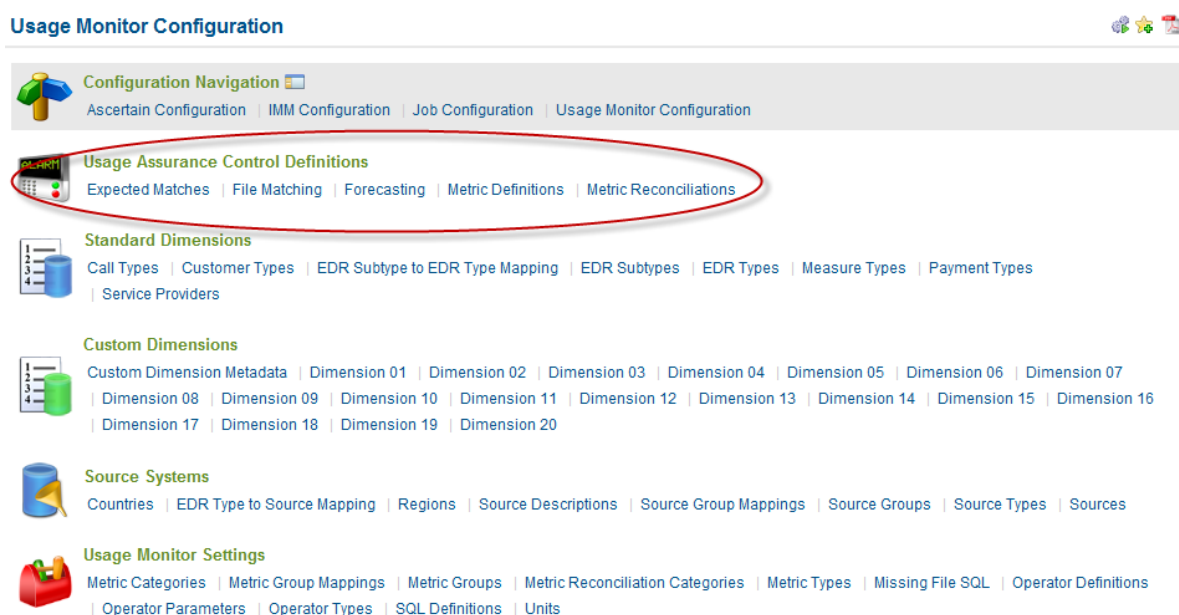


Figure 15 Usage Monitor Configuration screen

The **Usage Assurance Control Definitions** menu provides users with the following options:

Menu Name	Description
Expected Matches	Displays an editable list of the minimum number of expected matches between records
File Matching	Enables users to configure file matching
Forecasting	Enables users to configure forecasting
Metric Definitions	Enables users to configure metric calculations
Metric Reconciliations	Enables users to configure metric reconciliations

Expected Matches

A single record on a node may be connected with many records on another node of a billing chain. In order to ensure that a record is not deleted before all possible matching has taken place, records are only deleted when **both** the following conditions occur:

- the record has been matched at least the expected number of times as specified by the **Expected Matches** screen (Figure 16)
- the age of the record (difference between the current date and the event start time) is greater than the number of days specified by the latency parameter



For more information on latency see the **Basic Filename and Checksum Match Operators** section of the Administration Guide.

The number of expected matches must be specified for each incoming and outgoing node edge and for each data source.



In order for a record to be deleted from the database after a match, at least two entries must be added on this screen for each node the record is matched against. If no expected match is specified, the record will not be matched

Select **Expected Matches** from the **Usage Assurance Control Definitions** menu on the **Usage Monitor Configuration** screen (Figure 15) to open the **Expected Matches** screen (Figure 16)

Expected Matches



Hide filters

Source	All
Node	All
Edge	All
<input type="button" value="Apply"/> <input type="button" value="Clear"/>	

Page 1 of 1 (18 rows)

Source	Node	Edge	Expected Match Count	
Ericsson	Rating	Mediation:Rating	10	
Nortel	Nortel	Nortel:Mediation	3	
Ericsson	Mediation	Ericsson:Mediation	3	
Nokia	Nokia	Nokia:Mediation	1	
Ericsson	Ericsson	Ericsson:Mediation		

Figure 16 Expected Matches Screen

The fields on this screen are as follows:

Field Name	Description
Source	Name of the source of the records <i>For more information see the Sources section in the Admin Guide</i>
Node	Name of the node of the records <i>An entry should be added for every edge attached to a node</i>
Edge	Edge to match the records against <i>Two entries should be added for every edge that requires records to be matched across it</i>
Expected Match Count	Minimum number of matching records required to delete the record For example given the following entry: Source: Ericsson Node: Rating Edge: Mediation: Rating Expected Match Count: 10 In order for a record on the Rating node to be deleted it must be matched against 10 records on the Mediation node. <i>When a reconciliation specifies more than two nodes or edges a record must be matched fully against all edges in order to be deleted</i>

The fields can be edited, copied or deleted using the management icons. New records can be added using the **Add** icon.

File Matching

File matching is the process of associating files from one node to those from another node. Typically, the nodes to be matched will be connected by an edge. The files are then matched leaving one node with files entering another. These nodes can be within a system or between systems, such as mediation output against rating input. It is possible to match files across multiple edges.

File matching must be run in order to obtain a set of data matching specific requirements. These data sets are then used by the metric calculations.

The standard mapping operators are as follows:

- **filename mapping:** file names are rarely retained unchanged as they move through the chain of systems underlying a telecoms operator. Consequently, to track files moving through a system it is necessary to map the file name changes between systems
- **timeslot mapping:** mapping files by time slot is a simple form of mapping, where files are associated by no other criteria than that they fall within one of two comparable time periods. These could be whole days, such as a Monday against the previous Monday, or specific time periods within days. They can also cover larger periods of time such as weeks or months

Manage File Match Definitions



☐ Hide filters

Node Associations

Edge Associations

Page 1 of 1 (31 rows)

Id	Name	Description				
36110	Matching Grouped by Source Type and Day	Matching Grouped by Source Type and Day				
36140	Matching Grouped by EDR Type and Hour	Matching Grouped by EDR Type and Hour				
36170	Matching Grouped by EDR Subtype and Day	Matching Grouped by EDR Subtype and Day				
36180	Weekly Node Matching Grouped by Hour	Weekly Node Matching Grouped by Hour				
36130	Matching Grouped by Out Filename and Day	Matching Grouped by Out Filename and Day				
36080	Matching Grouped by Source and Hour	Matching Grouped by Source and Hour				

Figure 17 Manage File Match Definitions Screen





Select **File Matching** from the **Usage Assurance Control Definitions** menu on the **Usage Monitor Configuration** screen (Figure 15) to open the **Manage File Match Definitions** screen (Figure 17) which lists the file matches that have been set up.

This screen allows users to add, copy and edit file matches and also to manage the node and edge associations. The fields on this screen are as follows:

Field Name	Description
Id	The file match's database identification number

Field Name	Description
Name	Name of the file match <i>Clicking the name will display the Manage File Match Versions screen (Figure 18)</i>
Description	Description of the file match

The additional icons on this screen are used as follows:

Icon	Function
	Manage a file match's node associations <i>When a node has been associated the icon changes to: </i>
	Manage a file match's edge associations <i>When a node has been associated the icon changes to: </i>

Managing File Match Operators

File match operators are used to execute the operations that are needed to retrieve the data from the database. The code to carry out the operation is contained within the operator class and requires parameters to be passed to it in order to return the desired data set.

Each file match operator can have one or more versions. These versions are managed on the **Manage File Match Versions** screen (Figure 18).

1. Click the **Name** of the file match operator on the **Manage File Match Definitions** screen (Figure 17) to open the **Manage File Match Versions** screen (Figure 18).

Manage File Match Versions



Versions	February	March	April	May
Late File Reporting for Checksum Match				

Today

Page 1 of 1 (2 rows)

ID	Description	Parent	From	To	Status			
35210	Late File Reporting for Checksum Matching		01 Sep 2006 00:00:00	31 Dec 2099 00:00:00	Active			
200001	Late File Reporting for Checksum Matching v2	Late File Reporting for Checksum Matching	10 Mar 2011 09:48:14	31 Dec 2099 00:00:00	New			

Figure 18 Manage File Match Versions Screen



*For more information regarding managing versions see the **UM Versioning** section.*

- Click the **Description** of the chosen file match version on the **Manage File Match Versions** screen to open the **Manage File Match Operators** screen (Figure 19).

Manage File Match Operators

Page 1 of 1 (4 rows)									
ID	Version Description	Description	Parameters	Order					
200001	Late File Reporting for Checksum Matching v2	Basic Late Checksum Predecessor Reporting Operator	-min 2880	1					
200002	Late File Reporting for Checksum Matching v2	Basic Late Checksum Successor Reporting Operator	-min 2880	2					
200003	Late File Reporting for Checksum Matching v2	Close Late Matched Predecessor Files Issues Operator		3					
200004	Late File Reporting for Checksum Matching v2	Close Late Matched Successor Files Issues Operator		4					

Figure 19 Manage File Match Operators Screen




The **Manage File Match Operators** screen (Figure 19) lists the file match operators that have been set up for the chosen file match version. This screen allows users to add, copy, edit and delete operators and edit the file match operator configuration. The fields on this screen are as follows:



Field Name	Description
ID	The file match operator's database identification number
Version Description	Description of the file match version
Description	Description of the file match operator
Parameters	Set of parameters needed by the java class to execute the operation <i>The available parameters are detailed in the Administration Guide</i>
Order	Order in which the operations will be carried out



*It is only possible to edit the file match operators if the file match version is **New**. The file match operators for **Active** and **Inactive** file match versions are static and all of the management icons are inactive.*



The additional icons on this screen are used as follows:

Icon	Function
	Moves the operator to the first position in the list <i>The icon is inactive when the operator is in the first position or if the version is Active or Inactive</i>
	Moves the operator up one position within the list <i>The icon is inactive when the operator is in the first position if the version is Active or Inactive</i>
	Moves the operator down one position within the list <i>The icon is inactive when the operator is in the last position if the version is Active or Inactive</i>


Icon	Function
	Moves the operator to the last position in the list <i>The icon is inactive when the operator is in the last position if the version is Active or Inactive</i>
	Opens the Manage File Match Operator Parameters screen (Figure 23) for users to select specific source types or sources for the operator <i>It is only possible to edit the operator configuration of a New version, if the version is Active or Inactive the screen will be opened in the Read-only mode</i>

Editing or Adding a File Match Operator

File Match Operators have a number of parameters set up which are used to pass specific information to the operator class in order for it to execute successfully and return the correct information. The parameter values are defined in the **Edit File Match Operators** screen.

- Click the edit  icon or add  icon on the **Manage File Match Operators** screen (Figure 19) to open the **Edit File Match Operators** screen (Figure 20).

Edit File Match Operators





Definition Late File Reporting for Checksum Matching



Version ID 200001



Operator Late Checksum Successor Reporting Operator ▼



Description Basic Late Checksum Successor Reporting Operator

Parameters

Cap   10

Debug   No ▼

Minimum Minutes   2880

Threads   1

Save Cancel

Figure 20 Edit File Match Operators Screen



- Complete the fields at the top of the screen using the following information:

Field Name	Description
Definition	Name of the file match definition
Version ID	The file match operator's database identification number
Operator	Name of the java class that contains the code to carry out the operation
Description	Description of the file match operator

3. Add parameters by completing the fields at the bottom of the screen. The parameters available are dynamically generated and will therefore vary depending on the file match operator selected. Help pop-ups (Figure 21) and default value details (Figure 22) are also presented. Validation is performed on the user's input.

Field Name	Description
Parameter Name	Name of the parameter (also known as the parameter label) <i>When passing a parameter to the operator class the label is given to identify the parameter, followed by the value</i> <i>When Adding a File Match Operator, the available parameters are listed for completeness.</i>
Parameter Value	Actual value to be used by the parameter. <i>Validation is performed on the user's input</i>

The additional icons on this screen are used as follows:

Icon	Function
	Description. Displays a text box with a description of the parameter (Figure 21).
	Default Value. Displays a text box with the parameter's default value (Figure 22).

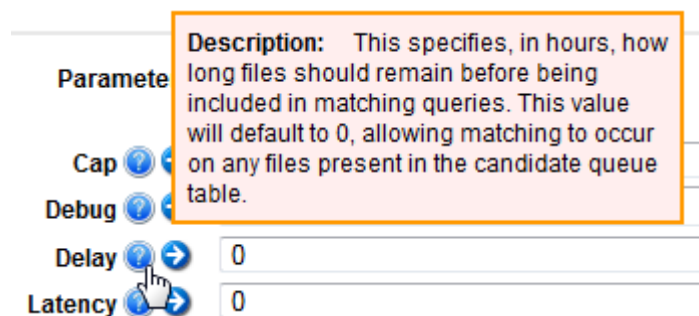


Figure 21 Help icon with parameter description

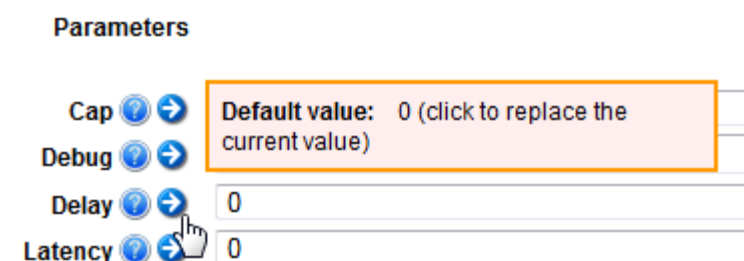


Figure 22 Icon with default value displayed




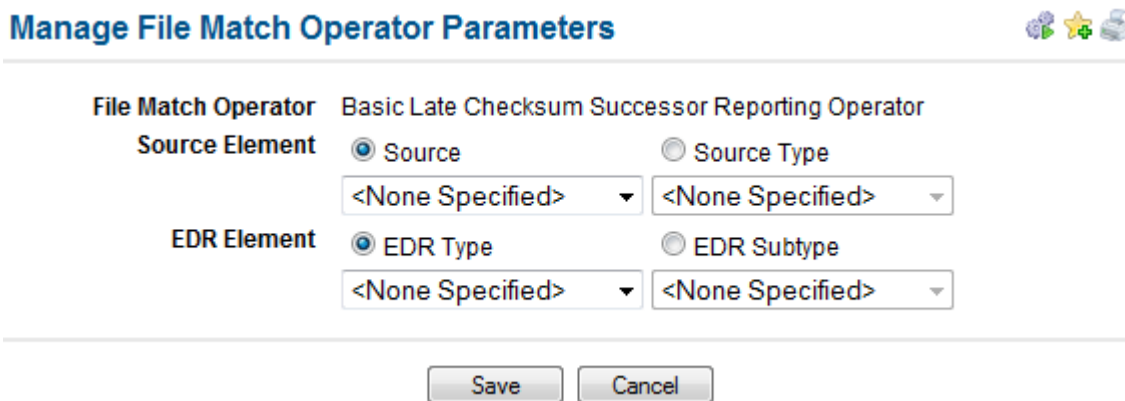
The available parameters are detailed in the UM Operators section of the Administration Guide.

- Click the **Save** button to return to the **Manage File Match Operators** screen (Figure 19)

Managing File Match Operator Parameters

It is possible for users to configure the sources that the operator uses. This can be done either by selecting a source type or a specific source from a filter list.

- Click the edit file filtering parameters  button on the **Manage File Match Operator** screen (Figure 19) to open the **Manage File Match Operator Parameters** screen (Figure 23)



Manage File Match Operator Parameters

File Match Operator Basic Late Checksum Successor Reporting Operator

Source Element ☒ Source ☐ Source Type
 <None Specified> <None Specified>

EDR Element ☒ EDR Type ☐ EDR Subtype
 <None Specified> <None Specified>

Save Cancel

Figure 23 Manage File Match Operator Parameters Screen



- Select the appropriate **Element** radio button on the **Manage File Match Operator Config** screen (Figure 23) and select from the applicable drop down filter list as follows:





Field Name	Description
Source Element	Whether or not a Source or Source Type is assigned as a file match operator parameter <i>It is possible to limit the data to be matched by assigning a source or a source type from the filter list. If neither is selected the entire data set will be matched</i>
EDR Element	Whether or not an EDR Type or EDR Subtype is assigned as a file match operator parameter <i>It is possible to limit the data to be matched by assigning an EDR type or subtype from the filter list. If neither is selected the entire data set will be matched</i>









- Click the **Save** button to update the configuration and return to the **Manage File Match Operators** screen (Figure 19).

Managing File Match Node Associations

In order for a file match for a node to return the correct set of data it must be assigned to the appropriate node.

Click the file match node association  or  icon next to the chosen file match definition on the **Manage File Match Definitions** screen (Figure 17) to open the **File Match Node Associations** screen (Figure 24).

File Match Node Associations    









 Page 1 of 1 (7 rows)








Node ID	Node Name	
1	Nortel	
2	Nokia	
3	Ericsson	
4	Mediation	
5	Rating	
6	CMS	
7	CMS 2	



Figure 24 File Match Node Associations Screen

The **File Match Node Associations** screen (Figure 24) lists the nodes that have been assigned to the selected file match definition. This screen allows users to add and delete the assigned nodes. The fields are as follows:

Field Name	Description
Node ID	The node's database identification number
Node Name	Name of the assigned node

Managing File Match Edge Associations

In order for a file match for an edge to return the correct set of data it must be assigned to the appropriate edge.

Click the file match edge association  or  icon next to the chosen file match definition on the **Manage File Match Definitions** screen (Figure 17) to open the **File Match Edge Associations** screen (Figure 25).

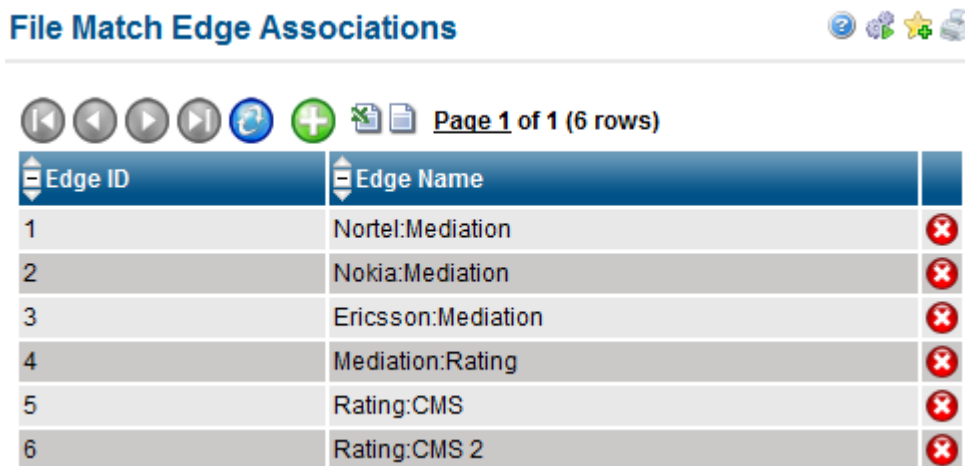


Figure 25 File Match Edge Associations Screen

The **File Match Edge Associations** screen (Figure 25) lists the edges that have been assigned to the selected file match definition. This screen allows users to add and delete the assigned edges. The fields are as follows:

Field Name	Description
Edge ID	The edge's database identification number
Edge Name	Name of the assigned edge

Forecasting

Forecasts are calculations which predict future traffic based on existing traffic data. The metrics provide the forecast calculations with the necessary traffic data. Forecasts can be assigned to one or more metrics. Forecast data can be compared with the metric to generate a comparison value. This comparison can optionally be validated against a threshold to determine if traffic is diverging from predictions beyond expectations. Predicted traffic growth can also be accounted for using a percent growth option.



*For information on thresholds and their configuration, please refer to the **Issue Management** guides.*

It is possible to generate forecasts retrospectively for a period of time, as long as sufficient traffic data exists prior to the period of time for which a forecast is required. Forecasts should only be generated where sufficient data exists.

The standard forecast operators are as follows:

- **linear regression:**
 - this calculation provides predictions by generating a straight line fitting the existing source metric data
 - the traffic for each daily timeslot is used to generate its own straight line
 - for example 1:00 on Monday is compared to 1:00 on the previous Monday
 - these lines are projected into the future to give the forecast
- **moving average:**
 - this calculation smoothes a data series which makes it easier to spot trends in the data
 - the traffic for each daily timeslot is averaged to generate a data point
 - for example 1:00 on Monday is averaged with 1:00 on the previous Monday
 - these data points are then used to give the forecast

Manage Forecast Definitions



Page 1 of 1 (2 rows)

Id	Name	Description	Type			
1	Linear Regression Forecast	Linear Regression Forecast	Metric			
2	Moving Average Forecast	Moving Average Forecast	Metric			



Figure 26 Manage Forecast Definitions Screen

Select **Forecasting** from the **Usage Assurance Control Definitions** menu on the **Usage Monitor Configuration** screen (Figure 15) to open the **Manage Forecast Definitions** screen (Figure 26) which lists the forecasts that have been set up.

This screen allows users to add, copy and edit forecasts and also to manage the metric associations. The fields are as follows:


Field Name	Description
Id	The forecast's database identification number
Name	Name of the forecast
Description	Description of the forecast
Type	Type of forecast

The additional icon on this screen is used as follows:

Icon	Function
	Manage a forecast's associated metrics <i>When a metric has been associated the icon changes to: </i>

Adding a Forecast Definition

When adding a forecast definition there is an additional **Growth Factor** field, which alters the way a forecast is calculated. When a forecast is executed against the metric the resulting value is multiplied by the **Growth Factor**. This can be left as 1.0 if no growth is required.

- Click the add  icon on the **Manage Forecast Definitions** screen (Figure 26) to open the **Create New Forecasting Definition** wizard screen (Figure 27). The wizard guides the user through the complete set up of a forecast definition.

Create New Forecasting Definition



Please enter some details about your new Forecasting Definition and Version





Name*	<input type="text"/>
Description*	<input type="text"/>
Growth Factor*	<input type="text"/>
Valid From*	<input type="text" value="Thu, 10 March 2011"/>  
Valid To*	<input type="text" value="Fri, 09 March 2012"/>  




Figure 27 Create New Forecasting Definition Wizard Screen

- Complete the wizard's fields as follows:

Field	Description
Name	Name of the forecast
Description	Description of the forecast


3 Forecasting

Field	Description
Growth Factor	The growth at which the forecast should be calculated <i>When a forecast is executed against the metric the resulting value is multiplied by the growth factor. This can be left as 1.0 if no growth is required.</i>

- Click the next  icon and then the **Continue** or **Review** button as required. On clicking the **Continue** button the **Edit Forecast Operators** screen (Figure 31) opens. This is documented in the **Managing Forecast Operators** section below.
- Complete the **Edit Forecast Operators** screen (Figure 31) and click **Save** which opens the **Manage Forecast Operators** screen (Figure 30). This is documented in the section below.

Editing a Forecast Definition

When editing a forecast definition there is an additional **Growth Factor** field, which alters the way a forecast is calculated. When a forecast is executed against the metric the resulting value is multiplied by the **Growth Factor**. This can be left as 1.0 if no growth is required.

- Click the edit  icon on the **Manage Forecast Definitions** screen (Figure 26) to open the subsequent **Manage Forecast Definitions** screen (Figure 28).

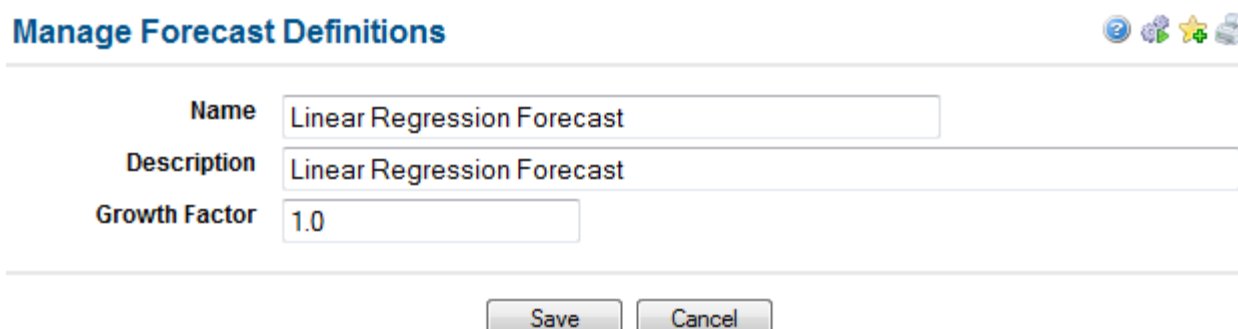


Figure 28 Manage Forecast Definitions Screen (Edit)

- Complete the fields as follows:

Field	Description
Name	Name of the forecast
Description	Description of the forecast
Growth Factor	The growth at which the forecast should be calculated <i>When a forecast is executed against the metric the resulting value is multiplied by the growth factor. This can be left as 1.0 if no growth is required.</i>

- Click the **Save** button to return to the **Manage Forecast Definitions** screen (Figure 26)

Managing Forecast Operators

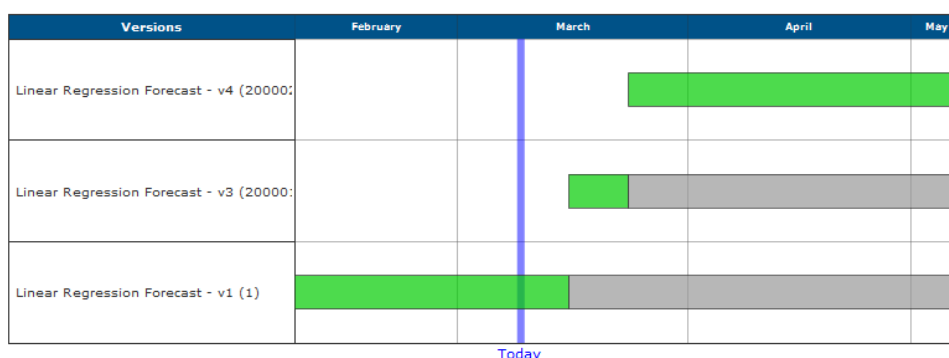
Forecast operators are used to execute the operations that are needed to calculate the forecasts. The code to carry out the operation is contained within the operator class and does not require any parameters. Each forecast operator can have one or more versions. These versions are managed on the **Manage Forecast Versions** screen.



Please note that it is only possible to assign one operator to a forecast. It is only possible to add an operator if there is no initial operator.

1. Click the **Name** of the file match operator on the **Manage Forecast Definitions** screen (Figure 26) to open the **Manage Forecast Versions** screen (Figure 29).

Manage Forecast Versions



Page 1 of 1 (5 rows)

ID	Description	Parent	From	To	Status				
1	Linear Regression Forecast - v1		01 Jan 2010 12:34:56	01 Jan 2099 12:34:56	Active				
200000	Linear Regression Forecast - v2	Linear Regression Forecast - v1	09 Mar 2011 13:54:57	01 Jan 2099 12:34:56	Inactive				
200001	Linear Regression Forecast - v3	Linear Regression Forecast - v2	16 Mar 2011 13:56:29	18 Mar 2099 12:34:56	Active				
200002	Linear Regression Forecast - v4	Linear Regression Forecast - v3	24 Mar 2011 13:58:22	18 Mar 2099 12:34:56	Active				
200003	Linear Regression Forecast - v5	Linear Regression Forecast - v4	30 Mar 2011 13:58:51	18 Mar 2099 12:34:56	New				

Figure 29 Manage Forecast Versions Screen



*For more information regarding managing versions and setting exception dates see the **UM Versioning** section of the document.*

2. Click the **Description** of the chosen forecast version on the **Manage Forecast Versions** screen (Figure 29) to open the **Manage Forecast Operators** screen (Figure 30).

Manage Forecast Operators



Page 1 of 1 (1 row)

ID	Version Description	Parameters	Description			
200003	Linear Regression Forecast - v5	-param1 value1	Linear Regression Forecast Operator			

Figure 30 Manage Forecast Operators Screen

The **Manage Forecast Operators** screen (Figure 30) displays the forecast operator that has been set up for the chosen version. This screen allows users to add (if no other operator has been specified), copy, edit and delete operators and to edit the file match operator configuration where necessary. The fields are as follows:

Field Name	Description
ID	The forecast operator's database identification number
Version Description	Description of the forecast version
Parameters	Set of parameters needed by the code to execute the operation <i>No parameters are needed for forecasting</i>
Description	Description of the forecast operator

The additional icon on this screen is used as follows:

Icon	Function
	Currently there is no configuration required for core forecast operators, this functionality has been included for future customer specific operators
	<i>It is only possible to work with file match operators if the version is New. The operators for Active and Inactive versions are static and all of the management icons are inactive.</i>
	<i>The core forecast operators do not require configuration, therefore the Edit Operator Configuration icon is inactive. Customer specific forecast operators may require configuration, if this is the case this icon will become active.</i>

Editing or Adding a Forecast Operator

- Click the edit icon or add icon on the **Manage Forecast Operators** screen (Figure 30) to open the **Edit Forecast Operators** screen (Figure 31).

Edit Forecast Operators



Definition	Linear Regression Forecast
Version ID	200003
Operator	Linear Regression Operator ▼
Description	Linear Regression Forecast Operator

There are no parameters configured against this operator.



Figure 31 Edit Forecast Operators Screen

- Complete the fields at the top of the screen using the following information:

Field Name	Description
Definition	Name of the forecast definition
Version ID	The forecast operator's database identification number
Operator	Name of the java class that contains the code to carry out the operation
Description	Description of the forecast operator



The code to carry out the forecasting operation is contained within the operator class and does not require any parameters..


- Click the **Save** button to return to the updated **Manage Forecast Operators** screen.

Manage Forecast Metric Associations

In order for a forecast to predict values it must be assigned to a metric. The historical values produced by the metric are used by the forecast to calculate the projected values into the future.



It is possible for one forecast to be used for many metrics.

Click the forecast metric association  icon next to the chosen forecast definition on the **Manage Forecast Definitions** screen (Figure 26) to open the **Manage Forecast Metric Associations** screen (Figure 32).

3 Forecasting

Manage Forecast Metric Associations



Metric Type

Metric Category

Page 1 of 1 (8 rows)

ID	Metric ID	Metric Name	Metric Type	Metric Category	
7	100032	Custom SQL Edge Forecast	Standard Metric	Standard Metric	
8	100033	Custom SQL Node Forecast	Standard Metric	Standard Metric	

Figure 32 Manage Forecast Metric Associations Screen

The **Manage Forecast Metric Associations** screen (Figure 32) lists the metrics that have been assigned to the forecast. This screen allows users to add and delete the assigned metrics. The fields are as follows:

Field Name	Description	Filterable
ID	The forecast metric's database identification number	No
Metric ID	The metric's database identification number	No
Metric Name	Name of the assigned metric	No
Metric Type	Type of the assigned metric Metrics can be assigned a customer defined type, such as Reconciliation or Volumetric	Yes
Metric Category	Category of the assigned metric Metrics can be grouped into customer defined categories, such as Suspense Records, Switch Files, Rateables, etc.	Yes



Node and Edge associations are not needed for forecasts as the metric has these associations defined.

Adding New Metric Associations

1. Click the add icon on the **Manage Forecast Metric Associations** screen (Figure 32) to open the **Forecast Metric Associations** screen (Figure 33).

Forecast Metric Associations



Metric Type

Metric Category


Page 1 of 1 (11 rows)

ID	Metric Name	Metric Type	Metric Category	<input checked="" type="checkbox"/>
100030	Custom SQL Edge	Standard Metric	Standard Metric	<input type="checkbox"/>
100031	Custom SQL Node	Standard Metric	Standard Metric	<input type="checkbox"/>
100008	Matched Out/in EDR Count Forecast	Standard Metric	Standard Metric	<input type="checkbox"/>
100023	Matched Out/in EDR Count Forecast Abs	Standard Metric	Standard Metric	<input type="checkbox"/>
100020	Node EDR Count (In)	Standard Metric	Standard Metric	<input type="checkbox"/>
100021	Node EDR Count (Out)	Standard Metric	Standard Metric	<input type="checkbox"/>
100022	Node EDR Count (Rejects)	Standard Metric	Standard Metric	<input type="checkbox"/>
100003	UnMatched In/Err EDR Count	Standard Metric	Standard Metric	<input type="checkbox"/>
100002	UnMatched In/Out EDR Count	Standard Metric	Standard Metric	<input type="checkbox"/>
100024	UnMatched Out/in EDR Count Forecast	Standard Metric	Standard Metric	<input type="checkbox"/>
100025	UnMatched Out/in EDR Count Forecast Abs	Standard Metric	Standard Metric	<input type="checkbox"/>

Figure 33 Forecast Metric Associations Screen

2. Select the required **Metric(s)** using the tick boxes then click the **OK** button to return to the updated **Manage Forecast Metric Associations** screen (Figure 32) showing the newly added metrics.

Deleting Metric Associations

1. Click the delete  icon next to the chosen metric on the **Manage Forecast Metric Associations** screen ((Figure 32).
2. The screen will be updated and the metric will no longer be present on the list.

Metric Definitions

Metrics are values that are calculated by the **Metric Definition** rules defined within UM and are used to measure different aspects of network traffic for monitoring purposes. Metric operators associated with metric definition versions are used, in conjunction with the metric job, to calculate metrics.

All metrics are associated with either an edge (a connection between two sample points) or with a node (a sample point). They can be simple aggregation calculations, or alternatively they can be used for reconciliations between two nodes or the same node at different points in time. In both cases they can be compared against pre-calculated forecasts. Metric data is assumed to be valid for comparison unless a threshold is breached, in which case an issue may be raised.



Please be aware that metrics contained in live metric reconciliations are not closed for editing, therefore when editing metric definitions please be aware of the impact that may be caused to any metric reconciliations containing that metric.

Manage Metric Definitions



Hide filters

Metric Category

Metric Type

Source Associations

Source Type Associations

File Match

Node Associations

Edge Associations

Page 1 of 1 (19 rows)

Id	Name	Description	Reapply Period	Category	Type				
100030	Custom SQL Edge	Custom SQL Edge	100	Standard Metric	Standard Metric				
100032	Custom SQL Edge Forecast	Custom SQL Edge Forecast	100	Standard Metric	Standard Metric				
100031	Custom SQL Node	Custom SQL Node	100	Standard Metric	Standard Metric				
100033	Custom SQL Node Forecast	Custom SQL Node Forecast	100	Standard Metric	Standard Metric				
100001	EDR Duration as Percent	EDR Duration as Percent Metric with 0.05 adjustment	100	Standard Metric	Standard Metric				
100000	EDR Value as Difference	EDR Value as absolute Difference Metric	100	Standard Metric	Standard Metric				

Figure 34 Manage Metric Definitions Screen





Select **Metric Definitions** from the **Usage Assurance Control Definitions** menu on the **Usage Monitor Configuration** screen (Figure 15) to open the **Manage Metric Definitions** screen (Figure 34) which lists the metrics that have been set up.

This screen allows users to add, copy and edit metrics, manage the metric versions and also to manage the node and edge associations. The fields are as follows:

Field Name	Description
Id	The metric's database identification number
Name	Name of the metric <i>Clicking the name will display the Manage Metric Versions screen (Figure 35)</i>

Field Name	Description
Description	Description of the metric calculation, including any additional information
Reapply Period	When a metric definition changes, any metrics that have been calculated by that metric definition within the reapply period must be regenerated <i>This period is specified as a number of days</i>
Category	Category assigned to the metric definition <i>Metrics can be grouped into customer defined categories, such as Suspense Records, Switch Files, Rateables, etc.</i>
Type	Type assigned to the metric definition <i>Metrics can be assigned a customer defined type, such as Reconciliation or Volumetric</i>

The additional icons on this screen are used as follows:

Icon	Function
	Manage a metric's node associations <i>When a node has been associated the icon changes to: </i>
	Manage a metric's edge associations <i>When an edge has been associated the icon changes to: </i>



*New metric definitions are created with no nodes or edges associated. For information about assigning nodes and edges see the **Managing Metric Node Associations** and **Managing Metric Edge Associations** sections.*

Managing Metric Versions

Metric operators are used to execute the operations that are needed to calculate the metrics. The code to carry out the operation is contained within the operator class. Each metric can have one or more versions. These are managed on the **Manage Metric Versions** screen (Figure 35).



Please note that it is only possible to assign one operator to a metric. Therefore it is only possible to add an operator if there is no initial operator.

Click the **Name** of the metric on the **Manage Metric Definitions** screen (Figure 34) to open the **Manage Metric Versions** screen (Figure 35).

Manage Metric Versions



Matched Out/in EDR Count

Versions	February	March	April	May
Metric 100004 Version #1 (100010)				

Today

Page 1 of 1 (3 rows)

ID	Description	Parent	From	To	Status			
100010	Metric 100004 Version #1		01 Jan 2010 00:00:00	31 Dec 2099 00:00:00	Active			
200000	Metric 100004 Version #2	Metric 100004 Version #1	10 Mar 2011 14:41:42	31 Dec 2099 00:00:00	New			
200001	Metric 100004 Version #3	Metric 100004 Version #2	24 Mar 2011 14:42:15	31 Dec 2099 00:00:00	New			

Figure 35 Manage Metric Versions Screen



For more information regarding managing versions see the **UM Versioning** section of the document.

Click the **Description** of the chosen metric version on the **Manage Metric Versions** screen (Figure 35) to open the **Manage Metric Operators** screen (Figure 36).

Manage Metric Operators



Page 1 of 1 (1 row)

ID	Description	Units	Operator	Associated Forecasted Data	Parameters			
200001	EDR Count Percent Rel	pence	Matched File Metric Operator (last value compare)		-syncOnMerge no -function sum -debug no -switch_to_raw no -threads 1			

Figure 36 Manage Metric Operators

The **Manage Metric Operators** screen (Figure 36) details the operator that has been set up for the chosen metric version. This screen allows users to add, edit and delete the operator and edit the file match operator equation. The fields on this screen are as follows:


Field Name	Description
ID	The metric operator's database identification number

Field Name	Description
Description	Description of the metric operator
Units	Units that the metric is to be calculated in
Operator	Name of the operator class that contains the code to carry out the operation
Associated Forecasted Data	Name of the forecast and metric source data that has been assigned to the metric. <i>For information about assigning forecasts to metrics see the Manage Forecast Metric Associations section</i>
Parameters	Set of parameters needed by the operator to execute the operation <i>The available parameters are detailed in the Administration Guide</i>





*It is only possible to work with the metric operator if the metric version is **New**. The metric version operator for **Active** and **Inactive** metric versions is static and all of the management icons are inactive.*

The additional icon on this screen is used as follows:

Icon	Function
	Opens the Edit Metric Operator Parameters screen (Figure 40) for users to select the specific calculation to perform for the metric operator <i>It is only possible to edit the metric operator parameters of a New version, if the version is Active or Inactive the screen will be opened in the Read-only mode</i> <i>Please also note that some operators do not have parameters, therefore this icon will remain inactive in this instance</i>

Editing or Adding a Metric Operator

1. Click the edit  icon or add  icon on the **Manage Metric Operators** screen (Figure 36) to open the **Edit Metric Operators** screen (Figure 37).



It is only possible to add one operator to a version. If a version already has an operator the Add icon will not be present on the screen.

3 Metric Definitions

Edit Metric Operator



Description	EDR Count Percent Rel
Units	pence
Operator	Matched File Metric Operator (last value compare)
Forecasted Metric Data	<None Specified>

Parameters	
Debug	No
Function	Sum
Switch to Raw	No
Sync. on Merge	No
Threads	1

Save

Cancel

Figure 37 Edit Metric Operators Screen



- Update the fields in the top section of this screen as follows:

Field Name	Description
Description	Description of the metric version operator
Units	Units that the metric is to be calculated in
Operator	Name of the operator that contains the code to carry out the operation
Forecast	Description of the forecast assigned to the metric

- Add parameters by completing the fields at the bottom of the screen. The parameters available are dynamically generated and will therefore vary depending on the metric operator selected. Help pop-ups (Figure 38) and default value details (Figure 39) are also presented. Validation is performed on the user's input.

Field Name	Description
Parameter Name	Name of the parameter (also known as the parameter label) <i>When passing a parameter to the operator class the label is given to identify the parameter, followed by the value</i> <i>When Adding a File Match Operator, the available parameters are listed for completeness.</i>
Parameter Value	Actual value to be used by the parameter. <i>Validation is performed on the user's input</i>

The additional icons on this screen are used as follows:

Icon	Function
	Description. Displays a text box with a description of the parameter (Figure 38).
	Default Value. Displays a text box with the parameter's default value (Figure 39).

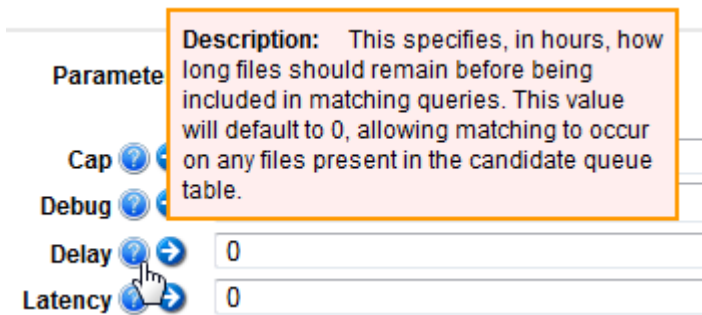


Figure 38 Help icon with parameter description

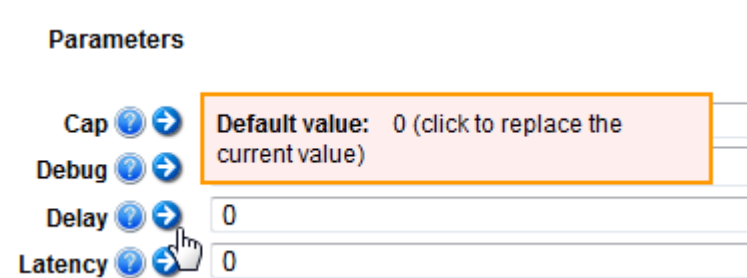


Figure 39 Icon with default value displayed



The available parameters are detailed in the *UM Operators* section of the *Administration Guide*.


4. Click the **Save** button to return to the updated **Manage Metric Operators** screen.



The default start date for new operators is their creation date .

Editing Metric Operator Parameters

This screen is used to configure the way in which a metric will be calculated. It allows users to specify which fields to use along with their measure type, the operator to apply in order to make the calculation and which source or source type, if any, to restrict this metric operator to.

- Click edit metric operator parameters  icon on the **Manage Metric Operators** screen (Figure 36) to open the **Edit Metric Operator Parameters** screen (Figure 40).

Edit Metric Operator Parameters



Metric Operator	EDR Count Percent Rel	
Field Type	Count	
Operator	Percent	
Adjuster	1.0	
Source Element	<input type="radio"/> Source	<input checked="" type="radio"/> Source Type
	<None Specified>	<None Specified>
EDR Element	<input type="radio"/> EDR Type	<input checked="" type="radio"/> EDR Subtype
	<None Specified>	<None Specified>
i Measure Type	Output	
j Measure Type	Input	
Payment Type	<None Specified>	
Call Type	<None Specified>	
Customer Type	<None Specified>	
Service Provider	<None Specified>	

Partner System	<input checked="" type="radio"/>	Treatment	<input type="radio"/>
Maintype	<input type="radio"/>	Segment	<input type="radio"/>
Treatment Cause	<input type="radio"/>	Measuring Point	<input type="radio"/>
Measurement	<input type="radio"/>	Subtype	<input type="radio"/>
Invoice Group	<input type="radio"/>	Provider	<input type="radio"/>
Subtype Group	<input type="radio"/>	Media	<input type="radio"/>

<None Specified>
 Partner System 1
 Partner System 10
 Partner System 2
 Partner System 3
 Partner System 4
 Partner System 5
 Partner System 6
 Partner System 7
 Partner System 8
 Partner System 9
 Unspecified

Partner System

Figure 40 Edit Metric Operator Parameters Screen

2. Update the fields as follows:

Field Name	Description
Metric Operator	Description of the metric version operator <i>This is provided for information purposes only</i>
Field Type	Field in the log record that is used in the calculation of the metric <i>Count = EDR Count</i> <i>Duration = EDR Duration</i> <i>Value = EDR Value</i> <i>Bytes = EDR Bytes</i>
Operator	Mathematical operator to be used by the calculation <i>The operators are "Minus", "Percent", "Difference", or "Sum"</i>

Field Name	Description
Adjuster	Amount that the calculation can be adjusted by <i>It is possible to multiply the calculated metric value by the adjuster amount if necessary</i>
Source Element	Radio button to select a specific Source or Source Type for which this equation applies <i>It is possible to limit the data to be matched by assigning a source or a source type from the filter list. If neither is selected the entire data set will be matched</i>
EDR Element	Radio button to select a specific EDR Type or EDR Subtype for which this equation applies <i>It is possible to limit the data to be matched by assigning an EDR type or subtype from the filter list. If neither is selected the entire data set will be matched</i>
i Measure Type	Type of log record to be used on the “i” node side of the calculation. <i>Metrics defined via the File Match Operators screens operate on a single measure type for both the “i” node and a single measure type for the “j” node.</i> <i>For example a metric equation can be set up as follows: What is the percent difference between the matched “i files Output EDR Count” and the “j files Input EDR Count”</i> <i>The measurement types are “Filtered”, “Input”, “Merged”, “Output”, “Partials”, “Rejects”, “Sequence” or “Suspense”</i>
j Measure Type	Type of log record to be used on the “j” node side of the calculation. <i>Metrics defined via the File Match Operators screens operate on a single measure type for both the “i” node and a single measure type for the “j” node.</i> <i>For example a metric equation can be set up as follows: What is the percent difference between the matched “i files Output EDR Count” and the “j files Input EDR Count”</i> <i>The measurement types are “Filtered”, “Input”, “Merged”, “Output”, “Partials”, “Rejects”, “Sequence” or “Suspense”</i>
Payment Type	Payment type for which this equation applies
Call Type	Call type for which this equation applies
Customer Type	Customer type for which this equation applies
Service Provider	Service provider for which this equation applies




*The “i” and “j” measure type fields are both displayed for a Matched Metric.
Only one measure type is displayed for an Unmatched Metric.*

- Complete the additional parameter fields by clicking the required radio button and then selecting the appropriate field in the subsequent dynamically generated list.
- Click the **Save** button to update the configuration and return to the **Manage Metric Operators** screen (Figure 36).

Managing Metric Node Associations

In order for a metric that is set up to run a calculation for a node, it must be assigned to the appropriate node.

Click the metric node association  icon next to the chosen metric definition on the **Manage Metric Definitions** screen (Figure 34) to open the **Manage Metric Node Associations** screen (Figure 41).

Manage Metric Node Associations



Page 1 of 1 (3 rows)

Metric Definition Name	Node Name	Threshold Description	Threshold Sequence	Source	Source Type	File Match Definition	Regenerate	Active		
UnMatched In/Err EDR Count	Mediation	5.0% Complete Week Threshold					Yes	Active		
UnMatched In/Err EDR Count	Rating	5.0% Complete Week Threshold					Yes	Active		
UnMatched In/Err EDR Count	CMS		5.0% Threshold Sequence			Edge Matching Grouped by Day	Yes	Inactive		

Figure 41 Manage Metric Node Associations Screen

The **Manage Metric Node Associations** screen (Figure 41) lists the nodes that have been assigned to the metric. This screen allows users to add, edit and delete the assigned nodes. The fields on this screen are as follows:

Field Name	Description
Metric Definition Name	Name of the metric definition that the node is assigned to
Node Name	Name of the assigned node
Threshold Description	Name of the threshold assigned to the metric node association <i>It is possible for issues to be raised by the metric calculation if the results breach set limits by assigning a threshold definition or a threshold sequence. If neither is selected then no issues will be raised</i>
Threshold Sequence	Name of the threshold sequence assigned to the metric node association <i>It is possible for issues to be raised by the metric calculation if the results breach set limits by assigning a threshold definition or a threshold sequence. If neither is selected then no issues will be raised</i>
Source	Name of the source assigned to the metric node association <i>It is possible to limit the data used by the metric calculation by assigning a source or a source type. If neither is selected the metric will use the entire data set (unless a file match definition is assigned) for the calculation</i>
Source Type	Name of the source type assigned to the metric node association <i>It is possible to limit the data used by the metric calculation by assigning a source or a source type. If neither is selected the metric will use the entire data set (unless a file match definition is assigned) for the calculation</i>

Field Name	Description
File Match Definition	Name of the file match definition assigned to the metric node association <i>It is possible to limit the data used by the metric calculation further by assigning a specific file match definition. If one is not selected the metric will use the entire data set (unless a source or source type is assigned) for the calculation</i>
Regenerate	Whether or not the metric calculations should be regenerated if the underlying reference data changes
Active	Whether or not the metric node association is active



Care must be taken when limiting a **Metric Node Association** to both a **Source** and a **File Match Definition**; as if these are set up with conflicting sources then no data will match the selection criteria.

The additional icons on this screen are used as follows:

Icon	Function
Active	Change the status of the metric node association from Active to Inactive
Inactive	Change the status of the metric node association from Inactive to Active

Adding New Node Associations

1. Click the metric node association icon next to the chosen metric definition on the **Manage Metric Definitions** screen (Figure 34) to open the **Manage Metric Node Associations** screen (Figure 41).
2. Click the add icon on the **Manage Metric Node Associations** screen (Figure 41) to open the **Edit Metric Node Associations** screen (Figure 42).

Edit Metric Node Associations



Metric Definition Custom SQL Edge Forecast
Node CMS
Threshold ☒ None ☐ Definition ☐ Sequence
 1.0% Complete Week Threshold 1.0% Threshold Sequence
Source Element ☒ None ☐ Source ☐ Source Type
 Ericsson Switch
File Match Definition Edge Matching Grouped by Day
Regenerate ☒ Yes ☐ No

Cancel

Save

Figure 42 Edit Metric Node Associations Screen

3. Select the required Node, Threshold, Source Element, File Match Definition and whether or not the metric calculations should be regenerated if the underlying reference data changes.
4. Click the **Save** button to return to the updated **Manage Metric Node Associations** screen (Figure 41).

Managing Metric Edge Associations

In order for a metric that is set up to run a calculation for an edge, it must be assigned to the appropriate edge.

Click the metric edge association  icon next to the chosen metric definition on the **Manage Metric Definitions** screen (Figure 34) to open the **Manage Metric Edge Associations** screen (Figure 43).

Manage Metric Edge Associations



Page 1 of 1 (3 rows)







Metric Definition Name	Edge Name	Threshold Description	Threshold Sequence	Source	Source Type	File Match Definition	Regenerate	Active	
EDR Value as Difference	Nokia:Mediation		5.0% Threshold Sequence				Yes	Active	 
EDR Value as Difference	Rating:CMS		1.0% Threshold Sequence				Yes	Active	 
EDR Value as Difference	Rating:CMS 2		1.0% Threshold Sequence				Yes	Active	 

Figure 43 Manage Metric Edge Associations Screen

The **Manage Metric Edge Associations** screen (Figure 43) lists the edges that have been assigned to the metric. This screen allows users to add, edit and delete the assigned edges. The fields on this screen are as follows:

Field Name	Description
Metric Definition Name	Name of the metric definition that the edge is assigned to
Edge Name	Name of the assigned edge
Threshold Description	Name of the threshold assigned to the metric edge association <i>It is possible for issues to be raised by the metric calculation if the results breach set limits by assigning a threshold definition or a threshold sequence. If neither is selected then no issues will be raised</i>
Threshold Sequence	Name of the threshold sequence assigned to the metric edge association <i>It is possible for issues to be raised by the metric calculation if the results breach set limits by assigning a threshold definition or a threshold sequence. If neither is selected then no issues will be raised</i>
Source	Name of the source assigned to the metric edge association <i>It is possible to limit the data used by the metric calculation by assigning a source or a source type. If neither is selected the metric will use the entire data set (unless a file match definition is assigned) for the calculation</i>

3. Select the required Edge, Threshold, Source Element, File Match Definition and whether or not the metric calculations should be regenerated if the underlying reference data changes.
4. Click the **Save** button to return to the updated **Manage Metric Edge Associations** screen (Figure 43).

Metric Reconciliations

Metric reconciliations are groups of parameterised metric definitions used to compare metrics calculated in the defined billing chain. A metric reconciliation is made up of two sides, both sides contain one or more metrics, which when summed should equal the same value. If no traffic problems exist the two sets will be equal. Fileset based reconciliation can also be associated with thresholds and used to raise issues if thresholds are breached.



For further information regarding metric definitions see the **Metric Definitions** section.

Metric reconciliations are not node or edge specific allowing arbitrary reconciliation tests to be performed. The metrics contained within a reconciliation are specified on the **Metric Reconciliations** screen (Figure 45)

Metric Reconciliations 🔍 ⚙️ ⭐ 📄

☐ Hide filters

Name

Category

Type

Billing Chain

Nodes:

i Side	j Side
CMS	CMS
CMS 2	CMS 2
Ericsson	Ericsson
Mediation	Mediation
Nokia	Nokia
Nortel	Nortel
Rating	Rating

⏪ ⏴ ⏵ ⏩ ⚙️ ⭐ 📄 Page 1 of 1 (5 rows)

ID	Name	Description	Type	Category	Billing Chain					
100101	Fileset Reconciliation (Edge)	Fileset Reconciliation (Edge)	Fileset	Standard	Billing Chain Model					
100002	Mediation to Rating	Mediation to Rating	Timeslot	Standard	Billing Chain Model					
100003	Rating to Billing	Rating to Billing	Timeslot	Standard	Billing Chain Model					
100001	Switch to Mediation	Switch to Mediation	Timeslot	Standard	Billing Chain Model					

Figure 45 Metric Reconciliations Screen





Select **Metric Reconciliations** from the **Usage Assurance Control Definitions** menu on the **Usage Monitor Configuration** screen (Figure 15) to open the **Metric Reconciliations** screen (Figure 45) which lists the reconciliations that are available.

This screen allows users to add, copy and edit reconciliations and manage the metrics contained within each reconciliation. The fields are as follows:



Field Name	Description
------------	-------------

Field Name	Description
ID	The metric reconciliation's database identification number
Name	Name of the metric reconciliation <i>Clicking the name will display the Manage Metric Reconciliation Versions screen (Figure 48)</i>
Description	Description of the metric reconciliation, including any additional information
Type	Shows whether the reconciliation is based on matched Filesets or Timeslot periods <i>Fileset indicates reconciliation based on explicit filesets</i> <i>Timeslot indicates reconciliation based on implicit filesets by time period</i>
Category	Customer defined category assigned to the metric reconciliation
Billing Chain	Billing chain associated with the metric reconciliation <i>The billing chain contains nodes representing data sampling points on a network. Movement of data through the network is shown by edges. See the Directed Graph Framework section for further information</i>

The additional icons on this screen are used as follows:

Icon	Function
	Opens the Scenario Model Overview screen <i>For further information see the Scenario Model Overview section</i>
	Generates and opens a PDF Report for the chosen reconciliation <i>For further information see the Reconciliation Report (PDF) section</i>
	Manage a metric reconciliation's edge associations. <i>Clicking the icon will open Metric Reconciliation Edge Associations screen (Figure 51)</i> <i>If an edge has not been associated the icon is </i>

Adding New Metric Reconciliations

1. Click the add  icon on the **Metric Reconciliation** screen (Figure 45) to open the **Create New Metric Reconciliation Definitions** wizard screen (Figure 46). The wizard guides the user through the complete set up of a metric reconciliation definition.
2. Upon completion of each set of wizard fields, click the next  icon to proceed.

Create New Metric Reconciliation Definition



Please enter some details about your new Metric Reconciliation Definition

Name*	Metric Reconciliation
Description*	Metric Reconciliation
Type*	<input checked="" type="radio"/> Fileset <input type="radio"/> Timeslot
Category*	Standard
Billing Chain*	Billing Chain Model

Please enter some details about your new Metric Reconciliation Version

Threshold*	<input checked="" type="radio"/> None <input type="radio"/> Definition <input type="radio"/> Sequence
Valid From*	Thu, 10 March 2011
Valid To*	Fri, 09 March 2012

Please enter some details about your new Fileset Metric Reconciliation Set

I Node Metric Definition*	EDR Value as Difference
J Node Metric Definition*	UnMatched In/Out EDR Count

All done. OK to continue, or would you like to review your responses?

Continue

Review

Figure 46 Create New Metric Reconciliation Definition Wizard Screen (Fileset)

- Click whether the reconciliation type is to be based on Fileset or Timeslot

*Fileset indicates reconciliation based on explicit filesets**Timeslot indicates reconciliation based on implicit filesets by time period*

- Click the threshold type and select the validity dates.
- If Fileset reconciliation is selected (Figure 46), select the appropriate “I” and “J” node metric definition
- If Timeslot reconciliation is selected (Figure 47), select the “I” and “J” nodes to be reconciled and the appropriate metric definition for each.

Please enter some details about your new Timeslot Metric Reconciliation Set

I Node*	CMS
I Metric Definition*	EDR Value as Difference
J Node	None
J Metric Definition	None

Figure 47 Create New Metric Reconciliation Definition Wizard Screen (Timeslot)

- Click the **Continue** or **Review** button as required once the wizard has been completed.

8. Clicking the **Continue** button will open one of two screens, depending on whether the **Type** of reconciliation is **Timeslot** or **Fileset**.

If Timeslot, the **Manage Metric Reconciliation Sets** screen (Figure 49) is displayed

If Fileset, the **Edit Reconciliation Fileset Metric** screen (Figure 50) is displayed.



*Different screens will open depending on whether the **Type** of reconciliation is Timeslot or Fileset. Both screens are shown below.*

Timeslot: Manage Metric Reconciliation Sets Screen

Fileset: Edit Reconciliation Fileset Metric Screen

Managing Reconciliation Version Metrics

Reconciliations contain two sets of metrics – the “I” side left hand set and the “J” side right set. Both sets can contain many metrics from many different nodes. The reconciliation must be configured so that the sum of the right set is equal to the sum of the left set.

1. Click the **Name** of the reconciliation on the **Metric Reconciliation** screen (Figure 45) to open the **Manage Metric Reconciliation Versions** screen (Figure 48).

Manage Metric Reconciliation Versions - Switch to Mediation



Versions	February	March	April	May
Switch to Mediation - Version 1 (100001)				

Today

Page 1 of 1 (2 rows)

ID	Description	Parent	Threshold	Sequence	Type	From	To	Status		
100001	Switch to Mediation - Version 1		5.0% Complete Week Threshold		Timeslot	01 Jan 2010 12:34:56	01 Jan 2099 12:34:56	Active		
200000	Switch to Mediation - Version 2	Switch to Mediation - Version 1	5.0% Complete Week Threshold		Timeslot	10 Mar 2011 16:17:10	01 Jan 2099 12:34:56	New		

Figure 48 Manage Metric Reconciliation Versions Screen

Additional fields on this screen are as follows:

Field Name	Description
Threshold	Name of the threshold assigned to the metric reconciliation
Sequence	Name of the threshold sequence assigned to the metric reconciliation
Type	Whether the reconciliation is Fileset or Timeslot



*For more information regarding managing versions see the **UM Versioning** section of the document.*

- Click the **Description** of the chosen reconciliation version on the **Manage Metric Reconciliation Versions** screen (Figure 48) to open either the **Manage Metric Reconciliation Sets** screen (Figure 49) or **Edit Reconciliation Fileset Metric** screen (Figure 50).



*Different screens will open depending on whether the **Type** of reconciliation is Timeslot or Fileset. Both screens are shown below.*

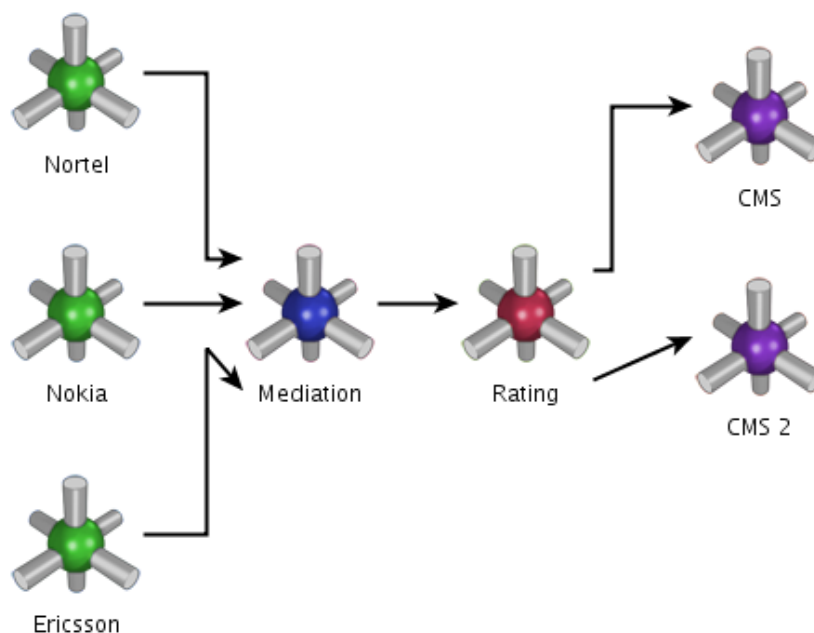
Timeslot: Manage Metric Reconciliation Sets Screen

Fileset: Edit Reconciliation Fileset Metric Screen

Manage Metric Reconciliation Sets - Switch to Mediation



☐ Hide Network



i Side

Page 1 of 1 (3 rows)

Node	Filtering Rules (Metric Definition)		
Nortel	Node EDR Count (Out)		
Nokia	Node EDR Count (Out)		
Ericsson	Node EDR Count (Out)		

j Side

Page 1 of 1 (1 row)

Node	Filtering Rules (Metric Definition)		
Mediation	Node EDR Count (In)		

Figure 49 Manage Metric Reconciliation Sets Screen

- Timeslot** reconciliations: the **Manage Metric Reconciliation Sets** screen (Figure 49) lists the metrics that have been assigned to the “i” and “j” side of the reconciliation. This screen will open for Timeslot reconciliations.

The two tables containing the “i” and “j” side metrics contain the following fields

Field Name	Description
------------	-------------

Field Name	Description
Node	Node associated with the metric <i>The node assigned to the metric should be present on the billing chain model displayed at the top of the screen</i>
Metric	The name of the metric <i>Clicking the name will open the Manage Metric Versions screen (Figure 35) for that metric. For more information regarding metric versions see the Managing Metric Versions section</i>



When the version status is **New** it is possible to add and remove metrics from the reconciliation. When a version is **Active** or **Inactive** the management icons are disabled

The additional icon on this screen is used as follows:

Icon	Function
	Opens the Edit Metric Operator Parameters screen (Figure 40) for users to select the specific calculation to perform for the metric operator <i>It is only possible to edit the metric operator parameters of a New metric definition version. If the version is Active or Inactive the screen will be opened in the Read-only mode Please also note that some operators do not have parameters, therefore this icon will remain inactive in this instance</i>

- Fileset** reconciliations: the **Edit Reconciliation Fileset Metric** screen (Figure 50) shows the metrics that have been assigned to the left “i” and right “j” set of the reconciliation. When using filesets the current version supports two filesets, one for the left side and one the right. A single metric definition must be associated with each fileset to determine which records are used for calculation of the reconciliation.
- Updates to the left and right side metrics can be made by selecting the **Metric Definition** from the drop down list and then setting the metric to left or right using the appropriate buttons.



Read-only and Editable variations of the screen exist depending on the status of the metric reconciliation version.



Metric Reconciliation versions can only moved from **New** to **Active** status if they are configured. A warning is given if they are not configured.

Edit Reconciliation Fileset Metric - Fileset Reconciliation (Edge) - Version 1






Metric Type	All
Metric Definition	All
i Side Metric	Node EDR Count (Out)
j Side Metric	Node EDR Count (In)

Figure 50 Edit Reconciliation Fileset Metric Screen

Managing Metric Reconciliation Edge Associations

In order for a metric reconciliation that is set up to run a calculation for an edge it must be assigned to the appropriate edge.

If the reconciliation type is **Fileset**, click the metric edge association  icon next to the chosen metric definition on the **Metric Reconciliations** screen (Figure 45) to open the **Metric Reconciliation Edge Associations** screen (Figure 51).

If an edge has not been associated to a metric reconciliation, clicking  will take the user to an empty **Metric Reconciliation Edge Associations** screen where clicking the **Add** icon  will open the **Edit Reconciliation Edge Associations Screen** (Figure 52).

Metric Reconciliation Edge Associations - Fileset Reconciliation (Edge)



Page 1 of 1 (6 rows)

Edge	Metric Reconciliation	File Match Definition	Regenerate	Active		
Ericsson:Mediation	Fileset Reconciliation (Edge)		Yes	Active		
Mediation:Rating	Fileset Reconciliation (Edge)		Yes	Active		
Nokia:Mediation	Fileset Reconciliation (Edge)		Yes	Active		
Nortel:Mediation	Fileset Reconciliation (Edge)		Yes	Active		
Rating:CMS	Fileset Reconciliation (Edge)		Yes	Active		
Rating:CMS 2	Fileset Reconciliation (Edge)		Yes	Active		



Figure 51 Metric Reconciliation Edge Associations Screen

The **Metric Reconciliation Edge Associations** screen (Figure 51) lists the edges that have been assigned to the metric reconciliation. This screen allows users to add, edit and delete the assigned edges. The fields on this screen are as follows:


Field Name	Description
Edge Name	Name of the assigned edge
Metric Reconciliation	Name of the metric reconciliation that the edge is assigned to


Field Name	Description
File Match Definition	Name of the file match definition assigned to the metric edge association <i>It is possible to limit the data used by the metric calculation further by assigning a specific file match definition. If one is not selected the metric will use the entire data set (unless a source or source type is assigned) for the calculation</i>
Regenerate	Whether or not the metric calculations should be regenerated if the underlying reference data changes
Active	Whether or not the metric edge association is active

The additional icons on this screen are used as follows:

Icon	Function
 Active	Change the status of the metric edge association from Active to Inactive
 Inactive	Change the status of the metric edge association from Inactive to Active

Adding New Reconciliation Edge Associations

- Click the **Add** icon  at the top of the **Metric Reconciliation Edge Associations** screen (Figure 51) to open the **Edit Reconciliation Edge Associations** screen (Figure 52).

Edit Reconciliation Edge Associations - Fileset Reconciliation (Edge) 

Metric Reconciliation Fileset Reconciliation (Edge)

Edge

File Match Definition

Regenerate ☒ Yes ☐ No

Figure 52 Edit Reconciliation Edge Associations Screen

- Select the required **Edge** and **File Match Definition**, and whether the metric calculations should be regenerated.
- Click the **Save** button to return to the updated **Metric Reconciliation Edge Associations** screen (Figure 51).

4 UM Reports

The Usage Monitor (UM) Reports are available for users to view via the **Reports** toolbar item. The reports cover all aspects of UM including file loading and completeness, issue statuses, volumetrics and metrics.

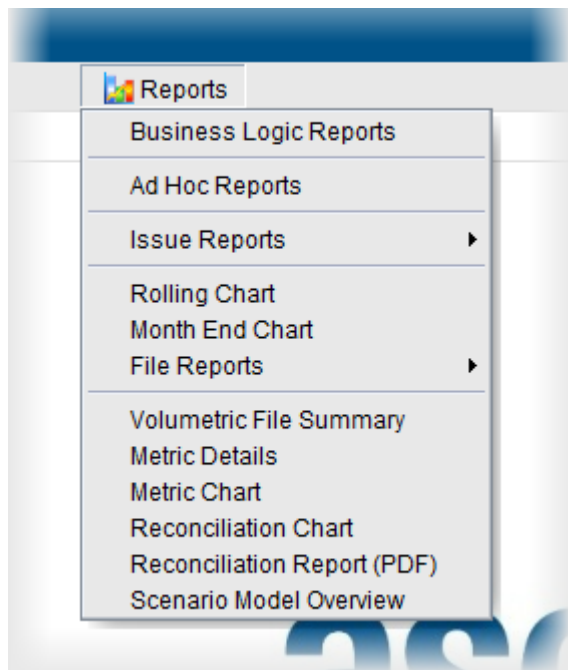


Figure 53 Reports Menu

The **Reports** menu provides users with the following options:

Menu Item	Description
Ad Hoc Reports	Provides access to four UM issue reports based on OLAP Cubes. <i>These offer an alternative interactive representation of issues by node, edge, date, source and metric definition</i>
Issue Reports	Provides access to the Issue Reports and specific UM issue reports. <i>They provide the users with the means to determine the origin and status of issues raised by Usage Monitor</i>
Rolling Chart	Provides access to the traffic statistics Rolling Chart reports. <i>These show a snapshot of the EDR volumes that have been processed for the previous day, week, month and year's worth of data</i>
Month End Chart	Displays the Month End Chart report. <i>This chart displays the EDR volumes by day for a chosen month</i>
File Reports	Displays the File Reports. <i>These reports provide information about the files that have been loaded into UM</i>
Volumetric File Summary	Displays the file data in a chart format. <i>This provides a means of facilitating the identification of patterns and trends in the data</i>

Menu Item	Description
Metric Details	Provides a simple un-summarised but filterable list of existing calculated metrics.
Metric Chart	Displays metric calculations in a graphical method. <i>The chart has the capabilities to apply averages to the metrics which provides a means of facilitating the identification of patterns and trends in the data</i>
Reconciliation Chart	Displays reconciliation calculations in a graphical method. <i>The chart sums the total metric calculation on each side of the reconciliation and plots them above and below the axis. When there is no leakage the negative and positive sides should be equal.</i>
Reconciliation Report (PDF)	Opens the reconciliations in a graphical method in a PDF. <i>This details the metric reconciliation configuration and contains a section for every reconciliation. Each metric reconciliation in the report lists the details of all of the assigned metrics.</i>
Scenario Model Overview	Displays the relationships on a network using edges and nodes. <i>This displays the network model as it is configured for the installation of UM, showing the location of issues on both nodes and edges.</i>

Using Flash Reports

A number of Ascertain reports are displayed as flash charts, enabling users to zoom in and out as required. This allows an examination of the data without running a query against the database each time the view of the data is changed.

1. To view an area in more detail place the cursor at the required starting point on the chart (Figure 54), click and hold down the left mouse button.

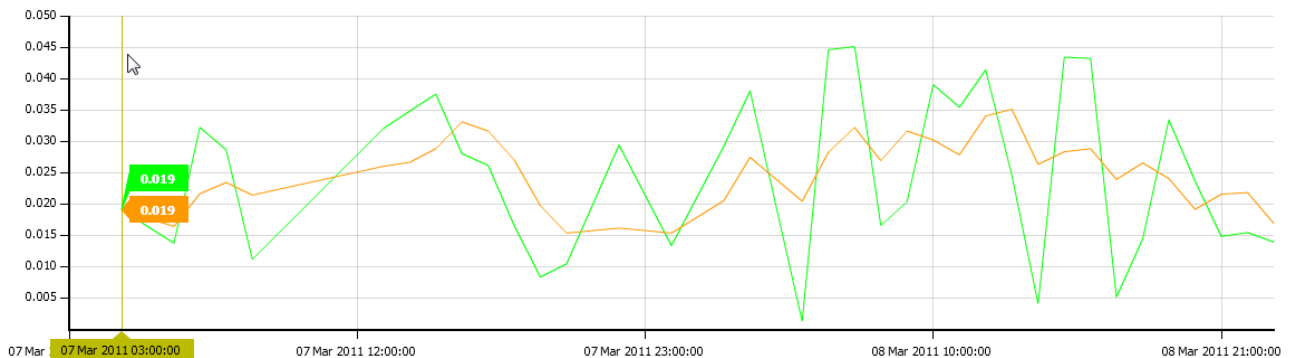


Figure 54 Highlighting Graph (click and hold at the start of the zoom area)

2. Then drag the mouse over the area to be examined (Figure 55).

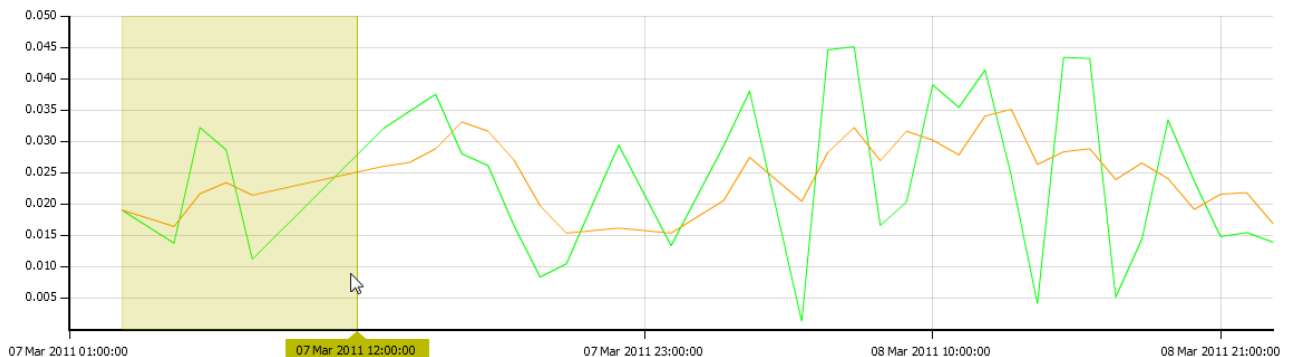


Figure 55 Highlighting Graph (drag the cursor over the required range)

3. Releasing the mouse button will display the highlighted area in more detail (Figure 56).

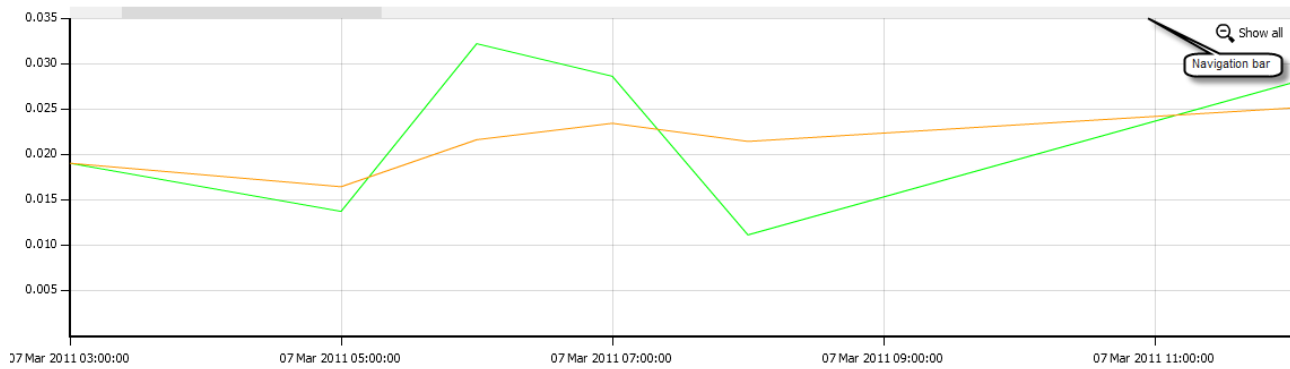



Figure 56 Highlighting Graph (release the mouse button to zoom in)

4. It is possible to return to the original view by clicking the  Show all icon at the top right of the chart.
5. It is also possible to use the grey navigation bar at the top of the zoomed in chart to scroll along to different dates

Ad Hoc Reports

In addition to the standard Ad Hoc reports, four UM issue reports based on the OLAP Issue and Reconciliations Cubes have been provided. These offer an alternative more interactive representation of issues by node, edge, date, source and metric definition.



*For further information regarding the use of these OLAP reports please see the **Ad Hoc Reporting** section.*

The **Ad Hoc Reports** screen is accessed from the **Reports** toolbar.

Ad Hoc Reports

☐ Hide filters

Cube Name:
 Author:

Page 1 of 1 (10 rows)

Query	Description	Cube Name	Author
Issues Analysis	Issues by Type, Status, Severity, Priority and Group	IMM	
Files by Source Type, EDR Type, Measure Type	Source Type, EDR Type, Measure Type by Period	File Cube (Current)	Administration User
Files by EDR Type	EDR Type by Period	File Cube (Current)	Administration User
Fileset Reconciliation	Fileset Reconciliations by Period	Reconciliation Cube (Current, by File)	
Volumetric Reconciliation	Volumetric Reconciliations by Period	Reconciliation Cube (Current, by Time)	
Volumetric Reconciliation	Aggregated Volumetric Reconciliations by Period	Reconciliation Cube (Aggregated)	
UM Issues	UM Issues	UM Issues Cube	

Figure 57 Ad Hoc Reports Screen with Issue Reports

The UM specific reports are:

- Fileset Reconciliations by Period
- Volumetric Reconciliations by Period
- Aggregated Volumetric Reconciliations by Period
- UM Issues



*Please note that these reports do not provide data drill through into the issues as per the static **Issue Reports***

Issue Reports

The **Issue Reports** provide the users with the means to determine the origin and status of issues raised by Usage Monitor. These reports extend the base functionality and reports provided by the Issue Management module and give users access to UM specific filters, such as by source or node.

The issue reports specific to UM can be accessed from the **Reports** toolbar > **Issue Reports** sub menu (Figure 58).

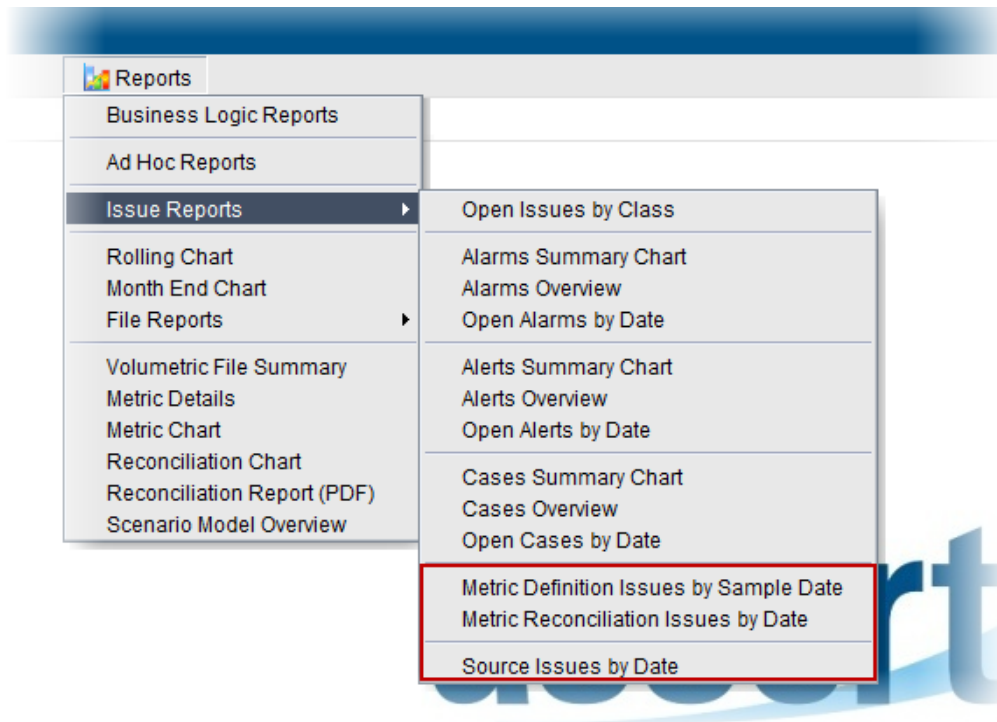


Figure 58 Issue Reports Sub Menu with UM specific reports highlighted

The icons displayed in the issue reports are as follows:

Icon	Description
•	No issues have been generated
⚠	Warning indicator showing that issues have been generated

The number of underlying issues will be displayed when the cursor is hovered over one of the warning indicators. It is also possible to drill down to view the actual issues in any of the **Issue Reports** by clicking on the warning indicator ⚠ icon. See the **Issue Management > Managing Issues** section for further information.



*If a node or an edge is added to the UM environment then the issue reports will need to be regenerated so that the new data is displayed in the tables. For further information see the **Rebuilding Issue Indicator Reports** section.*

Metric Definition Issues by Sample Date

This report displays a row of indicators for each metric definition for the last 96 days. The icons signify whether there are any issues for that source for a particular day. Users can filter this chart to display specific metric types, categories and whether or not issues should be shown.

Metric Definition Issues by Sample Date

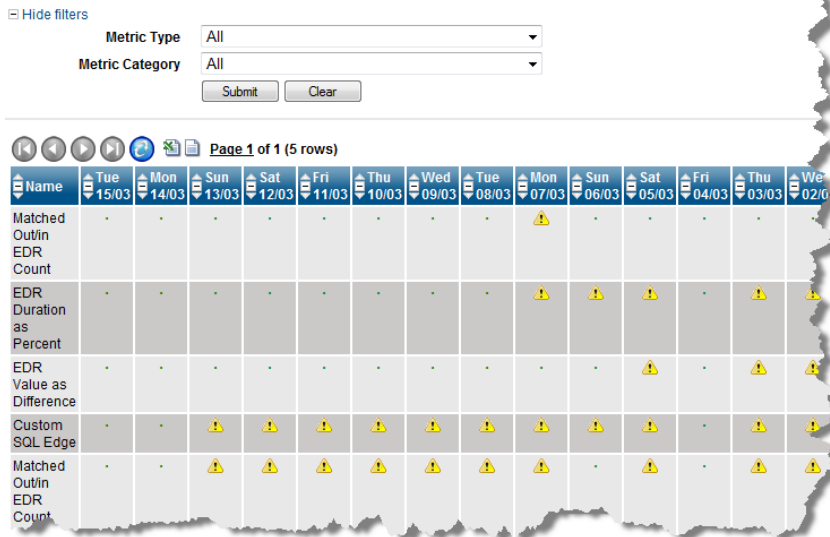


Figure 59 Metric Definition Issues by Date Screen

Metric Reconciliation Issues by Date

This report displays a row of indicators for each metric reconciliation for the last 96 days. The icons signify whether there are any issues for that reconciliation for a particular day. Users can filter this chart to display specific reconciliation.

Metric Reconciliation Issues by Date

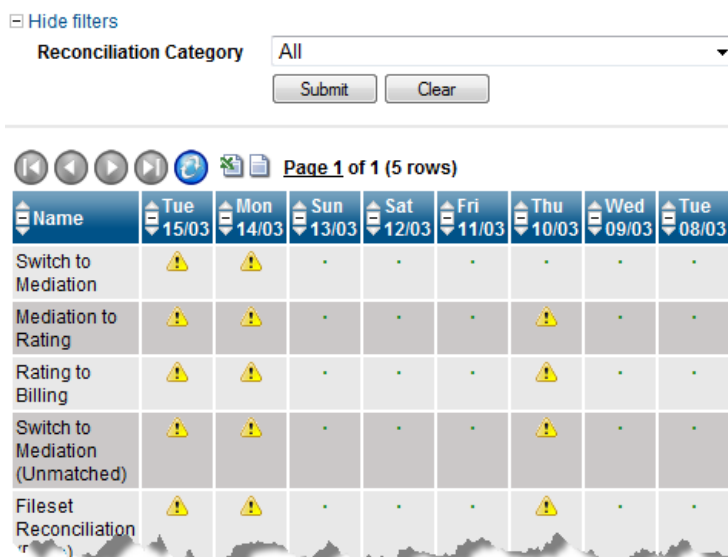



Figure 60 Metric Reconciliation Issues by Date Screen

Source Issues by Date

This report displays a row of indicators for each source for the last 30 days. The icons signify whether there are any issues for that source for a particular day.

Source Issues by Date


 Page 1 of 1 (4 rows)





























Name	Tue 15/03	Mon 14/03	Sun 13/03	Sat 12/03	Fri 11/03	Thu 10/03	Wed 09/03
Ericsson							
Nokia							
Nortel							
Unspecified							

Figure 61 Source Issues by Date Screen

Rolling Chart

The **Rolling Chart** reports provide a snapshot of the EDR volumes that have been processed for the previous day, week, month and year's worth of data. These reports enable users to keep track of the EDRs coming into the system and facilitate the identification of unusual volumes of traffic data.

The rolling report screen is accessed from the **Reports** toolbar > **Rolling Chart** which opens the **Traffic Statistics Rolling Chart** screen (Figure 62).

The report can be filtered by **Measure** (such as Input, Suspense, Partials) and **Node** (such as Rating, Mediation). Time period tabs beneath the filters present the options of viewing the rolling reports by **Day**, **Week**, **Month** or **Year**.

The actual data volumes constituting the chart can be viewed in the **Show/Hide Data** section at the bottom of the screen.

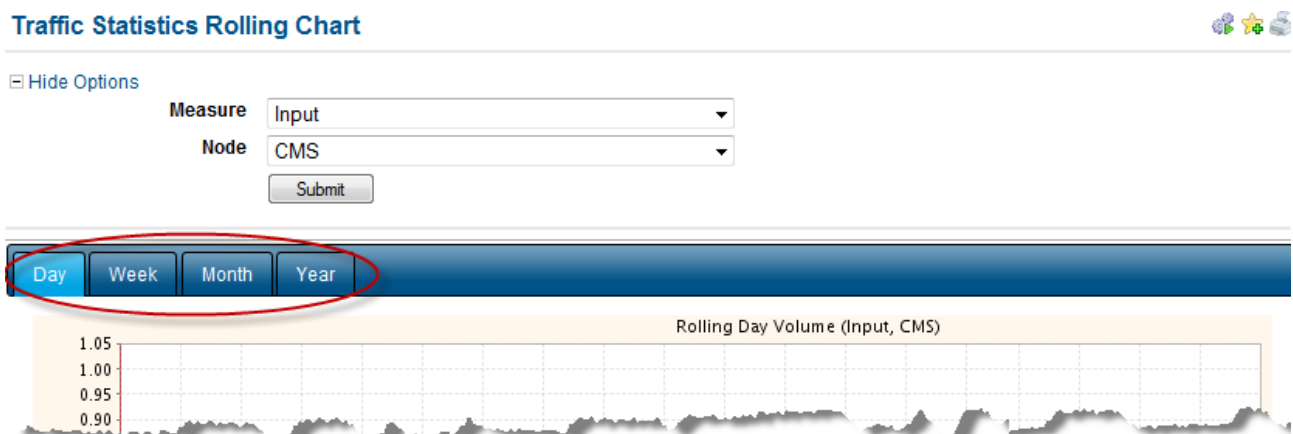


Figure 62 Traffic Statistics Rolling Chart Screen with Time Period Tabs Highlighted

Hide Data_MONTH

Date	EDRs (Count)
13 Feb 2011	9,943
18 Feb 2011	3,564
19 Feb 2011	3,190
20 Feb 2011	8,695
21 Feb 2011	4,150
22 Feb 2011	8,967
23 Feb 2011	6,624
24 Feb 2011	7,163

Figure 63 Show/Hide Data Section

Rolling Day Chart

This chart displays the EDR volumes by hour for the previous twenty four hours. The actual data volumes can be viewed in the **Show/Hide Data** section at the bottom of the screen. Users can filter this chart to display the required measure and node.

Open the **Day** report (Figure 64) via the **Reports** toolbar > **Rolling Chart** to open the **Traffic Statistics Rolling Chart** screen (Figure 62) and click the **Day** tab.

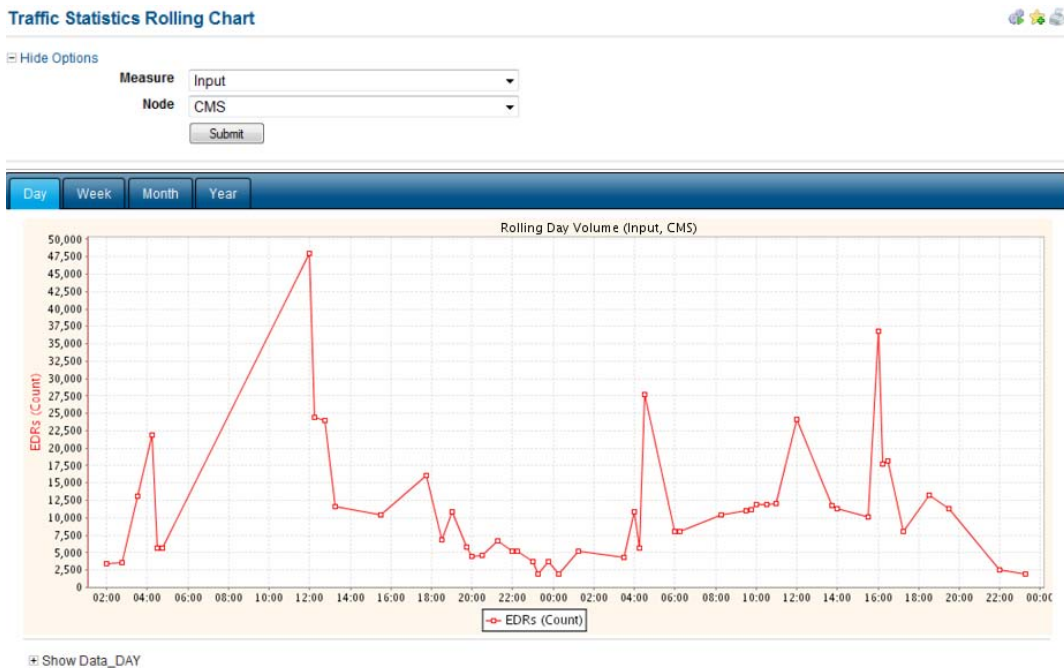


Figure 64 Traffic Statistics Rolling Chart Screen with Day Tab Selected

Rolling Week Chart

This chart displays the EDR volumes by day for the previous seven days. The actual data volumes can be viewed in the **Show/Hide Data** section at the bottom of the screen. Users can filter this chart to display the required measure and node.

Open the **Week** report (Figure 65) via the **Reports** toolbar > **Rolling Chart** to open the **Traffic Statistics Rolling Chart** screen (Figure 62) and click the **Week** tab.

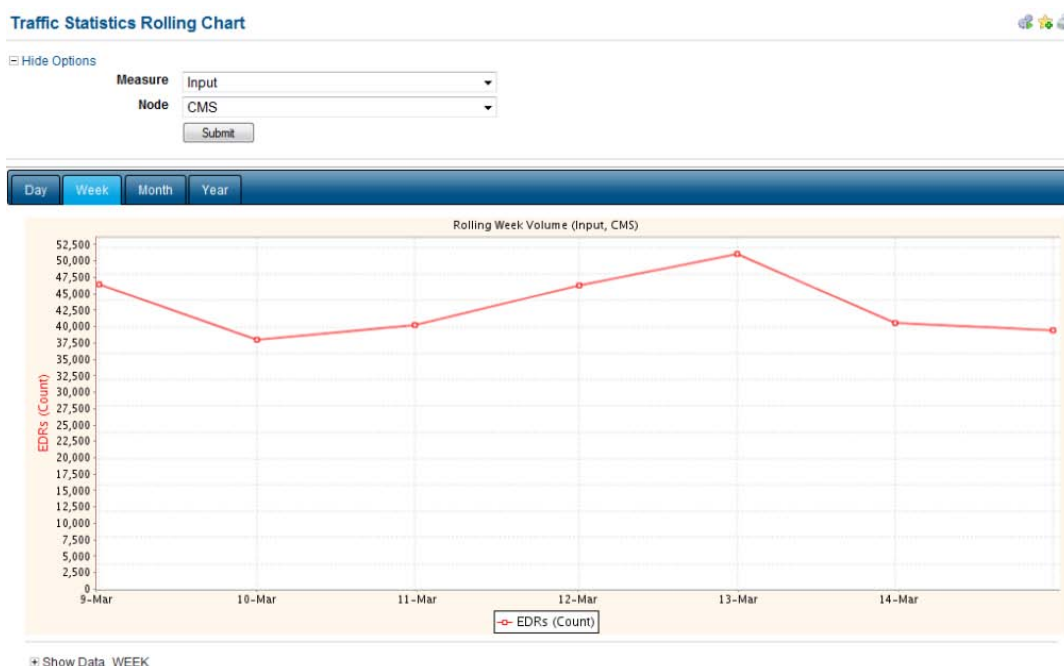


Figure 65 Traffic Statistics Rolling Chart Screen with Week Tab Selected

Rolling Month Chart

This chart displays the EDR volumes by day for the previous month. The actual data volumes can be viewed in the **Show/Hide Data** section at the bottom of the screen. Users can filter this chart to display the required measure and node.

Open the **Month** report (Figure 66) via the **Reports** toolbar > **Rolling Chart** to open the **Traffic Statistics Rolling Chart** screen (Figure 62) and click the **Month** tab.

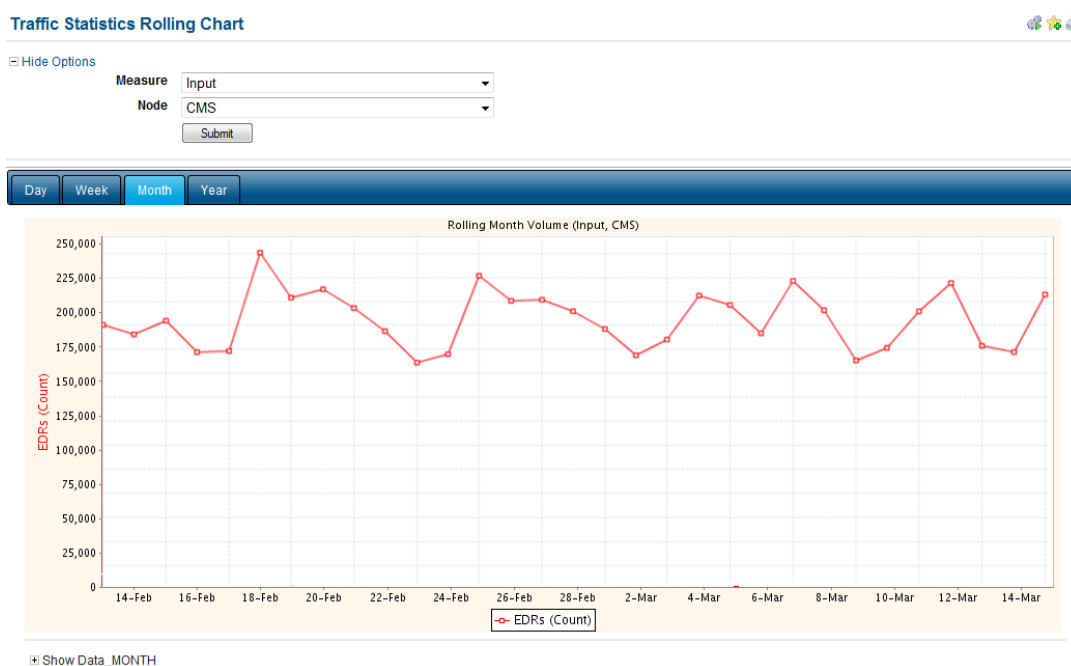


Figure 66 Traffic Statistics Rolling Chart Screen with Month Tab Selected

Rolling Year Chart

This chart displays the EDR volumes by month for the previous year. The actual data volumes can be viewed in the **Show/Hide Data** section at the bottom of the screen. Users can filter this chart to display the required measure and node.

Open the **Year** report (Figure 67) via the **Reports** toolbar > **Rolling Chart** to open the **Traffic Statistics Rolling Chart** screen (Figure 62) and click the **Year** tab.

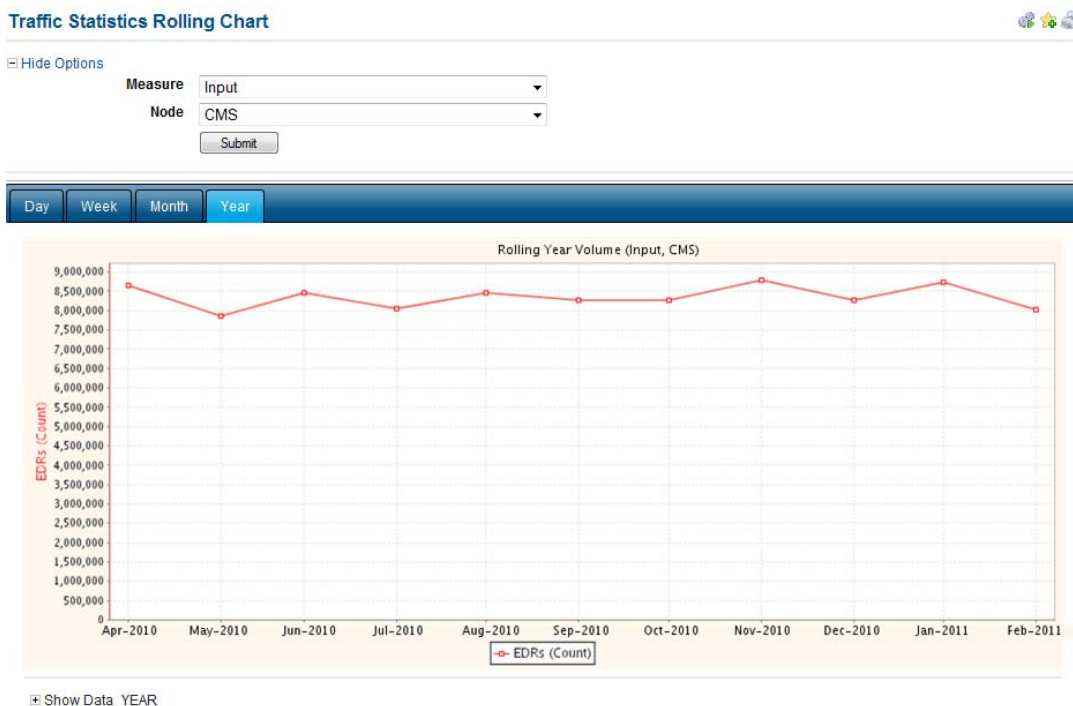


Figure 67 Traffic Statistics Rolling Chart Screen with Year Tab Selected

Month End Chart

The **Month End Chart** displays the EDR volumes by day for a chosen month and presents the data in a month end report. The actual data volumes can be viewed in the **Show/Hide Data** section at the bottom of the screen.

The **Traffic Statistics Month End Chart** (Figure 68) is accessed from the **Reports** toolbar > **Month End Chart**

Users can filter this chart by **Month** to display any of the previous month end reports. The report can also be filtered by **Measure** (such as Input, Suspense, Partial) and **Node** (such as Rating, Mediation). Click the **Generate** button to display the chart.

This report enables users to keep track of the EDRs coming into the system over the course of the month and facilitates the identification of unusual volumes of traffic data

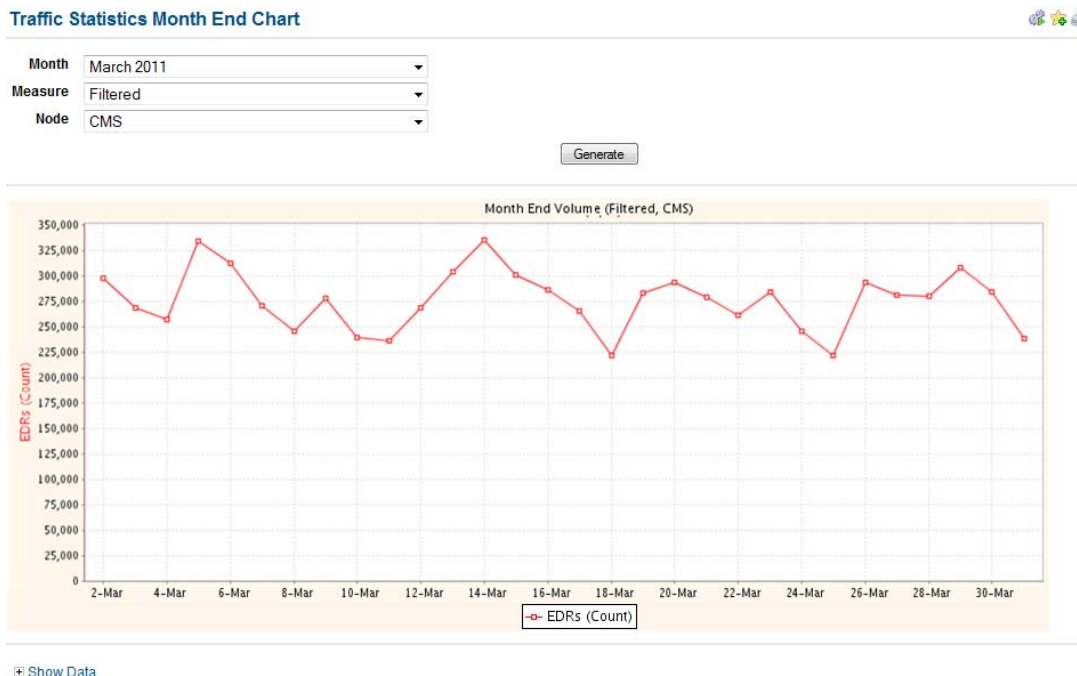


Figure 68 Traffic Statistics Month End Chart Screen

File Reports

The **File Reports** provide information about the files that have been loaded into UM. These reports enable users to view summaries and histories of the files, snapshots of the completeness of the files as they are processed by each system and the timeliness in which the files have been processed.

The file reports screens can be accessed from the **Reports** toolbar > **File Reports** sub menu (Figure 69):

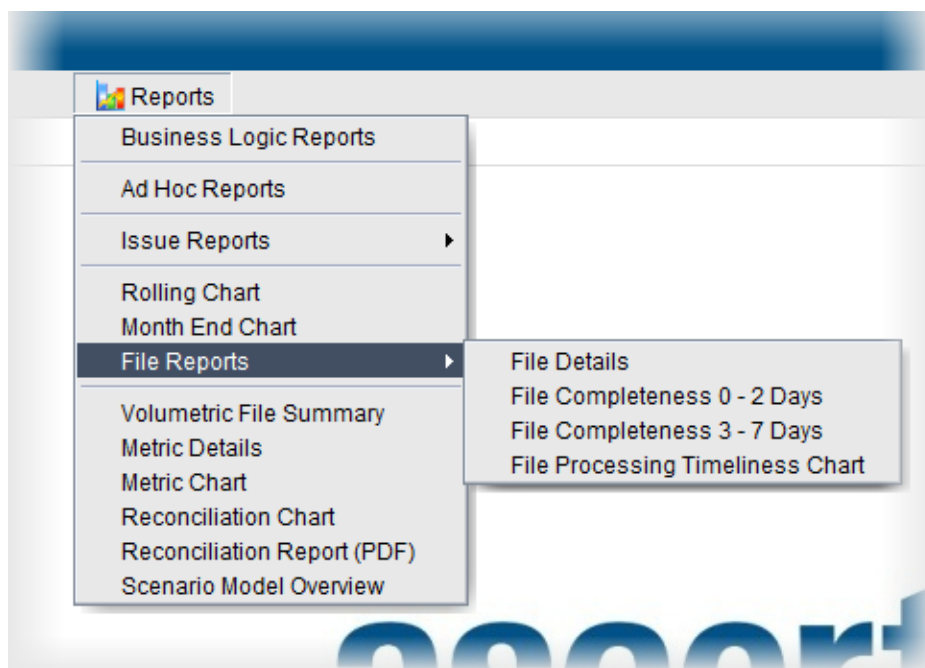


Figure 69 File Reports Sub Menu

File Details

The **File Details** screen enables users to search for files. Once located, it is possible to see if any issues are associated with the files and to view their completeness through the billing chain, for example, how far through the systems the file data has gone.



From this screen it is possible to view the **File History** screen and locate the original raw data files as detailed in the **View File History** section.

File Details

Hide filters

Batch Id

Sample Date Tue, 01 March 2011 to Tue, 15 March 2011

Node CMS

File Name

Source All

Source Type All

System All

Is Re-presented All

Is Missing Predecessor All

Is Missing Successor All

Apply Clear

Page 1 of 17 (810 rows)





Log Record Id	File Name	Out File Name	File Type	Sample Date	Node	Source	Source Type	System			
92	Nokia.00000004.05.03.file	Nokia.00000004.06.04.file	Log File Summary	07 Mar 2011	CMS	Nokia	Switch				
94	Ericsson.00000004.05.03.file	Ericsson.00000004.06.04.file	Log File Summary	07 Mar 2011	CMS	Ericsson	Switch				
97	Nortel.00000005.05.05.file	Nortel.00000005.06.08.file	Log File Summary	07 Mar 2011	CMS	Nortel	Switch				
497	Nortel.00000018.05.05.file	Nortel.00000018.06.08.file	Log File Summary	08 Mar 2011	CMS	Nortel	Switch				
398	Nortel.00000012.05.06.file	Nortel.00000012.06.09.file	Log File Summary	07 Mar 2011	CMS	Nortel	Switch				
499	Nortel.00000018.05.06.file	Nortel.00000018.06.09.file	Log File Summary	08 Mar 2011	CMS	Nortel	Switch				
501	Nortel.00000018.05.07.file	Nortel.00000018.06.10.file	Log File Summary	08 Mar 2011	CMS	Nortel	Switch				
402	Nortel.00000012.05.07.file	Nortel.00000012.06.10.file	Log File Summary	07 Mar 2011	CMS	Nortel	Switch				

Figure 70 File Details Screen

The fields on the **File Details** screen (Figure 70) are detailed in the table below. Once the filters have been selected, click the **Apply** button to generate the report.

Field Name	Description
Log Record Id	Log file's database identification number
File Name	Name of the input file that is being viewed <i>Clicking this field will open the File History screen (Figure 71)</i>
Out File Name	Name that the file will be given when it reaches the next node
File Type	Type of file that was loaded
Sample Date	Date that the file was processed
Node	Name of the node that the file was produced by
Source	Name of the source of the file
Source Type	Name of the source type of the file
System	Name of the system that produced the file

The icons on the screen represent:

Icon	Description
	File has been re-presented
	File has missing predecessor
	File has missing successor
	File has associated issues <i>It is possible to drill down to view the actual issue by clicking on this icon as detailed in the Issue Management Module > Issue Details section.</i>

It is possible to further refine the data in this report using the filters at the top of the screen.

View File History

Clicking the **File Name** on the **File Details** screen (Figure 70) opens the **File History Report** screen (Figure 71). This displays the history of the chosen file through the billing chain along with any associated issues.

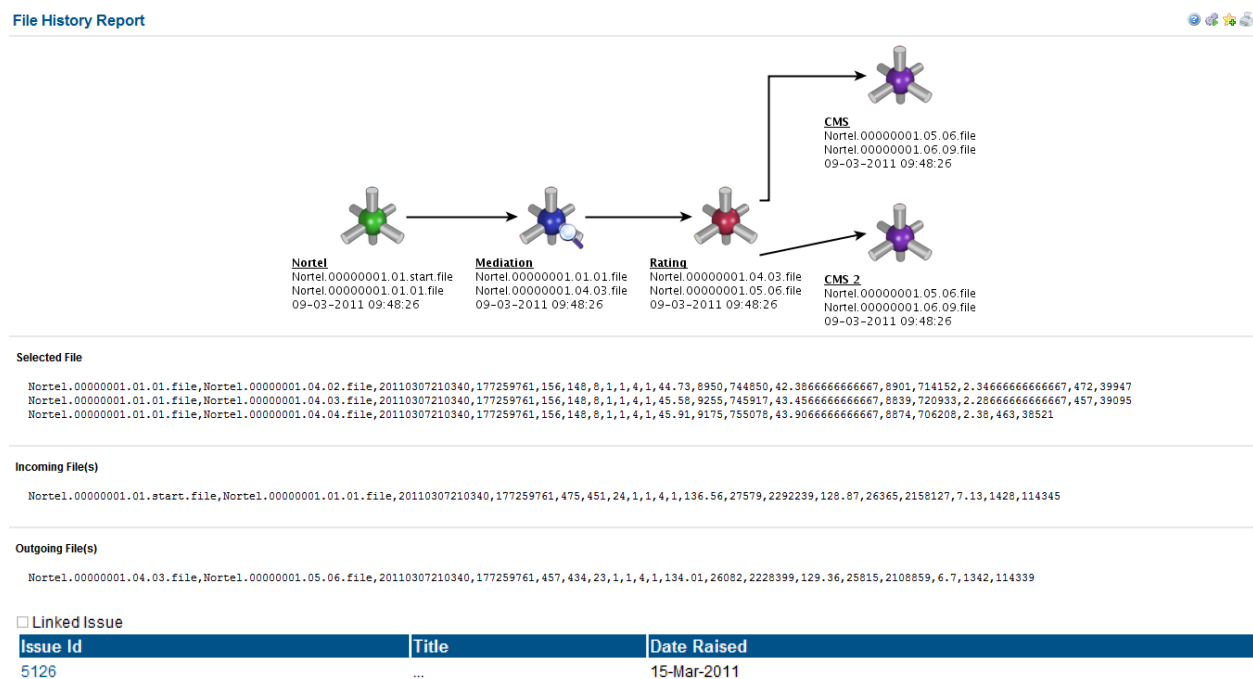



Figure 71 File History Report Screen

The **File History Report** screen is split into three sections:

- the upper section shows the billing chain and gives an overview of the data as it passes through each system complete with the system name, filename and process date
- the middle section displays the **Selected File's** raw log records together with the **Incoming Files** and **Outgoing Files** from the chosen system
- the lower section of the screen shows the **Linked Issues** and enables users to see any issues that have been raised against the chosen data file. Clicking on an **Issue Id** in this section will open the

associated issue. Refer to the **Issue Management Module > Issue Details** section for further information.

View File Details

Clicking on any of the nodes in the billing chain model on the **File History Report** screen (Figure 71) will enable the user to view the file details of the particular file on the selected node. The file's raw log records that were input and output from the chosen system are displayed in the middle section of the screen. The **View file details** icon  will be displayed over the selected node in the billing chain.

The billing chain will be regenerated to reflect the source and destination of the incoming and outgoing files. For example, clicking on the file at the switch may present that file as being split into three mediation files, the billing chain is regenerated to present this.

File Completeness 0 - 2 Days

The **File Completeness 0-2 Days** report (Figure 72) provides a high level summary of the completeness of the files as they are sent through the systems for each source for today and the last two days.



The days are counted as follows:

0 is today

1 is yesterday

2 is the day before yesterday

File Completeness 0 - 2 Days



Page 1 of 1 (3 rows)

Name	Nortel	Nokia	Ericsson	Mediation	Rating	CMS	CMS 2
Nokia	→	←	.
Nortel	→	←	.
Ericsson	.	.	.	●	←	.	.

Figure 72 File Completeness 0 - 2 Days Screen

The icons on the screen represent:

Icon	Description
.	Data has been loaded for this system and no issues have been raised against these files
←	Data has been loaded for this system, however issues have been raised against these files <i>These issues are due to missing predecessor files</i>
→	Data has been loaded for this system, however issues have been raised against these files <i>These issues are due to missing successor files</i>
●	Data has been loaded for this system, however issues have been raised against these files <i>These issues are due to missing predecessor and successor files</i>

Hovering the cursor over these icons will display a label containing a high level overview of the associated issues, for example:



56 missing files with regard to next node

File Completeness 3 - 7 Days

The **File Completeness 3-7 Days** report (Figure 73) gives a detailed view of the completeness of the files as they are sent through the systems for each source from 3 days ago to 7 days ago.



The days are counted as follows:

3 is 3 days ago

7 is one week ago

File Completeness 3 - 7 Days



Page 1 of 1 (3 rows)

Name	Nortel	Nokia	Ericsson	Mediation	Rating	CMS
Nokia	←	.	.	←	←	←
Nortel	.	←	.	←	←	←
Ericsson	.	.	←	←	←	←

Figure 73 File Completeness 3 - 7 Days Screen

The icons on the screen represent:

Icon	Description
.	Data has been loaded for this system and no issues have been raised against these files
←	Data has been loaded for this system, however issues have been raised against these files <i>These issues are due to missing predecessor files</i>
→	Data has been loaded for this system, however issues have been raised against these files <i>These issues are due to missing successor files</i>
●	Data has been loaded for this system, however issues have been raised against these files <i>These issues are due to missing predecessor and successor files</i>

Hovering the cursor over these icons will display a label containing a high level overview of the associated issues, for example:



56 missing files with regard to next node

File Processing Timeliness Chart


The **File Processing Timeliness Chart** report (Figure 74) gives an overview of the time taken for files to be processed as they are sent through the systems.


The timeliness is measured for all pre-matched files that fall within the date range. The processing sample date is taken for a pair of matched files on either side of an edge and then the time taken between the processing on one node and the processing on the second node is calculated. Users can filter this chart to display the timeliness for a specific edge and date range.


File Processing Timeliness Chart



☐ Hide Options

Start  

End  

Edge 

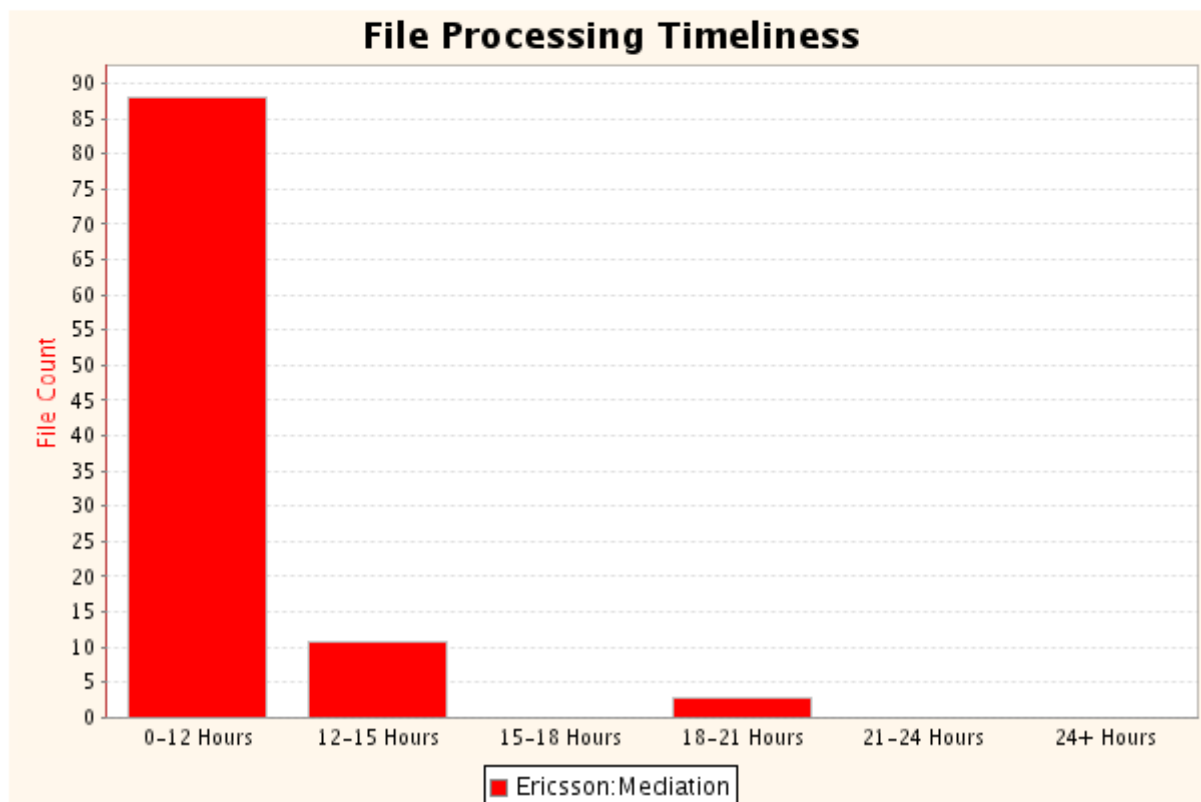


Figure 74 File Processing Timeliness Chart Screen

Volumetric File Summary

The **Volumetric File Summary** report (Figure 75) enables users to view file data in a chart format, thus making it easier to comprehend than tables of numbers. The chart has the capability to plot different types of data along with the actual and differential amounts, thus facilitating the identification of patterns and trends in the data.

The screen is accessed from the **Reports** toolbar > **Volumetric File Summary** which opens the **Volumetric File Summary** screen (Figure 75).



*In order to view this screen Flash must be installed. For more information see **How to Use Ascertain Applications**. If the screen is resized it may be necessary to click the Apply button again to generate a different sized chart*

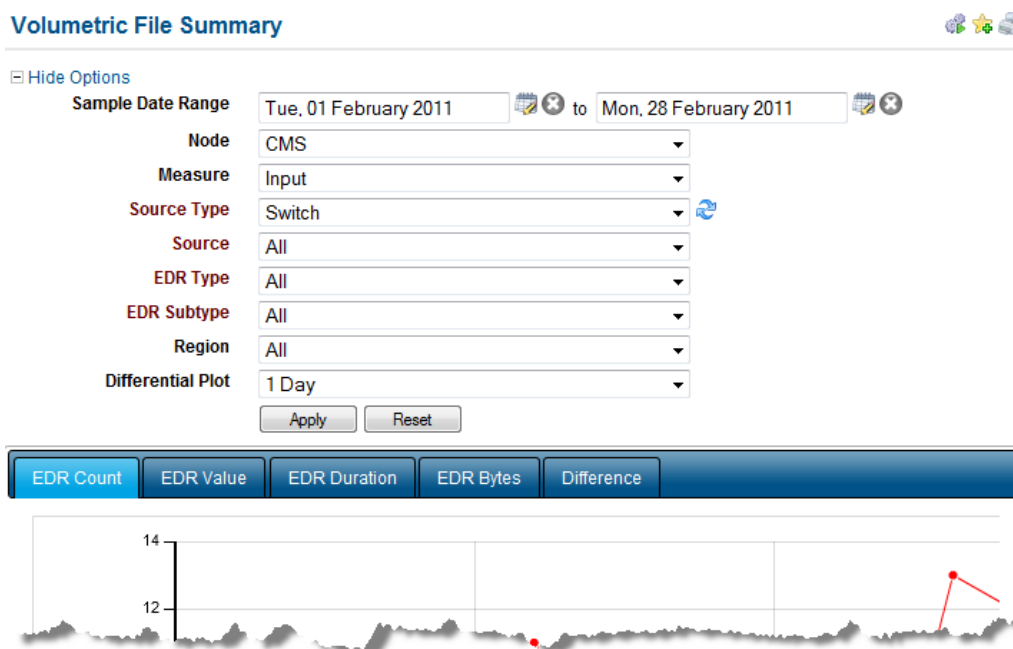


Figure 75 Volumetric File Summary showing Filters and Tabs

The report can be filtered to refine the data presented. Linked filters are utilised to facilitate data selection. Once data from one filter is selected, the remaining linked filters will only contain a relevant data subset for subsequent selection. The set of linked filters are indicated by the filter names being in dark brown text, for example:

Source Type Switch

Clicking the icon will reset the filter.

Tabs beneath the filters present the options of viewing the charts by **EDR Count**, **EDR Value**, **EDR Duration**, **EDR Bytes** and **Difference**.

The **Difference** is calculated as the quotient difference (the second value divided by the first value) between the count for a specific day and that of the count which is offset by the chosen differential plot period. In the example below (Figure 76) the period is one day. Therefore the 1st February is compared with 2nd February, the 2nd with the 3rd and so on.

Volumetric File Summary



Hide Options

Sample Date Range: Tue, 01 February 2011 to Mon, 28 February 2011

Node: Mediation

Measure: Rejects

Source Type: Switch

Source: All

EDR Type: All

EDR Subtype: All

Region: All

Differential Plot: 1 Day

Apply Reset

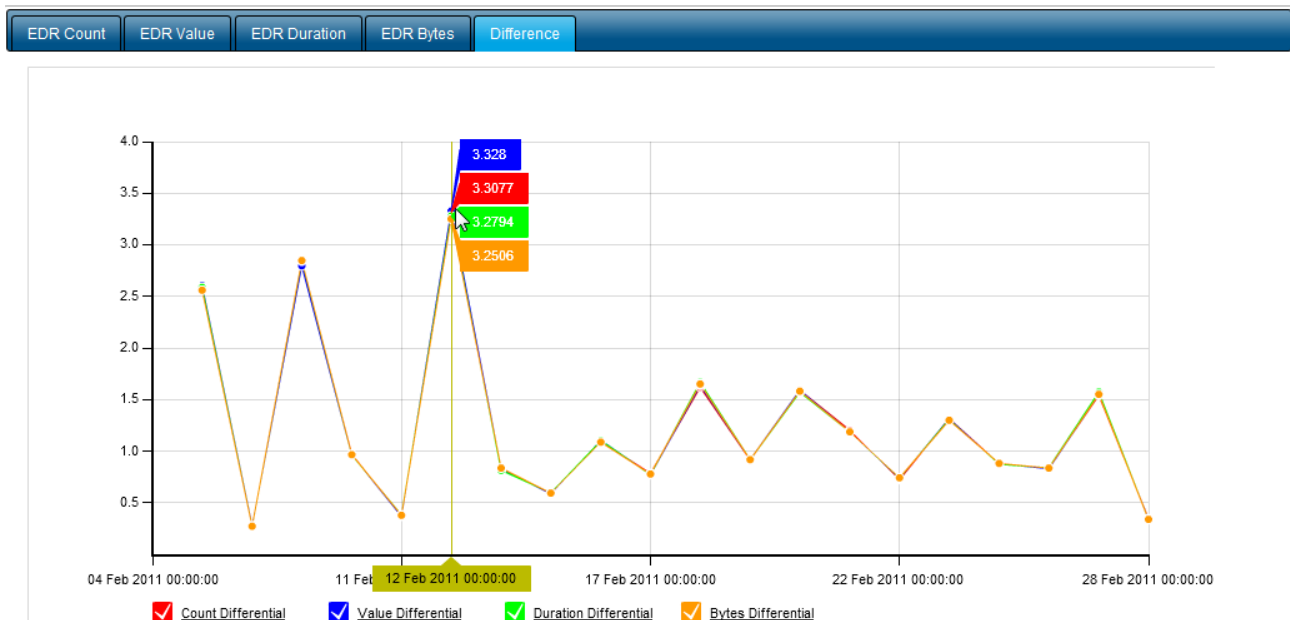


Figure 76 Volumetric File Summary Screen

The fields on the **Volumetric File Summary** screen (Figure 76) are detailed in the table below. Once the filters have been selected, click the **Apply** button to generate the charts.

Field Name	Description
Sample Date Range	Date range of the data to be plotted <i>The sample date is the original date taken from the source data</i> <i>It is possible to zoom in on the graph to view a specific range of dates in more detail without changing this value see the Using Flash Reports section</i>
Node	Specific node to be plotted
Measure	Measure to be plotted <i>This provides the meaning of the data that has been imported, for example, input records, output records, suspense records, rejected records etc.</i>

Field Name	Description
Source Type	Source type to be plotted <i>It is possible to pick a specific source type if required</i>
Source	Source to be plotted <i>It is possible to pick a specific source if required</i>
EDR Type	EDR type to be plotted <i>It is possible to pick a specific EDR type if required</i>
EDR Subtype	EDR Subtype to be plotted <i>It is possible to pick a specific EDR subtype if required</i>
Region	Region of the data to be plotted <i>It is possible to pick a specific region if required</i>
Differential Plot	The differential plot to use to calculate the differential values <i>These values can be 1 day, 1 week, 2 weeks, 3weeks or 4 weeks</i>



Different types of data are plotted on each of the generated charts; it is possible to limit the data displayed depending on the coloured boxes checked under each chart.


Metric Details

The **Metric Details** report (Figure 77) provides a simple un-summarised but filterable list of existing calculated metrics.

The screen is accessed from the **Reports** toolbar > **Metric Details** which opens the **Metric Details** screen (Figure 77).

The report can be filtered to refine the data presented. Linked filters are utilised to facilitate data selection. Once data from one filter is selected, the remaining linked filters will only contain a relevant data subset for subsequent selection. The set of linked filters are indicated by the filter names being in dark brown text, for example:

Source Type Switch

Clicking the  icon will reset the filter.



From the **Metric Details** screen (Figure 77) it is possible to view the **File History Report** screen (Figure 71) and locate the original data set as detailed in the **Viewing the Metric File Set** section.

Metric Details

Hide filters

Sample Date Range: Tue, 01 March 2011 to Tue, 15 March 2011

Type: ☒ Node ☐ Edge

Node: All

Node Metric Definition: All

Source Type: All

Source: All

EDR Type: All

EDR Subtype: All

Is Issue: All

Is Comparator: All

Apply Reset Toggle Status




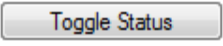
Page 1 of 3399 (169923 rows)

ID	Sample Date	Creation Date	Metric Definition	Node	Edge	Source	Source Type	EDR Type	EDR Subtype	Threshold Version	I	J	Metric	Forecast	Comparison	Issues	Is Comparator	Check
2	07 Mar 2011 21:00:00	09 Mar 2011 09:52:56	Matched Outlin EDR Count Abs		NortelMediation	Unspecified	Unspecified	Unspecified	Unspecified	2.5% Weekday Threshold	451.00	468.00	0.0377				Abnormal	<input type="checkbox"/>
17	08 Mar 2011 12:00:00	09 Mar 2011 09:52:56	Matched Outlin EDR Count Abs		NortelMediation	Unspecified	Unspecified	Unspecified	Unspecified	2.5% Weekday Threshold	1495.00	1536.00	0.0274				Abnormal	<input type="checkbox"/>
18	08 Mar 2011 05:00:00	09 Mar 2011 09:52:56	Matched Outlin EDR Count Abs		NortelMediation	Unspecified	Unspecified	Unspecified	Unspecified	2.5% Weekday Threshold	834.00	858.00	0.0288				Abnormal	<input type="checkbox"/>
41	07 Mar 2011 21:00:00	09 Mar 2011 09:53:01	Custom SQL Edge		NortelMediation	Unspecified	Unspecified	Unspecified	Unspecified	1.0% Weekday Threshold	451.00	468.00	1.0377				Abnormal	<input type="checkbox"/>
44	08 Mar 2011 08:00:00	09 Mar 2011 09:53:01	Custom SQL Edge		NortelMediation	Unspecified	Unspecified	Unspecified	Unspecified	1.0% Weekday Threshold	1268.00	1278.00	1.0079				Abnormal	<input type="checkbox"/>
43	08 Mar 2011 22:00:00	09 Mar 2011 09:53:01	Custom SQL Edge		NortelMediation	Unspecified	Unspecified	Unspecified	Unspecified	1.0% Weekday Threshold	325.00	330.00	1.0154				Abnormal	<input type="checkbox"/>
42	07 Mar 2011 09:00:00	09 Mar 2011 09:53:01	Custom SQL Edge		NortelMediation	Unspecified	Unspecified	Unspecified	Unspecified	1.0% Weekday Threshold	723.00	735.00	1.0166				Abnormal	<input type="checkbox"/>

Figure 77 Metric Details Screen

The fields on the **Metric Details** screen are as follows:

Field Name	Description
ID	The metric's database identification number <i>It is possible to drill down to view the file set associated with the chosen metric id by clicking on this field</i>

Field Name	Description
Sample Date	Process date taken from the file
Creation Date	Date that the file was imported into UM
Metric Definition	Name of the metric definition that was run against the file <i>It is possible to drill down to view the file set associated with the chosen metric by clicking on this field</i>
Node	Node that the metric was run against
Edge	Edge that the metric was run against
Source	Source that the metric was run against
Source Type	Source type that the metric was run against
EDR Type	EDR Type that the metric was run against
EDR Subtype	EDR Subtype that the metric was run against
Threshold Version	Threshold version used by the metric
i	Sum of the required records as defined by the metric in the “i” file set
j	Sum of the required records as defined by the metric in the “j” file set
Metric	Final calculated metric value including adjustment if defined
Forecast	The value that has been forecast for this metric <i>This value is only displayed if this is a forecast metric (i.e. a metric compared against a forecast value)</i>
Comparison	The previous value that was used to compare this metric against <i>This value is only displayed if this is a ‘last-value’ metric, also known as a relative metric (i.e. a metric compared against a previous value from 1,2,3 or 4 weeks ago)</i>
Issues	 Indicates that an issue was raised against the metric <i>It is possible to drill down to view the actual issue by clicking on this icon as detailed in the Issue Details section.</i>
Is Comparator	Whether or not the metric calculation can be used as a comparator for future metrics <i>This can be set to either ‘Comparator’ or ‘Abnormal’.</i> <i>If it is set to ‘Comparator’, then this metric can be used as a valid ‘last-value’ to compare against (see the Comparison field above).</i> <i>If it is set to ‘Abnormal’, then it cannot be used in a ‘last-value’ comparison, in this case the metric will be compared against the previous value that is a valid comparator.</i> <i>The comparator is set automatically, For example if an issue is raised against a metric then this flag is set to ‘Abnormal’. It is also possible to manually override this if necessary by clicking the toggle  icon in this field.</i> <i>Alternatively it is possible to update this field en mass by checking the tick boxes  next to the required rows of data and then clicking the Toggle Status button in the filters section of the screen.</i>  <i>Please note that it is only possible to update one page of data at a time.</i>



Viewing the Metric File Set

Clicking the metric's **ID** or **Metric Definition** name on the **Metric Details** screen (Figure 77) opens the **Metric File Details** screen (Figure 78). This screen displays the file set that was used to calculate the chosen metric.

Metric File Details



Hide filters

Batch Id	<input type="text"/>
Sample Date	<input type="text"/>
Node	All
File Name	<input type="text"/>
Source	All
Source Type	All
System	All
Is Re-presented	All
Is Missing Predecessor	All
Is Missing Successor	All
<input type="button" value="Submit"/> <input type="button" value="Clear"/>	

Page 1 of 1 (4 rows)

Log Record Id	File Name	Out File Name	File Type	Sample Date	Node	Source	Source Type	System				
5	Nortel.00000001.01.start.file	Nortel.00000001.01.01.file	Generic	07 Mar 2011	Nortel	Nortel	Switch					
9	Nortel.00000001.01.01.file	Nortel.00000001.04.04.file	Generic	07 Mar 2011	Mediation	Nortel	Switch					
8	Nortel.00000001.01.01.file	Nortel.00000001.04.03.file	Generic	07 Mar 2011	Mediation	Nortel	Switch					
1	Nortel.00000001.01.01.file	Nortel.00000001.04.02.file	Generic	07 Mar 2011	Mediation	Nortel	Switch					

Figure 78 Metric File Details Screen

The information contained in this screen is detailed in the **File Details** section.


Clicking on a **File Name** in this screen will open the history of the file in the **File History Report** screen (Figure 71). Refer to the **View File History** section for further information.


Metric Chart

The **Metric Chart** (Figure 79) enables users to view the metric calculations in a chart format. The chart has the capabilities to apply averages to the metrics, thus facilitating the identification of patterns and trends in the data. The chart also displays metric forecasts.

The screen is accessed from the **Reports** toolbar > **Metric Chart** which opens the **Metric Chart** screen (Figure 79).

The report can be filtered to refine the data presented. Linked filters are utilised to facilitate data selection. Once data from one filter is selected, the remaining linked filters will only contain a relevant data subset for subsequent selection. The set of linked filters are indicated by the filter names being in dark brown text, for example:

Source Type 

Clicking the  icon will reset the filter.



*In order to view this screen flash must be installed. For more information see **How to Use Ascertain Applications**. If the screen is resized it may be necessary to click the Apply button again to generate a different sized chart*

Metric Chart

☐ Hide Options

Sample Date Range to

Type ☐ Node ☒ Edge

Edge

Edge Metric Definition

Source Type

Source

EDR Type

EDR Subtype

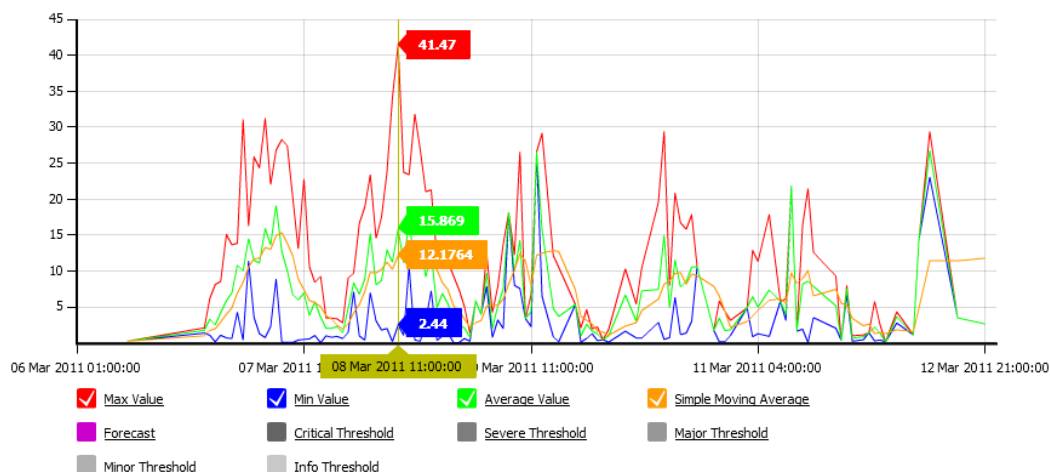


Figure 79 Metric Chart Screen with Generated Chart

The fields on the **Metric Chart** screen (Figure 79) are detailed in the table below. Once the filters have been selected, click the **Apply** button to generate the charts.



The chart shows the data selected by the dropdown filters. Data points are rounded to the nearest hour. It is possible to display different metric values on the chart by clicking the coloured boxes at the bottom of the chart.








To view the values of the data types shown roll the mouse over the chart. Clicking the line will toggle the visibility of the metric value

Field Name	Description
Sample Date Range	Specifies the range of dates viewable in the graph. <i>The sample date is the original date taken from the source data</i> <i>It is possible to zoom in on the graph to view a specific range of dates in more detail without changing this value see the Using Flash Reports section</i>
Type	Node or Edge selection <i>Either a node or an edge can be picked to plot and only a Node or an Edge will be presented on screen</i>
Node	Specific node to be plotted for the metric picked
Edge	Specific edge to be plotted for the metric picked
Edge Metric Definition	Specific metric to be plotted on the graph <i>This will be Node Metric Definition if the Node radio button is selected</i>
Source Type	Source type to be plotted <i>It is possible to pick a specific source type if required</i>
Source	Source to be plotted <i>It is possible to pick a specific source if required</i>
EDR Type	Event detail record type <i>It is possible to pick a EDR type if required</i>
EDR Subtype	Event detail record subtype <i>It is possible to pick an EDR subtype if required</i>

The available metric values that can be selected by clicking on the coloured legend boxes are detailed below. **Average Value** and **Simple Moving Average** lines are always present when the chart is generated, they can be removed from the chart by clicking their corresponding box to de-select.

Name	Colour	Description
Max Value		Shows the maximum metric value for data points contained in that hour
Min Value		Shows the minimum metric value for data points contained in that hour


Name	Colour	Description
Average Value		Shows the change in the average metric value for data points contained in that hour.
Simple Moving Average		Shows the change in the moving average <i>Moving average is calculated from three data points</i>
Forecast		Shows the forecast of the metric values <i>In order for the forecast to be shown it must have been configured. For more information on forecasting contact the administrator</i>
Threshold	 	Shows the threshold of the metric value <i>The varying grey scales reflect the varying threshold severities of the threshold used for validation.</i> <i>The severity levels depend on what has been defined by the project but in this example, severities go from Critical down to Info.</i>


Reconciliation Chart

The **Metric Reconciliation Chart** (Figure 80) enables users to view the reconciliation calculations in chart format. The chart sums the total metric calculation on each side of the reconciliation and plots them above and below the axis. When there is no leakage the negative and positive sides should be equal.

The screen is accessed from the **Reports** toolbar > **Reconciliation Chart** which opens the **Metric Reconciliation Chart** screen (Figure 80).

The report can be filtered to refine the data presented. Linked filters are utilised to facilitate data selection. Once data from one filter is selected, the remaining linked filters will only contain a relevant data subset for subsequent selection. The set of linked filters are indicated by the filter names being in dark brown text, for example:

Source Type 

Clicking the  icon will reset the filter.

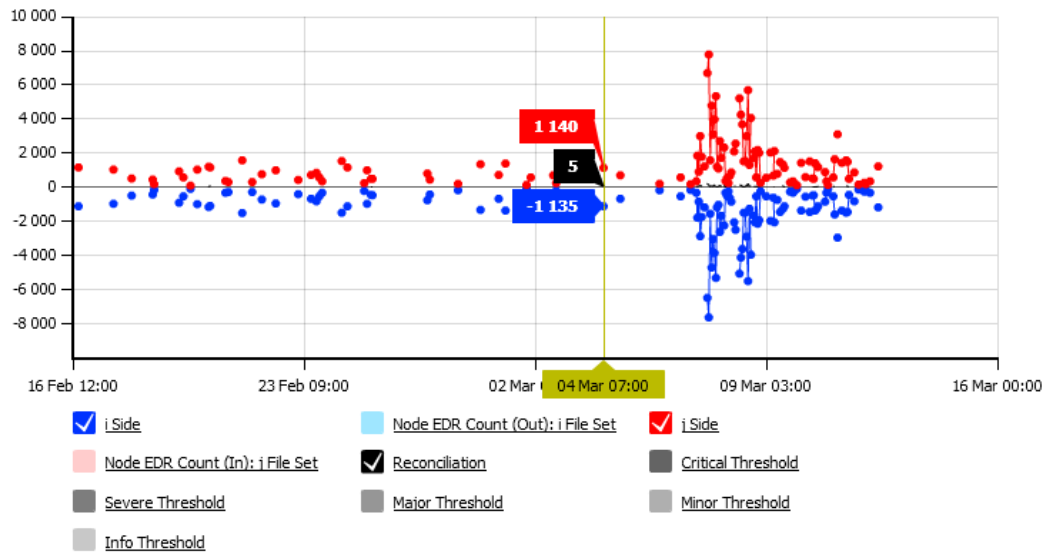


*In order to view this screen Flash must be installed. For more information see **How to Use Ascertain Applications**. If the screen is resized it may be necessary to click the Apply button again to generate a different sized chart*

Metric Reconciliation Chart


☐ Hide Options

Start
End
Type ☒ Fileset ☐ Timeslot
Reconciliation
Edge


☐ Hide Data

The fields on the **Metric Reconciliation Chart** screen (Figure 80) are detailed in the table below. Once the filters have been selected, click the **Generate** button to generate the charts.

The chart shows the data selected by the dropdown filters. Data points are rounded to the nearest hour. Contiguous data is connected by a line on the chart. Non-contiguous data points are not connected and this indicates missing data.



To view the values of the data types together with time and date, roll the mouse over the chart.

Field Name	Description
Start	Specifies the start date viewable in the graph. The sample date is the original date taken from the source data
End	Specifies the end date viewable in the graph
Type	Specifies whether Fileset or Timeslot period matching is to be displayed on the chart <i>Fileset for explicit fileset reconciliation at an edge based on filename</i> <i>Timeslot for reconciliation based on a time period and not explicit filesets</i>
Reconciliation	Reconciliation viewable on the chart
Edge	Specifies the Edge selection to view on the reconciliation chart <i>The Edge is only present when the Fileset type is selected</i>

Different data types can be displayed by clicking the legend boxes at the bottom of the chart. The **i Side**, **j Side** and **Reconciliation** lines are always present when the chart is generated, they can be removed from the chart by clicking their corresponding box to de-select.

Name	Colour	Description
i Side		Represents the sum of the metrics on the left hand of the reconciliation
j Side		Represents the sum of the metrics on the right hand of the reconciliation
Reconciliation		Represents the total difference between the sides of the reconciliation
Threshold		Shows the threshold of the metric value <i>The varying grey scales reflect the varying threshold severities of the threshold used for validation.</i> <i>The severity levels depend on what has been defined by the project but in this example, severities go from Critical down to Info.</i>



The data types available for selection in the legend boxes are dependent on the matching type, reconciliation and edge selected.

The **Show/Hide Data** section at the bottom of the screen contains the data which complements the chart. From here the reconciliation matches or anomalies are detailed. The overall result of a reconciliation is

presented on one row with the two rows beneath displaying the i and j side values used to calculate the reconciliation.

Name	Description
Date	The date of the data sets viewable in the chart
Type	Specifies whether the metric values are Reconciliation, i Side or j Side
Line	Provides detail of the composition of the i and j Side metric definition <i>The filter above the table can be used to select a particular metric definition</i>
Value	The value of the metric
Issue Count	If Reconciliation anomalies exist, a count of the associated number of issues raised is displayed. <i>Click on the value to drill through to view the issue details.</i>

The table contains one row per metric and the colour formatting of the rows is as follows:

Type	Description
Reconciliation	Yellow: i and j Sides do not reconcile, the value shows the difference and the count of associated issue(s) raised is displayed <i>Click on the value to in the Issue Count field to drill through to view the issue details.</i>
i File Set	Lilac: the i Side metric
j File Set	Pink: the j Side metric

Reconciliation Report (PDF)

Selecting the **Reconciliation Report (PDF)** menu item from the **Reports** toolbar opens the **Reconciliation Comparison Report** (Figure 81) in a separate PDF window which can then be saved locally to the user's PC

This report details the metric reconciliation configuration and contains a section for every reconciliation. Each metric reconciliation in the report lists the details of all of the assigned metrics.

Ascertain UM Reconciliation Definition Report

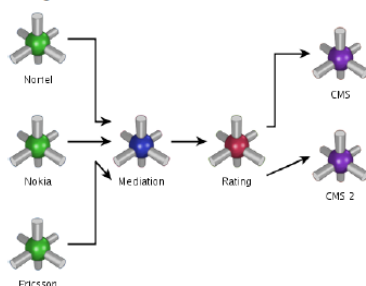
18/03/2011

Standard

Standard Metric Reconciliation Category

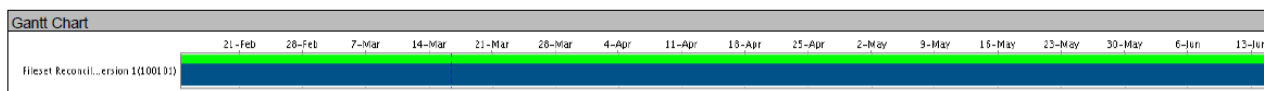
Billing Chain Model

Billing Chain Model



Fileset Reconciliation (Edge)

Fileset Reconciliation (Edge)



Fileset Reconciliation (Edge) - Version 1 (active Fri, 1 January 2010 12:34:56 to Thu, 1 January 2099 12:34:56)

Threshold Sequence : 2.5% Threshold Sequence					
Threshold : 2.5% Weekday Threshold					
Operator	Value	Severity	Priority	Issue Type	EDR Type (Sub Type)
>	0.025	Critical	Urgent	Metric Issue	
<	-0.025	Critical	Urgent	Metric Issue	
Threshold : 2.5% Weekend Threshold					
Operator	Value	Severity	Priority	Issue Type	EDR Type (Sub Type)
>	0.025	Critical	Urgent	Metric Issue	
<	-0.025	Critical	Urgent	Metric Issue	

Page 2

Figure 81 Reconciliation Comparison Report PDF extract

The PDF contains the following information for each **Metric Reconciliation**:

- diagram of the billing chain that the reconciliation is assigned to
- gantt chart displaying the timeline representation of the active versions
- table containing information regarding each reconciliation version
- details of the metrics on each side of the reconciliation plus any assigned thresholds or threshold sequences


Scenario Model Overview


The **Scenario Model Overview** screen (Figure 82) displays the network model as it is configured for the installation of UM. It shows the location of issues on both nodes and edges in the following way:

- The node icon has an additional warning triangle or exclamation symbol where issues have been raised by intra-node metrics.
- The edges change colour from black to red where issues have been raised by inter-node metrics or missing files.

The screen is accessed from the **Reports** toolbar > **Scenario Model Overview** which opens the **Scenario Model Overview** screen (Figure 82).

It is possible to refine the issues that are displayed using the filters at the top of the screen. Linked filters are utilised to facilitate data selection. Once data from one filter is selected, the remaining linked filters will only contain a relevant data subset for subsequent selection. The set of linked filters are indicated by the filter names being in dark brown text, for example:

Source Type 

Clicking the  icon will reset the filter.



Please note that without filtering it may be difficult to determine where significant problems lie because all issues will be visible.



It is possible to override the default icons if required. Please contact the Administrator if this is required.

The fields on the **Scenario Model Overview** screen (Figure 82) are detailed in the table below. Once the filters have been selected, click the **Apply** button to generate the **Scenario Model Overview**.

Field Name	Description
Issue Date Raised	Date range of the issues to be presented
Sample Date	Date range of the data to be presented
Source Type	Source type to be presented
Source	Source to be presented
EDR Type	EDR type to be presented
EDR Subtype	EDR Subtype to be presented
Metric Definition	Name of the metric definition that was run against the file(S)
File Match Definition	Name of the file match definition that was used in the process of associating files from one node to those from another node

UM Dashboard example

The UM homepage screen can be configured to show a set of reports that the user wishes to view. The reports first need to be assigned to a new dashboard and then set as the default dashboard so that it appears as the user's homepage.



For information on setting up a dashboard, see the section **My Dashboards** in *How to Use Ascertain Applications*

The screen below (Figure 83) is an example of a user's dashboard which could displayed on the homepage.

Usage Monitor Dashboard

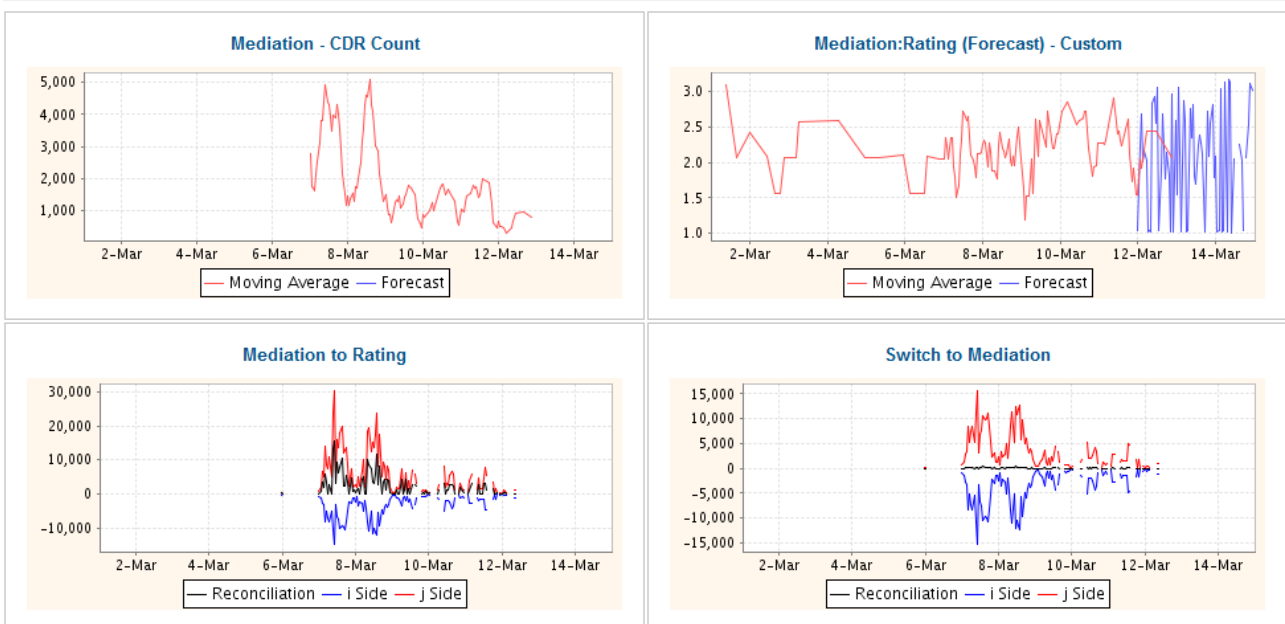


Figure 83 Example of a UM Dashboard

5 UM Issue Management Customisations

The following section defines the customisations that have been added to the Issue Management functionality specifically for Ascertain UM.



*For further information regarding the use of the Issues screens see the **Issue Management** section.*

The UM Issues screens can be accessed from the **Issues** toolbar > **Case Management (UM Filters)** and **Alert Management (UM Filters)** (Figure 84)

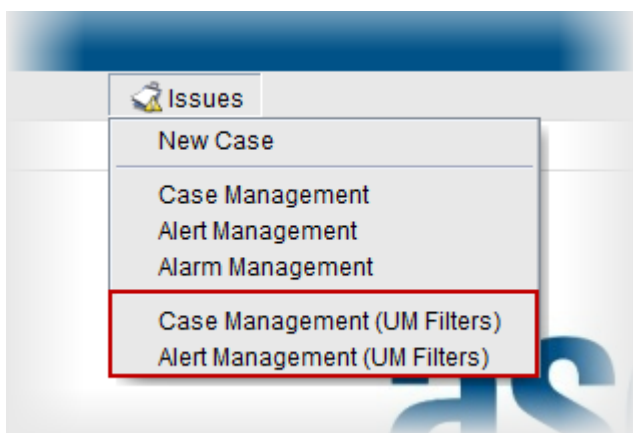


Figure 84 Issues Menu

Issue classification is as follows:

- **Alarm** - Operational issue, e.g. raised by running job, associated with job alarms.
- **Alert** - Business issue, e.g. raised by UM on breach of threshold.
- **Case** - Manually raised issue.

The **Case Management (UM Filters)** and **Alert Management (UM Filters)** screens are of the same format and functionality. The **Alert Management** screen (Figure 85) is shown as an example below.

To raise a UM issue manually, click the **Add** icon on the **Case Management** screen and select **UM Case** by clicking the **Add** icon to open the Issue Details screen for manual completion.

Alert Management (UM Filters)

The **Alert Management** screen (Figure 85) enables users to view and filter all issues that have been raised automatically within the Issue Management module by UM. This screen's fields and functionality are documented in the **Issue Management** section.

Alert Management

☐ Hide filters

Identifier Parent Identifier

Title

Type

Date Raised to

Severity

Status

State

Owning Group

Issue Tag

Priority

Time Open

Resolution Code

Owning User

Page 1 of 189 (3778 rows)

Identifier	Title	Date Raised	Date Closed	Time Open	Type	Owning Group	Owning User	Resolution Code	Status	✓
5322	Fileset Reconciliation (Edge)	15 Mar 2011		1-6 days	Fileset Based Metric Reconciliation Issue	IM Default Users	Administration User		Open	<input type="checkbox"/>
5321	Fileset Reconciliation (Edge)	15 Mar 2011		1-6 days	Fileset Based Metric Reconciliation Issue	IM Default Users	Administration User		Open	<input type="checkbox"/>
5320	Fileset Reconciliation (Edge)	15 Mar 2011		1-6 days	Fileset Based Metric Reconciliation Issue	IM Default Users	Administration User		Open	<input type="checkbox"/>
5319	Fileset Reconciliation (Edge)	15 Mar 2011		1-6 days	Fileset Based Metric Reconciliation Issue	IM Default Users	Administration User		Open	<input type="checkbox"/>
5318	Fileset Reconciliation (Edge)	15 Mar 2011		1-6 days	Fileset Based Metric Reconciliation Issue	IM Default Users	Administration User		Open	<input type="checkbox"/>
5317	Fileset Reconciliation (Edge)	15 Mar 2011		1-6 days	Fileset Based Metric Reconciliation Issue	IM Default Users	Administration User		Open	<input type="checkbox"/>
5316	Fileset Reconciliation (Edge)	15 Mar 2011		1-6 days	Fileset Based Metric Reconciliation Issue	IM Default Users	Administration User		Open	<input type="checkbox"/>

Figure 85 UM Alert Management Screen

Alert Details

The **Alert Details** screen displays the detailed information stored against an issue. Clicking on an issue's **Identifier** on the **Alert Management** screen (Figure 85) will open the **Alert Details** pop-up screen.

The issue's details are accessed by clicking on the tabs along the top of the screen. The example below shows an **Alert Details** screen with the following tabs selected: **Issue Details**, **UM Alert Details** and **Notes**.

Issues are categorised by **Type**, the available UM issue types are as follows:

Issue Type	Description
UM Parent Issue	A set of issues can be grouped under one parent issue for easier management
Late Predecessor	File matching issue - a late predecessor file
Late Successor	File matching issue - a late successor file
Metric Issue	An issue raised when executing metrics
Time Based Metric Reconciliation Issue	An issue raised when executing time based metric reconciliation
Fileset Based Metric Reconciliation Issue	An issue raised when executing fileset based metric reconciliation

[5322] Alert Details



Issue Details	UM Alert Details	Notes	Linked Issues	Child Issues	History
Identifier	5322		Parent Identifier		
Title	Fileset Reconciliation (Edge)		Type		
Class	Case		Type	Fileset Based Metric Reconciliation Issue	
Severity	Critical		Priority	Urgent	
Raised By	Administration User		Owning User		
Owning Group	IM Default Users		<None Specified>		
State	Start		Resolution Code		
Date Raised	Tue, 15 March 2011 11:37:38		<None Specified>		
			Date Closed		
			Financial Impact		

[5322] Alert Details



Issue Details	UM Alert Details	Notes	Linked Issues	Child Issues	History
Metric Definition	<None Specified>		Metric Category		
Reconciliation Definition	Fileset Reconciliation (Edge)		Reconciliation Category		
File Match Definition	<None Specified>		Node		
Edge	Rating:CMS		Source		
Graph	<None Specified>		EDR Subtype		
Source Type	<None Specified>		Period		
EDR Type	<None Specified>		j Fileset Id		
Sample Date	Thu, 10 February 2011		i Fileset Id		
			MRec ID		

[5322] Alert Details



Issue Details	UM Alert Details	Notes	Linked Issues	Child Issues	History
<div>Add Note</div> <div>Tue, 15 March 2011 11:37:38 (Administration User) (edit)</div> <div>UM Metric Note</div> <div>View Reconciliation Chart</div> <div>Metric Reconciliation Details</div> <div>Reconciliation Name: Fileset Reconciliation (Edge)</div> <div>i Fileset: 126817</div> <div>j Fileset: 126818</div> <div>Time Period: Thu, 10 February 2011 17:00:00</div> <div>i Side: 962</div> <div>j Side: 987</div> <div>Reconciliation: 25</div> <div>Threshold Details</div> <div>Threshold Name: 2.5% Weekday Threshold</div> <div>Threshold Type: Percentage</div> <div>Threshold Version Id: 100004</div> <div>Threshold Breach Criteria: < -.025</div> <div>Save Close</div>					

Figure 86 UM Alert Details Screen

Threshold Attributes

Two threshold attributes have been defined specifically for UM:

- Source Types and Sources
- EDR Type and EDR Subtype

These attributes enable users to define different thresholds depending on the **Source Type/Source** and/or **EDR Type/Subtype**. Thresholds are configured on the **Manage Threshold Attributes** screen (Figure 87) accessed via the **Configuration** toolbar > **IMM Configuration** > **Thresholds**



For further information regarding **Threshold Attributes** see the **Issue Management** section.

Manage Threshold Attributes



Threshold Severity	Applicable Days	Exceptional Dates	Source Type and Source	EDR Type and EDR Subtype
<div><div><input type="checkbox"/> Switch</div><div><input type="checkbox"/> Ericsson</div><div><input checked="" type="checkbox"/> Nokia</div><div><input type="checkbox"/> Nortel</div><div><input type="checkbox"/> Unspecified</div></div> <div><input type="button" value="Clear"/> <input type="button" value="Reset"/></div> <div><input type="button" value="Save"/></div>				

Manage Threshold Attributes



Threshold Severity	Applicable Days	Exceptional Dates	Source Type and Source	EDR Type and EDR Subtype
<div><div><input type="checkbox"/> MOC</div><div><input checked="" type="checkbox"/> MOCa</div><div><input type="checkbox"/> MOCb</div><div><input type="checkbox"/> MTC</div><div><input type="checkbox"/> POC</div><div><input type="checkbox"/> PTC</div><div><input type="checkbox"/> ROAM</div><div><input type="checkbox"/> SMO</div><div><input type="checkbox"/> SMT</div><div><input type="checkbox"/> Unspecified</div></div> <div><input type="button" value="Clear"/> <input type="button" value="Reset"/></div> <div><input type="button" value="Save"/></div>				

Figure 87 UM Specific Attributes on Manage Threshold Attributes Screen