

**TARGIT®**

*TARGIT Management*

*User guide*

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### **TARGIT**

Aalborgvej 94, 9800 Hjørring  
Denmark  
Tel: +45 96 23 19 00  
Fax: +45 96 23 19 99

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# Introduction

## TARGIT Management

The TARGIT Management is the management application used to configure the TARGIT Server and TARGIT applications.

**Note:** Non-Windows administrators with sufficient rights are able to use Management, but when trying to restart, stop or start the TARGIT Server, they will be prompted for an administrator login.

## TARGIT Server

The TARGIT Server is the server application. The TARGIT Server supports many database types and is deemed necessary for other TARGIT applications to run. The TARGIT Server simplifies installation and management of client applications by eliminating the need for installation of database engines on the client computers.

Time dependent activities such as Notifications and Report scheduling are also handled by the TARGIT Server.

## VFS

The VFS (Virtual File System) is basically a directory containing all files used by the TARGIT applications, for example background images, language drivers etc. When a user connects to the TARGIT Server from a client workstation, the files in the VFS directory will be copied to the client computer. Each user can have his or her own languages, background images and so on. All of these files are placed on the TARGIT Server and copied to the user during connect.

## Dynamic Periods

TARGIT Server and the TARGIT application supports Dynamic Periods, the ability to compare data relative to a dynamic time setting as for instance: "Revenue, this year to date" compared to "Revenue, last year, same period ". Each of these two statements are dynamic, meaning that the period and the data reflected will be according to the actual date.

In order to be able to use this powerful feature both in multidimensional and relational databases, the time dimensions of the Data Warehouse must be defined and configured properly. A detailed description of this may be obtained from the supplier.

# The Basics

## Server Registration

When opening TARGIT Management a dialog is shown. If the server you want to connect to isn't listed, you can register a new server by clicking the 'Register Server' button and type server name or IP address and the port number of the server. Registered servers may be managed by clicking the 'Manage Server' button. Registering and managing a server may also be done from the right-click menu along with other options such as connecting, starting and stopping the TARGIT Server.

## Changing language

The language of TARGIT Management may be changed into any of the supported languages by clicking the Help menu in the top left corner and select the 'Change language' menu item. This will open a drop-list dialog with all the supported languages to select from. After selecting a language TARGIT Management has to be restarted in order for the change to be effective.

## The Main Window

When the 'Manage Server' button is clicked in the registration dialogue, the TARGIT Management Main window is shown. It is divided into three sections. The left section shows a list of modules. Clicking a module changes the main section to the right and further interaction is handled in the main section. Above the two sections is an information bar that shows details about the clicked module.

# Server management

## System

The system module shows Server information about hardware and software components. It is also possible to start, stop and restart the TARGIT Server if it stops or has to be restarted due to major management changes.

## Setup

Clicking the setup module provides several options to manage your server properties. The following sections describes each of these options.

## Front-end

When you click on the Front-end button a new dialogue opens with the following properties:

### ***Number Format***

By default this setting is checked on new installations and therefore all formatting is done on the client side according to the login (or browser) language. If this setting is disabled, all number formatting is done on the server according to the system language and all clients will see the same number formatting. An advantage of using client-side formatting is the reductions in query result size, especially with cross tables. Both the server and client-side formatting may be overwritten by changing the number formatting on the individual data objects in the clients. The currency setting decides what currency is used when using the currency number format.

**Note:** When upgrading from versions prior to build 4062, client-side formatting is disabled to ensure backward compatibility.

### ***Statistics***

The setting 'Send Anonymous usage statistics' may be enabled/disabled from here.

**Note:** Anonymous usage statistics are sent to TARGIT for improving and selecting future features. The statistics contains a list of features that users use in the client (ribbon content, right-click menu content and so on), but does not point out individual users nor does it contain any customer data. Click the Privacy policy link for details.

## ***Splash screen***

**Display:** May be set to Disabled, Default or Custom. Information on how to use the Splash screen settings are displayed when hovering the *i* to the right of the field.

**URL:** The URL for the custom website to display may be entered.

**Menu name:** The name of the Menu item that reopens the splash screen may be entered.

**Enforce display in clients:** If the display of the splash screen should be enforced, a check-mark may be set.

## ***Data request cache***

The following settings may be turned up or down for data request caching:

**Cache size limit (Mb):** Makes it possible to set the maximum size for the disk space allowed for caching (in Mb, default 1024 Mb).

**Minimum free disk Space (Mb):** Makes it possible to indicate the minimum size of free disk space required to enable the cache (in Mb, default 256 Mb).

**File count limit:** Makes it possible to set the maximum number of files in the cache. (Default 1000 files).

**Idle file expiration (days):** Makes it possible to indicate the number of days an idle cache file is kept before it is deleted (default 10 days).

Note that caching of data requests may be set to on or off on a database connection.

## **Back-end**

When you click on the Back-end button a new dialogue opens with the following properties:

### ***Logging***

The logging option allows requests to be logged in the auxiliary database. By default analysis requests are logged when checking the 'Log Analysis requests to auxiliary database' option, but it is possible to add storyboard requests to the logging by checking the 'Log storyboard requests' option. The counter adjust button 'Keep data for' is used for specifying the number of months to keep the logged requests in the database. If 0 (zero) is selected, the requests are kept until they are removed manually. If logging is disabled after being enabled the logging stops as soon as the currently running requests stops. If logging is enabled again, the logging does not start for the currently logged on users - only the ones logging on later. If the Auxiliary connection is changed while logging is enabled, the log will continue to use the old connection - until logging is stopped and restarted or the TARGIT Server is restarted.

## **Online License Update**

Automatic license update may be enabled and a one hour period may be selected for the update to take place. The current license is sent, at a random time within the given time period, to the licensing server and a check for an updated license is made. If an update is needed e.g. due to expiration or update to a later version, the license will automatically be updated.

## **Criteria request cache**

The following settings may be turned up or down for criteria request caching:

**Cache size limit (Mb):** Makes it possible to set the maximum size for the disk space allowed for caching (in Mb, default 1024 Mb).

**Minimum free disk Space (Mb):** Makes it possible to indicate the minimum size of free disk space required to enable the cache (in Mb, default 256 Mb).

**File count limit:** Makes it possible to set the maximum number of files in the cache. (Default 1000 files).

**Idle file expiration (days):** Makes it possible to indicate the number of days an idle cache file is kept before it is deleted (default 10 days).

Note that caching of criteria requests may be set to on or off on a database connection.

## **Alerts and Notifications**

The Alerts and Notifications option is used to send e-mails if TARGIT Server errors occur and to specify the mail server to be used when scheduling notifications and Reports. It lets you specify the mail server to be used for outgoing mails. The server name may be followed by a colon and a port number. Using SMTP authentication is possible, user name and password may be entered in the appropriate fields. It is also possible to enable SSL/TLS encryption if the server supports it. Error reports by email are by default sent from 'antserver@computer name'. Some mail servers however require that sender address is a fully qualified domain name. An edit field allows specifying a correct sender address. An example of an error could be that the TARGIT Server could not process a request or that the given request is invalid. When enabling the Administrative alerts option, it becomes possible to set an option to report different kinds of errors and write one or more e-mail addresses of the recipients.

**Note:** To send e-mails to external addresses the mail server needs to be configured to allow relay from the TARGIT Server. The simplest way to do this is to add the IP address of the TARGIT Server to the mail server's "Relay Allowed" list.

## Performance

The performance options in TARGIT Management consist of two settings:

**Note:** Performance monitoring and Network Load Balancing are only available with an Enterprise Server license.

### **Performance**

Maximum number of active threads determines the number of concurrent threads the TARGIT Server will use to serve the clients. Each client will use its own thread, but this setting can be used to limit the number of active threads. An active thread is defined as a thread currently processing a request. If the number of actual requests is higher than the number of available threads, the requests are queued. Performance can be increased by raising the number of concurrent threads, but at the cost of system resources (memory, CPU power, disk access, etc.). If this setting is 0 there is no upper limit to the number of concurrent active threads. Default is set to 4 times the number of CPU cores.

The maximum number of Sentinels threads may also be set and is used to specify how many threads should be used for searching for Sentinels. The default value is 1 on a single CPU server and half the number of CPU cores on a multi-core server. This is to avoid that all processing power is used on searching for Sentinels. The number may be changed, but no more threads than the number of CPU cores can be assigned to the Sentinel search even though a higher number may be entered. A value of 0 threads is the same as default.

### **Network Load Balancing**

When multiple TARGIT Servers are configured in a Network Load Balancing (NLB) environment, this option may be enabled and the NLB parameters may be specified. The basic principle of operation is that requests may be rejected a maximum number of times, depending on the actual load of the TARGIT Server and below 'Maximum Rejections' setting. The actual thresholds triggering rejections may be based on either a CPU load percentage over a certain time period, on the number of Active Queries or a combination hereof. If both thresholds are set, request rejection will take place if one of them is fulfilled.

#### **CPU Load**

Check this to activate the threshold and specify the CPU percentage and time period that the actual CPU load has to be higher than in order to initiate a request rejection. The default values are 95% over 10 seconds.

#### **Active Queries**

Check this to activate the threshold and specify the Maximum Queries that will trigger a request rejection. The default value is four times the number of CPU cores on the server running the TARGIT Server.

## Service Dependencies

When clicking the Service Dependencies button a list of all services and their descriptions on the server is shown. Putting a check mark next to one or more services causes the TARGIT Server to delay start up, until the checked services has been started. Database servers used by the TARGIT Server should always be checked in the dependency list as the TARGIT Server cannot start or run without access to the Data Warehouse.

## Server Trace

Server trace consists of two options that will change the registry settings. Log requests logs analysis requests in the event log (this is in addition to the log in the auxiliary database if enabled in the Back-end module). Log to file is only relevant when the TARGIT Server is running as a service. The option enables the possibility to log to a file (<date>.LOG) rather than the application event log. The log file is date stamped and if the file exceeds 2GB during one day, more files are created. <date>. LOG files are located in the folder: ...\\ProgramData\\TARGIT\\ANTserver\\LOG. MDX queries sent to the database may also be logged by checking the MDX check box.

**Note:** These options should only be used for debugging purposes, because of the large amount of data sent to the event log or log file. Logging data requests requires an Enterprise Server license.

**Note:** It is necessary to restart the TARGIT Server in order to create the folder and start logging to file(s).

## Connections

Clicking the Connections module shows a list of current connections and their properties. Right-clicking a connection opens a menu with options to add, delete, disable and see the properties for the connection. When adding a new connection, a new dialogue opens with options to create a Multi-Dimensional, Relational or Other connection. TARGIT Management supports connections to a wide array of multi-dimensional databases:

- Microsoft Analysis Services 2005, 2008, 2012, 2014, 2016 and 2017
- Azure Analysis Services 2016
- Mondrian Pentaho Analysis Services
- Oracle Warehouse Builder
- Prophix for Microsoft Analysis Services 2008, 2012 and 2014

and Relational Databases:

- SQL Server 2005, 2008, 2012, 2014 and 2016
- Microsoft Azure SQL Database
- TARGIT inMemory Database
- IBM DB2
- Oracle

- MySQL
- SADAS
- SAS
- SAP HANA
- Generic

and Big Data including:

- Hortonworks(HDP)
- HDInsight
- EXASOL
- Google BigQuery
- Cloudera(CDH)
- MongoDB
- Microsoft Analytics Platform System

Furthermore, other connections may be established to Microsoft Reporting Services, Microsoft Search Server 2008 and GIS objects. Whenever a database has been specified a dialogue opens and connection properties may be entered.

**Note:** Working with relational databases, multiple databases, Oracle Warehouse Builder and Pentaho Mondrian requires an Enterprise Server license.

**Note:** When creating connections at least one 32 bit database driver must be present.

**Note:** To create a TARGIT inMemory Database connection, a specific license to TARGIT inMemory Database is a requirement.

Database setup dialogs for databases may have the following options:

**Impersonation: (Windows Security Impersonation / Delegation)**

Used to specify that user's access to the database should be controlled by the cube security. This option is only active for Microsoft Analysis Services cubes, and when using Windows authentication. Using impersonation on a database connection has the disadvantage of not being able to use scheduling since the users' credentials are needed to do the impersonation and these credentials are not known when the scheduled job is executed. Microsoft Analysis Services 2005 has introduced an alternative to 'Standard' impersonation called 'Effective user'. By supplying just the user name (and not the password), Analysis Services will behave as if the user was authenticated and any security set up in the database will be considered. Furthermore, this allows scheduled jobs to be executed. Note that this requires the user that logs into Analysis Services (i.e. the user running the TARGIT Server) to have administrator rights.

**Note:** If TARGIT Server and Analysis Services are on separate servers, they must be on the same domain and the TARGIT Server PC must have "delegate" rights. Also note that the TARGIT login option "Specify credentials" does not work in connection with "Impersonate users" if TARGIT Server

and Analysis Services are on separate servers, so in this case the Client PC's must be on the same domain as the servers.

### **Non empty criteria**

This property is enabled by default and ensures that dimensions on the criteria bar are filtered such that members causing empty results are removed from the dimensions displayed in the criteria bar. This option is only available in connection with Multi-Dimensional databases.

### **Non empty queries**

This property is enabled by default and filters dimension members with empty results from the data set. This option is only available in connection with Multi-Dimensional databases.

### **Use subcubes**

A subcube is a subset of a cube based on the criteria applied to the data set. The use of subcubes is enabled by default and will in most cases result in a performance increase. Use of subcubes has both pros and cons which should be considered. This option is only available in connection with Multi-Dimensional databases.

### **Max active connections:**

Used to limit the number of active connections to the backend database server.

### **Accumulated query time before reconnect (seconds):**

In order to reduce Pivot Table Services memory requirements when accessing large databases, it is recommended to disconnect and reconnect from the database at certain intervals. The number of seconds of accumulated query time between each disconnect may be specified here. Default setting is 0 (zero) for no automatic disconnect / connect.

### **Generate SQL based on consistent data (Only relational databases)**

This option indicates to the TARGIT Server if data are consistent or not. Specifically if all foreign keys lead to a proper result. This option is on by default, but can be cleared if data are known to be inconsistent, e.g. when connecting to a real-time source. Note that if this option is cleared the query performance may be reduced.

### **Check for Touch notifications**

This option is on by default. Clearing it prevents notifications from being displayed for Touch when processing the data model related to the connection. If a connection is very often processed and the connection is not used for Touch, performance may be improved by clearing this option, since the TARGIT Server does not have to check for notifications.

### **Cache data requests**

Data request cache works in connection with data requests in order to reduce the time it takes to fetch and display data when data requests are repeated. Note that default is **on** on multidimensional databases and **off** on relational database connections. Every time a cube is processed, the cache is flushed in order to prevent outdated results, which means that cache on close to real-time connections may have little or no effect.

Data request cache files for the Windows client are placed in the following folder on the local computer:

<drive\path>\users\<user>\Appdata\Local\Temp\cache\<subfolders>

Data request cache files for Web and Touch clients are placed on the server in folders similar to this:

<drive\path>\windows\temp\cache\_<account SID>\<subfolders>

The data request cache is updated in case of cube processing and when colors are changed.

#### **Cache criteria requests on server**

Criteria request cache works in connection with criteria requests in order to reduce the time it takes to fetch and display criteria when criteria requests are repeated. Note that default is **on** on multidimensional database and **off** on relational database connections. Every time a cube is processed, the cache is flushed in order to prevent outdated results, which means that cache on close to real-time connections may have little or no effect.

Criteria request cache files are placed in the following folder on the server:

<drive\path>\Program Data\TARGIT\ANTserver\cache

The criteria request cache is updated when processing the cube, when changing colors and in case of changing forced criteria in roles or changing decorations.

#### **Select Into SQL: (Only relational databases)**

This field makes it possible to enter an SQL statement that the TARGIT Server uses when aggregation tables are created. The statement consists of SQL keywords and placeholders e.g. (SELECT <fieldlist> INTO <destination><from><groupby>). The TARGIT Server replaces the placeholders with SQL when working on the aggregation tables. Other SQL statements that copies data from one table to another may also be used (e.g. CREATE TABLE <destination> AS SELECT <fieldlist> <from> <groupby>).

## **Prophix**

A Prophix connection is a connection that is based on an Analysis Services 2008, 2012 or 2014 database. When creating a Prophix connection a server name and the name of the Analysis Services 2008, 2012 or 2014 database must be provided. In addition a dimension/hierarchy and optionally a measure may be provided. In Analysis Services 2008, 2012 or 2014 multiple hierarchies may be available within each dimension, which is why a specific hierarchy must be referenced. This is done in square brackets - the default hierarchy is [Version].[Default]. Based on the dimension/hierarchy and

measure(s) virtual measures are created. If more than one measure exists virtual measures with unique names are created based on the chosen dimension/hierarchy and each of the measures.

## Auxiliary connection

The auxiliary connection is used to establish a connection to a relational database used by TARGIT Server to save extended logs or for table lookups. To create an auxiliary connection, go the 'Connection' module and right-click the work area and select 'Add...'. Among the connection types in the dialog select 'Other' and then 'Auxiliary Relational database'. Specify an appropriate name for the connection and click 'Next'. Then specify a connection by clicking the text link 'Change Connection string'. This opens a new Windows Data Link Properties dialogue. This dialogue is used for selecting the Provider and Connection information for the databases. The Provider tab is for selecting the OLE DB provider for the database, e.g. SQL Server Native Client. The Connection tab is used to select the actual database as well as initializing it. More information about using Data Links can be found in the Microsoft Windows documentation. It is recommended to use the Windows Data Link Properties dialog to setup databases.

**Note:** Right after a new auxiliary database is created, it is important to restart TARGIT Server to create the necessary tables. This is only applicable if the database is used for logs. For table lookups, the tables have to be created manually.

## Log content

The extended log is saved in four tables in the auxiliary database. The content of the four tables is shown below:

Table	Columns
TARGIT_LOG	REQ_ID_SRV: Name of the server where the request is processed. REQ_ID: The log ID of the request. CUBE: Name of the cube requested. USERNAME: Name of the user performing the request. IP: IP address of the users machine sending the request. REQDATE: Date when the request is sent. REQTIME: Timestamp when the request is sent. REQSECONDS: Duration of request processing. CONTEXT: The context in which requests are made. This may be the name of an analysis, a report or N/A if the user creates an analysis/report from scratch within TARGIT. The context field may also contain a VFS path with a "*" symbol after it. This represents an analysis saved with some sort of criteria applied. REQ: Full length request for each REQ_ID.
TARGIT_LOGCRIT	REQ_ID_SRV: Name of server where the request is processed. REQ_ID: The log ID of the request. DIM: Name of the dimension where the criteria is applied. OP: Operator specified in criteria (e.g. >, <, = ).

	CRITERIAVALUE: Value of the criteria (e.g. "2006"). CRITERIA: Full length criteria specification (e.g. Period=[Period].[All].&[2006]).
TARGIT_LOGDIM	REQ_ID_SRV: Name of server where the request is processed. REQ_ID: The log ID of the request. DIM: Name of the dimension requested.
TARGIT_LOGMEAS	REQ_ID_SRV: Name of server where the request is processed. REQ_ID: The log ID of the request. MEAS: Name of the measure requested.

## Reporting Services

If Reporting Services is selected as connection a text field makes it possible to enter the URL to the Reporting Manager Web Interface. This URL is necessary for TARGIT to connect to Microsoft's Web Interface for Reporting Services.

The default path for the Reporting Manager Web Interface on SQL 2005, 2008, 2012, 2014 and 2016 is 'http://*server name*/reports'.

**Note:** When the connection is created correctly, a new group 'Report' is displayed in the TARGIT Windows Client's File tab. The group contains the icon 'Reporting Services'. When clicking the icon, a Reporting services dialog is opened.

## Microsoft Search Server 2008

Microsoft Search Server 2008 is a product that will index and help employees find corporate information quickly and easily. TARGIT supports Microsoft Search Server 2008 and by setting up a connection to Microsoft Search Server 2008, your search objects are no longer limited to a local machine but will cover as much information as is available on the server.

Connections to a corporate server running Microsoft Search Server 2008 may be set up in TARGIT Management by adding a connection of type 'Other' and selecting Microsoft Search Server 2008. The connection is simply created by writing the Web Service URL of the search server and click the 'Create' button.

## Configuring GIS

TARGIT offers the possibility to connect to scalable maps using the MapInfo charts standard. This gives you an opportunity to combine your analytical data with MapInfo charts in TARGIT. This is also referred to as GIS (Geographical Information System).

**Note:** To work with GIS a special GIS license is required.

## **Connecting to MapInfo charts**

MapInfo charts consist of files containing the actual map data e.g. .TAB, .GST, .DAT and .MAP and a MapInfo Workspace file (.MWS) storing information needed for the final visual presentation of the map. The maps are constructed with different layers where each layer contains information about e.g. oceans, continents, country borders, region borders, municipalities, cities etc.

The workspace file can be edited with tools available from MapInfo.

**Note:** Workspace files must be placed in the same folder as the map data.

### **Setting up the connection to MapInfo charts**

The connection from TARGIT to MapInfo charts is setup in the TARGIT Management Connections module. The connection is set up similar to regular database connections. To add a new connection, you have to right click in the work space and select 'Add'. In the Connection Properties window that opens select 'Other' and then 'GIS'. TARGIT default installs a GIS connection to a set of sample maps. You can only have one GIS connection so if you need to point to a different set of maps or you need to add a workspace. Right click on the existing connection and select 'Properties'. Then you right click on the existing workspaces to modify properties or right click anywhere in the grid and select 'Add Workspace' to add an additional workspace. In the dialog that appears a GIS workspace file (.mws) must be selected and the Workspace may be named afterwards.

### **Manage Workspace links**

After setting up the workspace, the analytical dimensions must be mapped to elements in the GIS maps. E.g. you can map region of the map to the region attribute for the customer dimension. When the workspace is right-clicked an option to 'Add Map Column' is available. It opens a dialog with a list of all the data columns in the workspace. In this list the appropriate map column must be selected. After clicking OK, the map column appears underneath the workspace. A map entry is now created. To link the map to the data, the map entry must be right-clicked and 'Add Source Data Item' must be selected. In the list of source data items select the item that fits the data in the selected map column and click OK. Each of the entries in the workspace list may be changed by right-clicking the entry and selecting 'Properties'. There is also an option to select a workspace as default. This makes it the selected map when creating a new scalable map object in the clients.

To get an overview of the match between the map and the data, the source data item may be right-clicked and 'Compare Data...' may be selected. This opens a dialog with a list of all of the map items on the left and all the data items on the right. The list by default displays all items from both. Other filtering options appear below the list. 'Match' displays all items where data match between the map column and the source data. 'No match' displays all source data items with no match in the map data. Note that all source data items that don't match may be copied to the clipboard by right-clicking the list area and clicking 'Copy missing members to Clipboard'.

An overview of the map column may be displayed by right-clicking the map entry and select 'Show Map Table...'.

**Note:** The GIS charts do not have a language layer where you can translate members. That means that the member names must match the dimension's member names. If this is not the case, you can fairly easily add member properties to your dimension levels and map to the member properties instead.

When linking to columns it is recommended that you link to the most significant column/layer that the dimension represents. E.g. if you link region you should link to the region layer rather than the text layer. TARGIT will only color the column/layer selected so if only the text is selected you will not be able to distinguish between members when zoomed out.

## License

When connected to a TARGIT Server and clicking the license module, a list of the license values is shown e.g. expiration date, version and number of named users for each application.

The license information may be altered by using one of the options under the license values; Download License, Import License and Check Online Now. A License is supplied as a 16 character License Key which may be entered here and used to download the license data from the license portal. In case the PC running the TARGIT Management application does not have access to the Internet, it is possible to download the license information from the license portal as an XML file which may then be used with above Import License option. Older license keys and license files may be used to register the license as long as the old key or file is valid and there is an update subscription for the license. The last option is to check for license updates. This is done by sending the current license to the licensing server, which checks for updates. If an update is needed the license will automatically be updated.

**Note:** Incorrect License information will disable the TARGIT Server, and all other Server modules and settings will be unavailable.

## Logins

The Logins module provides an overview of the logins for the license. For each of the licensed applications, the number of available, used and connected logins are shown. The Logins overview may be refreshed by right-clicking and selecting 'Refresh list'. For a more detailed view of the logins, double-click one of the applications for a view of logins to all applications or right-click an application and select to view logins for the selected application or for all applications. This opens a new window, where the list of users who have logged in is shown in the leftmost column. Users with a grey dot are not currently logged in and users with a green dot is currently logged in. Unfolding the plus-character next to each user reveals the logins performed for the user and for users currently logged in, another plus-character may be unfolded to see the IP-address of the user. For each of the logins, the last logon time, the user level and the client version of last login are shown in the other columns. Columns may be sorted by clicking them.

To the right of the logins overview filters may be applied. This is done by selecting the permission rights of the users who should be shown and/or select if disconnected, connected or both kind of users should be shown. The filters are applied instantly.

At the bottom of the window three buttons allow for a refresh of the logins, disconnecting users and deleting users. Deleting users may be used to free up some of the used logins and make room for new users.

## Language

The language module is used for customizing business terms in relation to the TARGIT databases. The database terms, including names of databases, measures, dimensions and dimension levels may be translated. Also names of folders and files in TARGIT Smartpad Documents Shared section may be customized.

Each implemented language is represented by an entry in the list of languages. Double clicking a language entry opens a Language Properties dialog with options to edit business terms. A right-click menu is also available for opening the Language Properties dialog for the selected language.

The left column of the Language Properties dialog displays a tree structure for each database and Smartpad Documents, where nodes are preceded by plus or minus signs, which is used to expand or collapse the nodes. The tree may be browsed by using the arrows keys. The middle column 'Translated Name' of the Language Properties dialog is used for translation of the business terms. After having selected an original element of the database tree in the left column, pressing the Enter key will prepare the corresponding edit field in the middle column for entering the translation. Press the Enter key again to accept the translation. The right column 'Translated Description' is used to add a description of the business term. Content of this field will be displayed as a hint when the cursor is hovered over the field in Smartpad Source data tab or the folder or file in Smartpad Documents.

To edit a translated element, press F2 or Enter and type the translation. If the translation is the same as the original use the right-click menu and select 'Copy Original'.

The Suggestion field below the tree structures is filled if an identical original with a different translation is found anywhere in the list. This can be used to make the translations consistent and the suggestion can be applied by clicking the Apply button or right-click an entry in the language list and select 'Copy Suggestion' (Shortcut is Ctrl+S). Other options in the right-click menu include 'Copy Default' (Ctrl+D), which copies the translation of the default language and 'Copy Original' (Ctrl+O), which copies the original text. 'Expand Recursive' expands all the nodes in the database tree and 'Remove Translation' removes the translation.

## Decorations

The decorations editor is used to add information to the metadata coming from the underlying back-end databases. Decorations are added before metadata is further processed. The benefits of using decorations includes improved performance, easier and better data overview and additional information not available in the database.

When clicking 'Manage decorations' a dialog opens with a list of all databases on the left and a list of properties on the right. In the top of the dialog a filter for each of the properties may be applied and a check box 'Show only specified decorations' to display only the decorations that have been changed from the default values. The check box is checked by default when the decorations editor is opened if decorations have been specified. Each database to the left may be expanded to display containing cubes and each cube may be expanded to display dimensions and measures. When an element is clicked, the properties that may be set for the element are displayed to the right. Default values are displayed for all properties. Changing the default value displays a small '-' button, which may be used to remove the decoration. Note that some of the properties have several values, which may be cycled by clicking them several times and other properties have multi-select values selectable from a list once the default value is clicked. Changes to the properties of an element overrides any values of the property specified elsewhere in TARGIT Management and any values specified on higher levels.

The table below lists all the properties available and provide a description of each.

Property	Description	Database
Criteria request: Include calculated members	This property makes it possible to specify if calculated members should be included in a request for possible criteria values. Any changes overrides the default specified in the option in Setup   Back-end.	Analysis Services 2005-2014
Criteria request: Selected measures	By default all measures in a cube are included in the criteria requests made from dimensions on the criteria bar. Sometimes it may be convenient to select specifically which measures should be included to reduce the number of members shown in the criteria bar. With this property the measures to include in criteria requests may be selected specifically. Note that selecting measures specifically overrides any values set for the property 'Criteria request: Include calculated members'.	Analysis Services 2005-2014
Dynamic dates definition	This property makes it possible to define dynamic dates dimension level names in a way that is usable for the database backend. E.g. in a tabular model, a hierarchical time dimension may be defined in a way that requires redefinition here. It is necessary to know what the unique names for each dimension level in the dimension are (e.g. in SSAS) to make the definitions. When selecting an appropriate hierarchy and clicking this field, a dialog with three tabs opens: <i>Dynamic time definition</i> , <i>Offset and table lookup</i> and <i>Level type overrides</i> .  <b>Dynamic time definition</b> Format: {level1}.{level2}....{levelN}	Analysis Services 2005-2014

	<p>To specify where the ANTServer should substitute a part from the date, you use the '&lt;' and '&gt;' characters. For each level you can only have one '&lt;', '&gt;' pair. '&lt;&gt;' by itself means substitute with the part that the current level type represents (e.g. the year value for the year level)</p> <p>If you want to explicitly specify what part is substituted, you can use the following letters inside the '&lt;' and '&gt;':</p> <p>Y : Year  X : Week year (what year the current week is part of)  Q : Quarter  M : Month  W : Week  D : Day of month</p> <p>If you put two of the same letters next to each other, the value will be truncated to 2 digits with leading zeroes if needed. Any other number of the same letter does not have any effect on output. E.g. (for the year 2009):</p> <p>Y -&gt; 2009  YY -&gt; 09  YYY -&gt; 2009  YYYY -&gt; 2009</p> <p>You can also write a list of values (e.g. month names) inside the '&lt;' and '&gt;':</p> <p>&lt;JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC&gt;</p> <p>An example of a time definition:  [&lt;YYYY&gt;].[&lt;Q&gt;].[&lt;JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC&gt;].[&lt;D&gt;]</p> <p>Which as an example may give the output in the following format:  [2013].[4].[DEC].[31]</p> <p>It is also possible to insert text, e.g. to insert 'Q' before the quarter number as in this example:  [&lt;YYYY&gt;].[ 'Q'&lt;Q&gt;]</p>	
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	<p><b>Offset and table lookup</b></p> <p>To resolve a situation where e.g. the financial year varies from the calendar year, it is possible to use either a lookup table or a date offset.</p> <p>The name of the lookup table may be entered in the database name field. In order to make this work, it is a requirement that a lookup table has been defined and that an auxiliary database connection has been established to the database containing the lookup table. In the Date offset section it is possible to mark if the financial year begins before or after the calendar year and to select the offset in months.</p> <p><b>Level type Overrides.</b></p> <p>In order to specify to the dynamic date engine which type each level in the hierarchy represents, it possible to set the correct level type for each level in the hierarchy. The selectable types are Years, Half years, Quarters, Months, Weeks and Days. Especially suits tabular data tables, where level types are not defined.</p> <p><b>Note:</b> The ANTServer must be restarted in order to make definitions work.</p>	
Include in Sentinel search	When searching for Sentinels all cubes and measures are included in the search by default. This property makes it possible to specify for each database, cube and measure whether it should be included in the search.	All databases
Non empty criteria	This property ensures that dimensions on the criteria bar are filtered to only display members where data exist for one or more measures in the measure groups the dimension is associated with.	All databases
Non empty queries	This property filters dimension members with empty results from the data set.	Analysis Services 2005-2014
Use subcubes	A subcube is a subset of a cube based on the criteria applied to the data set. The use of subcubes will in most cases result in a performance increase. Use of subcubes has both pros and cons which should be considered.	Analysis Services 2005-2014
Prevent criteria Auto-filter	This property makes it possible to prevent a dimension to be included in an auto-filter request in the criteria bar. This is convenient for some calculated dimensions that causes auto-filter requests to take long time.	All databases

Search-only in criteria bar	Prevents fetching members automatically when opening a dimension field in the criteria bar.	
Visual totals	This property makes it possible to enable (default) or disable measure totals when criteria are applied.	Analysis Services 2005-2014
Oracle Warehouse Builder caption column	By default the dimension captions presented in TARGIT are based on the key values in the Oracle Warehouse Builder. To change this to another value (e.g. Name value) write the name of the value in this field. After any change the cubes must be processed by right-clicking the connection and select 'Process Cubes'.	Oracle Warehouse Builder

**Note:** Each element may have only a subset of the properties above.

## Resources

This module is used to manage the bitmaps and images to be used as backgrounds and setup of Export folders.

## Backgrounds

Background images can be used in TARGIT Objects. This list specifies which images are available. A new image is inserted by right clicking and choosing Add in the right-click menu. This will bring up a file dialog, where the desired image file can be selected. Supported formats are Bitmap (BMP) and JPEG (JPG) and PNG.

## Export Folders

Reports can be scheduled from TARGIT and from TARGIT Management. The actual calculation and export of the report is done by the TARGIT Server. Both these applications need not to be run on the same machine as the TARGIT Server and this fact introduces a problem regarding the location of the exported report. The TARGIT Server need to have access to some path where the report can be exported to and this path might not be accessible from the schedule dialogs of TARGIT and TARGIT Management when they are run from another machine (which is often the case).

The solution is to let the administrator specify the allowed locations and this is done through this module. When the TARGIT Server is installed a default folder is created in the installation folder, e.g. `C:\Program Files\TARGIT\Exported Reports\`.

A new location can be created by right-clicking and choosing New Folder. Then a dialog is presented with two input fields.

**Name:** Gives the location a name and this is the name that will be presented in the schedule dialogs in TARGIT and the Scheduler module.

**Folder:** Contains a path where the TARGIT Server has rights to create files. When the TARGIT Management is run on the same machine as the TARGIT Server, a browse option is available to select the path.

A Report Output folder can be edited by right-clicking it and choose 'Properties'. It can be deleted by selecting Delete.

## Security

This module is used to control the security model for authenticating users in the TARGIT environment.

There are two security models, Standard and Windows. In the Standard security model users are kept in an XML file on the TARGIT server and clients log on by providing a valid username/password combination. Windows security means that users have access to TARGIT based on their existing Windows account.

In both the Standard and Windows security models permissions may be granted or revoked by defining Rights and then adding groups or users to the Rights. Note that permissions work in combination with Roles and that a user must be member of at least one Role to be able to logon to a TARGIT client.

When Windows Security is selected the Security Package frame allows selection of the preferred security package: Negotiate, NTLM or Kerberos.

Normally the security model is specified during the initial installation of the server and is never changed. If the security model is changed at a later point in time all settings depending on the choice of security model will be obsolete, e.g. Roles and Users. Furthermore, it is necessary to restart the TARGIT Server.

**Note:** When using the Kerberos security model the server name to connect to the database must be the real server name and not localhost.

## Pre-shared key for Anywhere signed logon

In order to enhance security, it is possible to validate the client logging in when using TARGIT Anywhere. This is done by copying the key created when selecting 'Get pre-shared key' to the TouchServer's web.config file. View the example displayed in the dialog to see exactly how to edit the web.config file. It is also possible to make the current key invalid and create a new one by selecting 'Invalidate existing and create new key' from the main menu.

## SSL certificate

Clicking the 'Launch SSL Toolkit' link. opens a dialog with a list of available certificates. The active certificate is highlighted but another certificate may be selected as the active certificate by double-clicking it. Clicking File opens a menu with these options:

### **Install certificate from Certificate authority:**

Makes it possible to browse to and select a certificate issued by a Certificate authority.

### **Create**

*New self-signed certificate:* Makes it possible to create a self-signed certificate. The dialog asks to enter a DNS name for the certificate before creating it.

*Certificate request:* Makes it possible to make a certificate request file which may be used by a Certificate authority to issue a certificate.

## Users

The Users module is used to add or remove Users of the TARGIT applications when using the standard security model. Adding a new user is done by right-clicking and choosing 'Add' in the right-click menu. A user can be edited or deleted by right-clicking on the desired user and choosing the appropriate menu item.

The display name field makes it possible to add additional information (e.g. a more informative name) to the Username. The information entered is displayed in parentheses after the Username.

The password field holds the password used to authorize the user when logging in to the programs of the TARGIT. Note that the password for a standard security user may be changed from inside the Windows, Web and Anywhere clients.

### **Groups**

If a user must be a member of one or more existing groups, a check mark must be placed in one or more check boxes next to the group names.

## Groups

Groups works in connection with Rights and Roles and makes it easier to administer a large number of users in a complex environment. Depending on the security model either Windows groups or, if the Standard security model is selected, groups defined in this module may be used.

The module is used to add a new group of users, which need to be treated equally with regard to their Rights and Roles. Right-clicking the white space opens a menu with the option to add a new group. Pressing the 'Add' button opens a 'Groups properties' dialog where the name of the group may be written. Right-clicking a group allows creation of a new group or deletion of the selected group. Properties may be opened for an existing group in order to rename it.

## Rights

This module is used to create and edit rights for users and groups regardless of the security model. A good practice is to create different, properly named rights according to the wanted security levels and then add users/groups to the rights.

Right-clicking the white space opens a menu with the option to add a new set of rights. By right-clicking on an existing set of rights it is possible to add a new set of rights, delete the rights or edit the properties for the rights.

Adding a new set of rights causes a Rights Properties dialog to be displayed. In the name field a name for the set of rights may be entered. Below the name field there are three tabs: Members, License and Rights. The options when clicking the tabs are:

### Members

Clicking on the Add tab makes it possible to select and add members to the set of rights. The dialog displayed depends on the security model. If Windows security is selected, a Windows Select Users and Groups dialog is displayed. If Standard security is selected a Select Users/Groups dialog with the defined users and groups is displayed. When members have been added to a set of rights it is possible to remove members by selecting one or more members and then clicking the Remove tab.

For each client type a field with a drop-down list makes it possible to set the license level for the rights. The number of purchased licenses of each license type is displayed in parentheses after the license name. Note that it is not the number of unused licenses of the type that is displayed.

A short general description of the license levels is given in the table below. For detailed information about licenses see the License Overview document (not available in this user guide).

License	Windows Client
Designer User	All rights to Analyses and Reports
Consumer User	Mostly read rights for Analyses, Reports and Storyboards without any editing rights

In addition to the rights obtained through the license level, the right to Manage the TARGIT Server via TARGIT Management and to Touch access may be managed in the license tab dialog.

**Note:** If e.g. two Designer User licenses have been purchased and installed and these are the only licenses available, then when selecting a lower license level for a set of rights (Consumer User), the Designer User licenses will be used when logging on, but the user logs on with Consumer rights.

### Rights

This module makes it possible to remove permissions to the Windows with a license level as starting point. A set of features is related to each license level. For each higher license level the set of features

is expanded (a Designer user has all the features that a Consumer user has plus extra features). Each of the features related to a license level may be disabled. E.g. if the license level is set to Designer User, it is possible to remove the permission to save analyses in shared documents by clicking on the 'Allow in these rights' link aligned with this feature. Clicking on the link changes the text displayed to 'None in these rights' and another click changes the text to 'Deny in all rights'.

By denying in these rights it may still be possible to obtain the permission through another set of rights. By Denying in all rights the permission cannot be obtained unless it is edited in this set of rights.

If a license module is necessary in order to have access to a feature, the name of the module is displayed in the License modules column. If the module is not purchased, 'not available' is displayed in parentheses after the module name.

Note that the features displayed do not represent a definition of the difference between the license levels. They are only a selection of features that have been assessed to be relevant in relation to rights.

## Roles

The Roles module is used to allow or deny access to selected parts of the data in the TARGIT environment including Data Warehouse data and subfolders and their content in the 'Shared' folder.

Roles can be added, edited, copied and deleted by using the right-click menu. Editing a role by clicking the properties menu item brings up the Role Properties dialog. Copying a Role makes it easy to create roles with slightly different properties than the source role.

**Note:** Give roles meaningful names. Often the name could match the title of the group of users the role is intended for, e.g. the name of a department.

## Members

The Members tab is used to select which users/groups that should belong to this role. Clicking the Add button will do one of two things depending on the security model of the server. In the case of standard security a dialog will appear where the users/groups from the Users module can be selected as members of the role. In the case of Windows security a standard Windows dialog will appear where names of Windows users and groups may be entered. A user may be member of more than one Role, but it should be noted that Deny in one Role element overrules Allow for that element in all other Roles.

## Databases

The Databases tab can be used to select which data should be visible to members of this role. Access can be granted on database (top), cube and measure/dimension level. This is done by setting the permission level to 'Allow in this role' in the 'Permission' column for the element. Other permission types are 'None in this role', which denies access to the specific element for all users in this role and 'Deny in all roles', which denies access to this element in all roles e.g. if the user is included in more than one role. Next to each element an 'Inherit' checkbox is checked. This allows all sub elements to automatically gain the same access rights.

### Default child permission

For the elements, databases, cubes and dimensions a default child permission may be set. This option makes sure that any additions e.g. a new dimension gets appropriate permission instead of uncritically allowing it in the role. The permission options include:

Permission	Description
Inherit	Added children of the element inherits the permission of the element in this role.
Allow	Added children of the element are allowed permission in this role.
None	Added children of the element are disallowed permission in this role.
Deny	Added children of the element are disallowed permission in all roles.

E.g. if a Sales cube has default child permission set to 'None' in a role and the database administrator adds a new dimension to the cube, the users in this role are automatically denied permission to the new dimension. When creating a role it is convenient to set appropriate default child permissions on as many elements as possible, such that the role accommodates later additions.

**Note:** By default, the default child permission is set to 'Inherit', hence, if a child is added and gets the permission 'Deny' the children of this child inherits the 'Deny' permission.

### Documents

The Documents tab can be used to select which folders of the Shared Documents section that should be visible to the members of this role. This can effectively be used to deny access to Analyses and Reports. The permission options are the same as in the Database tab with the extension that each element has columns for both read and write permissions. The read and write columns may be set individually such that write permissions are stricter than read permissions. The other way around is not possible. Also the default child permission may be used to control how added folders and subfolders are assigned permissions. This is done in the same way as for databases, but note that the permissions affect both read and write permissions, hence, 'Deny' default child permission denies both read and write permission.

**Note:** If elements, e.g. a folder, in roles are deleted, the permissions for the folder is not deleted from the roles. Therefore, creating a new folder with the same name gets the same permission as the old folder with that name.

### Criteria

In order to control which dimension values should be available to users the Criteria tab provides options to set forced and initial criteria. When setting forced criteria on a dimension, the dimension will have preset criteria when used in TARGIT. For example, if the forced criteria Period = 2008 and

2009 has been set in one role, members of that role may only see data for this period and no other period values are selectable - it is as if other periods do not exist in the data that the user browses. Initial criteria, on the other hand, are criteria that are preset for the data source, but may be changed or removed by the user. Initial criteria are visible to the user in the client.

Both forced and initial criteria are set by clicking the 'Add forced/initial criteria' text, then selecting a data source and the dimension where the criteria must be applied. This opens a view of the dimension members equal to the one shown in TARGIT clients. Members may either be included (green equal character) or exclude (red not equal character) by clicking them one or several times. Sometimes selections may conflict. For example if Period = 2009 has been selected, it does not make any sense to select Period != 2008 since the Period is already set to 2009 only. Conflicts like this appear in the box to the right of the selection area and may be resolved directly by clicking the text 'Resolve all conflicts' in the bottom of the box. Conflicts may also be resolved by manually changing the selections that caused the conflicts. To pinpoint the conflicts in the member list click the conflicting members in the conflicts list. An already selected member may also be located in the member list by clicking its name in the selection list over the member list.

In hierarchies selected members may not be easy to spot. Therefore an option, 'Show selected', is available in the bottom of the member list. If the link is clicked only selected members and their upper levels are shown. 'Show all' returns to the full view of all members. If a dimension level contains more than 50 members only the first 50 are shown. To see the rest click the 'Show all xx members' in the bottom of the list.

When the appropriate members have been selected the OK text must be clicked, which returns to the forced and initial criteria overview.

**Note:** It is not recommended to use initial criteria on shared dimensions, since they are applied to the dimension in all cubes.

#### Searching dimension members

Another way to spot members is to use the small search field below the member list. The following search terms may be used to find members:

Operator	Description
*	This operator represents all possible strings e.g. if you search for *A*, then all strings with the substring A are shown. In the same way a search for A* shows all strings starting with A and vice versa for *A.
A & B	Shows strings that contain both A and B.
A B	These four operators are interpreted as 'or', so either A is found in the result or B. If the operators are part of the string you want to search for, enclose the strings in quotes.
A   B	
A , B	
A ; B	
"A B"	Putting two strings in quotes shows all results with the string A followed by a space and then string B.
!A	Shows strings that doesn't contain the string A

=A	Shows strings that have exact match. If A is a substring the string is not included in the search. The equal sign has effect on all search strings without asterisks and the equal sign can only be at the beginning of the search string. If it is encountered later it is assumed as part of the search string.
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When the search results are shown two options are available to either include or exclude all the members returned from the search. More refined searches may be created by using parentheses e.g. (A | B) & C meaning members with either A or B but must contain C. The precedence rules follow the standard boolean rules:

Precedence level	Operator
1	Parentheses ( )
2	Boolean NOT !
3	Boolean AND &
4	Boolean OR

Clicking the magnifying glass with a red cross removes any search criteria and shows all members.

### ***Export Folders***

Makes it possible to select which Export folders the role provides access to. The folders allowed are presented in the Delivery |'Export to folder' drop-down list in the Schedule Job dialog.

### ***Startup Document***

Provides the possibility to set a specific document that should load at startup for the members of the role. If the startup document is set in a role, the 'Load on startup' choice on documents is dimmed for the members of the role. If 'Load on startup' is selected on a document before it is set in a role, the setting remains but have no effect. If a startup document is set in more than one role, an automatic choice is performed based first on permissions and then alphabetically. Folders are displayed first and there's a search field available at the bottom of the dialog. The search field in the lower left corner may be used to search for a specific document.

### ***Menu***

Makes it possible to point to a menu that opens when members of the role uses the 'Insert role based menu' option.

### ***Managed Documents***

Makes it possible to manage the content of the Managed Documents folder for the members of a role. If the content of the Managed Documents is set in more than one role, the union of the roles Managed Document settings is displayed.

By right-clicking in the Managed Documents dialog area, a menu may present the following choices:

**Add:** Makes it possible to select one or more documents from the Shared folder by browsing to the desired document(s) and mark them as selected. Folders are displayed first and there's a search field available at the bottom of the Add dialog.

**Remove:** Makes it possible to remove selection of documents or to remove created folders (including the document selections in the folder).

**Create new folder:** Makes it possible to create sub folders in the Managed Documents folder.

**Rename:** Makes it possible to rename a created folder.

**Note:** The Managed Documents folder cannot be removed or renamed.

### ***Look up user permissions***

Provides the possibility to view combined permissions set through roles for a specific user. A dialog with a user name field is presented when clicking the text, and a user name may be entered or selected from the drop-down list. The drop-down list displays users having logged in to the TARGIT Windows client. After a user is selected and then clicking OK, a dialog with a Role name field to the left and a Role details field to the right is displayed. In the Role name field the names of the roles the user is a member of is displayed. At the top of the field the standard role tabs are displayed. By using the tabs and then browsing to select a specific item, the role permissions for the item selected are displayed in the Role details field. Note that when a sub element is disallowed access, the parent element displays an information icon with the tool-tip "Sub elements have different permission".

# Appendix A: Glossary

## **Business Intelligence**

A computer based BI System is designed to generate information in a user-friendly way. This offers decision-makers with limited knowledge of computers the ability to specify their own analysis.

## **Data Warehouse**

A Data Warehouse has been defined as a collection of data in support of management decision making processes. A Data Warehouse solution can ensure consistent and cleansed information at the corporate level to facilitate planning and to make everyday decisions for smooth functioning of an enterprise.

## **Dimension**

Dimensions tell something about measures - like where, who, what, when etc. Dimensions are often not measurable.

## **Measure**

Measures are the quantitative values in the database that can be analyzed. Typical measures are sales, cost and budget data. Measures are analyzed against the different dimension categories available.

## **VFS**

The VFS (Virtual File System) is basically a directory containing all files used by the applications.

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