

SmartClient 4.0 SR3

Release Description

Build 4.0.42

SC40REL, Rev. 10 , 2010-05-09

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1. Introduction

This document contains information about the current version of the SmartClient™ program. It describes the changes since the previous version, capacity and performance guidelines, restrictions and other last minute notes, which are applicable for this version.

1.1 Related documentation

The following table lists all documents related to the SmartLogger™ product.

Title	Description
SmartClient Release Description	This document.
SmartBuilder User's Guide	User's Guide for the SmartBuilder program.
SmartClient User's Guide	User's Guide for the SmartClient program.
SmartGuard User's Guide	User's Guide for the SmartGuard program.
SmartLogger User's Guide	User's Guide for the SmartLogger program.
SmartNotification User's Guide	User's Guide for the SmartNotification program.
SmartStatus User's Guide	User's Guide for the SmartStatus program.
SmartTranslator User's Guide	User's Guide for the SmartTranslator program.

1.2 Release history

The following table lists the milestones in the development of the SmartClient™ product

Version	Date	Description
1.0	1998-02-15	First release.
2.0	1999-01-11	Final release 2.0
2.1	1999-03-26	Final release 2.1
3.0	1999-08-18	Final release 3.0
3.1	2000-01-25	Release of stand-alone SmartClient
3.2	2000-09-24	Final release 3.2 (stand-alone)
3.3	2001-10-11	Final release 3.3
3.3 SR-1	2002-05-31	Service Release 1
3.3 SR-2	2002-02-23	Service Release 2
4.0	2005-05-16	Release 4.0
4.0 SR-1	2006-08-05	4.0 Service Release 1
4.0 SR-2	2007-11-18	4.0 Service Release 2
4.0.SR-3	2010-05-10	4.0 Service Release 3

Latest build versions:

Application	4.0	4.0 SR-1	4.0 SR-2	4.0 SR-3			
SmartClient	4.0.12	4.0.19	4.0.30	4.0.42			
WTS Admin	4.0.12	4.0.19	4.0.30	4.0.42			
WTS License Provider	4.0.12	4.0.19	4.0.30	4.0.42			

2. Product Overview

2.1 Product overview

The SmartLogger product suite consists of the following programs:

SmartLogger™: Main program that handles the basic event logging and data handling for up to 4 serial or TCP/IP ports concurrently.

SmartClient™: Client application used for viewing and analysing log tables generated by the SmartLogger/SmartTranslator.

SmartBuilder™: Program used for building and maintaining the templates used by SmartLogger/SmartTranslator.

SmartNotification™: Program for generating mail, exe, I/O or SMS notification on selected events or system errors.

SmartSim™: Event simulator that can be used for test and demonstration purposes by sending events via a serial or TCP/IP connection. The simulator is freeware.

SmartTranslator™: Program for translating plain text files into SmartLogger database tables.

SmartStatus™: Program for remote supervision/control of the SmartLogger/SmartTranslator/SmartNotification/SmartOPC programs.

SmartGuard™: NT Service application for supervising and automatically starting/re-starting SmartLogger/SmartTranslator as "background" tasks.

SmartOPC™: A collection of applications/services designed for connecting OPC servers to SmartLogger applications.

2.2 Functionality overview

- Native driver supports (no ODBC) Paradox7, Oracle8 and MS SQL Server 7/2000 databases.
- Customisable table print.
- Save table view as...
- Export table to a file in Text, MS Excel, HTML and XML format.
- Copy/Export selected records to clipboard or Text, MS Excel, HTML or XML files.
- Search utility (substring, starts with..., wildcard search etc.).
- Advanced Query option. GUI based SQL filter with AND/OR operations.
- Sort option. GUI based SQL operations.
- Time View. Show records within a limited time window.
- Database Alias Manager.
- Table auto-refresh. Automatically refresh the listed records when viewing dynamic tables.
- Table Merge utility.
- Alarm Management analysis add-on.
- SmartClient version for Windows 2000/2003 Terminal Services.
- SmartClient version for Citrix Metaframe XP.
- Grouping and quick sorting on grid data.
- Color mapping of records.

3. Changes in SmartClient

3.1 Release 4.0 Service Release 3 Build (4.0.42)

New functionality

License handling

- All applications changed to the new file based license system.

Improvements

AM - General

- "Auto scale" feature renamed to "Auto align time scope" and moved from toolbar to time scope text. The previous arrangement was confusing for many users.
- Default setting for "Auto align time scope" can now be set using the options dialog or "Set as default settings" button.
- Print button added to toolbar for all "Result" tab sheets.

AM – Alarm Rate

- New feature: Alarm Rate KPI summation sheet added with the following KPI's calculated/listed: Total alarms, Average, Top peak, Time Outside Target.

License Server (WTS installations only)

- License trace log added. All license requests are now traced in the log file "WTSLogons.csv".

Table size

- The number of allowed fields/columns in a table has been increased from 30 to 150.

Oracle – Limited number of records returned

- The setting that allowed the user to only receive a limited number of records from the database, previously only worked for MS SQL server and Paradox tables. This has been improved to also include Oracle tables.

Query Dialog

- Save button now uses last loaded query file as default filename.

Short table name option (Oracle / MS SQL Server only)

- If "Short table name" option is enabled, the short name is also used in other dialogs (Window captions, Windows menu, Print dialogs) as well. Previously the short table name was only used in the Open dialog.

SQL Server – NVARCHAR fields

- SmartClient uses "hex encoding" when querying tables in order to handle reserved characters in a unified way. Hex encoding does not work with NVARCHAR columns, whereas this feature now can be disabled from the options dialog.

Corrected errors

Alias Manager (WTS installations only)

- Error: Alias Manager could be opened with CTRL+A even though SmartClient was running in WTS mode.

AM – Alarm Rate

- Error: Change in the "Alarm Rate target" setting was not applied until SmartClient was restarted.

Alarm Management - General

- Auto scale (time scope) did not work properly, if table was opened using “Recent tables list” and if Base Time SQL was used.

Quick Filter

- Fixed the way a quick filter works if another query is already defined. Previously the quick filter was always added to the query, even when the query had been temporarily turned off. Now an existing, but inactive, query is cleared before the quick filter is applied.

Table Merge

- Setting the "Add source table name as last field" option caused the merge to fail.

Table Open

- Fixed the way predefined scope settings (“1 week (fixed)” and “1 month (fixed)”) in BaseTime SQL is shown. Instead of showing an end date/time of "2009-03-08 00:00:00", it now shows "2009- 03-07 23:59:59".
- Fixed underscore (_) as a literal character in Table list filter for SQL Server tables.
- Fixed an issue where extra fields with the names xxxx_<number> would show up in the field list, if the SQL Server table contained NVARCHAR fields.

Table size

- If a table contained more than the maximum allowed fields, SmartClient crashed instead of just giving the user an error message.

3.2 Release 4.0 Service Release 2 (Build 4.0.30)

New functionality

Extended SQL and table information

- New option available under Tools | Options: "Show button for extended SQL and database information". Enabling this option, will result in a new button on the toolbar in the table grid window. Clicking this button will bring up a dialog showing detailed information about the SQL performed against the database, table structure, SQL query time and other information meant for database administrators.

Table Merge – Pre-filtering

- A filter can now be applied to the source tables *before* tables are merged. This feature is very useful if, for example, merging 7 day logs to 1 weekly log containing alarms only.

Improvements

Table grid and SQL Quick Query

- When selecting a quick query in the list, the query is performed, and focus will then change to the table grid. This is done to prevent selecting a new query by mistake, when scrolling the mouse wheel.

Table open

- Alias information: When a database alias is selected, the tooltip will now show information about that database. The information shown depends on the type of database (Paradox, Oracle or MS SQL).
- Logon error messages now show a detailed error description. Previously a standard message “Unable to logon to database” was shown for all logon error types.
- Advanced options: In addition to the list of excluded users, it is now also possible to specify what users to *include* instead.
- Advanced options: The list of possible included/excluded users has been expanded from 20 to 50.
- Advanced options: Option for showing a short version of table names added. When working with MS SQL Server or Oracle tables, names tend to be very long as schema and/or user name is part

of the table name. If the “short name” option is enabled, only the part after the right most "." is shown in the table list.

Table close

- <CTRL>-W will now close a table window.

Alarm Management – General

- Focus is now set to either grid or chart after an analysis. This is done to prevent changing settings by mistake, when scrolling the mouse wheel.

Alarm Management – Alarm Rate

- New option “Fixed Y-axis” added to result trend. Makes it easier to compare trends when scoping.
- X-Axis labels and ticks significantly improved.
- Weekly and monthly scopes are now aligned to weeks and months accordingly.
- Chart period is now automatically adjusted, if the selected period is less than the resolution.

SQL Queries – Performance

- Improved performance if the query value does not contain any wildcards (strings only).
- String queries now use case sensitivity as default, as case sensitive queries are faster than case insensitive queries. If needed, the user can still turn off case sensitivity.

SQL Queries – Other

- Strings fields containing NULL values are now also returned when the user makes the following queries:
MYFIELD <> 'MYVALUE' (where MYVALUE is not an empty string)
MYFIELD = " (empty string / no value)

Corrected errors**SQL Queries - MSSQL**

- Querying for strings containing special characters, like the danish 'æøå', did not work properly.

SQL Quick Query

- Every time a quick query was performed, a new "<custom query>" entry was added to the dropdown list. That entry should only have been added once.
- Under certain circumstances, a newly saved query was not shown in the dropdown list until the table was reopened.

Alarm Management - Frequency Analysis

- Field #3 in Unique Fields was not properly saved as it should have been.
- Chart did not show any graph until drop-down was selected or default settings were stored.

Alarm Management – Alarm Rate

- Scoping did not work properly, especially when selecting weekly and monthly views.

Alarm Management – Operator Response Time

- “ResponseTime” was not handled correct when the response time exceeded 23:59:59.
- Caption on Y-axis showed “Reaction time”. Corrected to “Response time”.

Alarm Management – Options dialog

- Graph toggle button showed wrong image until default values were saved or button pressed.
- Graph toggle button was not aligned correctly on all screen resolutions.

Time View – Fixed time scopes

- Choosing a "fixed" time scope did not work properly.

Table open

- Choosing a "user defined" BaseTime SQL did not enable the end-time date/time controls.

Options (WTS Version)

- Some options set by the WTS administrator were not correctly updated to the WTS client.

3.3 Release 4.0 Service Release 1 (Build 4.0.19)

New functionality**Alarm Management, Reaction Time analysis**

- Added a new AM analysis for analysing L1->L2 and H1->H2 alarm pairs.

SQL Quick Filter

- It is now possible add a simple SQL filter from the grid context menu. When using this feature the values in the selected record are used as default values for the filter.

SQL Quick Query

- Saved queries can now be selected and executed directly from a drop down list in the table grid window.

Improvements**Alarm Management, General**

- Storage of default settings is now possible.
- More information added to status bar

Alarm Management, Print chart

- The result chart can now be printed.

Alarm Management, Grids

- "Export All" function added to the grid context menu
- "Print All" function added to the grid context menu.
- "Print Preview All" function added to the grid context menu.
- Column widths are now resized automatically according to the width of the texts.
- Copy and print buttons added to toolbars

Alarm Management, Alarm Rate

- Labels improved for weekly views

Queries

- Increased the maximum number of OR criteria's from 20 to 40.

Table open

- Base Time SQL: Fixed scope options added.

Table grid

- The context menu on the grid now supports exporting *all* records to a file, not just the selected ones.

Table merge

- The check for same table structure in all of the source tables is now less strict. For text fields it is allowed that the size of the field differs in the individual tables. The largest field size is then used for the destination table.

Terminal Services (multi user environment)

- License provider IP can now be configured in case the license provider is installed on separate computer. This is needed when using load-balanced Citrix Server configurations.

- The license provider service and the SmartClient no longer need to be in the same time-zone in order to get a valid license.

Corrected errors

Alarm Management, General

- "New filter" and "Modify filter" buttons did not always show correct status.

Grouping Mode / Print

- When in grouping mode, printing the selected records only, did not print the correct records.

3.4 Release 4.0 (Build 4.4.12)

The section describes the changes in SmartClient since the last official release (SmartClient 3.3 SR-2).

Discontinued functionality

MS Access

- MS Access databases are no longer supported.

New functionality

Alarm Management analysis

- Alarm management analysis add-on that allows the user to perform Alarm Rate, Alarm Frequency, Priority Distribution and Operator Response Time analysis.

Security settings (WTS only)

- The WTS administrator can lock some of the options so that WTS users cannot change these settings.

Open table

- The current SmartLogger tables can be opened from a special menu item. This only applies to installations where SmartClient is located on the same PC as the SmartLogger application.

Open table dialog

- A "Trace mode" can now be enabled when using BaseTime SQL. This option is available when the time scope is set to "Last hour", "Last 6 hours"...etc. Trace mode means that the time scope is adjusted every time a refresh of data is performed. I.e. when time scope is set to "Last hour", it is always data for the *latest* hour that is shown.

Time View scoping

- "Scoping" buttons have been added to the table view. It allows the user to scope back or forward in time without opening the Time View dialog.

License Provider (WTS only)

- License is now granted via a provider service. This allows administrators to maintain and revoke licenses from the WTS Administrator program.

Improvements

Analyze Time

- If a time view has been applied to the data, the time range is now shown in the analysis log file and the report.
- In case of multiple ON or OFF criteria's, the user can now configure whether to use the first or the last ON (or OFF) criteria in the calculation.

Data Access

- MS SQL server only: It is possible to specify the maximum number of records that can be fetched from the server.

General

- When trying to start a second instance of SmartClient, a warning is no longer displayed. Instead the SmartClient already running is activated.

Options

- The Options dialog now has an "Apply" button, to be able to apply/view the changes made without closing the dialog.
- WTS administrator only: An option for specifying "Directory for temporary files" is added. SmartClient normally uses Windows default for temporary files, but in some server configurations performance can be improved by manually specifying the directory.
- It is possible to specify that memo fields should show the actual data from the table (up to 255 characters) instead of just "(Memo)". This feature is useful if exported records should be re-translated to database tables by either SmartLogger or SmartTranslator.

Queries

- For numbers it is now possible to specify "*Greater than or equal to*" and "*Less than or equal to*".
- For strings it is now possible to specify a NOT LIKE criteria.
- For strings it is now possible to search for fields containing empty strings.
- Maximum text length in input fields changed to 50 (from 30).
- "Query saved successfully" message removed.

Table Grid

- The table grid now includes a toolbar for easy access to queries, data refresh, grouping and other frequently used functionality.

Text Export

- Now includes a "space aligned" export option. In the export file, data for each field is left aligned.

Corrected errors**Analyze Time**

- The handling of menu items and tool buttons concerning the Analyze Time functionality was not handled correctly. In some cases it was possible to call up multiple instances of the configuration dialog, which could result in access violations.

General

- The "Windows" menu did not activate a child window as it was supposed to.

Open table dialog

- Some times two errors were shown when trying to open a table without being able to connect to the database. This will now only produce one error.
- The setting of the time scope for the BaseTime SQL was not persistent when opening another table.

Query/Refresh

- Two similar criteria's with different case were not allowed even though "*case sensitivity*" was enabled. I.e. a search for "West%" AND "WEST%" was not allowed.
- Performing a refresh against an SQL server that was no longer available resulted in an infinite loop of error messages.
- A string containing <' > characters was not handled correctly causing the SQL statement to fail.

Export

- If a filename or path contained spaces, it was not possible to save the file.

- When switching between different formats the filename shown in the "Save As..." dialog was not correct.

4. Recommendations and Restrictions

4.1 Oracle8 database restrictions

- There is no Oracle license included in the SmartClient package. This product must be purchased separately in order to use Oracle as database.
- Oracle version must be version 8.0.5.
Important note: Although newer versions of Oracle might be compatible with Oracle 8.0.5, SmartClient has only been tested with Oracle 8.0.5.
- Oracle Net8 client software must be installed/configured on the client PC running the SmartClient.
- Fields names in Oracle tables must always be in uppercase.
- Showing the milliseconds for a log entry (LogTime field) will only show 000 since milliseconds are not supported by Oracle DATE fields. Please also refer to Status Report SR002.

4.2 MS SQL Server 7/2000 database restrictions

- There is no SQL Server 7/2000 license included in the SmartClient package. This product must be purchased separately in order to use SQL Server as database.
- SQL Server version must be version 7.0/2000.
Important note: Although SmartClient might be compatible with newer versions of SQL Server; SmartClient has only been tested with version 7.0/2000.
- SQL Server 7.0 client software must be installed/configured on the client PC running the SmartClient.
- Fields names in SQL Server tables must always be in uppercase.

4.3 Desktop versus Server databases

Desktop databases (Paradox)

Desktop databases do not have a real SQL engine supplying remote clients with data matching specific SQL queries.

The client therefore has to retrieve *all* records from the remote Desktop database, and then parse the records locally. This means, that all records are transferred over the network, from the database to the client, even though maybe only 1 record matches the query.

For Desktop databases, the network speed therefore will be of great influence, of how fast a query executes.

Server databases (Oracle or MS SQL Server)

Server databases contain a real SQL engine, which enables them to process SQL queries locally, and then only send the query result set to the client.

For Server databases, the network speed will be less important, since it is possible for the client to limit the number of records actually sent over the network.

4.4 Desktop database restrictions

- It is recommended that the tables are kept relatively small, i.e. less than 200.000 entries. This ensures good performance for the SmartClient when executing SQL sort/query operations.

4.5 Terminal Services support

- Windows 2000/2003 Server with Terminal Services
- Windows 2000 Server with Citrix Metaframe XP.

5. Known Issues

5.1 Grid multi select

When the grid is in "LoadAllRecords" mode (grouping / quick sort), it is not possible to select records for printing or copying.

Workaround: Remove the LoadAllRecords mode by refreshing the dataset (use the refresh button in the toolbar).

Multi selecting records using <SHIFT> and left mouse click does not work properly when the vertical scrollbar is used after selecting the first record.

Workaround: Use <SHIFT>-Arrow up/down to select more records that currently shown in the visible part of the table grid.

5.2 System shutdown

When there is at least one table window open, Windows does not react when you choose to shut down or restart the operating system.

Workaround: Manually close SmartClient before requesting a system shutdown/restart.

5.3 XML Export

Some characters like '&' and '<' will cause the generated XML to contain binary data.

Workaround: The problem is caused by the 3rd party grid control that SmartClient is using. At this point there's unfortunately no workaround for this behaviour.