CA Business Service Insight

Administration Guide

8.2.5

Contact CA Technologies

Contact CA Support

For your convenience, CA Technologies provides one site where you can access the information that you need for your Home Office, Small Business, and Enterprise CA Technologies products. At http://ca.com/support, you can access the following resources:

- Online and telephone contact information for technical assistance and customer services
- Information about user communities and forums
- Product and documentation downloads
- CA Support policies and guidelines
- Other helpful resources appropriate for your product

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If you have comments or questions about CA Technologies product documentation, you can send a message to techpubs@ca.com.

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Chapter 1: Introduction

This guide discusses administrative tasks including:

- Configuring system parameters
- Using the Aggregation Correlation Engines (ACE1) and (ACE2)
- Generating reports
- Running ACE1 from the command line.

This section contains the following topics:

Target Audience

This guide is intended for users who:

- Install or maintain CA Business Service Insight components (client or server side)
- Review or accept CA Business Service Insight security principles
- Have a basic understanding of Windows Operating System Security
- Have a basic understanding of networking architecture, design, and management

Roles

Every CA Business Service Insight user is assigned with one or more roles. The role determines which actions the user can and cannot perform within CA Business Service Insight. Only Actions that the user can perform are displayed in the CA Business Service Insight user interface when that user accesses the application.

After you perform a clean installation of Business Service Insight, you have one role available: Insight Super Administrator. This role cannot be edited.

Load Roles

To give users additional roles, you can load roles from the support site.

To load additional roles

1. Go to the support site, https://support.ca.com.
2. Login and select Download Center, Products.
3. Select "CA Business Service Insight - Windows All" under "All Products", then select release 8.2 and click the Go button.

   A page containing Product components opens including the download option “CA Business Service Insight Pre Defined Roles r8.2, CDM07160723M.iso”.
4. Click Download and follow the instructions.

   Note: Place the rolesPackage.bat and rolesPackage.sql files into the BSI installation folder.
5. Double-click the rolePackage.bat file.
6. Fill in the user name, password, and database name.
7. Check if any errors were reported during the script execution.
8. Go to Administration, Site Settings, Roles.
   The new roles are now displayed.

Chapter 2: Configuring System Parameters

You can configure many parameters from the User Interface (UI).

Only change those parameters that are located in the User Interface. To locate the system parameters which are accessible though the UI, go to Administration, Site Settings, Advanced.

Note: For advanced changes, contact CA support.

This section contains the following topics:

Advanced Settings

Advanced Settings allows advanced users to configure certain advanced settings including some contract configurations, system configurations, localization settings, calculation engine, report, export, and dashboard configurations.

To access Advanced Settings, go to Administration, Site Settings, Advanced.

Select an option from the tree on the left to view the modifiable parameters.

Configure ACE2 Parameters

Sets ACE2 related parameters.

Follow these steps:

1. In the Advanced Settings page, select ACE2.

   The ACE2 parameters display.

   ACE2 Port

   The port number of the server running ACE2.

   ACE2 Server

   The name of the server running ACE2.

   Default PSL instance

   The default instance to which contract parties and metrics are assigned.

   Enable Advanced Registration

   Enables default registration in business logic.

   Has ACE2

   Activates / Deactivates ACE2.

   1: Activated

   0: Not activated

   Is ACE2 default engine

   Determines if ACE2 is the default engine.

   Default: 1

   Maximal data events size

   100000

   Monitored events enabled for defined bridges

   Determines whether events coming from bridges are enabled.

   monitored events for defined bridges

   Specifies the bridges whose events are monitored.

   Use Re-Registration

   Causes recalculation for internal changes in the resources structure. The possible values are:

   - (1) Changes in resource structure that involve changes in resource hierarchy but do not cause a change in the registration result are calculated.

- (2) Changes in resource structure that involve changes in resource hierarchy but do not cause a change in the registration result are not calculated.
- Value: 0

Worker Stats History Period

This parameter cleans data from the missions queue load table that is presented in Administration "ACE2, Workers Queue Monitoring", according to a configurable time frame. This user only sees the workers queue statistics history over a given frame of time.

Default: 14 days.

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Configure Adapter Wizard Parameters

This option enables the user to set adapter Wizard-related parameters.

Follow these steps:

1. In the Advanced Settings page, select Adapter Wizard.

   The adapter wizard parameters are displayed.

   Adapter Listener Address

   The IP or URL address where the adapter listener resides

   Max size of sample file

   The maximum size of the sample file. Default (10)

   Number of lines

   The maximum number of lines Default (100)

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Configure Calculation Engine Parameters

This option enables the user to set Calculation Engine-related parameters.

Follow these steps:

1. In the Advanced Settings page, select Calculation Engine.

   The calculation engine parameters display.

   Enable Tracking recalculation

   Determines whether recalculation history is monitored and the information is saved, or not.

   Gather performance statistics

   Determines whether statistical performance information is collected, or not.

   Limited registrations

   Restricts registrations performed in the business logic to resources. These resources are assigned to the main contract party of the contract to which this business logic belongs.

   Max event block size

   Sets the maximum number of events that can be sent in a single block to a business logic multiple event handler.

   Metric order

   Sets the order in which the different agents are calculated Value.

   Minimum timespan to log recalculation from

   Determines whether the period events are printed out for debugging. purposes, or not.

   Modes mask

   Sets which modes are calculated. (1-15)

   Number of precalculation days

   Sets the number of days to start calculation before validity period.

   Performance monitoring level

   Set the level in which performance monitoring is performed:

   0 = Off

   Print out period events for debugging

   Determines whether the period events are printed out for debugging purposes, or not.

   Repeat unfinished agents

Determines whether full calculation of an agent before moving to the next one regardless of the maximum calculation interval is forced, or not.

resouercescachelowerlimit

Sets the minimum amount of resources allowed in the cache.

resouercescacheupperlimit

Sets the maximum amount of resources allowed in the cache.

Script timeout

Sets the business logic procedure call timeout period

Size of key field

Sets the maximum size of the Key field in T_SLALOM_OUTPUT

Size of table name field

Sets the maximum size of the Table Name field in T_SLALOM_OUTPUT.

Size of value field

Sets the maximum size of the Value field in T_SLALOM_OUTPUT.

1 = Low

2 = Medium

3 = High

Track recalculation history for tracking period only

Determines whether recalculation history is monitored for tracking agents, or not.

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

To configure metric states:

1. Select Metric states.

   The Select Metric state parameters display.

   Delete every

   Set the number of hours between metric state cleanups

   Number of state levels

   Set the number of metric states levels

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value refreshes.

To configure Select First-level states:

1. Select Calculation Engine, Metric states, first-level states.

   The first-level states parameters display.

   Delete after

   Set the number of hours beyond which a current level state becomes eligible for cleanup

   Save every

   Set the number of hours between current level states

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value refreshes.

To configure Select Second Level states:

1. Select Calculation Engine, Metric states, Second-level states.

   The second-level states parameters display.

   Delete after

   Set the number of hours beyond which a current level state becomes eligible for cleanup

   Save every

   Set the number of hours between current level states

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value refreshes.

Configure Catalog Parameters

This option enables the user to set Catalog-related parameters.

Follow these steps:

1. In the Advanced Settings page, select Catalog.

   The catalog parameters display.

   Audit trail (Y/N)

   Set if the Catalog Audit Trail is set or not.

   Contract Party verification

   Set the system behavior when the validation of contract parties fails during the creation of a contract from a contract template or service definition.

   The possible values are:

   Warn: A warning message pops up stating the failure and enables the operation to continue.

   Error: An error message pops up stating the failure and the operation is discontinued.

   Do Nothing: No error or warning messages pop up.

   Effective date verification

   Set the system behavior when the validation of effective dates fails during the creation of a contract from a contract template or service definition.

   The possible values are:

   Warn: A warning message pops up stating the failure and the operation to continue.

   Error: An error message pops up stating the failure and the operation is discontinued.

   Do Nothing: No error or warning messages pop up.

   Security mode

   Set if restrictions can be placed on the Template Libraries, contract templates and service definitions (Restricted) or not (Public)

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Configure Content Transfer Parameters

This option enables the user to set Content Transfer-related parameters.

Follow these steps:

1. In the Advanced Settings page, select Content Transfer.

   The content transfer parameters display.

   Content transfer jobs auto-refresh interval

   Content transfer jobs auto-refresh interval in seconds

   Content Transfer Search Limit

   A search limit for the results that are returned from the server.

   Content Transfer Server

   The address of the content transfer server.

   Maximum translation entries supported for transfer

   Can transfer the (maximum) number of entries in Translation Table entity/entities.

   Template Library Security transfer save option[A/I/N].

   "A" Apply security to included items upon transfer

   "I": Apply security to included items with intersect.

   "N": Do not apply security to included items upon transfer.

   Transfer security with Template Library, Contract Template, Service Level Template

   Transfer security with Template Library, Contract Template, Service Level Template

   Transfer with resource tree – default

   If a contract is registered or clustered over a resource group, then all resource group structure top down is transferred.

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Contract Parameters

This option enables the user to set Contract related parameters.

Follow these steps:

1. In the Advanced Settings page, select Contract.

   The contract parameters display.

   Add custom attributes to the Contract list search and display them in the Contracts list grid (Y/N)

   Set to enable addition of custom attributes to the Contract list search and to display them in the Contracts list grid.

   Allow changing time zone between contract versions in metrics(Y/N)

   Set to enable changing time zones in metrics between contract versions.

   Allow mass measurability setting (Y/N)

   Set to Y to enable user to change a measurability status for several metrics.

   Allow service override

   Enables service override in Contract creation.

   Cloned metric name pattern

   Cloned metric name pattern, source metric name, metric service

   Custom source for parameters data enabled (Y/N)

   - Show items related to All services (Y/N)
   - Show items related to all services in the Contract Creation wizard or not.
   - Set if an external data source is allowed for parameters.

   Custom source for parameters data URL

   Set the path to the external data source for retrieving parameter values.

   Note: The URL path must be set with the same name of the CA Business Service Insight computer that is used to access CA Business Service Insight through the web browser.

   Display Contracts list without the full data in the Info tooltip (Y/N)

   Set to enable Info tool tip (that appears next to each contract in the Contracts page) to display data.

   Expand Notes field in Metric Wizard (Y/N)

   Set to expand the Notes field by default.

   Maximum resources

   Set the maximum number of resources that can be selected in static clustering (between 1 to 100)

Metric notes default system encoding UTF-8

When converting metric notes from HTML to DOCX, and when HTML has no encoding, this encoding is used.

Rename metrics in previous versions

Set to enable renaming of metrics in previous contract versions.

Use Inline Notes N

Enter notes inline or upload them.

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

To configure Export Parameters:

1. In the Advanced Settings page, select Contract, Export Parameters.

   The export parameters display.

   Format of the chart

   Set the chart format to JPG or EMF.

   Support images placed in the note field when generating booklets (Y/N)

   When generating booklets, images placed in the Notes field are included in the report (Y) or are not included (N).

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Set Service Delivery Navigator Parameters

This option enables the user to set Contracts Navigator-related parameters.

Follow these steps:

1. In the Advanced Settings page, select Contracts Navigator, Settings.

   The settings parameters display.

   Load Saved Model in Default Mode

   Set if the saved model is permitted to be loaded as default or not

   Note: If set to N, the Set as default model for loading check box, when saving a model, is irrelevant.

   Enable Error Debug Message

   Set if users are permitted to see the server error messages or not

   Number of Entities To Display

   Set the number of entities to display in a model

   Is Secondary Contract Party behave as Contract Parent

   Set if the secondary contract party is permitted to act in the same manner as the primary contract party or not

   Number of Resources To Display

   Set the number of resources to display in a model

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

To configure User Interface parameters:

1. Select Contracts Navigator, User Interface.

   The user interface parameters display.

   Apply Layout Automatically

   Set if the layouts are applied automatically or not

   Show Relations

   Set if relations display or not

   Show Texts

   Set if texts display or not

   Zoom to Fit Window

Set if zooming to fit window is enabled or not

Window Height

Set the height of the Service Delivery Navigator window

Window Width

Set the width of the Service Delivery Navigator window

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Configure Current Status Engine Parameters

This option enables the user to set Current Status Engine-related parameters.

Follow these steps:

1. In the Advanced Settings page, select Current Status, Activation.

   The activation parameter displays.

   Is current status active

   Defines if the current status service is activated or not

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

To configure Auto Update intervals (seconds)

1. In the Advanced Settings page, Select Current Status, Auto Update intervals (seconds).

   The auto update intervals parameters display.

   Auto update Agent initial interval

   Set the initial timeout in seconds before starting to calculate current-status for the first time (between 30-3600 seconds)

   Auto update Agent recurring interval

   Set the interval in seconds between attempts to calculate pending calculations for current-status metrics between 30-3600)

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Dashboard Parameters

This option enables the user to set dashboard-related parameters.

Note: Do not change these settings. If you change them, you could cause decreased performance of the dashboard.

Follow these steps:

1. In the Advanced Settings page, select dashboard.

   The dashboard parameter displays.

   The Maximum number of Custom Navigations allowed

   Set the maximum number of custom navigations.

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

To configure Address

1. In the Advanced Settings page, select Dashboard, Addresses to enable the user to define the Dashboard engine addresses. These addresses allow remote components to interact with the dashboard.

   The address parameters are displayed.

   Dashboard Service Url

   Defines the URL of the remote server object that service requests of web clients.

To configure Agents time intervals (seconds)

1. In the Advanced Settings page, select Dashboard, Agents time intervals to enable the user to set the time intervals of the Dashboard agents. These settings determine the frequency in which the Dashboard is updated with new calculation results and with changes in the definitions of entities.

   Changed entities initial interval

   Interval in seconds before the first attempt to process entities that were changed. The changes detection cycle looks for entities that were changed, and updates all the entities in the dashboard.

   Range: 30-3600 seconds

   Default: 500 seconds

   Changed entities recurring interval

Interval in seconds between each cycle of calculating changed entities in the dashboard. The changes detection cycle looks for entities that were changed, and updates all the entities in the dashboard.

Range: 60-3600 seconds

Default: 300 seconds

Current Status changes initial interval

Time interval in seconds before trying to detect changes in current status metric settings. When a metric is enabled or disabled for current status calculation, the dashboard adds or removes the metric from the list of metrics.

Range: 30-600 seconds

Default: 120 seconds

Current Status changes recurring interval

Time interval in seconds between each current status metric settings change cycle.

Range: 60-360 seconds

Default: 360 seconds

Current status initial interval

Interval in seconds before trying to process current status metric results for the first time.

The current status engine calculates results for entities in the dashboard that are set to monitor current status tracking period.

Range: 10-3600 seconds

Default: 10 seconds

Current status recurring interval

Interval in seconds before attempting to process updates on current status metrics. The current status engine calculates results for entities in the dashboard that are set to monitor current status tracking period results.

Range: 10-3600 seconds

Default: 180 seconds

Current status changes initial interval

Time interval in seconds before trying to detect changes in current status metric settings.

Entities deletion initial interval

Time interval in seconds before trying to delete entities.

Range: 7200-18000 seconds

Default: 10800 second

Populating reports thresholds tables initial interval

Time interval in seconds before starting to populate the reports thresholds tables. These tables are populated to allow the thresholds reports to run properly.

Range: 1000-2000 seconds

Default: 1800 seconds

Populating reports thresholds tables recurring interval

Time interval in seconds between each population of the reports thresholds tables cycle.

Range: 7200-18000 seconds

Default: 10800 second

PSL events interval

Time interval in seconds between subsequent cycles of PSL events processing. Each cycle polls the PS tables for updated results of metrics and updates all the entities in the dashboard.

Range: 10=60 seconds

Default: 30 seconds

Resource changes max start time

The latest time the resources structure changes cycle occurs. Default: 22:00:00

Resource changes min start time

The earliest time the resources structure changes cycle occurs. Default: 21:00:00

Uncalculated entities initial detection timeout

Interval in seconds before attempting to calculate uncalculated entities on the Dashboard for the first time.

Range: 60 to 3600 seconds

Default: 180 seconds

Uncalculated entities recurring detection interval

Interval in seconds between each cycle of calculating entities on the dashboard that are not calculated yet.

Range: 300-3600 seconds

Default: 3600 seconds

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

The value is refreshed.

Select Average Score Rollup

1. In the Advanced Settings page, select Dashboard, Select Average Score Rollup to enable the user to set default metric scores.

   The average score rollup configuration parameters are displayed.

   Green Severity Default score

   The default score of a metric with severity green.

   Default: 100

   Red Severity Default score

   The default score of a metric with severity red.

   Default: 0

   Yellow Severity Default score

   The default score of a metric with severity yellow.

   Default: 50

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Client updates intervals

1. In the Advanced Settings page, select Dashboard, Select Client updates intervals. You can set intervals in seconds between attempts of the client to get updated results for entities on the dashboard that are not calculated.

   The client updates intervals configuration parameters are displayed.

   Client auto refresh interval (Min)

   Defines the first delay time, in minutes, for the first interval. Default: 30 seconds

   Enables Client intervals

   Client first interval (Sec)

   Defines the first delay time, in seconds, for the first interval. When you add a widget, the client waits for this interval before it performs a request from the server for the calculation results.

   If there are no results after this interval, the client waits for a configured amount of time before performing a new request from the server. Default: 5 seconds

   Client interval delay time (Sec)

The interval in seconds before the client attempts another request from the server for entities on the dashboard that do not have calculation results. Default: 60 seconds

Page Refresh Type-The type of refresh used for refreshing the page.

Possible value:

0: Soft Refresh

1: Hard Refresh

Enable client auto refresh interval

Possible values:

true: Enables the client auto refresh interval

false: Disables the client auto refresh interval

Default: True

Possible value:

true: The client attempts to get results for widgets that are not calculated according to the client interval delay value.

false: The client does not initiate periodic requests for calculation results

Default: True

Enable client intervals

A flag for disabling the client intervals.

Hard refresh time interval (Min)

The delay time in minutes after which the hard refresh occurs.

Range: 0 to 120 minutes

Default: 120 minutes

Page refresh type

The type of refresh that is used to refresh a page.

Possible values:

0-Soft Refresh

1-Hard Refresh

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Current Status related settings

1. In the Advanced Settings page, select Dashboard, Select Current Status-related settings. You can enable settings for interaction with the Current Status engine.

   The current status-related settings configuration parameters are displayed.

   Dashboard Engine listener address

   Address of the remote Dashboard listener that the current status interacts with.

   Default: tcp://localhost:8004/CalcServer

   Url of the remote current status listener

   Address of the remote current status object that listens for dashboard requests.

   Default: tcp://localhost:8005/CalcRequestServer

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Custom count rollup

1. In the Advanced Settings page, select Dashboard, Select Custom count rollup to enable the user to perform settings related to the count roll-up method.

   The custom count roll-up configuration parameters are displayed.

   Percentage of red entities

   When the percentage of items with red severity in level n+1 is larger than this value, the status of level n is red.

   Default: 33.5 percent.

   Percentage of yellow entities

   When the sum of percentages of the yellow severity items in level n+1 is larger than this value, the severity status is yellow.

   Default: 33.5 percent.

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Dashview background image settings

1. In the Advanced Settings page, select Dashboard, Select Dashview background image settings. You can set settings for the background image of a standard dashview.

The dashview background image settings configuration parameter is displayed.

Max upload size of the background image

The maximum upload file in KB of the dashview background image.

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Default Threshold values

1. In the Advanced Settings page, select Dashboard, Select Default Threshold values. You can set default thresholds for entities on the dashboard that do not have threshold values.

   The default threshold values configuration parameters are displayed.

   Complex entity default red threshold

   The default value of the red severity threshold for entities other than metrics. When the widget uses the Average Roll-up method, the score of the entity is the average of the scores of its children. For metrics, the severity color is converted to a numerical value. The color of the entity is determined based on its final score according to the thresholds.

   Range: 0 -100

   Default: 33

   Complex entity default yellow threshold

   The default value of the yellow severity threshold for entities other than metrics. When a widget uses the Average Roll-up method, the score of the entity is the average of the scores of its children. For metrics, the severity color is converted to a numerical value. The color of the entity is determined based on its final score according to the thresholds.

   Range: 0 -100

   Default: 66

   Metric default red threshold

   The default value of the red threshold for metrics that do not have threshold settings configured in the dashboard or in CA Business Service Insight. The metric severity status is determined by comparing the deviation of the metric with the threshold values. Default: 67

   Metric default yellow threshold

   The default value of the yellow severity threshold for metrics that do not have threshold settings configured in the dashboard or in CA Business Service Insight. The metric severity status is determined by comparing the deviation of the metric with the threshold values.

Default 33

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

General

1. In the Advanced Settings page, select Dashboard, General.

   The general setting parameters are displayed.

   Enable screen resolution adjustment

   Enables the screen resolution adjustment for the dashboard control.

   Enable workspace scrolling

   true: Enables the scroll bar on the workspace.

   false: Disables the scroll bar on the workspace.

   Default: false

   Oracle hint for dashboard queries

   Improve performance of dashboard queries on the PSL table.

   Note: Do not change the current value.

   Thresholds Strictness

   Reports compare values received relative to a target value; Widgets compare values received relative to the threshold setting. When the value received is exactly the threshold value, a report displays one color, while the dashboard displays a different color.

   true: Default. Display colors are controlled as described earlier.

   false: Widget display colors that are less than 90 are red, less than 95 is yellow.

   Note: Restart the dashboard engine and do an IIS reset after changing this parameter value.

   Note: After changing the parameter and restarting the engine, widget severity is changed only after the widget is recalculated. This change can be done by getting new events from the PSL that correspond to the widget.

   Use SSO Internally

   true: Enables the dashboard to use Single-Sign-On internally to login through the dashview page.

   false: Disables the dashboard from using Single-Sign-On internally to login through the dashview page.

2. Click the edit icon next to an option and enter the value.

The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

PSL Events processing

1. In the Advanced Settings page, select Dashboard, Select PSL Events processing. You can make settings related to the way the dashboard processes PSL events.

   The PSL events processing configuration parameters are displayed.

   Number of PSL Events in each cycle

   Number of PSL events that are processed each time in one transaction.

   Range: 10 -100

   Default: 10

   PSL events statistic time interval in minutes

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Configure Document Repository Parameters

This option enables the user to set Document Repository-related parameters.

Follow these steps:

1. In the Advanced Settings page, select Document Repository.

   The document repository parameters display.

   Max documents size

   Set the maximum document size (in bytes) that can be uploaded.

   Maximum image size

   Set the maximum image size (in kilobytes) that can be uploaded

   Predefined File Types

   Set the file type extensions for contract documents

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Configure Export Parameters

This option enables the user to set Export related parameters.

Follow these steps:

1. In the Advanced Settings page, select Export.

   The export parameters display.

   Export code page

   Set the code page definition for exported reports (for example, 0 = ANSI)

   File Format for exported file

   Sets the file format (Unicode)

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Configure Framework Parameters

This option enables the user to set Framework-related parameters.

Follow these steps:

1. In the Advanced Settings page, select Framework, Custom Attribute.

   The custom attribute parameters display.

   Custom source for custom attribute data enabled (Y/N)

   Set if an external data source is allowed for custom attributes.

   Custom source for custom attributes data URL

   Set the path to the external data source for retrieving custom attribute values

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

To configure services:

1. In the Advanced Settings page, select Framework, Service Components.

   The Service parameters display.

   Display Attribute 1 (Y/N)

   Display attribute 1 in services or not

   Display Attribute 2 (Y/N)

   Display attribute 2 in services or not

   Display Attribute 3 (Y/N)

   Display attribute 3 in services or not

   Display Attribute 4 (Y/N)

   Display attribute 4 in services or not

   Display Service Component Notes (Y/N)

   Display the Notes field in services.

   Label for Attribute 1

   Text label to use for the first attribute list of services

   Label for Attribute 2

   Text label to use for the second attribute list of services

   Label for Attribute 3

   Text label to use for the third attribute list of services

Label for Attribute 4

Text label to use for the fourth attribute list of services

SQL Query for Attribute 1

The query to use for the first attribute list of services

SQL Query for Attribute 2

The query to use for the second attribute list of services

SQL Query for Attribute 3

The query to use for the third attribute list of services

SQL Query for Attribute 4

The query to use for the fourth attribute list of services

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Configure Language Resources Parameters

This option enables the user to set Language Resources-related parameters.

Follow these steps:

1. In the Advanced Settings page, select Language Resources.

   The language resource parameter displays.

   Default Language

   Set the system default language.

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Configure Localization Parameters

This option enables the user to set Localization-related parameters.

Follow these steps:

1. In the Advanced Settings page, select Localization, Contract fields, Domain category relations.

   The domain category relationship parameters display.

   No less than - localized text

   Set the localized text for presenting "no less than" target relation in the Objective Statement tab

   No more than - localized text

   Set the localized text for presenting "no more than" target relation in the Objective Statement tab

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Set MSMQ Queue Parameters

This option enables the user to set the MSMQ queue parameters.

Follow these steps:

1. In the Advanced Settings page, select Queues

   The MSMQ queue parameters display.

   Current status MSMQ machine

   The status of the MSMQ machine.

   Dashboard MSMQ machine

   Lists the Dashboard MSMQ machine

   Default MSMQ machine

   Lists the name of the default MSMQ machine.

   Transport provider

   Lists the name of transport provider, which is MSMQ.
2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.
3. Click update to save your changes.

   The value is refreshed.

Set Quick Metric Parameters

This option enables the user to set Quick Metric-related parameters.

Follow these steps:

1. In the Advanced Settings page, select Quick Metric.

   The quick metric parameter displays.

   Max number of events in Preview pane

   Set the maximum number of events shown in the select data preview pane
2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.
3. Click update to save your changes.

   The value is refreshed.

Set Reports Parameters

This option enables the user to set Reports-related parameters.

Follow these steps:

1. In the Advanced Settings page, select Reports.

   The report parameters display.

   Calculation complete schedule timeout

   Set the maximum time interval in days, for the scheduler to verify if the report is ready to send

   Calculation complete schedule timeout action

   Determines the action that is taken when the send report reaches timeout

   Chart results

   Set the Reports chart results

   Correction

   Set the Reports correction indication

   Corrections results

   Set the Reports maximum correction result

   Date format

   Set the date format for scheduling to a file

   Deviation precision

   Set the precision for deviation reports

   Displays dialog that approves or declines sending to an email or to a file

   Set if a confirmation dialog is displayed before sending the report to an email address or to a file.

   Handle scheduled booklets date format

   Set if the file name of the created scheduled booklet contains time or only the date

   Maximum export results

   Set the Reports maximum export result

   Maximum free form search results

   The maximum number of results returned by the freeform search.

   Maximum number of freeform rows

   Maximum number of freeform rows.

   Optimize freeform parameter queries

Optimizes freeform queries by selecting required rows only.

Penalty precision

Set the precision for penalty reports

Printer-friendly

Set the reports print preview format

Raw data results

Set the Reports maximum raw data result

Reports inherit permitted users from parent folder (Y/N)

Set if the reports inherit permitted users from the parent folder

Use Free-Form report date auto adjust

Specifies whether to user Free-Form date auto adjust.

Use Old Style Design

Use style design from before OG 7.0.

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Set Booklet Parameters

This option enables the user to set Booklet related parameters.

Follow these steps:

1. In the Advanced Settings page, select Reports,Booklets.

   The booklet parameters display.

   Allow TOC update

   Controls whether the booklet TOC is generated automatically.

   Keep table format when entity is not found

   Not found text: Custom Attribute

   Not found text: Metric

   Not found text: Parameter

   Not found text: Report

   Not found text: Service

   Not found text: Table Parameter

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Set Resource Management Parameters

This option enables the user to set Resource Management-related parameters.

Follow these steps:

1. In the Advanced Settings page, select Resource Management.

   The resource management parameters display.

   Change Set per resource

   Set if to save the used change set per resource or not

   Maximum displayed resources

   Set the maximum number of resources that can display
2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.
3. Click update to save your changes.

   The value is refreshed.

Set SMTP Parameters

This option enables the user to set SMTP-related parameters.

Follow these steps:

1. In the Advanced Settings page, select SMTP. The SMTP parameter displays.

   Default character set

   Set the default character set.
2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.
3. Click update to save your changes.

   The value is refreshed.

Set System Parameters

This option enables the user to set System-related parameters.

Follow these steps:

1. In the Advanced Settings page, select System. The system parameters display.

   Accessibility Mode

   Specify if the Accessibility Mode check box appears in the login page.

   Alphabetical search ribbon visible (Y/N)

   Specify if the alphabetical search ribbon is visible.

   Client IP header

   Specify the value of the HTTP header.

   Enable client error handler

   Enables or disables the client error handler.

   Log verbose mode (Y/N)

   Specify if the system reports messages to T_LOG when producing reports.

   Open Contract Navigator in New Window

   Determines if the Contract Navigator opens in a new window.

   Open Dashboard in New Window

   Specify if the dashboard is opened in a new window.

   Secure web server

   Specify the network name or IP address of the secure web server.

   Use Rich Script Editor

   To support Western languages only, select Y (rich script editor).

   To support Far Eastern languages, select N (plain script editor).

   Web server

   Specify the network name or IP address of the web server.

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

To configure security parameters:

1. Select System, Security. The security parameters display.

   Enable Pre Authentication

Specify if the Pre Authentication service is enabled.

Interval of time between two login failures

Specify the minimum length of time between two consecutive login failures. The default time is one hour. Users who wait this amount of time after a login failure before attempting another login do not affect the "Max login failure times" that leads to a lockout.

Example: When a user fails a single login attempt, then waits at least one hour, the user can still try three more times before the system locks out the user.

Max login failure times

Specify the numbers of times a user can unsuccessfully try to log in. When the user fails this number of times, the system locks that user out of the system. The default is 3.

The CA Business Service Insight Administrator can go to t_users table and set user_status to ACTIVE in order to unlock the user.

Pre Authentication Web Service URL

Specify the path for the Pre Authentication web service file.

2. Click the edit icon next to an option and enter the value.

   The edit icon changes to an update icon.

3. Click update to save your changes.

   The value is refreshed.

Changing Synonyms Mode: Public vs Private

This optional procedure enables you to:

- Change from public synonyms to private synonyms
- Change from private synonyms to public synonyms

Change From Public to Private

To change from public synonyms to private synonyms, invoke one of the following procedures on the database (while connected to the database as OBLIDBADMIN):

```
    begin
    prc_recreate_all_synonyms ('YES');
    end
-OR-
    exec prc_recreate_all_synonyms ('YES');
```

Change From Private to Public

To change from private synonyms to public synonyms, invoke one of the following procedures on the database (while connected to the database as OBLIDBADMIN):

```
    begin
    prc_recreate_all_synonyms ('NO');
    end
-OR-
    exec prc_recreate_all_synonyms ('NO');
```

Chapter 3: Aggregation and Correlation Engines (ACE1 and ACE2)

ACE1 and ACE2 (Aggregation and Correlation Engines) are the CA Business Service Insight engines that normalize and calculate all data. ACE2 is the default engine for new content. All new metrics committed after installing CA Business Service Insight, or upgrading to CA Business Service Insight, are directed to ACE2. The metrics are committed by the assignment of their contract party in the instance management section.

This section contains the following topics:

Default Engine Management

ACE2 is an evolution of ACE1. CA plans to phase out ACE1 in upcoming releases. New functionality is being developed only for ACE2. If you are upgrading, all current metrics that existed before the upgrade are still calculated by ACE1. Only new metrics are handled by ACE2. CA recommends working with ACE2 as the default engine.

All contract parties are assigned to ACE2. This means that all new metrics, including metrics in new contracts and new metrics in existing contracts that were created before the upgrade to 8.0, are directed to ACE2. This only applies to newly added metrics. The system does not force the migration of existing content.

If you want work with ACE1 as the default engine, you can do so by changing the system configuration property named "isACE2defaultengine" from 1 to 0. This causes the assignment of new contract parties to ACE1.

Note: Once CA Business Service Insight is installed, all existing contract parties are moved to ACE2. Turning that feature off by selecting 0 for this value, does not move contract parties back to ACE1. That process must be done manually.

ACE Transition Service

The ACE Transition Service is an installed service added to CA Business Service Insight as of version 8.2 to migrate calculation of metrics from ACE1 into ACE 2.

The service notifies metrics that have migrated into ACE2 about recalculations required due to events that occur during the migration phase.

Migration involves 2-steps:

- Mark the metric for migration into ACE2 from the user interface. The ID in the global rules table for the "Assigned_PSL_instance_id" changes to -1.
- The ACE Transition Service processes the relevant metrics and sets the calculation start date including recalculations, if needed.

Note: When ACE1 is performing calculations at the same time that migration is initiated, the Transition Service does not migrate the metric (yet) and ACE1 completes the current calculations. The processes do not collide.

When ACE1 is currently processing a calculation when migration is initiated, ACE1 marks the recalculation date to start from, not the Transition Service. There are no collisions between processes.

Calculation and Upgrade to 8.2

By default, ACE2 is assigned to all metrics created after upgrade to version 8.2. The migration process is the responsibility of ACE2. The ACE1 engine (PSL_Writer) marks the recalculation date (if any exist) for metrics waiting to be migrated into ACE2 but that ACE1 currently supervises.

During the migration process in T_global_rules, the following flags are set:

	PSL_instance_id	**Assigned PSL_instance_id**
During move	Any PSL_Writer instance	-1
After move	-1	null

ACE Transition Service Cases

This section lists the possible ACE Transition Service cases.

	Condition	**Result**
1.	Clean install; select application component (Typical or Custom install)	ACE Transition service created with auto startup mode.

2.	Clean install; do not select application component (Typical or Custom install).	ACE Transition service not created.
3.	Upgrade; the application component exists before.	ACE Transition service created with auto startup mode.
4.	Upgrade; no application component before.	ACE Transition service not created.

Remove PSLWriter Service Cases

This section lists "Remove PSL_Writer Service" cases.

	Condition	**Result**
1.	Clean install; select "Typical install".	PSL_Writer files copied; service not created.
2	Clean install; select Custom install; select the PSL_Writer service.	PSL_Writer files copied; service created.
3.	Clean install; select Custom install; unselect the PSL_Writer service.	PSL_Writer files copied; service not created.
4.	Upgrade; PSL_Writer exists.	PSL_Writer files copied; service created.
5.	Upgrade; PSL_Writer does not exist.	PSL_Writer files copied; service not created.

Calculation Engine Overview

The following list demonstrates the Engine Workflow.

- Customer events enter the system through adapters.
- Adapter listeners collect events. The data is normalized and is easy to use. Adapter listeners enter this normalized data into the T_RAW_DATA table.
- The process of calculating the data is based on an event-driven system that runs on business logic created by the client in VBS script. Calculation values are kept in global variables in the business logic, which are updates for each event that occurs in the system. Examples for such events are the raw data entries, period start and end, resource structure changes, and timeslot start and end. The result for each calculated period is then defined in the specialized 'Result' function.
- (Optional) The system calculates raw data, converting it to intermediate data, which is placed into the T_INTERMEDIATE_DATE table. Intermediate data can be used for calculating other metrics. In this way, the calculations are only performed. All other metrics that require the same data utilize the results instead of performing redundant calculations.

Continuous Calculation between contract versions means that data used by business logic to calculate service level is automatically accessible to subsequent contract versions. This feature enables the SLA-manager to create new contract versions with new effective dates. This feature enables the retention of the contents of global variables. This feature allows the calculation to continue and enables previous values of global variables to be accessible to new contract versions.

The engine handles events in the order in which they arrive. The engine cannot undo the handling of events to go back in time to a previous calculation. The engine only takes the situation as it is now and handles new events as they arrive. In cases where there is a change at a timestamp that was already calculated, the engine recalculates. The engine keeps snapshots of the calculation states periodically as defined in the system configuration. These snapshots prevent the need to recalculate from the beginning of the contract version. The calculation starts from a known calculation state, and the simplest starting point is where it began. These snapshots are referred to as states. When the engine recalculates, it starts from the time of a state nearest to the time of the change.

When a metric requires recalculation, the engine searches for the closest state before the moment when the change occurred, and calculates from that state onward. For example, there is a scenario in which a change took place two weeks ago, and the closest state before it is three weeks ago. In this case, the engine calculates from the state three weeks ago. If no such state is found, the engine recalculates from the beginning of the contract version.

New Contract Version with Effective Dates Changed

The following cases describe how the SLA manager creates a contract version with new effective dates and continues the calculation from the previous version.

The following are the preconditions to enable continuous calculation.

- The user is logged on to CA Business Service Insight.
- The metric is fully calculated in the existing version.
- The continuous calculation flag is true in t_system_configurations.

You can create a contract version with new effective dates and continue calculation from the previous version.

Follow these steps:

1. Log in to CA Business Service Insight.
2. Click Service Level Management, Contracts, Create new version.
3. Define new effective dates. (The dates have to be successive or overlap the dates of the previous version for continuity to be possible.)
4. Click Apply to keep the changes.
5. Commit the new contract version.

   The engine runs. When the engine calculates the new version, it uses the values of the global variables calculated in the previous version.

Recalculation History

The Recalculation History feature enables troubleshooting for the engine. The purpose of recalculation history is to monitor recalculations made by the engine and to analyze the reasons for them.

To get to the recalculation history page, go to Administration, ACE Management, Recalculation History. To conduct a detailed search for recalculation history, you can select the following:

- The date from field
- The date to field
- The contract party
- The contract

The recalculation history component in the engine is configurable. The user can configure the engine to control the following:

- Whether to log recalculations
- Whether to log recalculations for the tracking period only
- Whether to log recalculations for all of the time units

Recalculation Reasons

The following is a list of events in the system which force the engine to recalculate:

New Raw Data

Raw and intermediate data can be added after the actual time they occurred. An example is in a case in which some event source was inactive and did not receive the data. Once the new data is added, the engine recalculates from the timestamp of the added event. For example, the value of the dollar was entered at the end of the month. The entire calculations for that month were based on the value of the dollar at that time. When the engine goes back to the beginning of the month, it recalculates using the new value.

Correction

Data can be corrected even after it has already been calculated. Corrections replace raw data.

Note: This situation is not the case with intermediate data, in which corrections cannot be added.

When a correction is added, the engine must find a state before the change occurred. The engine then starts recalculating the metric with the new, corrected data included in the calculation from that point in time.

For example, if a user mistakenly entered the number 5 as raw data last week. The user replaces the 5 with a 3. The engine must recalculate from the date when the 5 was entered. The number 3 is used instead of 5.

NOTE: A correction can be a deletion of incorrect data without replacing it with new data.

New Resource Version

Events are received based on the registration to:

- A specific resource
- A group of resources
- Resources that are associated with a service
- A contract party

When a resource changes, the engine recalculates from the point when the resource changed. An example of this recalculation is when assigning or removing a resource from a resource group or changing the value of a resource custom attribute.

In a case where a list of servers has an ongoing indication of their status, server 3 was taken out for maintenance. Sever 3 was removed without a system notification. The user notifies the system that server 3 did not exist during the maintenance period. The engine goes back and recalculate from the date when server 3 was removed.

Changes in a Resource Custom Attribute

When a change is performed in the custom attribute of a resource, the engine recalculates all metrics that are associated with the resource. The metrics are recalculated from the date when the custom attribute changed.

For example, in a scenario in which servers are located in New York, Chicago and Los Angeles. The user decides to include the Chicago servers in the New York group. The manager then decides that the Chicago servers are actually part of the Los Angeles group and changes the status of the Chicago servers. The engine must now recalculate.

Add New/Activation/Deactivation of an Exception

Exceptions can be created for defined periods of time. For example, there is a time period that is defined as within normal working hours, but there is an exception due to a power failure. This exception removes the specified time interval from the normal working hours. The events are still handled although they are now considered out of the timeslot. Once this time is differentiated from the normal routine, one can define the out-of-timeslot behavior in the business logic script. However, the user cannot yet define how the engine behaves during the time period of the exception. The behavior cannot be modified from the standard out-of-timeslot behavior. Exceptions can be defined before the actual time period or afterwards. When an exception is added to a timeframe that was calculated by the engine, it recalculates and takes the exception into account.

For example, there is a case in which a power outage notification was made a week ago. The system made calculations up to the present time, without taking into account the power outage. You need a recalculation in this case.

Business Logic Module Version

The business logic defined by the user can be created in each separate metric. In addition, if the logic is central and must be reused, it can be placed within a business logic module. This placement allows the user to create the logic once and use it in multiple metrics. However, when the module is changed to correct a mistake in the logic, all the metrics that are linked to the module that was changed. These metrics must recalculate to account for this correction.

For example, if the user has several clients and all of them want a help desk metric. The help desk logic can be placed in a business logic module.

New Intermediate Data Events

Event reusability is a feature that allows the user to create metrics that use the results of the calculation of other metrics as input. This type of data is known as intermediate data. This data is created by having a metric send events that are similar in structure to raw data. The receiving metric then registers to this sending metric and receives the events that were sent the same way a metric receives raw data events. If the sending metric recalculates, it must delete the events it sent previously and recalculate the timeframe that requires recalculation. This means that the intermediate data that it sent previously is no longer up to date. The metrics that register to receive this data must also recalculate to account for the new data.

New Contract Version

When creating a contract version, some or all of the contained metrics are recalculated from the beginning of the contract version. This recalculation is only done for metrics that had some change in them from the previous version. You receive no recalculation if you create a contract version and then commit directly. No recalculation occurs because metrics contain changes.

The following are cases in which there is no recalculation:

- You create a version that has the identical dates as the previous one, and you made no changes. In this case, there is no recalculation.
- You create a version that has the identical dates as the previous one, but a change was made to some of the metrics. In this case, there is a recalculation for the changed metrics, from the beginning of the contract version.
- A new version was created with different dates. The result is a recalculation from the beginning of the contract version for all metrics.

A new contract version is considered a calculation, not a recalculation so it does not appear in the recalculation history.

For example, there is a three year contract with ABC Company. You extend the contract for an additional year. This change leads to a new contract version. ACE1 recalculate the metrics from January 1 2005.

No change occurs if you have a contract with 100 metrics and you create a version and change the parameter of ONE of the metrics. The other metrics do not recalculate.

Note: If changes are made in the distant past, it causes a long recalculation. This recalculation takes a long time because affected metrics have to recalculate from the time of the change.

Event Singularity

Event singularity uses an adapter functionality in which a new event replaces an identical event that was entered into the raw data table. The user defines which fields of the event (key fields) in the adapter are used to recognize identical entries or events. The keys form the uniqueness of the entry. They are not, in themselves, the ID, unless there is only one key field.

A new event that is considered identical to a previous one, according to the key fields, causes the time stamp of the event to change. If this change occurs, ACE1 recalculates from the earlier of two possibilities:

- The new event time stamp (if the new time stamp is earlier than it was originally).
- The old event time stamp (if the new time stamp is later than it was originally).

Instance Management

Instance Management enables the system administrator to manage the assignment of calculations between various ACE instances and between the two ACE engines. Assigning anything to ACE2 is the same as assigning it to a specific ACE1 instance.

The administrator can assign metrics to ACE1 instances in two ways:

- Assigning a contract party to an ACE1 instance
- Assigning a specific metric to a specific ACE1 instance.

Meet the following conditions before you assign metrics to ACE1 instances.

- The user is logged on CA Business Service Insight.
- The user role allows the editing of the engine instance management page.
- You have more than one ACE1 Instance installed.

Multiple Current Status Engine Instances

By default, CA Business Service Insight consists of a single Current Status engine instance. Having one engine instance means that there is a single engine that performs all dashboard metric calculations. When dashboard performance is low, you can add additional Current Status engine instances to divide the workload. Adding these instances improves performance. When you add additional Current Status engines, the system utilizes more CPUs and computers. Having additional Current Status engines improves performance because you have a higher number of metrics that are calculated simultaneously.

Assign a Contract Party to an ACE1 Instance

This section explains how to assign a contract party to an ACE1 instance.

Follow these steps:

1. Log in to CA Business Service Insight.
2. Click the Administration, ACE Management, ACE Instance Management.

   The ACE Instance Management page opens.
3. To assign a specific contract party to a specific instance, click to the left of the contract party name.

   The Assign ACE Instance to Contract Party window opens.

   Note: If no assignment is made for a Contract Party, the Contract Party is calculated on instance zero (0) if ACE1 is the default engine.
4. In the ACE instance field, select an instance from the drop-down menu.

Assign a Contract Party to An Undefined Instance

This section explains how you can assign the contract party to an instance that does not currently exist.

Follow these steps.

1. Click the other item on the drop-down menu.
2. Click the text field
3. Type the instance number you want to create.
4. Select the check box to assign all Contract Party metrics to the selected instance.
5. Clear the check box so that only the new metrics added to that Contract Party are assigned to the Contract Party instance.
6. Click Save to assign the Contract Party to the selected ACE1 instances.

Assign Several Contract Parties to an Instance

You can assign several Contract Parties to an instance.

Follow these steps.

1. In the ACE Instance Management page, select the relevant Contract Party check boxes.
2. Click the Set ACE Instance button to assign multiple Contract Parties to one instance.

Assign a Metric to an ACE1 Instance

You can assign a metric to an ACE1 instance.

Follow these steps.

1. Log in to CA Business Service Insight.
2. Click Administration, ACE Management, ACE Instance Management. The ACE Instance Management page opens.
3. Click a Contract Party name.
   The ACE Instance Per Metrics window opens, displaying a list of all metrics under the selected Contract Party.
4. Click a Contract Party name.
   The ACE Instance Per Metrics window opens, displaying a list of all global metrics under the selected Contract Party. The metric list is grouped by contract. This grouping is dynamic and determined by the grouping of the main window. All metrics have the same assignment as defined in the Contract Party to PSL allocation table by default.

You can change the ACE1 instance assignment or each metric.

Follow these steps:

1. Double-click the Assign ACE Instance to Metrics button.
   The Assign ACE Instance to Metrics window opens.
2. When you change the metric default instance assignment, a blue icon appears next to it. This icon illustrates that the metric definition is different from the Contract Party definition.
3. When you close the Assign ACE Instance to Metrics window, a blue icon appears next to the Contract Party in the ACE Instance Management page. This icon illustrates a change of a default definition of a metric.
4. Double-click Save to save the Contract Party to ACE instances assignment.
5. Double-click Close.

Change the ACE1 Instance Assignment for each Metric

You can change the ACE1 instance assignment for each metric.

Follow these steps.

1. Click the Contract Party name.
2. The Assign ACE Instance to Metrics window opens. When you change the metric default instance assignment, a blue icon appears next to the assignment. The icon illustrates that the metric definition is different from the Contract Party definition. When you close the Assign ACE Instance to Metrics window, the same blue icon appears next to the Contract Party. This icon illustrates that a default definition of a metric has been changed.
3. Click Save to save the Contract Party to ACE1 instance assignment.
4. Click Close.

Assign a Metric to an ACE1 Instance - Mass Management

You can assign a Metric to an ACE1 instance for mass management.

Follow these steps:

1. Log in to CA Business Service Insight.
2. Click Administration, ACE Management, ACE Instance Management. The ACE Instance Management page opens.
3. Click a Contract Party name. The Assign ACE Instance to Metrics window opens, displaying a list of all metrics under the selected Contract Party. The metric list is grouped by contract.
4. Select the relevant metrics check boxes.
5. Click the Set ACE Instance button to update their instances simultaneously.
6. In the ACE Instance Management page, click Save to save the changes in the database.

Assign a Contract Party to an ACE1 Instance - Mass Management

You can assign a Contract Party to an ACE1 instance for mass management.

Follow these steps:

1. Log in to CA Business Service Insight.
2. Click Administration, ACE Management, ACE Instance Management. The ACE Instance Management page opens.
3. Select the relevant Contract Party check boxes.
4. Click the Set ACE Instance button to update their ACE1 instances simultaneously.
5. Click Save to save the changes in the database.

Migration to and From ACE2

The assignment of Contract Parties or individual metrics are handled using the Instance Management User Interface in two directions. You can access these dialog boxes at Administration, ACE management, ACE Instance Management. You receive the Assign ACE Instances to Metric dialog with the following buttons:

- ACE1 to ACE2: This path considers all the calculations already performed by ACE1 and continues from that point forward.
- ACE2 to ACE1: This assignment is only used if there is a problem with the ACE2 engine. This assignment causes a full recalculation of the effected metrics.

Chapter 4: Aggregation and Correlation Engine (ACE1)

ACE1 (Aggregation and Correlation Engine) is one of the two CA Business Service Insight engines that collect, normalize, and calculate predefined metrics. The other engine is ACE2, which is the default engine.

This section contains the following topics:

ACE1 Cycle

ACE1 works in cycles. In each cycle, ACE1 calculates all metrics that are assigned to it. The ACE1 cycle consists of the following steps:

Archive

Archives contract metrics that have been marked as archived on the GUI. Only those metrics are archived.

Purge

If the user requests the purging of a contract, all the data written by ACE1 when calculating the metrics of that contract is purged.

Data Purge

Handles the locking of the calculation date and deletes data (currently only raw data).

Wait For Db

Verifies that there is a connection to the database.

Reset

Preparation for the new cycle.

Instance Management

Handles instance assignment actions.

Start Cycle Query

Debugging sub-cycle.

(Not active.)

Old Purge

Handles full contract purges.

New Purge

Handles data purge and calculated data lock requests.

Archive

Handles archive action

Clear Attributes Cache 1

Clears the custom attributes cache.

Infrastruct Processing

Handles changes in resource structure.

Create Rules List

Looks for recalculation earliest date.

Clear Attributes Cache 2

Clears the custom attributes cache.

Calculation Cycle

Active calculation provided service level.

Idle Cycle

Waits for the cycle length to lapse (if so configured)

ACE1 Calculation Order

You can configure the order in which ACE1 calculates agents during its cycle However, the following limitations exist in the ACE1 work order. The calculation order is instance-specific. If there are multiple ACE instances, each has an order of its own, and there is no interaction between them.

Note: Metrics that are part of an event reusability chain and must belong to a single ACE1 instance. Otherwise, there is a significant reduction in performance.

Run the Diagnostic Tools

CA Business Service Insight allows you to run several diagnostic tools to identify potential problems in the environment. Running these tools is a proactive measure that prevents failures in the engine processing. In addition, CA Business Service Insight provides reports that help analyze the engine processing.

Diagnostic tools require:

- Automatic execution and analysis
- Proactive (scheduled) execution
- Generic and extendable approach

Diagnostic test types include:

- Memory-related
- Database-related
- Functionality-related
- Statistical/Informational
- System Integrity

Diagnostic tests currently available are:

Errors in T-Log and T-rules-time-units

Checks for:

- Errors in log related to ACE1
- Errors for agents in last_rt_error fields of t_rules_time_units

Future Effective Contracts

Checks for contracts in the system with an EFFECTIVE version starting at a future date.

LargeState

Checks for suspiciously large states in the system.

Permissions and Synonyms

Checks that all tables required by ACE1 have properly defined permissions and synonyms.

SequenceValidation

Checks that all tables are synchronized according to their sequences.

StatusValidation

Checks that the status of various agents in t-rules-time-units corresponds with what is written in t_rules.

SysConfig Validation

Checks that certain key values in system configurations are set according to the ACE1 specs.

Tablespaces

Verifies the state of table spaces in the system and intercepts the tablespaces with problems.

t-rules-time-units starvation**:**

Checks that there are no agents that were not calculated in the last two weeks, and which are being starved out of the calculation.

This section explains how to run the diagnostic tool:

Follow these steps:

1. Go to **<installation directory>\bin**.
2. Double-click DiagnosticsConsule.exe.

   A GUI window opens, displaying the log.
3. Type the SYS password and click Run.

   The tests begin to run, and the results appear on the screen.
4. Open the log files and review the results.

ACE1 Communication Module/Console

ACE1 runs as a service (Oblicore_PslWriter). ACE1 has no interface through which feedback of any kind can be obtained. We added two systems to help you understand the series of complex engine processes.

Run the Engine in Console Mode

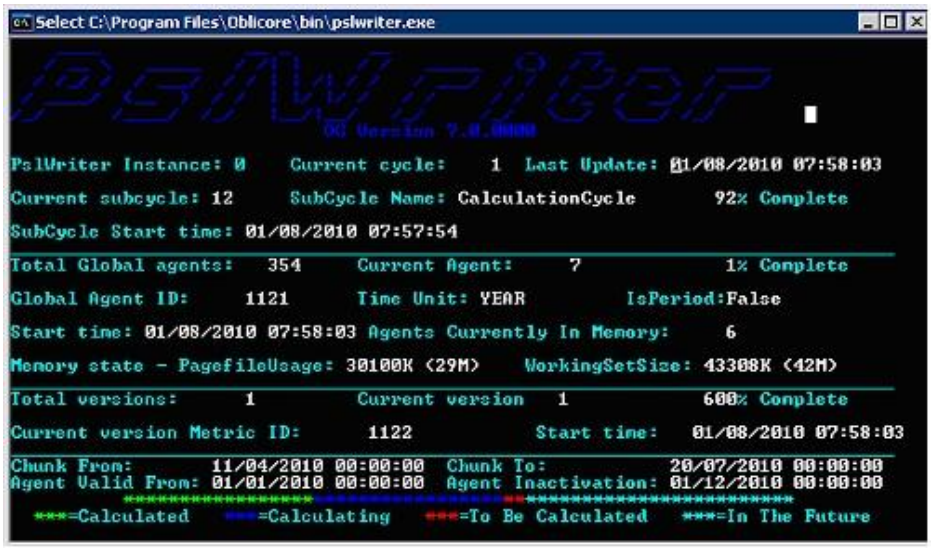
When you run the engine in console mode, a dynamic screen is displayed. This screen illustrates all the details of the current calculation status of the engine. To use this console, stop the service and run it again in console mode. This action forces an intervention in the engine operation, which sometimes leads to a decrease in performance.

This section explains how to run the engine in console mode

Follow these steps:

1. Stop the PslWriter service or PslWriterN. The "n" is the number of the instance you want to run, even if it is running on a separate server. Running the same instance more than once at the same time is not allowed.
2. Open a command window. To open a command window, go to Start, run, cmd.
3. Enter the following command:
   `PslWriter –d [–x<instance ID>]`

   Note: The instance ID is optional. If it is not supplied, instance 0 is run. An example of the command is:
   `PslWriter –d -x12.`



Enable Direct Communications

You can communicate directly with a service that is already active. This communication allows you to get running updates of the service status, without interfering with the service activities. Communication with the service is done through Telnet.

This section explains how to enable direct communication.

Follow these steps:

1. Define a base communication port for the engine with the following DML:

```
INSERT INTO T_SYSTEM_CONFIGURATIONS
  (SYS_CONFIG_ID,
   SYS_CONFIG_NAME,
   SYS_CONFIG_VALUE,
   SYS_CONFIG_PARENT)
VALUES
  (SEQ_SLA_SYS_CONFIG.NEXTVAL,
   'pslcommunicationport',
   3000,
   71)
```

   Note: Only do this procedure once.

   The number 3000, indicated in the above DML, is the base communication port. In other words, instance 0 uses this port. All other instances use this number, plus their instance ID, as their port. For example, instance 11 is assigned, using this example, port 3011. Obviously, the base port must be chosen so that all instances of the engine are assigned ports that are free. When a port is already taken, communication is disabled for the relevant instance. If the service is already up, running this script updates the database, but the service only searches for an update every 2 minutes. Therefore, it sometimes takes that long before the communication module is active.

2. Open a command window and type the following command:

   `Telnet <server name> <port id>`

   The server name is the actual name of the computer, the IP of the computer, or localhost. This naming convention is true if you are initiating communications from the application server upon which the engine runs.

   For example, Telnet localhost 3011.

   When communication is initiated, the calculation status screen is displayed and a timeout delay of 10 seconds is activated. For example, every 10 seconds, the last requested page is retrieved again. The default page is the calculation status page and it is displayed until the user selects another page.

When you first connect, you receive the Telnet screen.

Pressing the relevant number on the keyboard displays the appropriate page:

The first line shows the instance of the PslWriter to which you are connected.

The following table details the letter or number and its explanation. A more detailed explanation of each letter/number follows.

Available Options:

Letter/Number	Explanation
O	List of available options
Q	(Quit) Terminates communications
1	Calculation status screen
2	Calculation Sequence
3	Agent calculation tracking
9	Fragmentation state of the process memory

The List of Available Options (O)

The List of Available Options (O)

This returns the list of available options.

Quit (Q)

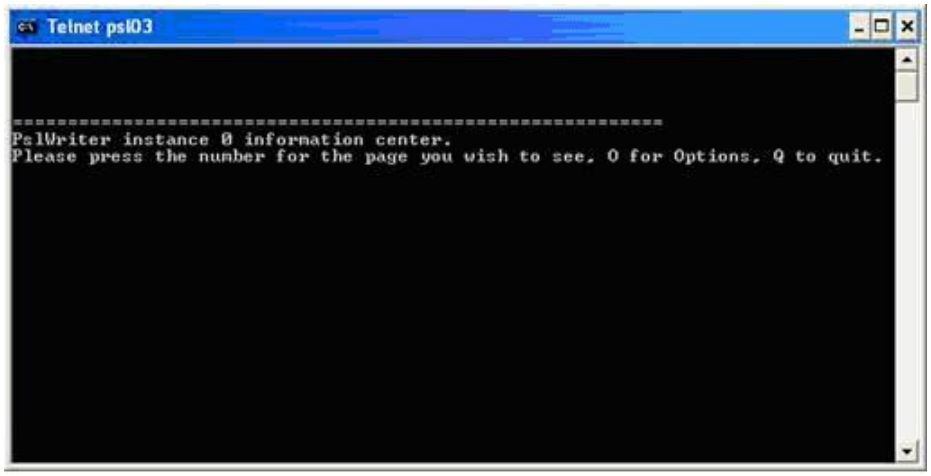
Quit (Q)

Use when you want to terminate communications.

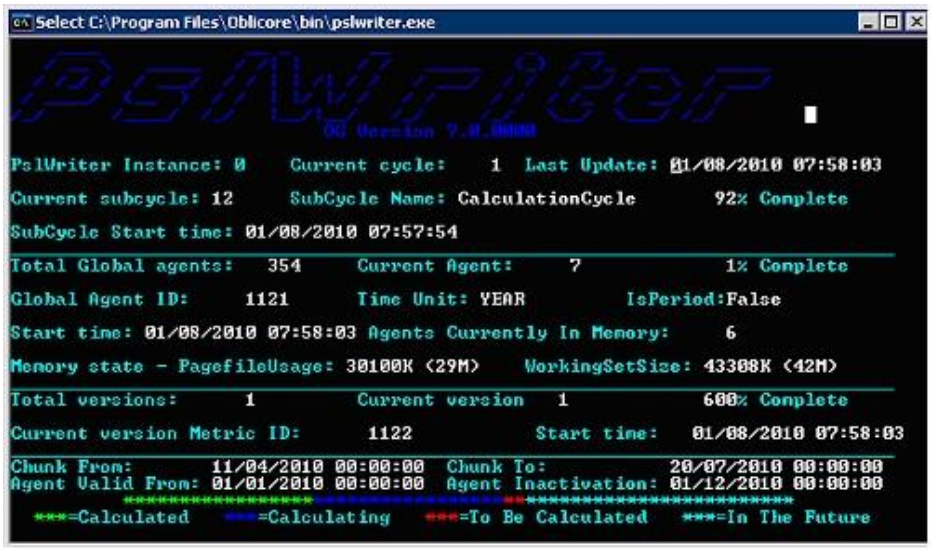
The Calculation Status Screen (1)

The Calculation Status Screen (1)

The calculation status screen shows the status of the calculation process for the time it was produced.



This screen is similar to the console mode image, in that it shows the same information, but formatted in plain text. The information you see in the calculation status screen is the same information that you would receive if the instance were running in console mode.



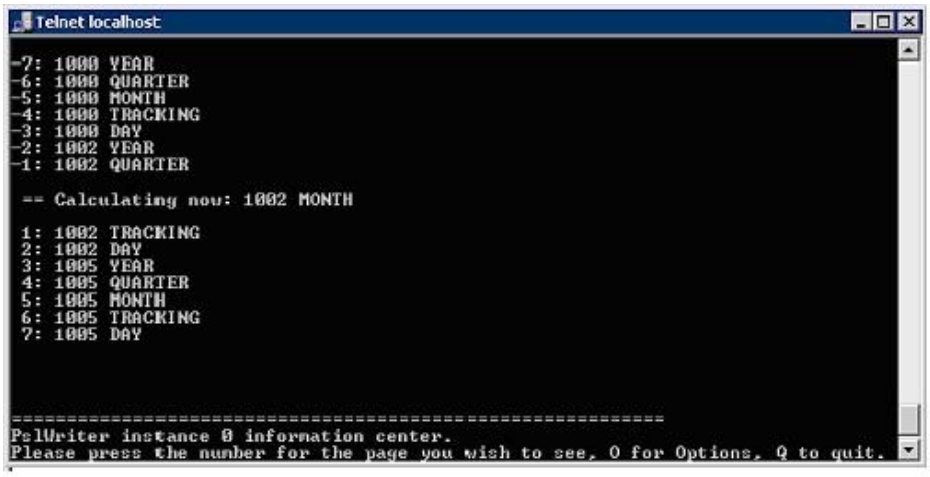
Calculation Sequence (2)

Calculation Sequence (2)

This page returns the near present calculation sequence.

- The recently calculated agents (the last 50 global agents calculated).
- The near future calculation plan (the next 50 global agents calculated).

This screen is an example of the current calculation list from the communication module (option 2).

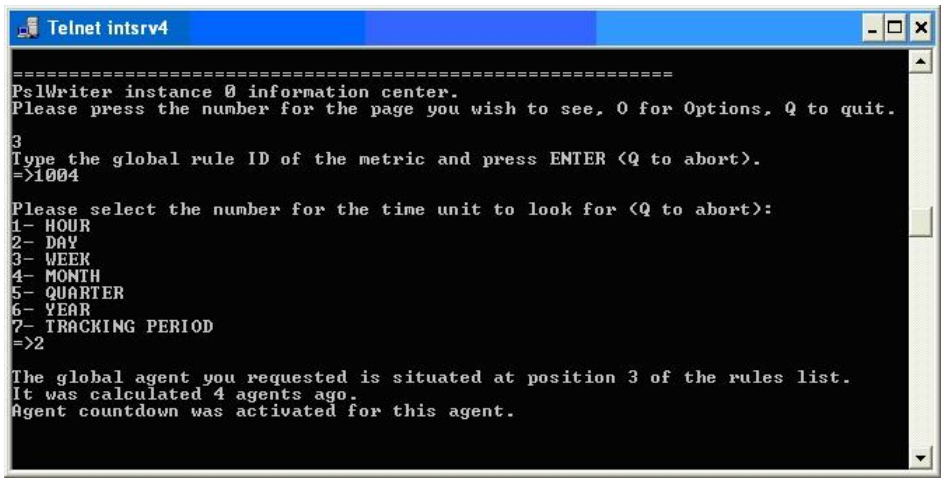


Agent Calculation Tracking

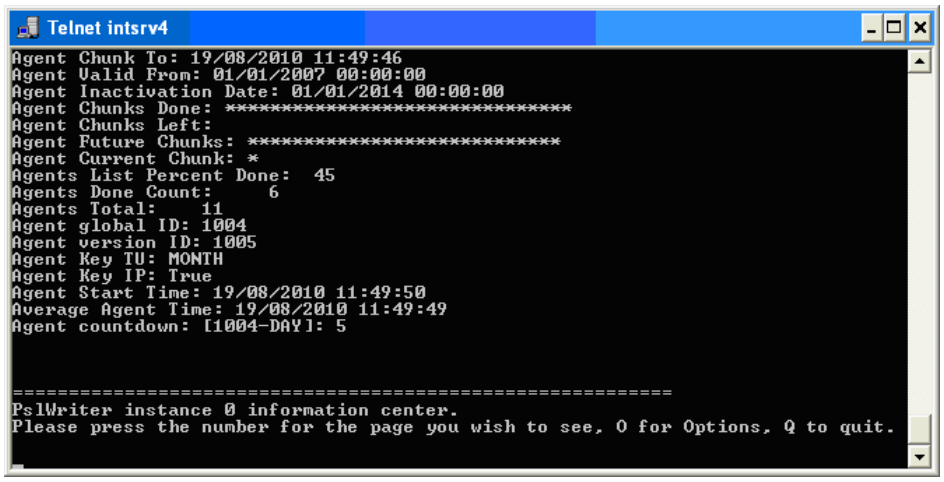
Agent Calculation Tracking

The Agent Calculation Tracking screen is an interactive page. This screen accepts a global rule ID, a time unit, and it states when the agent described is calculated.

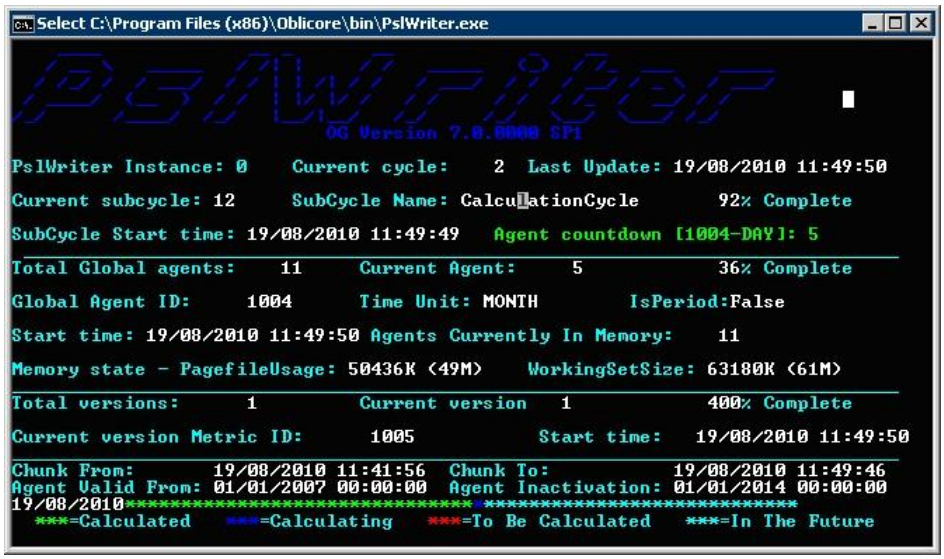
After you select an agent, the console mode and the calculation status request page display an agent countdown. This countdown states how much time elapses before the requested agent is calculated. In this example, a request was made for the DAY granularity of rule ID 1004.



This screen is an example of when the countdown option is turned on in the Activity view (option 1).



This screen is an example of when the countdown option is turned on in the console.



Fragmentation State (9)

Fragmentation State (9)

The fragmentation state of the process memory. This state is mainly a CA support tool and is irrelevant to the normal user.

Adding ACE Instances

Additional Current Status engine instances can be installed on the same server or a different server.

Install Additional Instances on the Same Server

You can install additional instances on the same server.

Follow these steps:

1. From the command window, run the following command from the bin directory.

   (<Oblicore directory>\bin):

   CurrentStatusEngine.exe

   Note: If you omit the -xN parameter, the ID of the new instance is 0. You are installing two instances with the same ID (the ID of the default ACE instance is 0). Do not install two instances with the same ID.

2. Open the list of services window
3. Verify that the new ACE instance has been installed successfully with the display name, Oblicore –PslWriterN.
4. Edit the properties of the service and set the user to the Oblicore Service Account.

Install Additional Instances on a New Server

You can install additional ACE1 instances on a new server.

Follow these steps:

1. On the new server, run the CA Business Service Insight installation.

   In the CA Business Service Insight installation wizard, select only the PslWriter service.

   This copies all the necessary files to the computer and create a default service (with ID=0).

2. From the command window, run the following command from the bin directory (<Oblicore directory>\bin):

   PslWriter.exe –i –xN (where N is the new instance ID)

   Note: If you omit the -xN parameter, the ID of the new instance is 0. You are installing two instances with the same ID. The ID of the default ACE instance is 0. Do not install two instances with the same ID.

3. Open the list of services window:
4. Verify that the new ACE instance has been installed successfully with the display name, Oblicore –PslWriterN.
5. Edit the properties of the service and set the user to the Oblicore Service Account.

Uninstall an ACE Instance

You can uninstall an ACE instance.

Follow these steps:

1. From the command window, run the following command from the bin directory (<Oblicore directory>\bin):
   `PslWriter.exe –u –xN (where N is the instance ID)`
2. Verify that the ACE instance has been uninstalled successfully by going to the list of services and verifying that the service was removed from the list.

   Note: This procedure only removes the instance from the list of services. If you have removed all instances from a server and you want to remove the relevant files, run the CA Business Service Insight uninstall utility. Uninstalling an instance does not remove the configuration parameters of the instance from the database.

Uninstall an ACE Instance

You can uninstall a Current Status engine instance.

From the command window, run the following command from the bin directory:

<Oblicore directory>\bin):
CurrentStatusEngine.exe N (Where N is the instance ID)

Run Additional ACE Instances

ACE instances can be run in regular mode or debug mode.

Follow these steps:

1. From the Services manager, start the ACE instance.
2. To run the additional ACE instances in debug mode, open the command window and run the following command:

   PslWriter.exe -d -xn (where n is the instance number)

Note: Only run one instance of the same instance ID at a time.

Multiple ACE Instances

By default, CA Business Service Insight consists of a single ACE instance. A single engine performs all calculations. Additional ACE instances can be added to divide the workload to improve performance.

> **Note:** If the performance issue is due to database overload, adding multiple instances does not improve performance. All instances work with the same database.

You can add an additional ACE instance to the same computer as the existing ACE instance or to a new computer. We recommend having no more than the number of instances on a computer as the number of CPUs. However, if there are other heavy services running on the same computer, we recommended having one less instance than the number of CPUs.

Configure Multiple ACE Instances

All ACE configuration parameters are configured for the default instance (instance 0). All additional ACE instances, by default, use the parameters configured for the default instance. You can configure the additional ACE instances differently than the default instance, by manually adding the configuration parameters to the T_SYSTEM_CONFIGURATIONS table.

In the T_SYSTEM_CONFIGURATIONS table, the configuration parameters are arranged in a tree-like structure. In the tree, under the 'pslwriter' key, you can find the following:

- All ACE-related parameters
- Keys for all instances of ACE other than 0
  - For every instance other than 0, there is a special key which is located under the 'pslwriter' key in the table. The name of the key is 'pslwriterX', where X is the instance ID. The ACE instance adds this key when it first runs.

You can configure a parameter for a specific instance.

Follow these steps:

1. In the T_SYSTEM_CONFIGURATIONS table, under the 'pslwriter' key, inside the 'pslwriterX' key, add the parameter.
2. Set the value of the parameter.

   For example, all instances have a cycle length of one hour.

   You can set instance 5 with the cycle length of two hours. Under the pslwriter key, create a cyclelength parameter and set it to 7200.
3. Run the following query to display the keys of all instances that exist in T_SYSTEM_CONFIGURATION that are relevant to the engine:
   ```
   select t.sys_config_id, t.sys_config_name
   from t_system_configurations t
   where t.sys_config_parent=71
   and t.sys_config_name like 'pslwriter%'
   ```
4. Very that pslwriter5 exists. If pslwriter5 does not exist, you probably never ran it. Run it for a few seconds so that it adds the necessary keys to the table.
5. From the query, take the SYS_CONFIG_ID of instance 5 and run the following query to see the configuration parameters that currently exist for instance 5.
   ```
   select t.sys_config_id, t.sys_config_name,  t.sys_config_value
   from t_system_configurations t
   where t.sys_config_parent=<SYS_CONFIG_ID of instance 5>
   ```
6. If the parameter, "cyclelength", exists, set the value with the following query:
   ```
   update t_system_configurations t
   set t.sys_config_value='7200'
   where t.sys_config_id=<SYS_CONFIG_ID of the parameter>
   ```

7. If the parameter, "cyclelength", does not exist, add the parameter and set the value with the following query:

```
insert into t_system_configurations t
(
    SYS_CONFIG_ID,
    SYS_CONFIG_NAME,
    SYS_CONFIG_VALUE,
    SYS_CONFIG_PARENT,
    MODIFY_DATE
)
values
(
    seq_sla_sys_config.nextval,
    'cyclelength',
    '7200',
    <SYS_CONFIG_ID of instance 5>,
    sysdate
)
```

ACE Instance Log Messages

All CA Business Service Insight log files are written to the T_LOG file in the database. The REPORTER_OBJECT field within this table contains the instance names of all log messages created by ACE1. Therefore, to view all log messages of a specific ACE1 instance, query all records where REPORTER_OBJECT = 'PslWriterN' (where N is the instance number).

Chapter 5: Aggregation and Correlation Engine 2 (ACE2)

The ACE2 engine is event-driven. This engine receives information from the database on an ongoing basis. ACE2 has a faster response rate to events than the ACE1 engine primarily because it does not work in cycles. Due to the event-driven approach, the time from adapter execution to customer report is shorter than in the ACE1 engine.

ACE2 is constructed of two main segments:

- The manager is responsible for handling all the calculation and recalculation decisions.
- The workers are responsible for calculating the metrics, based on the instructions of the manager.

The manager holds an instruction queue for metric calculations referred to as the mission queue. The workers calculate metrics from the queue without any affinity. This method gives the system automatic load balancing because there is no need to assign metrics to instances.

ACE2 only performs necessary calculations. Overhead is reduced because when there is nothing to calculate, the system does not perform redundant calculations. ACE2 consumes minimum resources.

The ACE2 engine cannot process the following:

- Metrics that use the forecast feature.
- Metrics registered by Event type.
- Clustered metrics that use static clustering

Note: Send metrics registered by event to the ACE1 engine. ACE2 does not recognize these metrics.

This section contains the following topics:

ACE2 Manager Components

ACE2 is subdivided into several main components. Each component is responsible for a specific part of the calculation management process.

Only one ACE2 manager can exist. Define the ACE2 manager in the ACE2_server setting in t_system_configurations or the UI settings.

Important! If you install a secondary APP server, disable any ACE2 manager services on the secondary server. The manager on the first server manages the workers on the new server.

The following are the Components:

Tasks Manager

Maintains a repository of all the tasks handled by ACE2 according to events received from the CONTRACT Bridge.

Correlations Manager

Handles the connection between a task and the resources related to it through metric registration.

- Given a specific data event, it determines which tasks were affected.
- Given a task and a time stamp, it determines the homogeneous list of resources relevant to this task.

Topology Manager

Supplies answers regarding the resources tree structure and the effect of a change in the resources tree.

Calculation Boundaries

Aggregates the effect external events have on tasks. Calculation Boundaries determine the lower and upper bounds of the next calculation. The earliest event received determines the lower bound. The upper bound limits are based on these events:

- Events that arrived which are later than the current upper bound
- Lifecycle events such as period end.

Calculations are not initiated when no events occur in the system.

Scheduler

Initiates calculations based on the decisions made by the Analyzer. The scheduler divides the calculations into homogeneous units. If the analyzer identifies a need for a preceding recalculation, the scheduler stops a recalculation.

ACE2 Bridges

The ACE2 Manager receives events from ACE2 Bridges. Each event is analyzed and the manager finds all the affected tasks where a task is a metric calculation for a specific time unit. The manager initiates a calculation or recalculation as a result.

ACE2 Bridge List

ACE2 bases its calculation on separate tables in the database and does not communicate directly with any of the other CA Business Service Insight systems. All communication between the general system and the engine is done through communication channels referred to as bridges. Each bridge is responsible for a specific communication task, letting the engine know about a specific change in the Insight system with which it works.

The following is a list of ACE2 bridges:

Contract Bridge

Finds changes in contracts and their related metrics, and handles requests to migrate metrics to and from ACE2.

Modules Bridge

Analyzes changes in modules.

Exceptions Bridge

Finds activations and deactivations in exceptions.

Resources Bridge

Finds changes in the resources structure.

Data Bridge

Adds/deletes/updates events due to raw data events, corrections and event reusability events.

Add a PSL Worker to ACE2

To optimize performance, add multiple PSL Workers on the same server. The ACE2 manager automatically assigns jobs to multiple workers. Each worker service is a single thread. For example, you may have an application server with one ACE2 manager and three ACE2 workers.

Important! Add ACE2 workers gradually and do not to create more workers than you need. Performance drops quickly if you install too many workers for your available hardware and contracts.

Follow these steps:

1. Open Services on the Application server (Click Start, Services or click in the Start Search box, type services.msc, press Enter.).

   The Services window opens.

2. Locate the Oblicore - PslWorkerN service, where "N" is an integer.

   Example "Oblicore - PslWorker1".

   Note: N is the highest integer belonging to the service "Oblicore - PslWorkerN".

3. Run the following command:
   ```
   wrapper.exe -i .\wrapper.conf set.APPN=[N+1] set.service_user=.\Administrator
   set.service_password=[my_pass]
   ```

   where [my_pass] is your CA Business Service Insight administrator password.

   Example:
   ```
   wrapper.exe -i .\wrapper.conf set.APPN=2 set.service_user=.\Administrator
   set.service_password=oblicore
   ```

4. The following response in the command window indicates that another Pslworker service (N+!) is created.
   ```
   wrapper  | Oblicore - PslWorker2 installed.
   ```

   Note: Each Oblicore - PslWorker service must be unique. The following response displays in the command window whenever you attempt to create a Oblicore - PslWorkerN service that already exists:
   ```
   wrapper  | CreateService failed - The specified service already exists. (0x431)
   ```

Remove a PSL Worker from ACE2

The addition of too many PSL workers may reduce performance. To revert to the previous state, remove a PSL worker.

Follow these steps:

1. Open Services on the Application server.
2. Run the following command:

   ```
   wrapper.exe -r .\wrapper.conf set.APPN=N set.service_user=user
   set.service_password=password
   ```

   N

   Specifies the PSL work to remove.

   user

   Defines the user name. Use the windows user that installed the application.

   password

   Defines the password of the user.

   The server deletes the PSL worker.

ACE2 Features

The following section lists ACE2 features.

Continuous Calculation

Continuous Calculation enables ongoing calculation between contract versions. Data used by business logic to calculate service level is automatically accessible to subsequent contract versions. This feature enables the contract-manager to create new contract versions with new effective dates and to retain contents of global variables. This feature enables the calculation to continue and allows for the values of global variables to be accessible to new contract versions. ACE2 calculations are always continuous.

ACE2 Calculation Order

This section explains the way in which ACE2 determines what order to calculate its metrics.

Metrics that send events must be calculated before metrics that receive those same events. The ACE2 manager handles the calculation order automatically.

The calculation order is instance-specific. If the event reusability hierarchy is distributed between ACE1 and ACE2 instances. ACE2 only handles the ordering of the metrics assigned to it.

Note: As in the case of ACE1, we recommended keeping an entire event reusability chain assigned to ACE2, within ACE2 limitations. We recommend keeping the entire event reusability chain assigned to the same instance.

- If there is event reusability, the metric that sends the events must precede the metric that receives the events.

Calculation Policy

A calculation policy is attached to each metric and determines the response time of the metrics to events it receives. The scheduling of missions is based on the calculation policy. The system comes with two predefined calculation policies:

- System default calculation policies
- Other calculation policies that you add

You can add additional policies as needed. You can assign any policy to any metric. You can access this dialog through the administration menu.

Each metric has a specific calculation policy assigned to it. You change the calculation policy assignment at any time. This change is made through the instance management page.

Each calculation policy holds a pair of minimum and maximum number of minutes for each time unit. You can access this dialog at Administration, ACE Management, Calculation Policies. Click on the Add New button.

- Minimum minutes - The number of minutes to wait before starting calculations after the events start arriving. This time frame allows multiple events to arrive before the calculation starts and prevents false starts and unnecessary recalculations
- Maximum minutes - The maximum time a metric waits without calculating when no events arrive

Default Policies

CA Business Service Insight is shipped with two default calculation policies:

- Default for nonclustered metrics
- Default for clustered metrics

Default for Nonclustered Metrics

This calculation policy is assigned to all nonclustered metrics when they are created.

The calculation policy default definition is defined as follows:

The minimum time between calculations:

- Ten minutes for all granularities.

- The maximum time between calculations
  - Each granularity maximum value, in minutes, of the previous granularity. For example, the maximum value for calculating YEAR is QUARTER.

Default for Clustered Metrics

This calculation policy is attached to clustered metrics when they are created. This policy exists because clustered calculations take longer. The system distinguishes between clustered metrics and regular metrics.

The policy has the same maximum time as the default for nonclustered metrics. However, its minimum time value is 30 minutes instead of 10 minutes.

Note: Each time the task is taken for calculation, the minimum value initializes.

Both default calculation policies can be edited and adjusted at a later time as the user sees fit.

Notes: Each time the task is taken for calculation, the minimum value initializes.

Both default calculation policies can be edited and adjusted at a later time as the user sees fit.

Monitoring and Control

You can reload all ACE2 data and cause a full recalculation of all metrics assigned to ACE2.

You can order ACE2 to recalculate the following:

- All the metrics of a contract
- A single metric
- A single task

Note: Forcing a recalculation into the distant past takes a long time.

You can force a recalculation using the JBOSS Management Console.

From a browser, go to http://servername:8280/jmx-console/HtmlAdaptor?action=inspectMBean&name=com.oblicore.manager.services:service%3DTaskManagerService \

You have the option of four forced recalculation actions that you can activate.

- forceGlobalRuleAndTimeUnitRecalc
- forceContractRecalc
- forceTaskRecalc
- forceGlobalRuleRecalc

Each action is assigned a date and an ID number that results in tasks that are recalculated. To force a recalculation, supply the ID of the relevant object you want to have recalculated. Provide the date from when you want to recalculate.

Chapter 6: Reports

CA Business Service Insight provides reports to monitor the system and verify that it is working properly. This program generates reports that assist in the troubleshooting process. These reports provide you with information about the engine, security issues, and the database. Using reports enables quick and effective collection, organization and analysis of large quantities of data.

Reports are divided into the following categories:

- Administration Reports
  - Admin ACE2 Reports
  - Admin Misc Reports
  - Admin PSL Reports (ACE1)
  - Admin Sec Reports
- Admin DB Reports
- Predefined Reports

This section contains the following topics:

Administration Reports

This section describes Administration reports. These reports provide you with information about the engine and security issues. Using reports enables quick and effective collection, organization and analysis of large quantities of data.

Data Loading Forms - Show pending records

Shows all pending records for a chosen form.

Admin - Schedules Status

The Schedules Status report lists the status of all scheduled reports. This report includes the following columns:

Report name

The name of the scheduled report.

Status date

The date and time the report is scheduled to be generated.

Send status

The status of the report.

- If the report was sent successfully, this field consists of the date and time when it was sent.
- If the report has not yet been sent, this field is blank.

Error Status

Lists the error status.

- If there was no error, this field is blank.
- If there was an error, this field details the error.

Admin ACE2 Reports

Analyzed Changes Administration Report (ACE2)

The Analyzed Changes Administration report lists which of the following events the ACE2 system received (the change type):

Date

The name of the contract.

Entity Name

The name of the event source. For example, if the new SLA was committed, the report illustrates when the system saw the event source and provides its name: SLA.

Change Type

The Change Type is the event the ACE2 system received and can be one of the following:

- Committed contract
- Migrated contract
- Archived contract
- Committed Business logic module

Admin ACE2 - Calculation Schedule by Contract

This report shows the status of all the calculations in progress in ACE2 by Contract.

- Determines how far back the tasks were calculated,
- Determines when the tasks are scheduled, by contract, for the next calculation
- Determines if a recalculation reason occurred.
- Specifies when the calculation started.
- Includes a summary sentence that indicates the task status.

Note: When you are prompted to generate a report, a popup dialog appears in which you can enter the contract name.

Admin ACE2 - Workers Queue Monitoring

This report allows the user to see the load of the missions queue hourly. With this report, you can monitor the load and add workers to speed up the calculation, or shutdown workers, to save system resources.

When a request is made to view the mission queue load, a graph is displayed showing the following:

- The missions for calculation.
- The missions completed.
- The queue size.

Miscellaneous Reports

The following sections describe the Miscellaneous Reports.

Admin - Misc - Adapters Status

The Admin Misc - System Configuration report shows the adapter timestamp of the last event, the resource, event type, and arrival time.

The report contains the following columns:

Adapter

The that generates the event.

Timestamp of Last Event

The time of the last event.

Resource

The name of the resource.

Event Type

The type of the event.

Arrival Time

The time the event arrived.

Admin Misc - Alert Profiles per Recipient

The Alert Profiles report shows users alerts profiles and includes the following columns:

Recipient

The name of the alert recipient.

Alert Profile

The name of the alert profile.

Note: A many-to-many relationship exists between recipients and alert profiles. There can be multiple recipients per alert profile and multiple alert profiles per recipient.

Admin Misc - Resource Information

The Admin Misc - Resource Information shows this resource information:

- Resource Name
- Status
- Create Version Date
- Create Version Status
- Effective From (date)
- Delete Version (date)
- Delete Version (status)
- Effective To (date)
- Planned Delete Version Date
- Planned Delete Version Status
- Create Date

Admin Misc - SLALOM Runtime Errors

The SLALOM Runtime Errors report displays all the SLALOM runtime errors and includes the following columns:

Contract

The contract name.

Version

The contract version.

Rule

The metric name.

Error

The runtime error description.

Admin Misc - System Configuration

The Admin Misc - System Configuration shows system configuration parameters and lists the:

Name

The name of the parameter and the value.

Admin Misc - System Statistics

The System Statistics report lists the number of each type of entity that exist in the system. The data version of the report lists the information in table format. The graphic version of the report displays the information as a chart. The report includes the following columns:

Entity

The entity (Adapters Alert Profiles, Contract Parties, Contracts (Active), Contracts (Total), Corrections, Reports and others).

Count

The number of each entity.

Note: Click on the Chart tab to view this report in a graph format.

Admin PSL (ACE1) Reports

Admin PSL - Calculation Status

The Calculation Status report displays the rule calculation status at the agent level, and includes the following columns:

Contract

The name of the contract.

Rule

Name of the metric.

Tracking Period

The metric tracking period: HOUR, DAY, WEEK, MONTH, QUARTER, YEAR.

Update Up To

The date and time of the most current calculation results.

Last Cycle Begin At

The date and time when the last metric cycle began.

Requires Recalculation From

The date and time of the state from which ACE1 recalculates. If no recalculation is required, this field is blank.

Last Update At

The date and time when the agent (defined by the contract, rule and tracking period) was last updated.

Handled by Engine #

The ACE1 instance number (N).

Admin ACE2 - Current Calculation Status by Contract

The ACE2 - Current Calculation Status by Contract report shows the status of all the calculations in progress in ACE2 by contract. It

- Describes the status and progress by contract of the current calculations which are being executed.
- Determines if the system already recognized that the calculation is not current and if a recalculation is required.

Note: When you are prompted to generate a report, a popup dialog appears in which you can enter the contract name.

Contract

The name of the contract.

Contract Fully Calculated

Yes / No

 # Metrics to Calculate

The number of metrics to calculate in the contract.

 # Metrics with Error

The number of metrics with an error.

Requires Calculation From

The metric requires recalculation from this date.

Last Update At

Last updated on this date.

Admin PSL - Cycle Status

The Cycle Status report displays the cycle calculation status and includes the following columns:

Title

ROWNUM

The number of the current row.

INSTANCE

The instance number (N) of the ACE Engine.

# of Active Agents

Total number of agents that are currently active.

Last Cycle Time

The starting time of the last cycle.

Calculated Last Cycle

The number of agents that were calculated in the last cycle.

Not Calculated Last Cycle

The number of agents that were not calculated in the last cycle.

Calculated Last 24 Hours

Number of agents that were calculated in the last 24 hours.

Not Calculated Last 24 Hours

The number of agents that were not calculated in the last 24 hours.

Long Recalculation (>30d)

The number of agents with a calculation gap greater than 30 days.

Earliest Recalculation

The date and time of the earliest recalculation.

Rules with Runtime Errors

The number of metrics that had runtime errors in this cycle.

Data Purge - History (ACE1)

The Data Purge History report displays the data purge history and includes the following columns:

Contract Name

N/A

Type of Purge Performed

The type of purge performed.

Note: Only raw data purge is enabled, therefore the value of this column is always Raw data.

Date to Purge Up To

The date and time up to when the data is purged.

Time Units Purged

N/A

Date of Purge Request

The date when the purge was requested.

Date of Purge Completion

The date when the purge was completed.

Admin PSL - Data Purge - Status (ACE1)

The Data Purge Status report summarizes the current status of data purge requests in the system. This report includes the following columns:

Title

New Purge Requests

The number of new purge requests that are not yet active. The subcycle that deals with purging is at the beginning of the ACE1 cycle. If a purge was requested after this subcycle, it is not purged until the following cycle. Its status is New Purge Request.

Active Purge Requests

The number of purge requests the system is currently handling. If the number is greater than 0, one or more agents are in the process of calculations.

Count of Contracts to be Purged

N/A

Count of pending Purge Agents

The number of agents that are not currently being calculated but must be calculated before the purge.

Count of completed purges in the last 48 hours

The number of purges performed in the last 48 hours.

Count of completed purges in the last 7 days

The number of purges performed in the last seven days.

Count of purge Requests Not Completed in over 7 days

The number of purge requests that were not completed in over seven days. This number refers to purges that cannot be completed because of non-active agents that are involved in the purge.

Current Raw Data Purge Line

The date up to which there is no more raw data, since all previous data has been purged. The first date with raw data.

Calculated Data

Lists the number of purge requests for calculated data.

Note: This column is not relevant since purging calculated data is not enabled.

Raw Data

Lists the number of purge requests for raw data.

Future Calculation (ACE1)

The Future Calculation report displays the metric information that has not been calculated and still must be processed.

The first row in this report is a summary of all customers included in the report. Next, there is one row for each customer in the report ("**ALL**), including a summary of all metrics for that customer. Next is a row for each metric containing all relevant information per metric.

This report includes the following columns:

Customer

The name of the customer.

Rule

The name of the metric.

Note: The Rule refers to an agent; which is the metric in the time unit specified when creating the report.

Still to be processed

The number of days that still must be processed.

Last calculated up to

The date and time when the result of the last metric was calculated.

New Resource/Contract Version

The resource or contract version .

New Raw Data

The new raw data.

New Exception

The new exception.

Future calculation is required because of a new resource or contract version, new raw data, or a new exception. The following three columns correspond to the three possible causes for recalculation. The columns that define the reason recalculation is required and which contain the date and time of the actual recalculation. Any fields corresponding to reasons that do not apply, are left blank.

If you have a reason to recalculate, the relevant column contains the date from which the recalculation is needed. Example: When there is a new raw data entry from 1/1/10, the new data column contains 1/1/10. If there are no other reasons to recalculate, the other columns are empty.

Future Calculation Summary (ACE1)

The Future Calculation Summary report summarizes the number of days of calculations that remain in the system for the agents to process. This report includes the following columns:

days

The number of calculation days remaining.

agents

The number of agents that still require calculation.

cluster agents

The number of cluster agents that still require calculation.

cluster agent days

The number of days required to complete all cluster agent calculations.

ACE1 records

The number of rows in the table that are utilized for the calculations.

Note: Click on the Chart tab to view this report in a graph format.

Number of Metrics Req Recalculation (Graph)

Functional and deprecated.

This report is for older installations only.

Number of Metrics Req Recalculation

Functional and deprecated.

This report is for older installations only.

Security Reports

The following sections describe the security reports.

User Permissions

The User Permissions report lists the permissions for each user and includes the following columns:

User

The user name.

Entity

The entity for which permissions defined.

The following columns define the user permissions. If the user has the permission, the field contains an 'X'. Otherwise, it is blank.

- View
- Add
- Update
- Delete

Database Reports

This section describes Administration Database Reports. These reports provide you with information about the database. Using reports enables quick and effective collection, organization and analysis of large quantities of data.

Database Objects Analysis Status

The Database Objects Analysis Status report lists all database objects with their last analysis and default analysis settings and includes the following columns:

Note: This report requires Oracle sys permissions.

TABLE_NAME

The CA Business Service Insight table name.

ANALYZED

The data and time the object was last analyzed on this date/time.

Oracle Parameters List

The Oracle Parameters List report displays a list of the Oracle parameters and includes the following columns:

Note: This report requires *Oracle sys* permissions.

NAME

The parameter name.

TYPE

The parameter type.

VALUE

The parameter value.

DESCRIPTION

The parameter description.

ISSES_MODIFIABLE

Indicates if the session scope can be modified.

ISSYS_MODIFIABLE

Indicates if the system scope can be modified.

ISDEFAULT

Indicates if the parameter is a system default parameter.

ISMODIFIED

Indicates if the parameter was modified.

ISADJUSTED

Indicates if the parameter was adjusted.

Table Indexes

The Table Indexes report lists all CA Business Service Insight tables with corresponding indexes and includes the following columns:

Note: This report requires Oracle sys permissions.

TABLE_NAME

The table name.

INDEX_NAME

The name of the index column.

INDEX_TYPE

The index type.

UNIQUENESS

Indicates if the index is unique.

COLUMN_POSITION

Indicates the order of the index positioning.

COLUMN_NAME

Lists the name of the column by which the index is ordered.

Tablespaces Status

The Tablespaces Status report lists the actual usage status of each allocated tablespace. This report includes the following columns:

Note: This report requires Oracle sys permissions.

STATUS

Indicates whether the tablespace is online.

NAME

The name of the tablespace.

TYPE

The tablespace type.

EXTENT_MANAGEMENT

Indicates the way a request for extra space is managed.

SIZE (M)

Lists the total amount of space allocated for the tablespace.

USED (M)

Lists the amount of space the tablespace is currently using out of the total space allocated (for example, 4.000/250.000).

USED%

Lists the percentage of the amount of space the tablespace is currently using out of the total space allocated.

Tablespaces Usage

The Tablespaces Usage report lists the datafiles per tablespace. The report illustrates how the space is divided into multiple files. The report includes the following columns:

Note: This report requires Oracle sys permissions.

STATUS

Indicates whether the tablespace is online.

NAME

The path of the tablespace.

TABLESPACE

The tablespace file name.

SIZE (M)

The total amount space allocated for the tablespace.

USED (M)

The amount of space the tablespace is currently using out of the total space allocated (for example, 4.000/250.000).

USED%

The percentage of the amount of space the tablespace is currently using out of the total space allocated.

Predefined Reports

This section describes the Predefined Reports. These reports provide you with information about contracts (compliance and deviation), and service levels (including BRV). Using reports enables quick and effective collection, organization and analysis of large quantities of data.

All Metrics Report (current month)

This report provides a detailed view for the service delivery performance of the current month. It presents the result and the target (if relevant) for all metrics in the criteria. This report is used by the predefined booklet Service Delivery Performance (current month).

All Metrics Report (last month)

This report provides a detailed view for the service delivery performance of the previous month. It presents the result and the target (if relevant) for all metrics in the criteria. This report is used by the predefined booklet Service Delivery Performance (last month).

BRV Contract Compliance by Day

This BRV report provides the Contract Compliance by Day. This report includes the following columns:

Day

The specific day of the contract.

Violation (Count)

The number of violations on the day.

Exceed (Count)

The number of incidents that exceed the target.

BRV Contract Compliance by Month

This BRV report provides the Contract Compliance by Month.

This report includes the following columns:

Month

The specific month of the contract.

Violation (Count)

The number of violations for the month.

Exceed (Count)

The number of incidents that exceed the target.

BRV Contract Deviation by Day

This BRV report provides the contract's Deviation by Day.

BRV Contract Deviation by Month

BRV Metric Service Level by Day

This BRV report provides the Metric Service Level by Day and lists the levels as being on Target, Compliant and in Violation. This report includes the following columns:

Day

Violation

Compliant

Target

BRV Metric Service Level by Day With No Target

This BRV report provides the Metric Service Level by Day for metrics with no target.

BRV Metric Service Level by Hour

This BRV report provides the Metric Service Level by Hour.

BRV Metric Service Level by Hour With No Target

This BRV report provides the Metric Service Level by Hour for metrics with no target.

BRV Metric Service Level by Month

This BRV report provides the Metric Service Level by Month.

BRV Metric Service Level by Month With No Target

This BRV report provides the Metric Service Level by Month for metrics with no target. The Data contains columns Month and Service Level.

Note: Click Main drill menu to drill down and select:

- Drill up to years
- View Raw Data
- View Received Data
- View Root-Cause Comments
- Switch Business off
- Switch Target on
- Change to Deviation

BRV Metric Service Level by Quarter

This BRV report provides the Metric Service Level by Quarter.

BRV Metric Service Level by Quarter With No Target

This BRV report provides the Metric Service Level by Quarter for metrics with no target.

BRV Metric Service Level by Week

This BRV report provides the Metric Service Level by Week.

BRV Metric Service Level by Week With No Target

This BRV report provides the Metric Service Level by Week for metrics with no target.

-BRV Metric Service Level by Year

This BRV report provides the Metric Service Level by Year.

BRV Metric Service Level by Year With No Target

This BRV report provides the Metric Service Level by Year for metrics with no target.

Service Level by Metric vs Target (current month)

This report provides a detailed view of Service Delivery Performance by Metrics for the current month. It presents the service level and the target for all metrics.

Service Level Compliance (current month)

This report provides an overall view for the service delivery performance of the current month. It presents for each service in the criteria the number of objectives that met the target and the number of objectives that missed the target. This report is used by the predefined booklet Service Delivery Performance (current month).

Service Level Compliance (last month)

This report provides an overall view for the service delivery performance of the previous month. It presents for each service in the criteria the number of objectives that met the target and the number of objectives that missed the target. This report is used by the predefined booklet Service Delivery Performance (last month).

Run Services from the Command Line

CA Business Service Insight services are run as windows services and are started and stopped through the services manager. However, some services can be run from the command line.

Run ACE1 from the Command Line

You can run ACE1 from the command line.

Follow these steps:

1. From the command line, run PslWriter.exe and the **-d** parameter. By default, the default instance (instance 0) is run.
2. To run a different instance ID, add the -x parameter followed by the instance ID.

   For example:PslWriter.exe –d –x17

Install an ACE1 Service from the Command Line

You can install an ACE1 service from the command line.

Follow these steps:

1. From the command line, run PslWriter.exe and the **-i** parameter. By default, the default instance (instance 0) is installed.
2. To install a different instance, add the -x parameter followed by the instance ID.

   For example:PslWriter.exe –d –x17

Chapter 7: Passwords

This Section details the Update Password Utility and password encryption in CA Business Service Insight.

This section contains the following topics:

Update Password Utility

The Update Password utility modifies passwords in CA Business Service Insight services, the CA Business Service Insight COM+ engine and Oracle DB.

Because passwords in database connection strings are encrypted in CA Business Service Insight version 8.2, it is difficult to update passwords in multiple configuration files. This makes it inconvenient to update passwords manually.

The utility:

- Updates passwords for database connections
- Updates Data Sources (TNS name)
- Updates passwords of services
- Updates COM+ passwords

Run the program after changing at least one of the following passwords:

- Windows password.

  When a user changes the windows password, run 'Update Password' Utility program and enter the new password. The program modifies the services account, passwords and COM+ engine credentials according to the password the user enters. Only CA Business Service Insight services which use the user account credentials (not 'Local system' account) is changed.

- Oracle credentials.

  The Password Update utility provides the user with the ability to change the Oracle DB password for each of the various database users used by CA Business Service Insight:

  - Sla
  - Mtn
  - Csl
  - Edr
  - Psl
  - Rpt
  - Obl

  Note: When a user changes:

  - The Obl (oblicore) password, two additional files are also changed:

    - oblisync-ds.xml

    - ace2-ds.xml.

  - The CA Business Service Insight user, this file also changes:

- DBSource.properties

Notes:

- The JBoss password updates when the Obl password updates.
- The SMI password updates when the CA Business Service Insight password updates.
- The Update Password utility doesn't update passwords of services running with account LocalSystem.

Using the Update Password Utility

Follow these steps:

1. Run the Password Utility from %OG_HOME%\Utilities\PassUpdate\PassUpdate.exe

   The update password utility dialog opens. It lists all the connection string names and the users.

2. On the Database tab, click the Change button at the top to modify the data source (Oracle TNS names). Enter the new data source The utility modifies the TNS name in all configuration files.
3. Click the button (...) next to the name of any connection string to open the update dialog.
4. You can enter a new password and/or user name for that connection string.

   a. Click update to update the user name and/or password.

5. To apply the password to all users, click the checkbox "Apply password to all users" before opening the update dialog.

   The utlity updates the password for all users when changed.

6. Insight Connection String. Update this for SMI components.

The pane in the Services tab lists all CA Business Service Insight services that are running in accounts other than localsystems.

Note: The utility does not update passwords with account localsystem.

1. Click the Services tab to open it.
2. Enter the Username and password for the account.
3. Click Change Password.

   The password updates for all services. The utility then restarts the services.

   Note: The utility simultaneously updates the password for the COM+ engine.

Password Hiding / Encryption

Password Hiding / Encryption prevents others from seeing the passwords entered on the Web UI.

Previously, passwords in database connection strings were visible as plaintext in the Web UI. The result was that passwords were visible to anybody who opened the web page. Password encryption "hides" passwords by displaying them only in an encrypted format.

Passwords are no longer visible as plaintext. Instead, we use a password placeholder (${PWD}) for the password in database connection strings.

Note: The password placeholder is hardcoded; users cannot modify it.

The password now displays in a text box as “.” and password confirmation is still required.

Connection string builders automatically extract passwords from a connection string.

These areas use password encryption:

- Connection strings in SQL Adapters
- Connection string segments in SQL Adapters
- Query Builder in SQL Adapters
- Test connection strings in SQL adapters
- Connection strings in Free-Form reports
- Connection strings in Date Loading Forms

Password Encryption Locations

Passwords are encrypted in these locations:

- Registry.xml file

  %OG_HOME%\bin\Registry.xml

  - Sla
  - Mtn
  - Csl
  - Edr
  - Psl
  - Rpt
  - Obl
  - Dash

  An encrypted password string generally looks like this.

```
                    <Sla>*securestring*
52MA7A+BQHuxHQboGUeQ+DlRIoAzKZSgWbKpdSZOPnIlkh3li89qMmUrJulHyeNNuu6dHRN
ZAwWlmE45RPja83zCwcyK7NNtZ6oGjCIfKCk4TVduxCN/kxDzLFmZa/m1yFRTIbeJbYFB5H
SpqkM2C1X5F22JxYuz</Sla>
```

- %OG_HOME%\Tomcat\conf\DBSource.properties

  If the property “encrypt” is set to “Y”, SMI treats passwords as encrypted text.

- JBOss.

  Oblisync and ACE2 run in JBoss. Passwords are encrypted in the configuration file..

```
%OG_HOME%\standalone\configuration\standalone-full-Oblisync.xml
%OG_HOME%\standalone\configuration\standalone-full-ACE2.xml
<security>
    <security-domain>encrypted-oblisync-defaultds</security-domain>
</security>

<security-domain name="encrypted-oblisync-defaultds" cache-type="default">
    <authentication>
        <login-module
code="org.picketbox.datasource.security.SecureIdentityLoginModule"
flag="required">
            <module-option name="username" value="obl" />
            <module-option name="password" value="2f34371127b18a0b" />
        </login-module>
    </authentication>
</security-domain>
```

Password Hiding (Encryption)

You can use three methods to create connection strings.

- The connection string builder
- The connection string template
- Write connection string manually (no instructions provided).

Connection String Builder

Follow these steps:

1. Go to Design, Data Acquisition, Adapters.
2. Click Add New.

   The adapter Wizard displays.
3. Fill in the required parameters (marked with an asterisk *) and click Next to go to the Connection step.

   The connection step opens.
4. Select the Database Type.
5. Click "Set Connection string".

   The Data Link Properties dialog displays.
6. Select the OLE DB Provider(s) and click Next.

   The Connection Tab displays.
7. Fill in the required information.
8. Click Test Connection and click OK.

Connection String Template

Follow these steps:

1. Go to Design, Data Acquisition, Adapters.
2. Click Add new.

   The adapter Wizard displays.
3. Fill in the required parameters (marked with an asterisk *) and click next to go to the Connection step.

   The connection step dialog opens.
4. Select the Database Type.

   Click Select from Template.
5. The Data Source Template dialog displays.
6. Select the appropriate template (Oracle) and click OK.

The information displays in the Connection string text box and in the password fields.

7. Replace the general template information (such as "Source=MyTNSAliasName" and "UserId=MyUsername") with the correct information.
8. Enter the password into the password and password verification fields.
9. Test the connection.

Connection String Locations

These location on the CA Business Service Insight menu contain connection strings.

Adapters

- Design\Data Acquisition\Adapters\Add New\SQL Adapter\Next\connection string
- Design\Data Acquisition\Adapters\Add New\SQL Adapter\Next\Adavanced\Connection String Segments\Add segment\segment details
- Design\Data Acquisition\Adapters\Add New\SQL Adapter\Next\Next\Open Query Builder\Query builder in adapter
- Design\Data Acquisition\Adapters\Add New\SQL Adapter\Next\Next\Advanced\Test Connection String\test connection string

Data Loading Forms

GUI Path:

- Design\Data Acquisition\Data Loading Forms\Add New\Drag "DropDownItems"\Properties\Items\"Collection" Button\Select Items from Data Source\select data source\Data Source Config Wizard

Free-Form Reports

- Reports\Report Folders\Add New\Free-Form Report\connection string and parameters

  If you want to use the password in parameters for connection string, the token for password in parameter must be used in connection string.
- Reports\Report Folders\Add New\Free-Form Report\Open Query Builder\query builder