

eFLOW Supervise

User Guide

Version 6.0

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About Supervise

Supervise is the eFLOW runtime monitoring tool. It helps managers to plan and monitor jobs, enables smart resource allocation according to availability and performance, and provides time-to-completion estimations. See the [Tutorials](#) for examples.

Different views provide immediate visual information on the status of all elements of the production environment.

Terms and definitions

Term	Definition
SLA	A Service Level Agreement is the part of a service contract where the level of service is formally defined. It is a useful method for setting expectations on deliverability. eFLOW uses the term SLA to refer to the contracted delivery time.
TTC	Time to complete: the estimated time left until the task will be completed.
PPM	Pages per minute: the unit of measuring the performance of the automatic stations.
CPM	Collections per minute: the unit of measuring station performance. Relevant for all workflow stations.
Operator	One of the manual stations operators listed in the Users table of the eFLOW management database. All operators should also be defined as valid STS users.
Team	A group of operators working under the same configuration. This term is used in the Supervise station for presentation purposes only.
Alert	A system notification issued when a potentially problematic situation occurs.
Worker server	An eFLOW client that runs the automatic stations. In modern environments, automatic stations usually run on powerful multi-CPU server stations, hence the name "Worker server" for this type of client.

Installation

Supervise can be installed either as one of the eFLOW client installation features or as a separate application using the ClickOnce deployment mechanism. See <http://msdn.microsoft.com/en-us/library/t71a733d.aspx> for information on ClickOnce.

The ClickOnce Supervise server-side installation is deployed as a separate installation package.

Note: The ClickOnce Supervise package is installed as a trusted application and requires relevant access permissions.

Security settings

It is important to keep in mind that the Supervise station provides the most comprehensive information about the system status and allows users to change it in many ways. Only qualified users should have full access to the Supervise functionality.

Software requirements

- Microsoft Windows 8
- Microsoft Windows 7
- Microsoft Windows Server 2008 R2
- Microsoft Windows Vista
- Microsoft Windows Server 2003

Localization

The standard Supervise installation supports the following languages:

- English
- German
- Spanish
- French

If an additional language is required, a change request should be sent to TIS. Currently there is no possibility to create custom language files.

The language selection can be changed by editing the *efOrchestrate.exe.config* file. The English language is set by default.

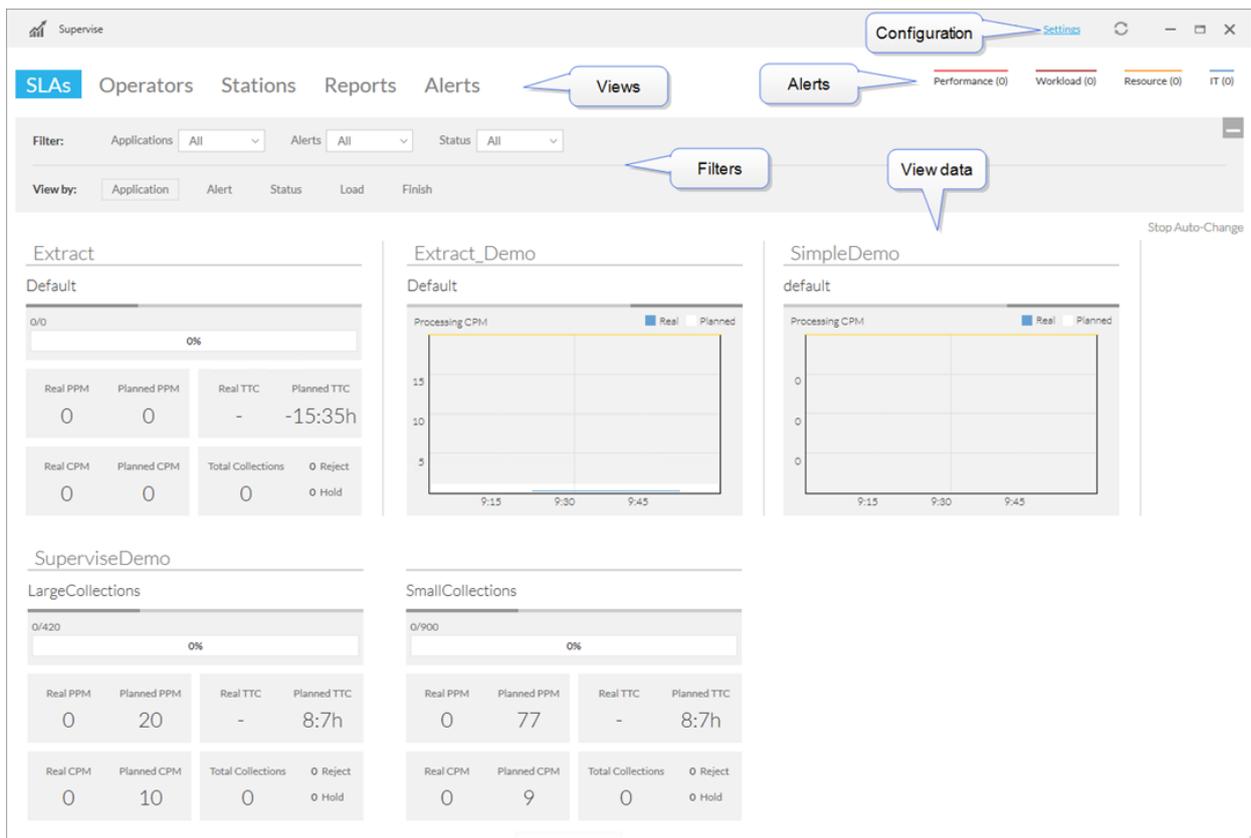
Customization

The current version does not support customizations.

Supervise desktop

To open Supervise, in eFLOW Launch Pro, select **Supervise** from the **Reports** list.

The main window is displayed.



Supervise views

The Supervise main window provides access to five different views. Click on a view name to open that view.

- The **SLAs** view displays information about performance against SLAs. SLAs define how fast collections are expected to pass through the workflow.
- The **Operators** view displays information about the activity of the eFLOW manual stations.
- The **Stations** view displays information about the activity of the eFLOW automatic stations.
- The **Reports** view displays statistical reports as graphs.
- The **Alerts** view displays system alerts. Alerts warn you about currently existing or potential problems with the system.

The views are refreshed automatically once per minute to display the latest information. To manually refresh a view, click the **Refresh** button  at the top right of the window.

View filters

Each view provides filters and grouping options (**View by**) to enable you to focus on specific information. Which filters and options are available depends on the selected view.

To hide the filter area, click the **Filter off** button  at the right of the filter area.

Alerts

Alerts warn you about currently existing or potential problems with the system. The colored bars at the top right of the window represent the different types of system alerts: Performance, Workload, Resource and IT. For each alert type, the number of current alerts is displayed in parentheses after the alert type name. To view details of the alerts, open the **Alerts** view.

Configuration settings

Click the **Settings** link at the top right of the window to open the [configuration settings](#).

SLAs view

The **SLAs** view is the central part of the Supervise station.

The eFLOW [SLA](#) is a contract that defines how fast should the collection go through the workflow. This contract is always defined per specific application.

Usually an application has multiple SLAs attached to different types of collections. Each collection is bound to some SLA in accordance with the SLA rules.

SLA card view

The SLA card consists of three tabs representing different views. To switch between the tabs, either click on the upper border of the card or enable the **Auto-change** option.

The line between the SLA name and the card serves as the alert indicator. If any performance alerts are issued, the line color changes.

Note: It is not possible to stop or enable **Auto-change** for one SLA only. It is the global setting for the whole view.

Utilitization view

The **Utilization** view is a burndown graph showing how much work is left at the moment. It always shows the work progress during the last hour.

If **Start** and **Finished** times are defined, the graph always starts at the maximal value and goes down until there are no collections left in this SLA. The comparison between planned and real graphs shows immediately if there are any problems.

For the SLA of the **TTC** type, the planned performance is represented by the horizontal line, meaning that every collection executes this SLA for the same amount time. If problems occur, the real line appears to be above the planned, meaning that there collections that are moving slowly.

Processing CPM view

The **Processing CPM** view shows the CPM values for the specific SLA during the last hour.

Global Performance view

The **Global Performance** view shows current and planned values of all the performance parameters.

The numbers above the progress bar in the upper part of this view inform about the real and planned amount of collections. The real quantity includes both collections that have already left the system and those still in the workflow.

The progress bar shows the percentage of the work done compared to the planned quantity. All collections that are on time or have already finished, are shown in green. Red color indicates that collections are behind schedule.

If the planned quantity is not defined, the progress bar is empty.

The controls in the view include the following information:

Property	Description	Values	Notes
CPM (Collections Per Minute)	The unit of measuring the station performance.	Real Planned	Relevant for all workflow stations.
PPM (Pages Per Minute)	The unit of measuring the station performance.	Real Planned	Relevant for automatic stations only.

Property	Description	Values	Notes
TTC (Time to complete)	The estimated time left until the task will be done.	Real Planned	TTC can be negative for batches that are in the system for long time.
Collections	Number of collections.	Total number In Rejected queue On hold	

View filters

The following filters are available:

Filter	Description
Applications	Show only the SLAs that belong to the selected application. If All is selected, the applications filter is not applied.
Alerts	You can select to view only those SLAs for which active Performance alerts exist. If All is selected, the alerts filter is not applied.
Status	You can select to view only those SLAs that are behind schedule. If All is selected, the status filter is not applied.

The following grouping options are available:

View by	Description
Application	Group the SLA cards by application name.
Alert	Group the SLA cards by active alerts.
Status	Group the SLA cards by their status.
Load	Show separately the Empty SLAs that have no collections and the Loaded SLAs that have some collections attached.
Finish	Show separately SLAs that are On time and Late . SLAs that have no Finish time defined are shown as Unknown .

Note: A filter set for one view will be shared by all views.

Operators view

The **Operators** view provides information about the activity of eFLOW manual stations. Manual stations resource management is never a simple task; this view makes it easier by presenting a large number of different parameters.

View parameters

The **Operators** tree view can be organized in different ways depending on the **View by** selection. The selected **View by** element determines the root of the tree view, and every row represents one of the logged in stations. By default, the view is grouped by applications.

The **Operators** grid view contains the following columns:

Column name	Description
Name	Name of the operator of the currently logged in station. There can be several lines containing the same user name and the view can change depending on the filter. The users shown in the view have to be defined in the dialog box.
Application	Name of the application currently logged in.
CPM	Number of collections completed by the operator per minute during the working time. The working time is the total time that the station was logged in, including idle time, such as operator breaks.
PPM	Number of pages completed by the operator per minute during the working time. The working time is the total time that the station was logged in, including idle time, such as operator breaks.
Usage	The ratio between the net working time and total working time.
Queue	The name of the queue (the logged in station name).

Column name	Description
Load	<p>The number of collections that are waiting in the queue for this station instance. This value is only an estimation, since it does not take into account the operators' performance. For example, if there are 1000 collections in the queue and there are 2 instances of the same station, the Load column value for each instance will be 500.</p> <p>The calculation of the number of collections in the queue takes the SLA assignments into consideration. Thus the numbers in the example above will not be the same if SLA assignments for the station instances differ.</p>
Load Rate	Indicates how fast the queue grows or becomes smaller. It becomes red if the input exceeds the output by 25% during the last ten minutes, green if output exceeds the input, and remains neutral if the input is approximately equal to the output.
Machine	Machine name where the station instance is running.
Team	User team name.
SLA assignment	Shows graphically the actual SLA assignment, either inherited or set manually. The SLA assignment level (Instance, Application, Queue, Team) depends on the View By selection. If the SLA assignment is FIFO (all assignment values are equal to zero), this column will be empty.

View filters

The following filters are available:

Filter	Description
Applications	Logged in application name.
Team	Team name.
SLA name	You will not see the operators that have no collections belonging to this SLA in their real assignments.

The following grouping options are available:

View by	Description
Application	Logged in application name

View by	Description
Team	Operator team name
Queue	Logged in station queue
Usage	Shows the users who work relatively much compared to others. You can add some work load to the users that are less busy.

View actions

Every command will be applied to selected rows only.

Action	Description
Logout	Send this command to perform an orderly logout of the selected station instance.
Assign	Change the SLA assignment for the specific station instance.

Stations view

The **Stations** view provides information about the eFLOW automatic stations activity.

Stations view parameters

The stations grid view contains the following columns:

Column name	Description
Name	Automatic station name.
PPM	Number of pages processed by the station per minute during the working time. "Working time" means the total time when the station was logged in, including the idle time.
CPM	Number of collections processed by the station per minute during the working time. By "working time" we mean the total time when the station was logged in, including the idle time.

Column name	Description
Usage	The ratio between the net working time and total working time.
Queue	The name of the queue (the logged in station name).
Load	<p>The number of collections that are waiting in the queue for this station instance. This value is only an estimation, since it does not take into account the station's performance.</p> <p>For example, if there are 1000 collections in the queue and there are 2 instances of the same station, the Load column value for each instance will be 500.</p> <p>The calculation of the number of collections in the queue takes the SLA assignments into consideration. Thus the numbers in the example above will not be the same if the SLA assignments for the station instances differ.</p>
Load rate	<p>Indicates how fast the queue grows or shrinks.</p> <p>It becomes red if the input exceeds the output by 25% during the last ten minutes, green if output exceeds the input, and remains neutral if the input is approximately equal to the output.</p>
Application name	The logged in application name.
Server	<p>The name of the worker server on which this station instance is running.</p> <div data-bbox="507 1240 1434 1305" style="border: 1px solid black; padding: 5px;"> <p>Note: This is not the eFLOW server!</p> </div>
CPU	<p>The meaning depends on the View by selection:</p> <ul style="list-style-type: none"> ■ Station: CPU usage of the station instance ■ Server : CPU usage of the whole server
Memory	<p>The meaning depends on the View by selection:</p> <ul style="list-style-type: none"> ■ Station: Memory consumed by the station instance (MB) ■ Server : Percent of the memory usage of the worker server.
Hard disk	<p>The meaning depends on the View by selection:</p> <ul style="list-style-type: none"> ■ Station: Amount of read/write bytes per second. ■ Server : Percentage of the free disk space.

View filters

The following filters are available:

Filter	Description
Machine name	
Applications	Logged in application name.
Queue	
Usage	
SLA name	Used to exclude from the view the automatic stations that are not working with a specific SLA.

The following grouping options are available:

View by	Description
Server	Station server name where several automatic stations are running.
Queue	Specific station queue.
Usage	Shows what stations work relatively much compared to others. You can add some work load to the stations that are less busy.

View actions

Every command will be applied to selected rows only.

Action	Description
Logout	Sends the command to perform an orderly logout of the selected station instance.
Assign	Changes the SLA assignment for the specific station instance.
Duplicate	Duplicates the station instance.
Run	Opens the Run dialog.

Configure automatic stations

To configure the eFLOW automatic stations:

1. Open the **Stations** view in the Supervise station.
2. Click **Run** in the upper right part of the view.

The **Automatic Stations Assignment** dialog box opens.

3. Start the automatic stations (called also **Autorun** stations) by selecting the application.

After the application was selected, the list of the available automatic stations appears.

For each station you need set the following parameters:

Parameter	Description
Station	The automatic station names list. The station will appear in this list if it has the Autorun and StandBy properties set to True in the Design module.
Add instances	The number of station instances that will be added to the currently running ones.
Server	The worker server where the station will be running. By default, the Auto-select option is set, meaning that the least busy instance of the server is selected. It is also possible to select a specific machine for running stations of the selected type.
Action	The Apply to all action appears after changing the station properties. Select this option to apply the changes to all the stations.

4. Select **Run** to start all the Autorun stations or **Cancel** to ignore the configuration changes.

Reports view

The **Reports** view allows you to analyze the system performance providing the data for the specified period of time.

Click on a report type to view the report.

Reports types

Report type	Description
Burn down	Shows the amount of work left versus the time. By comparing a real graph to the planned one, you can determine whether the system is working slower or faster than expected.
Collection load	Shows the total amount of collections that entered the system during the specified time period.
Performance history	Shows the distribution of collections per queue during the specified time period. You should pay special attention to stations that differ significantly from the others.
Form types total	Shows the total number of forms that were processed during the specified time period.
Form types history	Shows the form types distribution for the specified time period.
Target vs processed collection	Shows a comparison of the number of collections done and the planned values for the specified time period. The chart shows the distribution of the workflow data per SLA.
Queue performance	Shows changes in the selected queue load for the specified time period.
Station license usage	Shows the system license usage during the specified time period.

View filters

The following filters are available:

Filter	Description
Application	Application name.
SLA name	The SLA name.

Filter	Description
Dates	<p>The period of time used to create the report. You can select one of the following predefined values:</p> <ul style="list-style-type: none"> ■ Last 1 hour ■ Last 24 hours ■ Last 7 days

Print reports

To print the selected report, click the **Print** button.

Alerts view

The eFLOW alert system warns you about currently existing or foreseeable system problems. There are several alert types that are issued in problematic situations. Some alerts are relevant for the whole system, while others are connected to the SLA for the specific application and/or queue.

The **Alerts** view allows you to see all the system alerts and helps you to navigate to other views to get more information about the problem and fix it if possible.

Every alert issued by the system appears in the view and remains there until it is closed. If an alert was updated (new batches added to reject queue), the view will change, but a new notification will not be sent.

All alerts are removed automatically when the error condition is no longer met. They can also be closed manually by the project administrator, though this action is not always recommended.

Alerts view parameters

The **Alerts** grid view contains the following columns:

Column name	Description
Name	One of the predefined alert names.
Creation date	Alert creation date.
Message	Provides information about the problem. It is updated every minute (for example, the time behind schedule can grow), but an e-mail notification is sent only for the first time.

Column name	Description
Published	Indicates whether a notification was already sent.
Application	An optional column. It will be filled if only if it is relevant for the specific alert. *
SLA	An optional column. It will be filled if only if it is relevant for the specific alert. *
Queue	An optional column. It will be filled if only if it is relevant for the specific alert. *

* For example, it may contain the application name for the **Behind schedule** alert, but be empty for the **CPU** alert.

View filters

The following filters are available:

Filter	Description
Applications	The application name.
SLA name	The SLA name.
Alert type	One of the predefined alert types.
Date	<p>Allows you see alerts that were recently issued or alerts that remain for a long time in the system. You can select one of the following predefined values:</p> <ul style="list-style-type: none"> ■ Recent ■ 1 hour ■ 1 day ■ Old

The following grouping options are available:

View by	Description
Alert name	Alert name.
Date	Alert creation date.

View actions

Action	Description
Remove	Closes the alert. It will disappear from the alerts list, but will not be removed from the database immediately. This will be done later internally.
Navigate	<p>Navigates to the relevant view that provides full information about the problem and a possibility to fix it.</p> <p>For example, the navigation from the Queue Load alert will bring you to the Stations or Operators view (for automatic and manual stations respectively) grouped by the queue and filtered by application.</p>

Alerts groups

All alerts are divided into four groups:

Alert Group	Members
Performance	SLA behind schedule
	Queue load
	Empty queue
Workload	Reject
IT	CPU
	LicenseExpired

Supervise settings

SLA configuration

This topic describes how to configure SLAs in the Supervise station.

Managing the SLAs

The SLA list shows all the SLAs of the current eFLOW system.

Action name	Description
Create	Select New to create a new SLA. See SLA properties for details.
Edit	Select one of the existing SLAs and click Edit to change the current settings.
Assign	Select one of the existing SLAs and click Assign to change the assignments of the application.
Delete	Select an existing SLA and double-click Delete to delete it.

Basic SLA properties

Basic properties are the minimal set of parameters that are required to define a valid SLA.

Property	Description
SLA name	The user defined name of the SLA. This is a mandatory property that cannot be changed.
Application	The SLAs are always defined per application. This mandatory property contains the name of the application to which this SLA belongs. It cannot be changed after the SLA was created.
Export queue	<p>This property defines the last workflow station for the SLA.</p> <p>The list of possible values includes all the workflow stations of the current application and the generic constant Out.</p> <p>Out means that SLA should be finished with the end of the workflow. If current SLA has finished and the next one has not yet started, the batch will be still connected in the database to its last SLA, though it is not really working any more.</p>

SLA types

Type	Description
Fixed	<p>This type requires Start and Finish time to be set. Its recurrence can be set to Daily or Weekly. The Fixed SLA always begins and ends on the same day. If its recurrence is set to Weekly, it will be executed on selected days.</p> <p>There is no possibility to define the SLA that starts on Sunday and ends on Monday.</p>

Type	Description
TTC (Time to complete)	The time that takes one collection to finish the SLA. It can be defined in seconds, minutes, hours or days.

Performance properties

Property	Description	Notes
PPM (Pages per minute)	The planned amount of pages to be processed per minute. It is relevant for automatic stations.	We recommended to define this property though it is not mandatory.
CPM (Collections per minute)	The planned amount of collections to be processed per minute.	We recommended to define this property though it is not mandatory
Quantity	The planned total amount of collections to be processed while SLA is active.	This is an optional property.

SLA display

Currently, **Color** is the only display setting available for the SLA display. It is not a mandatory setting, but can often help to distinguish quickly between different SLAs. You can select one of the predefined colors to be used with this SLA.

Any SLA property besides the SLA name and application can be changed at any moment.

Note: Though it is possible to change the SLA rules while there are still collections in the workflow, we do not recommend it.

The safe way to change the SLA rules is to make sure there are no collections and change the rules afterwards.

SLA rules

Every eFLOW collection should be attached to an SLA. SLA rules help to determine to which SLA the collection should belong.

Rules are defined per flow in the selected application.

The SLA rule can be based on any of the application metatags defined in the Design module.

How SLA rules are checked

The SLA rules check is done on the server as follows:

1. The collection looks for a rule that is relevant for it.
2. If no relevant rules are found, the collection looks for an SLA without rules.
3. If an SLA without rules is not found, the collection is sent to the **Pending** queue.

There should be no overlapping of rules between different SLAs; if this happens, the order of execution of the SLAs cannot be guaranteed.

An SLA can contain more than one rule. To attach the collection to a specific SLA, all the rule checks should be successful. Schematically, the following condition should be met:

(RuleA==true) AND (RuleB==true) AND (RuleC==true)

All SLA rules are checked on every **Put collection** on every station. If an SLA ends at a specific station and the workflow continues, you should define the rules so that they will fail on the next SLAs.

SLA rule editor

The SLA rule editor allows to add, remove and edit the rules.

Parameters

The list of available rule parameters is based on the flow metatags defined in the Design module. The metatags list cannot be changed in the Supervise station SLA rule editor.

Operators

The rule editor supports the following comparison operator types :

- Logical operators:
 - >
 - <
 - =
 - <>
 - >=
 - <=

- String functions:
 - *Contains*
 - *StartsWith*
 - *EndsWith*.
- Regular expressions.

Important: All rule comparisons are case-sensitive.

Values

The values should correspond to the metatag type.

The values of the **DateTime** type parameters (for example, **CreationTime**) should use the system date format of the eFLOW server machine.

Actions

The table below describes the rule editor actions.

Action	Description	Usage
Add	Add a new rule in the rule editor	Always visible
Accept	Save a new rule in the database	Visible after adding a new rule in the editor
Cancel	Do not save a new rule in the database	Visible after adding a new rule
Edit	Edit the existing rule	Visible when selecting one of the existing rules
Delete	Delete the existing rule	Visible when selecting one of the existing rules

Note: Though it is possible to change the SLA rules while there are still collections in the workflow, we do not recommend it.

The safe way to change the SLA rules is to make sure there are no collections and change the rules afterwards.

SLA assignment

Each application can be configured to keep the required balance between the amount of collections bound to different SLAs. These configuration parameters in the Supervise station are called SLA assignments.

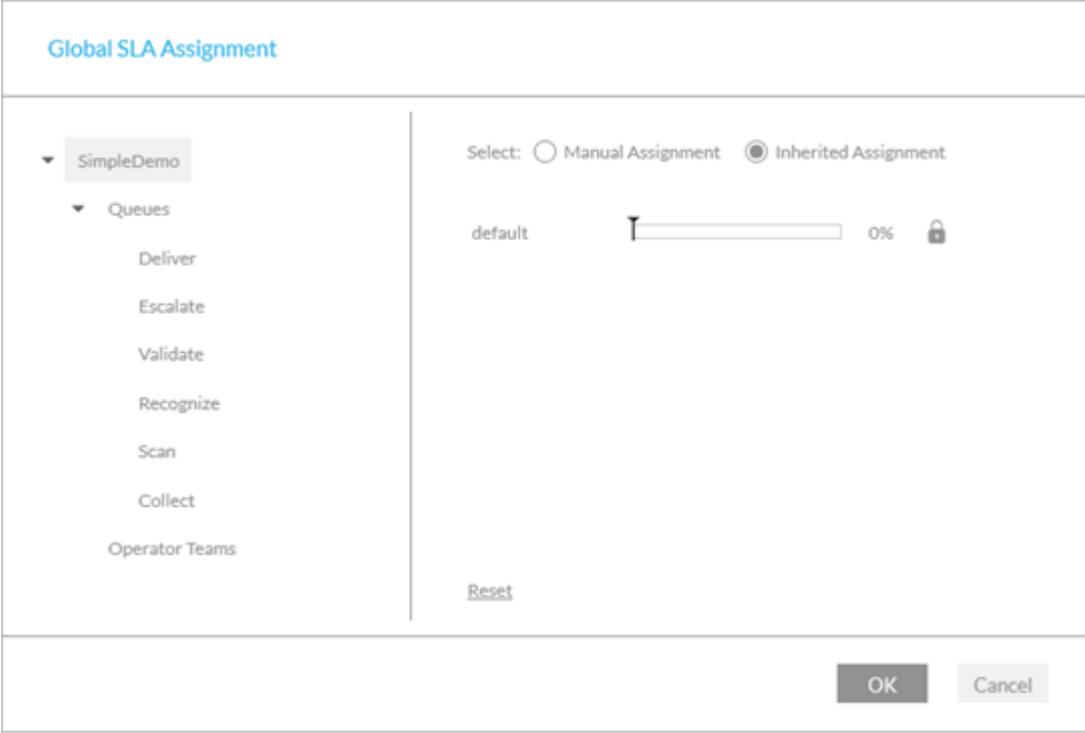
View assignments

To see the existing SLA assignments per application:

1. In the **General** section of the **Settings** view, click the **SLA Assignments** button to open the **Global SLA Assignments** dialog box.

The **Global SLA Assignments** dialog contains all the system eFLOW SLA assignments ordered by application name.

2. Select one of the applications in the tree to see its SLA assignments.



Inherited assignment

By default all SLA assignments are inherited from the upper level assignments.

The assignments hierarchy allows to achieve the maximal flexibility in routing the batches. It is possible to override the inherited definitions on every level.

The assignments are set using the following hierarchy (starting from the top level):

1. Instance
2. Operator teams

3. Queues
4. Application

For example, assignments set manually per operator team, will override those set by queue (the lower hierarchy level), etc.

The default application level assignments are all set to zero. It means that collections will be taken using the simple "FIFO" (first-in-first-out) algorithm.

Manual assignment

SLA assignments can be set manually using the slider control. The manual assignment always overwrites the inherited assignments.

Changing the assignment for one SLA in the application influences all the others. The sum of all the assignments is always equal to 100%. The assignment status is calculated every time when the **Get collection** operation is performed.

For example, if each of the two SLAs are set to 50%, but all the new batches belong to the first SLA, they will be taken by the system one after another as long as there are no new batches belonging to the second SLA. When a batch bound to the second SLA appears, it is taken immediately, as the system tries to keep the required proportion of 50-50.

Change the assignments

You can change only one assignment at a time, since other assignments should be updated accordingly.

After setting the new values it is necessary either to save this change or undo it by clicking **Reset**. The **Reset** button returns the current SLA assignment to its previous state.

Alerts configuration

This section describes the alerts used in the Supervise station.

Alert types

The table below summarizes the alert types supported by eFLOW:

Alert type	Description	Alert resolution
CPU	CPU usage exceeds 90% on one of the station servers (clients on which the TIS eFlow Autorun Stations Starter service is running). This alert does not include the problematic machine name. It is issued on the system level, that is, for all applications and all stations. If the problem occurs on several servers, still only one alert will appear.	This alert is removed automatically if the CPU falls below 90% on all the station servers.

Alert type	Description	Alert resolution
Reject	There are batches in the Reject queue. This alert is issued per application.	This alert is removed automatically if the Reject queue is empty. If you close this alert manually, it appears again only if new batches are sent to the Reject queue.
Behind schedule	There are batches in the system that will not be finished in time.	This alert is removed automatically if the situation improves. It makes no sense to close it manually, as it appears again if the problem was not solved.
License expired	This alert is issued a week before the license expiration date.	This alert is removed automatically if the new license is installed. It can be closed manually by the project manager.
Queue empty	The specific queue in the application is empty for the last 10 minutes and there is a station that is logged in and was working before. If the queue suddenly becomes empty, this may be a sign that the previous station does not produce enough output.	This alert is removed automatically when batches appear in the queue or the station logged out. It makes no sense to close it manually, as it appears again if the problem was not solved.
Queue load	The average input for the specific queue is 10% bigger than output for the last 10 minutes and there is a station in this queue that is currently logged in. This alert can be issued either per SLA or for all SLAs in the application. Depending on the alert information, the administrator can take the relevant measures to resolve the situation.	This alert is removed automatically when the input and output volumes of the station do not differ. It makes no sense to close it manually, as it appears again if the problem was not solved.

Alerts configuration

Default

The default alert configuration is applied to every alert for which no specific configuration is defined.

Alerts can be configured to send e-mail notifications. To send the e-mail notification to several recipients, separate the addresses with a semicolon.

The default alert configuration uses the system SMTP settings.

Check **Enable SSL** per alert if required.

Specific settings

For any alert, you can create a configuration that differs from the default one.

Email recipients defined per alert are added to those set in the default configuration.

The alert-specific email SMTP settings overwrite the default configuration.

It is possible to configure alerts without activating them. Alert activation can be done later when needed.

User definitions

This topic describes how to set users and groups definitions in the Supervise station.

Users and Groups dialog box

To open the **Users & Groups dialog** click the **Users** button in the **General** section of the **Settings** view.

Create a new team

Click the **New Team** button to create a new team. The default name should be replaced by a meaningful one. After creating a team you need to add some user definitions to it.

Note: Teams defined in the **Users & Groups** dialog are valid for the Supervise station only.

Add a new operator

Every new manual station operator should belong to one of the Supervise teams. A user cannot be included in more than one team.

The operator names should match those defined in the current STS system. For example, if Windows authentication is selected, the names should include the domain name. Obviously, a user that is not defined in the STS will not be able to log in.

Operators and groups defined in this dialog are saved in the **User** table in the **eFLOW_Management** SQL database.

Important: Currently there is no automatic utility that synchronizes between the system security settings (STS) and the **Users** table. The eFLOW system administrator should make sure that users and teams are properly defined.

Tutorials

Managing system performance

This topic provides advice on managing system performance.

Recognizing the performance problem

How do you identify low system performance ?

The first sign is that the **Performance** alerts list is not empty. You can either navigate to the relevant view directly from the list or open the [Alerts](#) view to check the details.

Alerts are issued when something goes wrong, or might possibly go wrong, in the system, but they do not provide much information about the problem. The table below shows which indications may appear in the different views:

View	Low performance signs
SLAs	Real CPM/PPM differs significantly from the planned value. The Utilization (burn down) graph shows that there are still collections in the system, although according to the plan, the work should be already done.
Stations	The load rate column is colored in red indicating that the station is working too slow. There is a problem with the automatic station performance.
Operators	The Load Rate column is colored in red indicating that the station input exceeds the queue output. There is a problem with the manual station performance.
Alerts	Ideally, this view should always stay empty. Any record that appears in the Alerts view requires immediate attention.

Why does the system work slower than expected?

There can be many different reasons for low system performance. The Supervise station tools allow you to get to the root of the problem as quickly as possible.

The most common reasons for performance problems are listed below:

Problem	Alerts	How to fix
Some stations are overloaded	Queue load Behind schedule	Automatic stations : add relevant station instances Manual stations: add operators

Problem	Alerts	How to fix
Some collections never leave the system due to wrong SLA assignments	Behind schedule	Change the SLA assignments to ensure balanced system behavior.
The reject queue is not empty (relevant for all workflow stations except input stations)	Rejects Behind schedule	Make sure that there are no collections in the Rejects queue.
Hardware problems (machines or network)	CPU Queue load Behind schedule	If the CPU alert appears, check the worker servers. If there is no CPU alert, but the overall system performance is getting low, check the network speed and stability.

Automatic stations performance

To see the automatic stations runtime information, open the **Stations** view. If there are any problems, this view will provide you with an immediate indication.

Symptom	Solution	Action
The Usage column shows that none of the stations is idle, but some stations are still behind schedule.	Add resources	Click Run or Duplicate to add more stations.
The Queue Load column shows overloaded queues.		
The Usage column shows that some stations are working less than others, or not working at all.	Rearrange the existing resources	Check the problematic station queue: <ul style="list-style-type: none"> ■ If there are collections in the queue, and the Usage is low, then you need to consider the hardware problem. ■ If the queue is empty, it is necessary to change the SLA assignment for this station.

Manual stations performance

To see the manual stations runtime information, open the **Operators** view. If there are any problems, this view will provide you with an immediate indication.

Symptom	Solution	Action
The Queue Load column shows overloaded queues.	Add resources	Add manual station operators.
The Usage column shows that all operators are busy, but some manual stations are still behind schedule.		
A closer look at the Usage column shows that some operators are working less than others or not working at all.	Rearrange the existing resources	Check the queue where the less busy users are logged in: <ul style="list-style-type: none"> ■ If there are collections in the queue, and Usage is low, then you need to consider the human factor (lunch break, poor professional skills, etc.). ■ If the queue is empty, it is necessary to change the SLA assignment for this station.

SLA usage scenarios

eFLOW SLAs should always reflect the project business logic. There are two most common scenarios that require several SLAs in one application:

- Some documents should move through the workflow faster than others.
For example, urgent insurance claims compared to standard insurance payments.
- Different types of documents need to be processed by different operator teams.
For example, multi-language or multi-site projects.

If the splitting of SLAs occurs after a certain point on the workflow, then it might be necessary to define an SLA that is active until the splitting occurs, and two or more other ones that will be active after the new condition is met.

Multi-language project example

The application should process forms that come from the different countries. All forms are scanned on the same site and are sent to recognition stations where the relevant language metatag is set. Data entry is performed by teams speaking different languages.

In this case the SLA schema should look as follows:

SLA	
SLA 1	Input Recognition
SLA 2	Data Entry (English speaking team only) Export
SLA 3	Data Entry (German speaking team only) Export
SLA 4	Data Entry (Spanish speaking team only) Export

The assignments for SLAs containing the Data Entry stations will be defined so that each instance of this station will get only the batches that have the specified metatag set.

Advantages of the SLA approach

The SLAs simplify the workflow configuration: instead of setting three different Data Entry stations, we're using the different instances of the same station.

Besides, it is easy to notice the process bottlenecks and re-arrange the resources if needed.

Analyzing alerts

Supervise alerts enable you to foresee potentially dangerous conditions, or issue immediate warnings about existing problems.

Active alerts indicators are found in the upper part of the screen and are visible from all the Supervise views.

The [Alerts](#) view presents detailed information about the alerts present in the system.

Performance alerts

Alert	Explanation
<p>Queue Empty is issued for all the queues. No alerts regarding the low load rate are issued.</p>	<p>Input stations do not inject collections to the system. This can be due to one of the following problems:</p> <ul style="list-style-type: none"> ■ Collect: the search path is either empty or contains invalid files (for example, files with the wrong resolution). ■ Scan: the scanner fails to scan the pages or its feeder is empty. ■ Collections are created but are not sent to the server. Check the SQL connection.
<p>Queue load and Behind schedule alerts are issued for the specific queue</p>	<p>The station is blocking the workflow. This can be due to one of the following problems:</p> <ul style="list-style-type: none"> ■ The station is working normally, but it cannot process all the images fast enough. Check the station performance. ■ Collections are not sent to the server. Check the SQL connection.

Important: The **Queue Empty** alert will be issued only if the stations were working normally and stopped working while the SLA is still running.

If the SLA was not started (that is, the input station did not produce any collections at all), there will be no alerts. In the **Stations** view you will see that the input stations are running, but CPM=0 and PPM=0.

IT alerts

Alert	Explanation
CPU	One of the worker servers shows high CPU usage. Navigate from the CPU alert to the Stations view and group the results by server to see the problematic server details.

Workload alerts

Alert	Explanation
Rejects	<p>There are collections in the Rejects queue. It can happen for the following reasons:</p> <ul style="list-style-type: none"><li data-bbox="355 521 1157 555">■ Collections contain invalid images or data and should be deleted.<li data-bbox="355 573 1390 685">■ Collections were sent to the Rejects queue due to some problem in the workflow (for example, incorrect routing rules). You need to fix the workflow problem and move the collections to another queue manually.