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This work is copyrighted by OTRS AG (https://otrs.com), Zimmersmühlenweg 11, 61440 Oberursel, Germany.
This manual is intended for OTRS::ITSM administrators and users to provide information on the basic use of OTRS::ITSM by IT service managers, IT service staff (agents) and end users (customers). Information pertaining to the installation, configuration and administration of OTRS::ITSM is only provided if there are differences to the OTRS core product or for functions, which only exist in OTRS::ITSM.

IT is expected to consistently deliver high service quality in an increasingly complex field. In this context, effective and efficient incident and problem management are indispensable. However, IT service management remains a task almost impossible if there is no consistent and up-to-date database with information about the state and configuration of the IT infrastructure.

The IT Infrastructure Library®, short ITIL®, is a series of books published by the United Kingdom’s Office of Government Commerce (OGC), which generically combine best practice approaches to designing, providing, operating and managing IT services. ITIL does not focus on the technology but the services provided by the IT and comprises information on processes, roles, responsibilities, potential problem fields/resolutions, and definitions of terms.

ITIL has established itself as de facto standard over the past years and its circulation in IT organizations has contributed considerably to the development of a collective awareness and consistent terminology for IT service management. However, ITIL only describes who should do what and what should be considered along the way. In order to cover as wide a user group as possible, it does not or to a little extent address the issue of how to do things. Therefore, no implementable information is given for particular industries, companies, or manufacturers.

In December 2005, the ITIL based ISO/IEC 20000 industry standard for IT service management was published. IT organizations can apply for ISO/IEC 20000 certification and prove their conformity.

The continuing boom caused demand for IT service management tools, which could represent the ITIL-based processes. So far, only proprietary solutions existed. Because of their considerable complexity, most of these tools are only affordable for large companies and effective in large IT departments.

The development of OTRS::ITSM was started as a result of the great success of the OTRS framework in order to combine the globally accepted, public ITIL recommendations with the benefits of open-source software.

OTRS::ITSM was the first real-world ITIL compliant IT service management solution on open-source basis, built on the solid basis of OTRS with its over thousands known OTRS installations and its community.

OTRS::ITSM is practically-oriented. This was accomplished by developing it in collaboration with ITIL consultants and with some of OTRS Groups’ customers.

The service-desk and ticket system solution OTRS is the basis for the ITIL compliant IT service management solution OTRS::ITSM, its incident management, problem management, service level management, configuration management modules, and integrated CMDB.

Just like ITIL, OTRS::ITSM does not claim to be an out-of-the-box solution for all tasks and questions arising in IT service management. It is, in fact, supposed to serve as a flexible, stable and easy to understand
information platform that can be adapted to meet the requirements of virtually every organization.

Therefore, please excuse us for bringing the following to your attention: The use of an ITIL aligned tool such as OTRS::ITSM only makes sense if processes, people, and products (IT services) are truly ITIL aligned.

Without the thoughtful tailoring of generic ITIL processes to meet the requirements of the specific business scenario, OTRS::ITSM will not achieve a discernible improvement of the key performance indicators of IT service management.

You should also be aware of the fact that successful ITIL implementation projects typically take up to a year and longer. Their scope and impact on the organization is not to be underestimated. However, we would like to mention that a neatly implemented ITIL aligned ITSM tool can help to save time and money, as the process support of the tool aids and accelerates the process of organizational realignment.

**Note:** The implementation of OTRS::ITSM is based on ITIL v4.

OTRS::ITSM supports the following features and processes, which are usually designed during the first phase of an ITIL implementation:

- Incident Management
- Problem Management
- Service Level Management
- Configuration Management Database

A more detailed description of use and adaptation of the system can be found in the following sections. Please note that the each OTRS::ITSM package can be installed independently and that their names correspond to their respective ITIL topics.

**Note:** The ITSM packages are installed into OTRS by the Customer Solution Team. In case of On-Premise systems, the customer can install the packages from the package manager, when the Customer Solution Team added the selected packages to the repository. To install a package, please contact the Customer Solution Team via support@otrs.com or in the OTRS Portal.
CHAPTER TWO

SERVICE MANAGEMENT

The service desk (which, according to ITIL, is not a process but a function) is usually the ticket system’s main field of application. All user messages and notifications from system monitoring and internal IT organization converge here. The ITIL service management process, closely interwoven with the service desk, describes which work steps, information, escalations and/or interfaces are relevant in connection with the processing of incidents or service requests.

This package adds new objects and basic functionalities needed for common features and processes of ITIL implementation. It contains the general catalog, which is the basic for ITSM relevant configurations in the service management. Additionally, adds new statistics to the system for ensuring that all service level agreements are appropriate and satisfy the agreements, as well as to monitor and report on service levels.

The incident and problem management processes within OTRS::ITSM are based on ITIL recommendations and ITIL terminology. At the same time, user comfort was a main consideration, and terms known from OTRS have been retained as much as possible.

2.1 Administrator Interface

This chapter describes the new features that are available in the administrator interface after installation of the package.

2.1.1 Ticket Settings

After installation of the package a new module will be available in the administrator interface. The Service Level Agreements and Services screens are extended with some new fields.

2.1.1.1 Criticality Impact Priority

Use this screen to manage the criticality impact priority matrix. The management screen is available in the Criticality Impact Priority module of the Ticket Settings group.
2.1.1.2 Service Level Agreements

The service level agreement management screen is available in the Service Level Agreements module of the Ticket Settings group.

Service Level Agreement Settings

Only those settings are described here, that are added by the package. The explanation of other settings can be found in the administrator manual. The fields marked with an asterisk are mandatory.

Type

Select a type for the service level agreement. The possible values come from General Catalog added by the package.

Minimum Time Between Incidents (minutes)

You can define here the minimum time between incidents.

2.1.1.3 Services

The service management screen is available in the Services module of the Ticket Settings group.

Service Settings

Only those settings are described here, that are added by the package. The explanation of other settings can be found in the administrator manual. The fields marked with an asterisk are mandatory.

Type

Select a type for the service. The possible values come from General Catalog added by the package.

Criticality

Select a criticality for the service. The possible values come from General Catalog added by the package.
### Add SLA

**SLA:**
- Type: Availability

**Service:**

**Calendar:**

**Escalation - first response time:** (Notify by)
- (minutes): 0 = no escalation - 24 hours = 1440 minutes - Only business hours are counted.

**Escalation - update time:** (minutes)
- (Notify by)
  - 0 = no escalation - 24 hours = 1440 minutes - Only business hours are counted.

**Escalation - solution time:** (minutes)
- (Notify by)
  - 0 = no escalation - 24 hours = 1440 minutes - Only business hours are counted.

**Minimum Time Between Incidents:** (minutes)

**Validity:** Valid

**Comment:**

**Dialog message:**

Is being displayed if a customer chooses this SLA on ticket creation.

[Save] or [Cancel]

---

**Fig. 2: Add Service Level Agreement Screen**

### Add Service

**Service:**

**Sub-service of:**

**Type:** Back End

**Criticality:** Very Low

**Validity:** Valid

**Comment:**

[Save] or [Cancel]

---

**Fig. 3: Add Service Screen**
2.1.1.4 States

Note: In versions 8.0.10 and higher, no new state is added after installation of the package. However, updating a system from any previous version to 8.0.10 or higher will keep the existing states.

The state management screen is available in the States module of the Ticket Settings group.

Fig. 4: State Management Screen

New State

closed with workaround
This end state is for tickets, that are closed successfully, but with a workaround.

2.1.1.5 Types

Note: In versions 8.0.10 and higher, no new types are added after installation of the package. However, updating a system from any previous version to 8.0.10 or higher will keep the existing types.

The type management screen is available in the Types module of the Ticket Settings group.
New Types

**Incident**
For tickets that are created for normal incidents.

**Incident::Major**
For tickets that are created for major incidents.

**Problem**
For tickets that are created for problems.

**ServiceRequest**
For tickets that are created for service requests.

2.1.2 Users, Groups & Roles

After installation of the package a new group is added to the system.

2.1.2.1 Groups

After installation of the package a new group is added to the system. The group management screen is available in the *Groups* module of the *Users, Groups & Roles* group.

**New Group**

After installation of the package the following group is added to the system:

**itsm-service**
Group for accessing the *Service Management* screens of the agent interface.

**Note:** The primary administrator user (*root@localhost*) is added to the group with permission *rw* by default.

**See also:**
To set the correct permissions for other users, check the following relations:

- **Agents** and **Groups**
- **Customers** and **Groups**
2.1.3 Processes & Automation

After installation of the package some new dynamic fields are added to the system and activated on screens.

2.1.3.1 Dynamic Fields

After installation of the package some new dynamic fields are added to the system. The dynamic field management screen is available in the Dynamic Fields module of the Processes & Automation group.
New Dynamic Fields

**ITSMCriticality**
This is a drop-down dynamic field that contains criticality levels from 1 very low to 5 very high.

**ITSMImpact**
This is a drop-down dynamic field that contains impact levels from 1 very low to 5 very high.

**ITSMReviewRequired**
This is a drop-down dynamic field that contains Yes and No to indicate if a review is required.

**ITSMDecisionResult**
This is a drop-down dynamic field that contains some possible results for decisions.

**ITSMRepairStartTime**
This is a date/time dynamic field for holding the repair start time.

**ITSMRecoveryStartTime**
This is a date/time dynamic field for holding the recovery start time.

**ITSMDecisionDate**
This is a date/time dynamic field for holding the decision time.

**ITSMDueDate**
This is a date/time dynamic field for holding the due date.

The new dynamic fields are activated in many screens by default.

To see the complete list of screens:

1. Go to the system configuration.
2. Filter the settings for ITSMIncidentProblemManagement group.
3. Navigate to Frontend → Agent → View or Frontend → External → View to see the screens.

### 2.1.4 Administration

After installation of the package some new modules will be available in the administrator interface.

#### 2.1.4.1 General Catalog

Use this screen to add catalog classes and items to the system. The general catalog management screen is available in the General Catalog module of the Administration group.

![General Catalog Management Screen](image)

Fig. 8: General Catalog Management Screen
Manage General Catalog

To add a catalog class:
1. Click on the *Add Catalog Class* button in the left sidebar.
2. Fill in the required fields.
3. Click on the *Save* button.

![Add Catalog Class](image)

Fig. 9: Add Catalog Class Screen

**Warning:** Catalog classes can not be deleted from the system. They can only be deactivated by setting the *Validity* option to *invalid* or *invalid-temporarily*.

**Warning:** The maximum number of 20 *valid* catalog classes should not be exceeded. Exceeding this limit may affect the system performance.

To add a catalog item:
1. Select a catalog class in the list of catalog classes.
2. Click on the *Add Catalog Item* button in the left sidebar.
3. Fill in the required fields.
4. Click on the *Save* button.

**Warning:** Catalog items can not be deleted from the system. They can only be deactivated by setting the *Validity* option to *invalid* or *invalid-temporarily*.

To edit a catalog item:
1. Select a catalog class in the list of catalog classes.
2. Select a catalog item in the list of catalog items.
3. Modify the fields.
4. Click on the *Save* or *Save and finish* button.
Add Catalog Item

Catalog Class: ITSM:Core:IncidentState

Name: [Input field]
Validity: [Input field] valid
Comment: [Input field]

Save or Cancel

Fig. 10: Add Catalog Item Screen

Edit Catalog Item

Catalog Class: ITSM:Core:IncidentState

Name: Operational
Validity: [Input field] valid
Comment: [Input field]

Save or Save and Finish or Cancel

Fig. 11: Edit Catalog Item Screen
Catalog Class Settings

The following settings are available when adding this resource. The fields marked with an asterisk are mandatory.

**Catalog Class** *

The name of the catalog class. The catalog class will be displayed in the overview table of catalog classes.

**Name** *

The name of the catalog item to be added to the class. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table of catalog items.

**Validity** *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to *valid*. Setting this field to *invalid* or *invalid-temporarily* will disable the use of the resource.

**Comment**

Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity.

Catalog Item Settings

The following settings are available when adding this resource. The fields marked with an asterisk are mandatory.

**Catalog Class**

The name of the catalog class. This is read only in this screen.

**Name** *

The name of the catalog item to be added to the class. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table of catalog items.

**Validity** *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to *valid*. Setting this field to *invalid* or *invalid-temporarily* will disable the use of the resource.

**Comment**

Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity.

Classes

The package adds some classes to the *General Catalog*.

**ITSM::Core::IncidentState**

This class contains incident states.

**ITSM::Service::Type**

This class contains service types.

**ITSM::SLA::Type**

This class contains service level agreement types.
2.1.4.2 System Configuration

Some features of the package are not enabled by default. This chapter guides you how to activate or setup these features.

### Activate Incident and Problem Management

The incident and problem management feature is turned off by default.

To activate the incident and problem management feature:

1. Go to the system configuration.
2. Enable the `IncidentProblemManagement::Active` setting.
3. Activate the new actions in the following settings:
   ```text
   AgentFrontend::Ticket::Action###IncidentProblemManagementAdditionalFields
   AgentFrontend::Ticket::Action###IncidentProblemManagementDecision
   ```
4. Enable the dynamic field property cards in the widget type configuration `AgentFrontend::TicketDetailView::WidgetType###Properties` by setting the value of the key `IsVisible` to 1 (available) or 2 (available and visible by default).

   The following dynamic field property cards have been added to the widget type configuration:
   ```text
   DynamicField_ITSMCriticality
   DynamicField_ITSMImpact
   DynamicField_ITSMReviewRequired
   DynamicField_ITSMDecisionResult
   DynamicField_ITSMRepairStartTime
   DynamicField_ITSMRecoveryStartTime
   DynamicField_ITSMDecisionDate
   DynamicField_ITSMDueDate
   ```
5. Enable the dynamic fields in the form configurations by setting the key `Inactive` to the value 0:

   ```text
   Forms###AgentFrontend::TicketCreate::Email::CreateProperties
   - DynamicField_ITSMImpact
   - DynamicField_ITSMDueDate
   Forms###AgentFrontend::TicketCreate::Phone::CreateProperties
   - DynamicField_ITSMImpact
   - DynamicField_ITSMDueDate
   Forms###AgentFrontend::TicketCreate::SMS::CreateProperties
   ```
6. Deploy the modified configuration.

Hiding Service Incident State in Forms

This section describes how to hide the incident state field in a form if selecting a service. In default state, the incident state is shown in a form after selecting a service:

![Service Incident State in the New Phone Ticket Form](image)

In order to hide the service incident state in a form, you need to edit the YAML configuration of the relevant form and add the following part:

```yaml
- Name: ServiceID
  Config:
    HideIncidentState: 1
```

The following example shows how to hide the service incident state for the *New Phone Ticket* form:

1. Search for the setting `Forms###AgentFrontend::TicketCreate::Phone::CreateProperties`.
2. Search for the `ServiceID` field in the YAML configuration:
3. Add the `Config` key with the `HideIncidentState` sub-key set to 1:
4. Deploy the modified settings.

After successful deployment the service incident state will be hidden in the *New Phone Ticket* form:

![New Phone Ticket Form without the Service Incident State](image)

### 2.2 Agent Interface

This chapter describes the new features that are available in the agent interface after installation of the package.

#### 2.2.1 Tickets

After installation of the package some new fields will be available in the ticket create screens and the ticket detail view will have some new widgets and actions.
2.2.1.1 Create Ticket

Some new fields will be available in New Phone Ticket, New Email Ticket and New SMS Ticket screens.

![New Ticket Screen](image)

**New Fields**

**Type**
Select the incident type of the ticket.

**Service**
Select a service for the new ticket.

**Service Level Agreement**
Select a service level agreement for the new ticket.

**Impact**
Select the impact level from 1 very low to 5 very high.

**Due Date**
Select a date as due date for the new ticket.

The priority of the new ticket is automatically calculated from the selected service and impact based on the **Criticality** **Impact** **Priority** matrix. However, the priority can be overridden and changed manually.

2.2.1.2 Ticket Detail View

Many new dynamic fields will be available in the ticket detail view and in the ticket actions. Additionally, two new actions are added to the actions menu.
Fig. 17: Properties Widget
Ticket Detail View Actions

The package extends some ticket actions with new dynamic fields and two new actions are added to the actions menu.

Change Free Fields
This action can be extended with new fields.

- **Type**
  Select the incident type of the ticket.

- **Service**
  Select a service for the new ticket.

- **Service Level Agreement**
  Select a service level agreement for the new ticket.

- **Impact**
  Select the impact level from 1 very low to 5 very high.

Change Additional ITSM Fields
In this window the additional ITSM fields can be set regarding to repair and recovery start time, as well as the due date.

- **Title**
  This is the title of the ticket.

- **Repair Start Time**
  Select the date and time when the problem started to be repaired.

- **Recovery Start Time**
  Select the date and time when the recovery of the problem started.

- **Due Date**
  Select the date and time as due date for the ticket.

Change Decision
In this window the decision result and the decision date can be set.

- **Decision Result**
  Select a possible result for the decision. The available decision results can be set as Dynamic Fields.

- **Decision Date**
  Select the date and time when the decision was made.

  It is possible to add an article to the ticket if the action needs to be explained more detailed.

Close Ticket
This action can be extended with new fields.

- **Review Required**
  Select if a review is required after the ticket close.

Change Priority
This action can be extended with new fields.

- **Type**
  Select the incident type of the ticket.

- **Service**
  Select a service for the new ticket.
Service Level Agreement

Select a service level agreement for the new ticket.

Impact

Select the impact level from 1 very low to 5 very high.

2.2.2 Services

After installation of the package a new menu section will be available in the main menu.

Note: In order to grant users access to the Service Management menu, you need to add them as member to the group itsm-service.

2.2.2.1 Service List

Use this screen to get a list of services directly in the agent interface. The Services menu item is available in the main menu.

A view on services and configuration items, including information on each object’s current state, allows you to analyze an incident and calculate the incident’s impact on affected services and customers, and service level agreements and linked configuration items are also displayed. For each configuration item, the current incident state is shown. In addition, the incident state will be propagated for dependent service level agreements and configuration items. If a service is selected, the service detail view will be shown, now with the additional current incident State, which is calculated from the incident states of dependent services and configuration items.
Service states can have one of the following three values:

- Operational (green)
- Warning (yellow)
- Incident (red)

The propagation of the incident state will be carried out if configuration items are linked to other business objects. Linking the configuration items is a manual task. The following combination of linking is possible in a default installation:

<table>
<thead>
<tr>
<th>First Business Object</th>
<th>Second Business Object</th>
<th>Source Link</th>
<th>Target Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration item</td>
<td>Configuration item</td>
<td>Alternative to</td>
<td>Alternative to</td>
</tr>
<tr>
<td>Configuration item</td>
<td>Configuration item</td>
<td>Connected to</td>
<td>Connected to</td>
</tr>
<tr>
<td>Configuration item</td>
<td>Configuration item</td>
<td>Depends on</td>
<td>Required for</td>
</tr>
<tr>
<td>Configuration item</td>
<td>Configuration item</td>
<td>Includes</td>
<td>Part of</td>
</tr>
<tr>
<td>Configuration item</td>
<td>Configuration item</td>
<td>Relevant to</td>
<td>Relevant to</td>
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<td>Ticket</td>
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<tr>
<td>Configuration item</td>
<td>Knowledge base article</td>
<td>Parent</td>
<td>Child</td>
</tr>
<tr>
<td>Configuration item</td>
<td>Knowledge base article</td>
<td>Relevant to</td>
<td>Relevant to</td>
</tr>
<tr>
<td>Service</td>
<td>Knowledge base article</td>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>Service</td>
<td>Knowledge base article</td>
<td>Parent</td>
<td>Child</td>
</tr>
<tr>
<td>Service</td>
<td>Knowledge base article</td>
<td>Relevant to</td>
<td>Relevant to</td>
</tr>
</tbody>
</table>

Source and target links can be swapped to link the business objects each other. Thanks to this mechanism, the linking can be started in any type of business object detail view via the *Link Objects* action.

**See also:**

The linking possibilities can be extended in the system configuration.

By default, only *Depends on* linking has underlying logic. Here the following rules apply:

- If a configuration item is dependent on another configuration item, which is in the state *Incident*, the dependent configuration item gets the state *Warning*.

- If a service is dependent on configuration items, and one of these configuration items has a state *Incident*, the service will also get the state *Incident*.

- If a service is dependent on configuration items, and one of these configuration items has the state *Warning*, the service will also get the state *Warning*.

- If a service has sub-services, and one of these services has the state *Incident*, the parent service will get the state *Warning*.

- If a service has sub-services, and one of these services has the state *Warning*, the parent service will get the state *Warning*.

Any other link type does not affect the incident state of services.

The states of the respective services, sub-services, and configuration items will be shown in the view.
See also:
Read the chapter about *Configuration Items* to setup the dynamic calculation of service states.

### 2.2.2.2 Service Detail View

Use this screen to see the details of a service. The service detail view is available if you select a service from a service list.

**Service Detail View Widgets**

Like other business object detail views, the service detail view is also highly customizable. Some of the following widgets are displayed with the default installation, but others have to be added in the screen configuration.

**Service Information Widget**

This widget shows information about the service.

![Service Information Widget](Image)

Fig. 19: Service Information Widget

**Associated SLAs Widget**

This widget shows the service level agreements that are associated to the service. If you click on a service level agreement, the *Service Level Agreements* detail view will open.

![Associated SLAs Widget](Image)

Fig. 20: Associated SLAs Widget

**Linked Knowledge Base Articles Widget**

This widget shows the linked knowledge base articles, but the widget is only displayed when at least one knowledge base article is linked to this business object. New links can be added with the *Link Objects* action. Existing links can also be managed there.

### 2.2. Agent Interface
Service Detail View Actions

The following actions are available in the service detail view.

**Link Objects**
This action allows agents to link other business objects to the service.

**Print Service**
This action allows agents to print the service to a PDF file and to download it.

### 2.2.3 Service Level Agreements

After installation of the package a new menu section will be available in the main menu.

**Note:** In order to grant users access to the Service Management menu, you need to add them as member to the group *itsm-service*.

#### 2.2.3.1 Service Level Agreement List

Use this screen to get a list of service level agreements directly in the agent interface. The Service Level Agreements menu item is available in the main menu.
2.2.3.2 Service Level Agreement Detail View

Use this screen to see the details of a service level agreement. The service level agreement detail view is available if you select a service level agreement from a service level agreement list.

Service Level Agreement Detail View Widgets

Like other business object detail views, the service level agreement detail view is also highly customizable. Some of the following widgets are displayed with the default installation, but others have to be added in the screen configuration.

Service Level Agreement Information Widget

This widget shows information about the service level agreement.

![Fig. 23: Service Level Agreement Information Widget](image)

Service Level Agreement Times Widget

This widget shows times related to the service level agreement.

![Fig. 24: Service Level Agreement Times Widget](image)

Services Requiring Action Widget

This widget lists the services that require an action.

![Fig. 25: Services Requiring Action Widget](image)
Associated Services Widget

This widget shows the services that are associated to the service level agreement. If you click on a service, the Services detail view will open.

![Associated Services Widget](image)

*Fig. 26: Associated Services Widget*

Service Level Agreement Detail View Actions

The following actions are available in the service level agreement detail view.

Print Service Level Agreement

This action allows agents to print the service level agreement to a PDF file and to download it.

2.2.4 Statistics and Reports

After installation of the package some new statistics are added to the system. The statistic management screen is available in the Statistics and Reports menu item of the main menu.

2.2.4.1 Statistics

The following metrics are added to the system as new statistics:

- Total number of all tickets ever created per Ticket-Type and Priority
- Total number of all tickets ever created per Ticket-Type and State
- Total number of all tickets ever created per Ticket-Type and Queue
- Total number of all tickets ever created per Ticket-Type and Service
- Monthly overview of all tickets created in the last month per Ticket-Type
- Monthly overview of all tickets created in the last month per Priority
- Monthly overview of all tickets created in the last month per State
- Monthly overview of all tickets created in the last month per Queue
- Monthly overview of all tickets created in the last month per Service
- Number of tickets created in a specific time period per Ticket-Type and Priority
- Number of tickets created in a specific time period per Ticket-Type and State
- Number of tickets created in a specific time period per Ticket-Type and Queue
- Number of tickets created in a specific time period per Ticket-Type and Service
- Number of currently open tickets per Ticket-Type and Priority
- Number of currently open tickets per Ticket-Type and State
- Number of currently open tickets per Ticket-Type and Queue
- Total number of all configuration items ever created per Class and State
- Monthly overview of all configuration items created in the last month per Class
- Monthly overview of all configuration items created in the last month per State
- Number of configuration items created in a specific time period per Class and State
- First level solution rate for all tickets ever created per Ticket-Type and Priority

(continues on next page)
2.3 External Interface

This package has no external interface.
The configuration management database (CMDB) is not a database in the technical sense, but a conceptual IT model, which is indispensable for efficient IT service management. All IT components and inventories are managed in the CMDB. Configuration management exceeds asset management, often incorrectly used as a synonym, as it does not only document assets from a financial point of view, but captures information regarding the relationship between components, specifications, or their location. Thus IT support can quickly access information on the interdependence of IT services and the IT components (aka. configuration items or CIs) necessary for them.

This package provides a tool to import and export configuration items in the CSV format.

Note: This package requires the Service Management feature.

3.1 Administrator Interface

This chapter describes the new features that are available in the administrator interface after installation of the package.

3.1.1 Users, Groups & Roles

After installation of the package a new group is added to the system.

3.1.1.1 Groups

After installation of the package a new group is added to the system. The group management screen is available in the Groups module of the Users, Groups & Roles group.
New Group

After installation of the package the following group is added to the system:

*itsm-configitem*  
Group for accessing the Asset Management screens of the agent interface.

**Note:** The primary administrator user (**root@localhost**) is added to the group with permission **rw** by default.

**See also:**
To set the correct permissions for other users, check the following relations:

- **Agents Groups**
- **Customers Groups**
- **Customer Users Groups**
- **Roles Groups**

### 3.1.2 Processes & Automation

After installation of the package two new scripts are added to the script task activity element of process management and some new operations are added to the generic interface.
3.1.2.1 Process Management

After installation of the package five new modules are added to script task activities and sequence flow actions of process management.

Process Modules

To see the new modules:

2. Create a new process or select an existing process that contains a script task activity.
3. Click on the Activities item in the Available Process Elements widget in the left sidebar.
4. Create a new script task activity or edit an existing one.
5. Select one of the new scripts in the Script drop-down.
   - ITSMConfigItemDataPull
   - ITSMConfigItemDataPush
   - LinkWithITSMConfigItem
   - TicketLinkITSMConfigItem
   - TicketUpdateByLinkedCI
6. Click on the Save button, if the Configure button is not visible next to the Script drop-down.
7. Click on the Configure button to add parameters (key-value pairs) for the script.

**ITSMConfigItemDataPull**

A module to fetch data from a linked ITSM configuration item.

**Main search parameters section**

The following parameters can be used for restrictions:

- Class *
- Deployment State
- Incident State
- Link Type

**Additional configuration item condition section**

This section is used to search for configuration items.

Filters can be added with key-value pairs. There is logical AND relation between the filters if more than one filter is added. Logical OR relation can be added by multiple values separated by ,.

The key Limit limits the number of configuration items returned.

**Desired behavior section**

If more than one configuration items are found in the section above, the desired behavior can be defined here.

Possible values:

- Copy attributes from the configuration item that was found first
Fig. 2: Process Management Module ITSMConfigItemDataPull

- Copy attributes from the configuration item that was found last
- Ignore configuration item, do not copy anything

**Process ticket attributes section**
With this module the process ticket attributes can be updated. The key is the attribute of the process ticket. The value can be a pre-defined text, an attribute from the linked configuration item in form of an OTRS tag or a concatenation of both. The `<OTRS_ITSMCI_*>` OTRS tag prefix can be used here.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority</td>
<td>5 very high</td>
</tr>
<tr>
<td>DynamicField_Capacity</td>
<td><code>&lt;OTRS_ITSMCI_HardDisk::Capacity::1&gt;</code></td>
</tr>
<tr>
<td>Title</td>
<td>From: <code>&lt;OTRS_ITSMCI_Name&gt;</code></td>
</tr>
</tbody>
</table>

See also:
See the `ITSMConfigItemDataPull` and the `ConfigItemSearch()` API reference.

**ITSMConfigItemDataPush**

A module to insert data to a linked ITSM configuration items.

**Main search parameters section**
The following parameters can be used for restrictions:
- Class *
- Deployment State
- Incident State
Fig. 3: Process Management Module ITSMConfigItemDataPush

- **Link Type**

**Additional configuration item condition section**

This section is used to search for configuration items.

Filters can be added with key-value pairs. There is logical AND relation between the filters if more than one filter is added. Logical OR relation can be added by multiple values separated by `,`

The key `Limit` limits the number of configuration items returned.

**Linked configuration item attributes section**

Here can be set the linked configuration item attributes to be updated. The key is the attribute of the linked configuration item. The value can be a pre-defined text, an attribute from the process ticket in form of an OTRS tag or a concatenation of both. The `<OTRS_TICKET_*>` OTRS tag prefix can be used here.

Examples:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ConfigItemCreateTime-NewerDate</td>
<td>2021-10-20 12:23:34</td>
</tr>
<tr>
<td>HardDisk::Capacity::1</td>
<td><code>&lt;OTRS_TICKET_DynamicField_HDCapacity&gt;</code></td>
</tr>
<tr>
<td>Name process: &lt;OTRS_TICKET_DynamicField_ProcessManagement&gt;</td>
<td></td>
</tr>
</tbody>
</table>

See also:

See the `ITSMConfigItemDataPush` and the `ConfigItemSearch()` API reference.
LinkWithITSMConfigItem

A module to link ITSM configuration items.

Main search parameters section
The following parameters can be used for restrictions:

- Class *
- Deployment State
- Incident State
- Link Type

Additional configuration item condition section
This section is used to search for configuration items.

Filters can be added with key-value pairs. There is logical AND relation between the filters if more than one filter is added. Logical OR relation can be added by multiple values separated by ,.

The key Limit limits the number of configuration items returned.

See also:
See the LinkWithITSMConfigItem and the ConfigItemSearch() API reference.

TicketLinkITSMConfigItem

A module to perform an extended configuration item search and link search results to ticket.

Main search parameters section
The following parameters can be used for restrictions:

- Class *
- Deployment State
- Incident State
- Link Type
Additional configuration item condition section
This section is used to search for configuration items.

Filters can be added with key-value pairs. There is logical AND relation between the filters if more than one filter is added. Logical OR relation can be added by multiple values separated by , .

You can sort the search results if you specify the key OrderBy and the attribute of a configuration item as value.

You can influence the sorting order with the key OrderByDirection and the values Up or Down. If no sorting is specified, sorting is performed automatically in descending order based on the ID of the configuration items.

See also:
See the TicketLinkITSMConfigItem and the ConfigItemSearch() API reference.

TicketUpdateByLinkedCI
A module to set ticket attributes based on a linked configuration item.

Main search parameters section
The following parameters can be used for restrictions:

- Class
- Deployment State
- Incident State
- Link Type

Desired behavior section
If more than one configuration items are found in the section above, the desired behavior can be defined here.

Possible values:

- Copy attributes from the configuration item that was found first
- Copy attributes from the configuration item that was found last
- Ignore configuration item, do not copy anything
Copy all specified attributes of a linked configuration item to the ticket.

- Restrictions for linked configuration items. Only configuration items linked with the specified link type and matching other restrictions will be considered.

  - Class:
  - Deployment State:
  - Incident State:
  - Link Type: Relevance:

  Define the link type for found ITSMConfigItems.

- Desired behavior if more than one linked configuration item is found (matching all conditions).

  - Behavior:

- Mapping of configuration item attributes to ticket attributes (e.g. key: "HardDisk::Capacity", value: "DynamicField_HDCapacity" or key: "Name", value: "Title").

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HardDisk::Capacity</td>
<td>DynamicField_HDCapacity</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
</tr>
</tbody>
</table>

Fig. 6: Process Management Module TicketUpdateByLinkedCI

Mapping configuration item to ticket section
With this module the configuration item attributes to ticket attributes can be mapped. The key is the attribute of the configuration item. The value is the attribute of the ticket.

Examples:

See also:
See the TicketUpdateByLinkedCI and the ConfigItemSearch() API reference.

API Reference

These API references are not available online, but they are included in this manual.

**ITSMConfigItemDataPull API**

NAME

Kernel::System::ProcessManagement::Modules::ITSMConfigItemDataPull - A module to fetch data from a linked ITSM configuration item.

DESCRIPTION

All ITSMConfigItemDataPull functions.

PUBLIC INTERFACE
Don't use the constructor directly, use the ObjectManager instead:

```perl
my $ITSMConfigItemDataPullObject = $Kernel::OM->Get('Kernel::System::ProcessManagement::Modules::ITSMConfigItemDataPull');
Run()
Run Data
```

```perl
my $Success = $ITSMConfigItemDataPullObject->Run(
    UserID => 123,
    Ticket => \%Ticket, # required
    ProcessEntityID => 'P123',
    ActivityEntityID => 'A123',
    SequenceFlowEntityID => 'T123',
    SequenceFlowActionEntityID => 'TA123',
    Config => {
        ConfigITSMConfigItemSearch => {
            ClassIDs => [9, 8, 7, 6], # (optional)
            DeplStateIDs => [1, 2, 3, 4], # (optional)
            InciStateIDs => [1, 2, 3, 4], # (optional)
            LinkType => 'RelevantTo::Source', # (optional)
        },
        ConfigSearchKeyValueList => {
            Name => 'The Name', # (optional)
            # configuration items with created time after ...
            ConfigItemCreateTimeNewerDate => '2006-01-09 00:00:01', # (optional)
            # configuration items with created time before then ....
            ConfigItemCreateTimeOlderDate => '2006-01-19 23:59:59', # (optional)
            # configuration items with changed time after ...
            ConfigItemChangeTimeNewerDate => '2006-01-09 00:00:01', # (optional)
            # configuration items with changed time before then ....
            ConfigItemChangeTimeOlderDate => '2006-01-19 23:59:59', # (optional)
            # XML attributes (defined by class)
            'ElementA::ElementB' => '%contentA%',
            'ElementA::ElementB' => '%contentC%,%contentD%,%contentE%',
        },
        UserID => 123, # optional, to override the UserID from the logged user
        ConfigDropdown => {
            Behavior => 'NoCopy', # 'NoCopy', 'CopyFirstLinked' or 'CopyLastLinked' only
        },
        UserID => 123, # optional, to override the UserID from the logged user
    }
);```

# Value set:
# * Key is the attribute of the linked ITSM configuration item where the
data will be set,
# * Value is the value to be set, supporting smart tags <OTRS_
#ITSMCI_*> from the resulting linked
# configuration item after match and behavior filters
#
# Example:
# * To set process ticket title to be exactly the linked configuration item,
# first element of field someDefinitionField::Sub
#    Title => '<OTRS_ITSMCI_someDefinitionField::Sub::1>',
#    where 'Sub' is a sub field of field 'someDefinitionField'
# * To set process ticket title to be exactly the linked configuration item,
# second element of field someDefinitionField
#    Title => '<OTRS_ITSMCI_someDefinitionField2::2>',
#    * To set the process ticket dynamic field NameX to an static value (not
# real pull):
#    DynamicField_NameX => 'someValue',
#);
ConfigITSMConfigItemSearch => {
    ClassIDs => [9, 8, 7, 6],  # (optional)
    DeplStateIDs => [1, 2, 3, 4],  # (optional)
    InciStateIDs => [1, 2, 3, 4],  # (optional)
    LinkType => 'RelevantTo::Source',  # (optional)
},

ConfigSearchKeyValueList => {
    Name => 'The Name',  # (optional)

    # configuration items with created time after ...
    ConfigItemCreateTimeNewerDate => '2006-01-09 00:00:01',  # (optional)
    # configuration items with created time before then ....
    ConfigItemCreateTimeOlderDate => '2006-01-19 23:59:59',  # (optional)

    # configuration items with changed time after ...
    ConfigItemChangeTimeNewerDate => '2006-01-09 00:00:01',  # (optional)
    # configuration items with changed time before then ....
    ConfigItemChangeTimeOlderDate => '2006-01-19 23:59:59',  # (optional)

    # XML attributes (defined by class)
    'ElementA::ElementB' => '%contentA%',
    'ElementA::ElementB' => '%contentC%,%contentD%,%contentE%',
},

UserID => 123,  # optional, to override the UserID from the logged user

ConfigDropdown => {
    Behavior => 'NoCopy',  # 'NoCopy', 'CopyFirstLinked' or
    # 'CopyLastLinked' only
},

UserID => 123,  # optional, to override the UserID from the logged user

# Value set:
# * Key is the attribute of the linked ITSM configuration items where the data will be pushed,
# * Value is the value to be set, supporting smart tags <OTRS_TICKET_*> from the current process ticket e.g.
# Example:
# * To set linked ITSM configuration items first element of someDefinitionField::Sub to be exactly the process ticket QueueID:
#    'someDefinitionField::Sub::1' => '<OTRS_Ticket_QueueID>',
# * To set linked ITSM configuration items second element of someDefinitionField::Sub to be the concatenation of some text and the content of the process ticket dynamic field ExternalField2:
#    'someDefinitionField2::2' => 'Some text <OTRS_Ticket_DynamicField_ExternalField2>',
# * To set linked ITSM configuration items last element of someDefinitionField::Sub to be an static text:
#    'someDefinitionField::Sub' => 'Some text',
};

(continues on next page)
- `Ticket` contains the result of TicketGet including DynamicFields.

## LinkWithITSMConfigItem API

**NAME**

Kernel::System::ProcessManagement::Modules::LinkWithITSMConfigItem - A module to link ITSM configuration items.

**DESCRIPTION**

All LinkWithITSMConfigItem functions.

**PUBLIC INTERFACE**

new()

Don't use the constructor directly, use the ObjectManager instead:

```perl
my $LinkWithITSMConfigItemObject = $Kernel::OM->Get(
    'Kernel::System::ProcessManagement::Modules::LinkWithITSMConfigItem');
```

Run()

Run Data

```perl
my $Success = $LinkWithITSMConfigItem->Run(
    UserID => 123,
    Ticket => \%Ticket, # required
    ProcessEntityID => 'P123',
    ActivityEntityID => 'A123',
    SequenceFlowEntityID => 'T123',
    SequenceFlowActionEntityID => 'TA123',
    Config => {
        ConfigITSMConfigItemSearch => {
            ClassIDs => [9, 8, 7, 6], # (optional)
            DeplStateIDs => [1, 2, 3, 4], # (optional)
            InciStateIDs => [1, 2, 3, 4], # (optional)
            LinkType => 'RelevantTo::Source', # (optional)
        },
        ConfigSearchKeyValueList => {
            Number => 'The ConfigItem Number', # (optional)
            Name => 'The Name', # (optional)
            ConfigItemCreateTimeNewerDate => '2006-01-09 00:00:01', # (optional)
            ConfigItemCreateTimeOlderDate => '2006-01-19 23:59:59', # (optional)
            ConfigItemChangeTimeNewerDate => '2006-01-09 00:00:01', # (optional)
        },
    },
);```

(continues on next page)
# configuration items with changed time before then ....
ConfigItemChangeTimeOlderDate => '2006-01-19 23:59:59', # (optional)

# XML attributes (defined by class)
'ElementA::ElementB' => '%contentA%,',
'ElementA::ElementB' => '%contentC%,%contentD%,%contentE%,'.

UserID => 123, # optional, to override the UserID from the logged user
};

'Ticket` contains the result of TicketGet including DynamicFields.

TicketLinkITSMConfigItem API

NAME
Kernel::System::ProcessManagement::Modules::TicketLinkITSMConfigItem - A module to
perform an extended configuration item search and link search results to ticket.

DESCRIPTION
All TicketLinkITSMConfigItem functions.

PUBLIC INTERFACE

new()

Don't use the constructor directly, use the ObjectManager instead:

my $TicketLinkITSMConfigItemObject = $Kernel::OM->Get(
    'Kernel::System::ProcessManagement::Modules::TicketLinkITSMConfigItem');

Run()

Run Data

my $Success = $TicketLinkITSMConfigItemObject->Run(
    UserID => 123,
    Ticket => \%Ticket, # required
    ProcessEntityID => 'P123',
    ActivityEntityID => 'A123',
    SequenceFlowEntityID => 'T123',
    SequenceFlowActionEntityID => 'TA123',
    Config => {UserID => 123, # optional, to override the
                UserID from the logged user
                });

'Ticket` contains the result of TicketGet including DynamicFields.

- 'Config' is the Config Hash stored in a Process::SequenceFlowAction's Config key.
**TicketUpdateByLinkedCI API**

**NAME**

Kernel::System::ProcessManagement::Modules::TicketUpdateByLinkedCI - A module to set ticket attributes based on a linked configuration item.

**DESCRIPTION**

All TicketUpdateByLinkedCI functions.

**PUBLIC INTERFACE**

new()

Don't use the constructor directly, use the ObjectManager instead:

my $TicketUpdateByLinkedCIObject = $Kernel::OM->Get('Kernel::System::ProcessManagement::Modules::TicketUpdateByLinkedCI');

Run()

**Run Data**

my $Success = $TicketUpdateByLinkedCIObject->Run(
   UserID => 123,
   Ticket => \%Ticket, # required
   ProcessEntityID => 'P123',
   ActivityEntityID => 'A123',
   SequenceFlowEntityID => 'T123',
   SequenceFlowActionEntityID => 'TA123',
   Config => {
      ConfigITSMConfigItemSearch => {
         ClassID => 123, # optional
         DeplStateIDs => [123], # optional
         InciStateIDs => [123], # optional
         LinkType => 'someType::someDirection', # optional
      },
      ConfigDropdown => {
         Behavior => 'NoCopy', # 'CopyFirstLinked',
      },
      'someDefinitionField::Sub' => 'DynamicField_someName', # example optional
      'someDefinitionField2' => 'someTicketAttribute', # example optional
      UserID => 123, # optional, to
   --override the UserID from the logged user
   }
);

- `Ticket` contains the result of TicketGet including DynamicFields.
- `Config` is the Config Hash stored in a Process::SequenceFlowAction's Config key.
ConfigItemCreate() API

perform ConfigItemCreate Operation. This will return the created config item number.

my $Result = $OperationObject->Run(
    Data => {
        UserLogin => 'some agent login', # UserLogin or
        accessToken is required
        accessToken => 'eyJhbGciOiJIUzI1NiJ9[...],',
        Password => 'some password', # if UserLogin is sent then
        ConfigItem => {
            Number => '111', # optional
            Class => 'Configuration Item Class',
            Name => 'The Name',
            DeplState => 'deployment state',
            InciState => 'incident state',
            CIXMLData => $ArrayHashRef, # it depends on the
            Attachment => [
                {
                    Content => 'content' # base64 encoded
                    ContentType => 'some content type'
                    Filename => 'some fine name'
                },
                #...
            ]
        }
    },
    # or
    #Attachment => {
    #    Content => 'content'
    #    ContentType => 'some content type'
    #    Filename => 'some fine name'
    #},
    #
})

$Result = {
    Success => 1, # 0 or 1
    ErrorMessage => '', # in case of error
    Data => {
        ConfigItemID => 123, # Configuration Item ID number in
        # Configuration Item ID number in
        OTRS::ITSM (Service desk system)
        Number => 232454323322 # Configuration Item Number in
        # Configuration Item Number in
        OTRS::ITSM (Service desk system)
        Error => {
            Error => {
                ErrorCode => 'ConfigItemCreate.ErrorCode'
                ErrorMessage => 'Error Description'
            };
        },
    }
);
## ConfigItemDelete() API

Perform `ConfigItemDelete` Operation. This function is able to return one or more `ConfigItem` entries in one call.

```perl
my $Result = $OperationObject->Run(
    Data => {
        UserLogin => 'some agent login', # UserLogin or
        CustomerUserLogin or AccessToken is # required
        CustomerUserLogin => 'some customer login',
        AccessToken => 'eyJhbGciOiJIUzI1NiJ9[...]',
        Password => 'some password', # if UserLogin or
        CustomerUserLogin is sent then # Password is required
        ConfigItemID => '32,33', # required, could be,
        comma separated IDs or an Array
    },
);

$Result = {
    Success => 1, # 0 or 1
    ErrorMessage => '', # in case of error
    Data => { # result data payload after Operation
        ConfigItemID => [123, 456], # Configuration Item IDs number in
        OTRS::ITSM (Service desk system)
        Error => { # should not return errors
            ErrorCode => 'ConfigItemDelete.ErrorCode'
            ErrorMessage => 'Error Description'
        },
    },
};
```

## ConfigItemGet() API

Perform `ConfigItemGet` Operation. This function is able to return one or more `ConfigItem` entries in one call.

```perl
my $Result = $OperationObject->Run(
    Data => {
        UserLogin => 'some agent login', # UserLogin or
        # required
        AccessToken is
        AccessToken => 'eyJhbGciOiJIUzI1NiJ9[...]',
        Password => 'some password', # if UserLogin is sent
        # Password is required
        ConfigItemID => '32,33', # required, could be,
        comma separated IDs or an Array
        Attachments => 1, # Optional, 1 as default.
        If it's set with the value 1,
        # articles will be included on ConfigItem data
    },
);
```

(continues on next page)
$Result = {
    Success => 1, # 0 or 1
    ErrorMessage => '', # In case of an error
    Data => {
        ConfigItem => [
            {
                Number => '20101027000001',
                ConfigItemID => 123,
                Name => 'some name',
                Class => 'some class',
                VersionID => 123,
                LastVersionID => 123,
                DefinitionID => 123,
                InciState => 'some incident state',
                InciStateType => 'some incident state type',
                DeplState => 'some deployment state',
                DeplStateType => 'some deployment state type',
                CurInciState => 'some incident state',
                CurInciStateType => 'some incident state type',
                CurDeplState => 'some deployment state',
                CurDeplStateType => 'some deployment state type',
                CreateTime => '2010-10-27 20:15:00',
                CreateBy => 123,
                CIXMLData => $XMLDataHashRef,
                Attachment => [
                    {
                        Content => "xxxx", # actual attachment, contents, base64 encoded
                        ContentType => "application/pdf",
                        Filename => "StdAttachment-Test1.pdf",
                        Filesize => "4.6 KBytes",
                        Preferences => $PreferencesHashRef,
                    },
                    # . . .
                ],
            },
            # . . .
        ],
    },
    # . . .
};

3.1. Administrator Interface
ConfigItemSearch() API

ConfigItemSearch()

return a configuration item list as an array reference

my $ConfigItemIDs = $ConfigItemObject->ConfigItemSearch(
    Number => 'The ConfigItem Number', # (optional)
    ClassIDs => [9, 8, 7, 6], # (optional)
    DeplStateIDs => [1, 2, 3, 4], # (optional)
    InciStateIDs => [1, 2, 3, 4], # (optional)
    CreateBy => [1, 2, 3], # (optional)
    ChangeBy => [3, 2, 1], # (optional)
    # configuration items with created time after ...
    ConfigItemCreateTimeNewerDate => '2006-01-09 00:00:01', # (optional)
    # configuration items with created time before then ....
    ConfigItemCreateTimeOlderDate => '2006-01-19 23:59:59', # (optional)
    OrderBy => ['ConfigItemID', 'Number'], # (optional)
    # default: ['ConfigItemID']
    # (ConfigItemID, Number, ClassID, DeplStateID, InciStateID,
    # CreateTime, CreateBy, ChangeTime, ChangeBy)
    # Additional information for OrderBy:
    # The OrderByDirection can be specified for each OrderBy attribute.
    # The pairing is made by the array indices.
    OrderByDirection => ['Down', 'Up'], # (optional)
    # default: ['Down']
    # (Down | Up)
    Limit => 122, # (optional)
    UsingWildcards => 0, # (optional) default 1
);

ConfigItemSearchExtended()

return a configuration item list as an array reference

my $ConfigItemIDs = $ConfigItemObject->ConfigItemSearchExtended(
    Number => 'The ConfigItem Number', # (optional)
    Name => 'The Name', # (optional)
    ClassIDs => [9, 8, 7, 6], # (optional)
    DeplStateIDs => [1, 2, 3, 4], # (optional)
    InciStateIDs => [1, 2, 3, 4], # (optional)
    # configuration items with created time after ...
    ConfigItemCreateTimeNewerDate => '2006-01-09 00:00:01', # (optional)
    # configuration items with created time before then ....
    ConfigItemCreateTimeOlderDate => '2006-01-19 23:59:59', # (optional)
    # (continues on next page)
# configuration items with changed time after ...
ConfigItemChangeTimeNewerDate => '2006-01-09 00:00:01', # (optional)
# configuration items with changed time before then ....
ConfigItemChangeTimeOlderDate => '2006-01-19 23:59:59', # (optional)

What => [
    # each array element is a and condition
    # or condition in hash
    
    # use array reference if different content with same key was searched
    %['ElementA']['ElementC']['Content'] => ['%contentC%', '
    "[ElementA][ElementB][ElementC][Content]' => '%contentD%', %contentE%]
]};

PreviousVersionSearch => 1, # (optional) default 0 (0|1)

OrderBy => [ 'ConfigItemID', 'Number' ], # (optional)
# default: [ 'ConfigItemID' ]
# (ConfigItemID, Number, Name, ClassID, DeplStateID, InciStateID,
# CreateTime, CreateBy, ChangeTime, ChangeBy)

OrderByDirection => [ 'Down', 'Up' ], # (optional)
# default: [ 'Down' ]
# (Down | Up)

Limit => 122, # (optional)
UsingWildcards => 0, # (optional) default 1

ConfigItemUpdate() API

perform ConfigItemUpdate Operation. This will return the updated configuration item number.

my $Result = $OperationObject->Run(
    Data => {
        UserLogin => 'some agent login', # UserLogin or AccessToken is required
        AccessToken => 123,
    }
);
Password => 'some password', # if UserLogin is sent then
Password is required

ReplaceExistingData => 0, # optional, 0 or 1, default 0
# this will replace the
# existing XML data and attachments
ConfigItemID => 123,

ConfigItem => {
    Class => 'Configuration Item Class',
    Name => 'The Name',
    DeplState => 'deployment state',
    InciState => 'incident state',
    CIXMLData => $ArrayHashRef, # it depends on the,
    # Configuration Item class and definition
    Attachment => [
        {
            Content => 'content' # base64 encoded
            ContentType => 'some content type'
            Filename => 'some fine name'
        },
        # ...
    ],
    # or
    # Attachment => {
    #    Content => 'content'
    #    ContentType => 'some content type'
    #    Filename => 'some fine name'
    #},
},
);

$Result = {
    Success => 1, # 0 or 1
    ErrorMessage => '', # in case of error
    Data => {
        ConfigItemID => 123, # Configuration Item ID number in
        OTRS::ITSM (Service desk system)
        Number => 232454323322 # Configuration Item Number in
        OTRS::ITSM (Service desk system)
        Error => {
            ErrorCode => 'ConfigItemUpdate.ErrorCode'
            ErrorMessage => 'Error Description'
        },
    },
};
3.1.2.2 Web Services

This package adds some new operations for creating, changing, retrieving, deleting and searching configuration items via generic interface. The following operations are available:

- ConfigItemCreate()
- ConfigItemDelete()
- ConfigItemGet()
- ConfigItemSearch()
- ConfigItemUpdate()

See also:
For more information please take a look at the WSDL file located in development/webservices/GenericConfigItemConnectorSOAP.wsdl of your instance.

New Operations

These new operations are available in the Web Services module of the Processes & Automation group:

- ConfigItem::ConfigItemCreate
- ConfigItem::ConfigItemDelete
- ConfigItem::ConfigItemGet
- ConfigItem::ConfigItemSearch
- ConfigItem::ConfigItemUpdate

To use these operations:
1. Add or edit a web service.
2. Select a Network transport in the OTRS as provider widget and save the web service.
3. The new operations are available in the Add Operation field of the OTRS as provider widget.

See also:
Check the API references in Process Management chapter for more information.

Examples for Usage

The following examples give a quick look about how to use the API for basic actions.

1. Create configuration item
   - URL: /api/agent/config-item/create
   - Method: POST
   - Payload:

   ```
   {
     "ClassID": "22",
     "Name": "test name for new config item",
     "DeplStateID": "27",
   }
   ```

(continues on next page)
2. Update configuration item
   • **URL**: `/api/agent/config-item/4/update` where 4 is the ID of the configuration item to be updated
   • **Method**: POST
   • **Payload**:

     ```
     {
       "ClassID": "22",
       "Name": "test name for new config item",
       "DeplStateID": "27",
       "InciStateID": "3",
       "CIXMLData": {
         "Seriennummer": "SNR2",
         "NIC": {
           "NIC": "test",
           "IPoverDHCP": "Yes"
         }
       }
     }
     ```

3. Get configuration item
   • **URL**: `/api/agent/config-item/4` where 4 is the ID of the configuration item to be fetched
   • **Method**: GET

4. List configuration items
   • **URL**: `/api/agent/config-item/list`
   • **Method**: POST

### 3.1.3 Administration

After installation of the package some new classes will be available in the *General Catalog* and a new module will be available in the administrator interface.
3.1.3.1 General Catalog

ITSM configuration management adds some new classes to the General Catalog. The general catalog management screen is available in the General Catalog module of the Administration group.

![General Catalog Class List Screen](image)

Fig. 7: General Catalog Class List Screen

New Classes

**ITSM::ConfigItem::Class**
A class for configuration item classes.

See also:
The class definition of configuration item classes can be managed in the Configuration Items module of the CMDB Settings group.

**ITSM::ConfigItem::Computer::Type**
A class for computer types, that can be selected in Configuration Items when adding or editing configuration items of type computer.

**ITSM::ConfigItem::DeploymentState**
A class for deployment states, that can be selected in Configuration Items when adding or editing configuration items.

**ITSM::ConfigItem::Hardware::Type**
A class for hardware types, that can be selected in Configuration Items when adding or editing configuration items of type hardware.

**ITSM::ConfigItem::Location::Type**
A class for location types, that can be selected in Configuration Items when adding or editing configuration items of type location.

**ITSM::ConfigItem::Network::Type**
A class for network types, that can be selected in Configuration Items when adding or editing configuration items of type network.
3.1.3.2 Import and Export

Use this screen to create import and export templates. The import/export template management screen is available in the Import and Export module of the Administration group.

![Import/Export Template Management Screen](image)

**Fig. 8: Import/Export Template Management Screen**

### Manage Import/Export Templates

To create a new template:

1. Click on the Add Template button in the left sidebar.
2. Fill in the required fields in all steps.
3. Click on the Finish button.

![Create New Import/Export Template Screen](image)

**Fig. 9: Create New Import/Export Template Screen**

To edit a template:

1. Click on a template in the list of templates.
2. Modify the fields in all steps.
3. Click on the Finish button.

![Fig. 10: Edit Import/Export Template Screen](image)

To delete a template:
1. Click on the trash icon in the list of templates.
2. Click on the Confirm button.

![Fig. 11: Delete Import/Export Template Screen](image)

To import data based on a template:
1. Click on the Import link in the list of templates.
2. Click on the Browse button and select a CSV file.
3. Click on the Start Import button.

![Fig. 12: Import Data Screen](image)

To export data based on a template:
1. Click on the Export link in the list of templates.
2. Choose a location in your computer to save the Export.csv file.
Import/Export Template Settings

The following settings are available when adding this resource. The fields marked with an asterisk are mandatory.

**Note:** Import/Export package is meant to be independent. This means, that the following settings can be different if no configuration items will be imported or exported.

Edit Common Information

![Fig. 13: Edit Common Information Screen](image)

**Name** *

The name of this resource. Any type of characters can be entered to this field including uppercase letters and spaces. The name will be displayed in the overview table.

**Object** *

Select the object type you want to import to or export from.

**Format** *

Select the import and export format.

**Validity** *

Set the validity of this resource. Each resource can be used in OTRS only, if this field is set to *valid*. Setting this field to *invalid* or *invalid-temporarily* will disable the use of the resource.

**Comment**

Add additional information to this resource. It is recommended to always fill this field as a description of the resource with a full sentence for better clarity.
Edit Object Information

Step 2 of 5 - Edit object information:

- **Name**: Test
- **Object**: ITSMConfigItem
- **Class**:
- **Maximum number of one element**: 10
- **Empty fields indicate that the current values are kept**:

Fig. 14: Edit Object Information Screen

**Name**
This is a read only field from the previous step. Use the Back button to edit it.

**Object**
This is a read only field from the previous step. Use the Back button to edit it.

**Class** *
Select the class that is needed to be affected by the import and export.

**Maximum number of one element** *
Specify the maximum number of columns per array attribute that can be mapped when mapping the import from or export to the CSV file.

**Empty fields indicate that the current values are kept**
Select this checkbox if the empty field should keep the data in OTRS. Otherwise the data will be overwritten with blank value.

Edit Format Information

Step 3 of 5 - Edit format information:

- **Name**: Test
- **Format**: CSV
- **Column Separator**:
- **Charset**: UTF-8
- **Include Column Headers**: No

Fig. 15: Edit Format Information Screen
Name
This is a read only field from the previous step. Use the Back button to edit it.

Format
This is a read only field from the previous step. Use the Back button to edit it.

Column Separator *
Select a column separator for CSV file.

Charset
Select a character encoding for the CSV file.

Include Column Headers
Specify if column headers should be included or not.

Edit Mapping Information

![Fig. 16: Edit Mapping Information Screen](image)

Click on the Add Mapping Element button to add element from the class. You can also specify if this element is an identifier. The order of the elements is sortable.

Edit Search Information

Template Name
This is a read only field from the previous step. Use the Back button to edit it.

Restrict export per search
You can add search term for each attribute of the selected class to restrict the import and export functions. The possible fields are listed below this field.

Note: The other fields come from the back end driver, and can be different depending on the used object to be imported or exported.
Fig. 17: Edit Search Information Screen
3.1.3.3 System Configuration

Displaying Configuration Item Class Specific Columns

Configuration item class specific columns (i.e. the capacity of a hard disc) are not shown in the configuration overview list and in the configuration item organizer item list by default.

In order to display configuration item field values as table columns, the YAML configuration of the lists needs to be extended.

The following example shows how to add the field Computer::HardDisk::1 and Computer::HardDisk::1::Capacity::1 of the class Computer to the configuration item overview list:

1. Search for the setting AgentFrontend::ConfigItemList###DefaultConfig.
2. Add the following to the YAML configuration:

```
Columns:
  Computer::HardDisk::1:
    IsVisible: 2
  Computer::HardDisk::1::Capacity::1:
    IsVisible: 2
```
3. Deploy the modified configuration.

Fig. 18: Example YAML Configuration of the Configuration Item Overview

Fig. 19: Configuration Item Overview with Class Specific Columns
Applying Configuration Item Class Specific Filters

The following example shows how to apply the filter for the `Computer::Model` field of the class `Computer` in the configuration item overview list.

First you need to make sure, that the relevant class filter is also applied, otherwise all class-specific filters will be simply ignored.

This can be done via the `ClassIDs` filter, which takes the ID of the class as the value. Please follow the steps below to get the ID of the class and apply the filters.

1. Go to the **Configuration Items** management screen in the administrator interface.
2. Click on the relevant class in the list.
   
   The `ClassID` is now shown in the URL, for example in this case the ID is 22:
   
   ```
   'otrs/index.pl/?Action=AdminITSMConfigItem;Subaction=DefinitionList;ClassID=22`
   ```
3. Search for the setting `AgentFrontend::ConfigItemList###DefaultConfig`.
4. Set both the filter for the class to the value determined in step 2 and the field filter to the desired value:
   
   ```
   ActiveFilters:
   ClassIDs:
   Value:
   - 22
   Computer::Model:
   Value: ModelA
   ```
5. Deploy the modified configuration.

**Note:** The fields that can be filtered need to have `Searchable: 1` set in their class definitions. See [here](#) for more information.

Applying Configuration Item Filters for All Classes

The following example shows how to apply the filters for the common `Owner` and `CustomerID` fields which are used in all classes in the configuration item overview list.

1. Search for the setting `AgentFrontend::ConfigItemList###DefaultConfig`.
2. Add the following to the YAML configuration:
   
   ```
   AvailableSearchInAllClassesFilters:
   - Owner
   - CustomerID
   ```
3. Deploy the modified configuration.
Edit Screen

* Hide/Show Columns

- Incident State
- Deployment State
- Number
- Name

* Sort List
Sort first by

Number (descending)

Filter List

Class

Computer

Computer: Model

ModelA

Fig. 20: Configuration Item Overview with Class Specific Filter

Fig. 21: Configuration Item Overview with All Class Filters
3.1.4 CMDB Settings

After installation of the package a new group *CMDB Settings* will be available with a new module in the administrator interface.

3.1.4.1 Configuration Items

Use this screen to manage class definition of configuration item classes. The configuration item class management screen is available in the *Configuration Items* module of the *CMDB Settings* group.

![Configuration Item Management Screen](image)

**Fig. 22: Configuration Item Management Screen**

To add or edit the class definition of a configuration item class:
1. Select a class from the drop-down menu in the left sidebar.
2. Click on the *Change class definition* button.
3. Add or edit the class definition in YAML format.
4. Click on the *Save* or *Save and finish* button.

To see the class definition of a configuration item class:
1. Click on a class name in the list of classes.
2. Select a version by clicking on a class name in the list of class versions.

**See also:**
New configuration item classes can be added in *General Catalog* module in the administrator interface.

**Class Definition Types and Form Elements**

Multiple input field types can be used when defining a class. These input field types are used to generate the edit form for creating new or editing already existing configuration items.

The following block is an example of a form field called *Operating System*.

```yaml
---
- **Key**: OperatingSystem
  **Name**: Operating System
  **Input**:  
    **Type**: Text
```
Fig. 23: Edit Configuration Item Class Definition Screen

Fig. 24: Configuration Item Class Versions Screen
The following settings are available when adding or editing this resource. The fields marked with an asterisk are mandatory.

**Key**
Must be unique and only accept alphabetic and numeric characters. If this is changed, data will not be readable from old definitions.

**Name**
The label of the field in the form. Any type of characters can be entered to this field including uppercase letters and spaces.

**Note:** It is recommended to always use English words for names.

**Searchable**
Defines whether the field is searchable or not. Possible values are 0 or 1.

**Input**
Initiates the definition of the input field. An input field can contain the following attributes:

**Type**
Defines the type of the element. Must be placed indented as a logical block. Possible values are:
- **Customer:** A drop-down list for select a customer user from the database back end. The field can be used with wildcards (*).
- **CustomerCompany:** A drop-down list for select a customer from the database back end.
- **Date:** A field for select a date.
- **DateTime:** A field for select date and time.
- **Dummy:** This field is used to give the other elements a structure. It has usually Sub structures.
- **GeneralCatalog:** A drop-down list for select a general catalog class. The general catalog class must be defined before use it as input type. The items of the general catalog class will be the options of the drop-down list.
- **Integer:** A drop-down list with integer numbers.
- **Text:** A single text field.
- **TextArea:** A text field with multiple rows.

**Required**
Defines whether the field is mandatory or not. Possible values are 0 or 1.

**Size**
Defines the size of the text field. The value must be a positive integer.

**MaxLength**
Defines the maximum amount of characters that can be entered in the text field. The value must be a positive integer.
RegEx
A regular expression to restrict the possible values of the text field.

RegExErrorMessage
The displayed error message if the input does not match to definition given in the regular expression.

Class
The name of the class to be used for the drop-down list. Required for type GeneralCatalog.

Translation
Defines whether the items of a general catalog have to be translated. Possible values are: 0 or 1.

YearPeriodPast
Defines how many years in the past are available for selection from the present year in a date or date/time field. The value must be a non-negative integer.

YearPeriodFuture
Defines how many years in the future are available for selection from the present year in a date or date/time field. The value must be a non-negative integer.

ValueMin
Defines the minimum value for an integer field.

ValueMax
Defines the maximum value for an integer field.

ValueDefault
Defines the default value for an integer field.

CountMin
Defines at least how many of the current input types are available. The value must be a non-negative integer.

CountMax
Defines at most how many of the current input types are available. The value must be a non-negative integer.

CountDefault
Defines how many field should be displayed by default. The value must be a non-negative integer.

Sub
Defines a sub-element in the input field. The sub-element can contain its own input fields. It is useful if you have certain properties under a main property.

SuppressVersionAdd
This can be used to suppress creating a new version of a configuration item, when an attribute has changed. Possible values are UpdateLastVersion and Ignore.

• UpdateLastVersion: If this value is set and there is no other updated attribute, the attribute is updated in the current version without creating a new version.

• Ignore: If this value is set and there is no other updated attribute, nothing will be done, and no new version is created.
Class Definition Reference

The following class definition is an example for all possible options.

**Note:** The CustomerID and Owner are special keys, since these keys are used in Customers and Customer Users to assign configuration items automatically to customers and customer users by default.

```plaintext
---
- **Key**: OperatingSystem
  **Name**: Operating System
  **Searchable**: 1
  **Input**:
    **Type**: Text
    **Required**: 1
    **Size**: 50
    **MaxLength**: 100
    **RegEx**: Linux|MacOS|Windows|Other
    **RegExErrorMessage**: The operating system is unknown.
  **CountMin**: 0
  **CountMax**: 5
  **CountDefault**: 1

- **Key**: Description
  **Name**: Description
  **Searchable**: 0
  **Input**:
    **Type**: TextArea
    **Required**: 0
  **CountMin**: 0
  **CountMax**: 1
  **CountDefault**: 0

- **Key**: Type
  **Name**: Type
  **Searchable**: 1
  **Input**:
    **Type**: GeneralCatalog
    **Class**: ITSM::ConfigItem::Software::Type
    **Required**: 1
    **Translation**: 1

- **Key**: CustomerID
  **Name**: Customer Company
  **Searchable**: 1
  **Input**:
    **Type**: CustomerCompany

- **Key**: Owner
  **Name**: Owner
  **Searchable**: 1
  **Input**:
    **Type**: Customer

- **Key**: LicenseKey
  **Name**: License Key
  **Searchable**: 1

(continues on next page)
### 3.2 Agent Interface

This chapter describes the new features that are available in the agent interface after installation of the package.
3.2.1 Configuration Items

After installation of the package a new menu section will be available in the main menu.

**Note:** In order to grant users access to the *Asset Management* menu, you need to add them as member to the group *itsm-configitem*.

3.2.1.1 Create Configuration Item

Use this screen to add new configuration items to the configuration management database.

To add a configuration item:

1. Select a class from the list of classes.
2. Fill in the required fields.
3. Click on the *Create* button.

![General Information](image)

**See also:**

The fields in the *Properties* widget can be very different on each classes. To see the available fields, check the *Configuration Items* module in the administrator interface.

**Warning:** The maximum number of 20,000 configuration items should not be exceeded. Exceeding this limit may affect the system performance.
3.2.1.2 Configuration Item List

This screen gives an overview of configuration items. Configuration items have an Incident State column, which includes two state types:

- Operational
- Incident

For each state type, any number of states can be registered. The state of a configuration item affects the service state, which will be dynamically calculated and displayed in the Services screen of the agent interface.

See also:

To enable the dynamic calculation, activate the following system configuration settings:

- ITSMConfigItem::SetIncidentStateOnLink
- ITSMConfigItem::LinkStatus::TicketTypes

![Configuration Item List](image)

Fig. 26: Configuration Item List

3.2.1.3 Configuration Item Detail View

Use this screen to see the details of a configuration item. The configuration item detail view is available if you select a configuration item from a configuration item list.

Configuration Item Detail View Widgets

Like other business object detail views, the configuration item detail view is also highly customizable. Some of the following widgets are displayed with the default installation, but others have to be added in the screen configuration.

Configuration Item Information Widget
- This widget shows information about the configuration item.

Configuration Item Version Details Widget
- This widget shows the configuration item versions. Any change on a configuration item will create a new version. Clicking on a version in this widget will expand the details.

Attachments Widget
- This widget can be used to display attachments to the configuration item. The attachments can be downloaded and, for the images, a preview function is supported.
Fig. 27: Configuration Item Information Widget

Fig. 28: Configuration Item Version Details Widget

Fig. 29: Attachments Widget
Configuration Item Detail View Actions

The following actions are available in the ticket detail view.

![Configuration Item Detail View Actions](image)

**Organization**
- **Edit Configuration Item**
  - This action allows agents to edit the configuration item.
- **Link Objects**
  - This action allows agents to link other business objects to the configuration item.
- **Duplicate Configuration Item**
  - This action allows agents to duplicate the configuration item.
- **Delete Configuration Item**
  - This action allows agents to delete the configuration item.

**Views**
- **View History**
  - This action allows agents to view the history of the configuration item. The history contains all operations that happened with the configuration item in the past, along with timestamp and username of the person who took the action.
- **Print Configuration Item**
  - This action allows agents to print the configuration item to a PDF file and to download it.
3.2.2 Customers

After installation of the package a new widget named Configuration Item List will be available in the customer detail view.

![Configuration Item List Widget](image)

Fig. 31: Configuration Item List Widget

This widget displays the configuration items that are assigned to the customer.

The assignment is done via attribute CustomerID by default. If the configuration item uses different attribute for linking, you should change it in the system configuration settings.

See also:

See AgentFrontend::CustomerCompanyDetailView::WidgetType###ConfigItemList system configuration setting for more information.

The default setting is:

```
ClassBasedCustomerIDSearch:
  Computer: CustomerID
  Hardware: CustomerID
  Location: CustomerID
  Network: CustomerID
  Software: CustomerID

ClassBasedCustomerSearch:
  Computer: CustomerID
  Hardware: CustomerID
  Location: CustomerID
  Network: CustomerID
  Software: CustomerID
```

You also need to have this CustomerID attribute in the class definition to display the assigned configuration items. Check the existing class definitions in the Configuration Items module.

If your class definition doesn’t contain the CustomerID attribute, then you have to add it manually.

```
- Key: CustomerID
- Name: Customer Company
- Searchable: 1
- Input:
  Type: CustomerCompany
```
3.2.3 Customer Users

After installation of the package a new widget named Configuration Item List will be available in the customer user detail view.

This widget displays the configuration items that are assigned to the customer user.

The assignment is done via attribute Owner by default. If the configuration item uses different attribute for linking, you should change it in the system configuration settings.

See also:

See AgentFrontend::CustomerUserDetailView::WidgetType###ConfigItemList system configuration setting for more information.

The default setting is:

```
ClassBasedCustomerUserSearch:
  Computer: Owner
  Hardware: Owner
  Location: Owner
  Network: Owner
  Software: Owner

ClassBasedCustomerSearch:
  Computer: Owner
  Hardware: Owner
  Location: Owner
  Network: Owner
  Software: Owner
```

You also need to have this Owner attribute in the class definition to display the assigned configuration items. Check the existing class definitions in the Configuration Items module.

If your class definition doesn’t contain the Owner attribute, then you have to add it manually.

```
- Key: Owner
- Name: Owner
- Searchable: 1
- Input:
  - Type: Customer
```
3.3 External Interface

This package has no external interface.