OTRS-Extensions

KIX4OTRS for OTRS 3.0

c.a.p.e. IT® GmbH

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Imprint

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1 General Remarks

1.1 Document Information

1.1.1 Purpose

This document describes the changes and extensions of KIX4OTRS. It is supposed to be a rough conception as well as a short administration documentation regarding these extensions.

1.1.2 Limitation

This document is not a complete documentation for the administration of OTRS. Please have a look at the public available documentation of OTRS under http://www.otrs.org. More information can be found in the OTRS-mailing lists as well as the OTRS-forum (http://forums.otrs.org) or the OTRS Community Boards website (http://www.otterhub.org).

1.1.3 Change History

Version	Date	Modified Section	Short Description	Change User
0.1.0	08/29/2011	Initial creation	Initial creation	Torsten Thau
0.1.1	08/31/2011	All	Continued completion	Martin Balzarek
1.0.0	09/26/2011	All	first version for KIX4OTRS-Release	Torsten Thau
1.0.1	12/19/2011	section 13.7	added section	Torsten Thau
1.0.2	12/21/2011	section 5.9	added section	Torsten Thau
1.0.3	02/31/2012	section 10.9	added ticket state workflow for multiple tickets (bulk action)	Torsten Thau

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2 Requirements and Recommendations

2.1 Requirements

- OTRS 3.0.x, Version >= 3.0.10
- Corresponding OTRS-extension package KIXCore >= 0.5.10
- The user which installs the package
  - Needs write permissions on <OTRS_HOME>/Kernel/Config.pm
  - Needs write permissions on <OTRS_HOME>/scripts/apache2-perl-startup.pl
  - Must be able to create directories and files in <OTRS_HOME>

2.2 Recommendations

- If the SysConfig change tracking feature is used, the Perl Module „Data::Compare“ should be installed
  - See your operating system distribution or CPAN
  - Check your system configuration with <OTRS_HOME>/bin/kix.CheckModules.pl
- If the ITSM-Extensions for Configuration Management is used and you want to visualize your CMDB information, the Perl Module GraphViz should be installed
  - See your operating system distribution or CPAN
  - Check your system configuration with <OTRS_HOME>/bin/kix.CheckModules.pl

3 Installation and Upgrading

3.1 Installation KIX4OTRS

This section is relevant if you already have an OTRS 3.0.x running and just want to install KIX4OTRS.

(1) Install and configure your OTRS – preferably from source package
(2) Install KIXCore
- `sudo -u <OTRS_USER> ./bin/otrs.PackageManager.pl -a install -p /path/to/KIXCore-1.0.0.opm`
- Check if your apache2-perl startup script contains following (light yellow marked) lines

```
use ModPerl::Util;
# set otrs lib path!
use lib "/opt/otrs/";
use lib "/opt/otrs/Kernel/cpan-lib";
use lib "/opt/otrs/Custom";
#----------- KIX tsunami framework -----------
# CustomPackageLibs ~#
use lib "/opt/otrs/KIXCore";
# EO CustomPackageLibs ~#
#----------- EO KIX tsunami framework -----------

# pull in things we will use in most requests so it […]
…
```

- Check if your Kernel/Config.pm contains following (light yellow marked) lines

```
...
use Kernel::Config::Defaults;
push (@ISA, 'Kernel::Config::Defaults');
# ----------------------------------------------------#
1;
#----------- KIX tsunami framework -----------
use File::Basename;
use FindBin qw($Bin);
# CustomPackageLibs ~#
use lib "/opt/otrs/KIXCore";
# EO CustomPackageLibs ~#
#----------- EO KIX tsunami framework -----------
1;
```

(3) Delete OTRS cache and rebuild config
- `sudo -u <OTRS_USER> ./bin/otrs.DeleteCache.pl`
- `sudo -u <OTRS_USER> ./bin/otrs.RebuildConfig.pl`

(4) Restart your webserver and check if OTRS is running
(5) Install KIX4OTRS
- `sudo -u <OTRS_USER> ./bin/otrs.PackageManager.pl -a install -p /path/to/KIX4OTRS-4.0.0.opm`
- Check if your apache2-perl startup script contains following (light yellow marked) lines[Note]

```
...
use ModPerl::Util;
# set otrs lib path!
```

Note: depending on the installation status of your OTRS::ITSM extensions not all of these line are required, e.g. /opt/otrs/KIX4OTRSITSMIncidentProblem is only required if OTRS-extension ITSMIncidentProblemManagement is installed

```
use lib "/opt/otrs/";
use lib "/opt/otrs/Kernel/cpan-lib";
use lib "/opt/otrs/Custom";
#----------- KIX tsunami framework -----------
# CustomPackageLibs ~#
use lib "/opt/otrs/KIXCore";
use lib "/opt/otrs/KIX4OTRS";
use lib "/opt/otrs/KIX4OTRSITSMCore";
use lib "/opt/otrs/KIX4OTRSITSMConfigManagement";
use lib "/opt/otrs/KIX4OTRSITSMIncidentProblem";
# EO CustomPackageLibs ~#
#----------- EO KIX tsunami framework -----------

# pull in things we will use in most requests so it […]
...
```

- Check if your Kernel/Config.pm contains following (light yellow marked) lines[Note]

```
...
use Kernel::Config::Defaults;
push (@ISA, 'Kernel::Config::Defaults');
# ----------------------------------------------------#
1;
#----------- KIX tsunami framework -----------
use File::Basename;
 use FindBin qw($Bin);
# CustomPackageLibs ~#
use lib "/opt/otrs/KIXCore";
use lib "/opt/otrs/KIX4OTRS";
use lib "/opt/otrs/KIX4OTRSITSMCore";
use lib "/opt/otrs/KIX4OTRSITSMConfigManagement";
use lib "/opt/otrs/KIX4OTRSITSMIncidentProblem";
# EO CustomPackageLibs ~#
#----------- EO KIX tsunami framework -----------
1;
```

(6) Delete OTRS cache and rebuild config
- `sudo -u <OTRS_USER> ./bin/otrs.DeleteCache.pl`
- `sudo -u <OTRS_USER> ./bin/otrs.RebuildConfig.pl`

(7) Restart your webserver and check if OTRS with KIX4OTRS is running

3.2 Upgrading from OTRS::CiCS 3.x to KIX4OTRS 4.x

This section is relevant if OTRS::CiCS is already installed on your OTRS 2.4.x and you intent to upgrade to OTRS 3.0.x with KIX4OTRS.

(1) Upgrade your OTRS to OTRS 3.0.x as describted in the file UPGRADING
(2) If OTRS::ITSM is used, upgrade or install your OTRS::ITSM packages.
(3) Install KIX4OTRS and check the installation hint in 3.1
(4) If you use a special extension package(CompanyExtensions) bases on OTRS::CICS uninstall OTRS::CiCS and upgrade this special extension package.

Note: depending on the installation status of your OTRS::ITSM extensions not all of these lines are required, e.g. /opt/otrs/KIX4OTRSITSMIncidentProblem is only required if OTRS extension ITSMIncidentProblemManagement is installed

4 Extended Custom Folders – KIXCore

This chapter describes a separate package that is a required OTRS-extension before *KIX4OTRS* can be installed. It continues the idea of the OTRS-CiCS approach which modified Perl's internal variable @INC.

The package *KIXCore* provides a more flexible and more general approach for extensions of extensions than the common "Custom"-folder of OTRS itself. KIXCore (as the custom folder itself) is the continued development of the previous tsunami approach to extend other OTRS-extensions. By employing "use lib" instead of "unshift @INC", it provides more stability and reduced complexity. Therefore each extension requires a modification of Kernel/Config.pm and apache2-perl startup scripts (e.g. scripts/apache2-perl-startup.pl). This can be done automatically by KIXUtils::RegisterCustomPackage. Each time a new custom folder is registered a backup of the modified file Config.pm and apache2-perl startup script with a timestamp suffix is written.

You can use a command line tool (<OTRS_HOME>/bin/otrs.ManageMultipleCustomPackages.pl) to list custom folders, register or unregister a custom folder but actually this should be done by the package installation process.

IMPORTANT: if you're using mod-perl a webserver restart is required after the modification of apache2-perl startup script. Otherwise, no further custom packages in your custom modification will be found. Using a function of your custom extension upon installation (type "post") will NOT work, since @INC does not contain your custom directory yet. In order to use custom functions immediately on installation you need to install the extension via command line.

The common folder "Custom" allows to overwrite an existing file of an already installed package once. If you installed another extension, you would encounter the same problem as if you had no "Custom" folder. This drawback is resolved with KIXCore. Furthermore the common Custom-folder of OTRS does not affect following files/items (yet). By extending the custom-folder approach it is possible to easily dis- and enable whole OTRS-extensions by un-/registering the corresponding custom folder.

- dtl-Templates
- Kernel::Language
  - Contains modifications to (re-)place translation files by custom packages
- Kernel::System::LinkObject
  - Required modification since module searches LinkObject backends not based on @INC but on hard coded file paths - should be fixed in future OTRS releases
- Kernel::System::SysConfig
  - Contains modifications to place XML-configuration files in custom folders
- Kernel::System::Stats
  - Contains modifications to place and access static and dynamic stats in custom folders

5 Customer User Extensions

5.1 Customer Events

- In default OTRS, changes in customer user attributes or preferences will not trigger an event handler.

5.1.1 Implementation

- Extension of the customer user backend module to trigger events whenever a relevant action (CustomerUserAdd, CustomerUserUpdate, CustomerUserSetPassword, CustomerUserSetPreferences) was successfully completed.

5.1.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/System/CustomerUser.pm`

5.1.2 SysConfig Options

Key Name	Description
n.a.	n.a.

5.2 Multiple CustomerIDs

- If a customer user has multiple customer IDs assigned, the ticket is always generated with his/her primary customer ID
- Customer user must be able to choose for which customer ID he/she wants to create the ticket
- The assignment of multiple customer IDs in the agents frontend is done by a text field which contains comma separated all customer IDs
  - There should be a chance to select values from a multiple selection list if customer company support is enabled

5.2.1 Implementation

- Use of a pre-application module in customer frontend to check if customer user has multiple customer IDs assigned
  - Allow customer user to select relevant customer ID before ticket creation mask is shown
- Allow agents to select relevant customer ID in ticket creation mask
  - Shown as a list in customer details
- Display multiple selection for UserCustomerIDs if customer company support is enabled in admin's frontend

5.2.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_CustomerActions.xml`
- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml`
- `KIX4OTRS/Kernel/Modules/AdminCustomerUser.pm`
- `KIX4OTRS/Kernel/Modules/CustomerTicketCustomerIDSelection.pm`
- `KIX4OTRS/Kernel/Modules/CustomerTicketMessage.pm`

- KIX4OTRS/Kernel/Output/HTML/CustomerUserCustomerIDs.pm
- KIX4OTRS/Kernel/Output/HTML/LayoutKIX4OTRS.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/CustomerAssignedCustomerIDsList.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/CustomerTicketCustomerIDSelection.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/CustomerTicketMessage.dtl
- var/httpd/htdocs/js/Core.KIX4OTRS.CustomerIDsSelection.js

5.2.2 SysConfig Options

Key Name	Description
CustomerFrontend::Module### CustomerTicketCustomerIDSelection	The frontend module which allows selection of currently relevant customer is for customer users.
CustomerPanelPreApplicationModule### CustomerTicketCustomerIDSelection	The pre-application module which checks for multiple customer ids in customer frontend before showing CustomerTicketMessage
CustomerCompanySupportPersonalCustomerID	Enables customer company support for primary customer ID to be used as the existing option CustomerCompanySupport
Frontend::CustomerUser::Item### 98-CustomerIDsSelection	A customer info block, which shows all customer IDs assigned to this customer. Depending on the calling action it allows you to select the relevant customer ID for the ticket, which will be created.
Loader::Agent::CommonJS### 120-KIX4OTRSCustomerIDsSelection	Registration for needed JS-functions to show all customer Ids assigned to this customer.
	The attribute UserCustomerIDs must be configured as array: Map => [#... ['UserCustomerIDs', 'CustomerIDs', 'cust_ids', 1, 0, 'array', '', 1], #...],

5.3 Use of customer user attributes as type “array”

- Currently in OTRS there is no possibility to use attributes of type array for customer users

5.3.1 Implementation

- Extensions of admin's customer user frontend
  - Display comma-separated attributes as multiple selections
  - For DB-backends: Save attributes of type array as comma-separated string

5.3.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Modules/AdminCustomer.pm

5.3.2 SysConfig Options

Key Name	Description
	The attribute UserAttrName must be configured as array: Map => [#... ['UserAttrName', 'AttrNameShown', 'ADAttrNameOrDBColumn', 1, 0, 'array', '', 1], #...],

Key Name	Description

	The attribute UserAttrName must be configured as SelectionsMultiple:
	SelectionsMultiple => {
	UserAttrName => {
	ABC => 'abc',
	DEF => 'def',
	EGH => 'egh',
	},
	},

5.4 Use of default values for customer user attributes

- Currently in OTRS there is no possibility to define a default value for customer user attributes, which are not explicitly defined for this customer user.

5.4.1 Implementation

- Extension of customer user backends to handle default values

5.4.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/System/CustomerUser/DB.pm`
- `KIX4OTRS/Kernel/System/CustomerUser/LDAP.pm`

5.4.2 SysConfig Options

Key Name	Description
	The attribute UserAttrName must be extended: Map => [# var, frontend, storage, shown, required, storage-type, http-link, readonly, Dummy-value ['UserAttrName', 'AttrNameShown', 'ADAttrNameOrDBColumn', 1, 0, 'array', '', 1, 'DefaultValue'], #...],

5.5 Further search fields as parameters in CustomerSearch

- In default OTRS, it is only possible to define search fields, which will use all configured customer user search fields. This implies that there is no possibility to define search fields, which should use a specially configured customer user attribute only.

5.5.1 Implementation

- Extension of customer user backends to handle further search fields (which can be used as general search parameters or in new ticket masks)

5.5.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/System/CustomerUser/DB.pm`
- `KIX4OTRS/Kernel/System/CustomerUser/LDAP.pm`

5.5.2 SysConfig Options

Key Name	Description
	The further search fields have to be defined for : CustomerUserFurtherSearchFields => { UserCustomerID => 'customer_id, customer_ids', UserLogin => 'login', },

5.6 Map LDAP group memberships to attributes

- Customer attributes should be set from LDAP-group membership without setting them as attribute values within the LDAP
- Currently in OTRS there is no assignment of LDAP-groups for customer users

5.6.1 Implementation

- Extension of the customer attribute retrieval (sub CustomerUserDataGet) for LDAP-group membership check
- If user is member of the LDAP-group the customer user attribute is set to a predefined keys
- Extension of configuration parameters required

5.6.1.1 Related Structures

a Filelist

- `FreiburgExtensions/Kernel/System/CusomerUser/LDAP.pm`
- `Kernel/Config.pm`

5.6.2 SysConfig Options

Key Name	Description
GroupMemberSyncAccessAttr	LDAP-attribute to filter for membership of users
GroupMemberSyncUserAttr	LDAP-attribute to filter for group members („UID“ or „DN“)

GroupMemberSyncAttributes	Hash to map group membership to customer user attributes, for example:
	cn=keyuser,cn=groups,dc=example,dc=com' => {
	UserKeyUser' => "yes",
	},
	cn=customerclass_a,cn=groups,dc=example,dc=com' => {
	UserCustomerClass' => "A",
	},
	
	The source field in the CustomerUser map must be empty, for example:
	Map => [
	#
	['UserComment', 'Comment', 'desc', 1, 0, 'var', '', 0], /
	# the following attribute is set by LDAP-group:

Key Name	Description
	['UserKeyUser', 'Key User', '', 1, 0, 'var', '', 0], # ...],

5.7 Customer info block

- Information shown in customer user info block do not contain number of all tickets
- Counts in customer info block are based on customer's CustomerID. This is not useful in every situation and should be configurable.
- Since KIX4OTRS provides linked persons, customer info block should show the number of tickets linked to current selected customer

5.7.1 Implementation

- Extended layout module to generate counts of customer's tickets.
  - New SysConfig-option to set used search base.
  - New method to count tickets that are linked to current customer user

5.7.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml`
- `KIX4OTRS/Kernel/Output/HTML/CustomerUserGenericTicket.pm`
- `KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm`

5.7.2 SysConfig Options

Key Name	Description
Frontend::CustomerUser:: CustomerInfoTicketCount	Sets the search parameter for the ticket count in customer info block.
Frontend::CustomerUser::Item### 10-AllTickets	Customer item (icon), which shows all tickets of this customer as info block.
Frontend::CustomerUser::Item### 11-OpenLinkedTickets	Customer item (icon), which shows all tickets that are of ticket state type and linked to this customer as info block.
Frontend::CustomerUser::Item### 12-AllLinkedTickets	Customer item (icon), which shows all tickets that are linked to this customer as info block.

5.8 Customer Information Board

- A dashboard like overview for information on the customer user
- Information to the currently selected customer user is displayed in dashlets as known from the ticket dashboard
- Following dashlets are currently available
  - Customer Search
    - Used to search and select the customer user for which all the other dashlets should show their information
  - Customer Services
    - Shows services assigned to the selected customer user
  - Customer Create
    - Show buttons to ticket creation masks which will already contain the user's information upon display
  - Customer Ticket Generic

    - Ticket lists for the selected customer user
  - Customer Ticket Stats Generic Month
    - Ticket stats for the selected customer user during the last month
  - Customer Ticket Stats Generic Week
    - Ticket stats for the selected customer user during the last week
  - Customer Ticket Stats Generic 2 Week
    - Ticket stats for the selected customer user during the last two weeks (in comparison)

5.8.1 Implementation

- New frontend module works similar to the ticket dashboard
- A core dashlets allows to search and select customer user, after selection of an entry all other dashlets are reloaded given the information of the selected customer user

5.8.1.1 Related Structures

a *Filelist*

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_CustomerDashboard.xml
- KIX4OTRS/Kernel/Modules/AgentCustomerDashboard.pm
- KIX4OTRS/Kernel/Output/HTML/CustomerDashboardCalendar.pm
- KIX4OTRS/Kernel/Output/HTML/CustomerDashboardCustomerSearch.pm
- KIX4OTRS/Kernel/Output/HTML/CustomerDashboardCustomerServices.pm
- KIX4OTRS/Kernel/Output/HTML/CustomerDashboardTicketCreate.pm
- KIX4OTRS/Kernel/Output/HTML/CustomerDashboardTicketGeneric.pm
- KIX4OTRS/Kernel/Output/HTML/CustomerDashboardTicketStatsGeneric.pm
- KIX4OTRS/Kernel/Output/HTML/CustomerDashboardTicketStatsGenericMonth.pm
- KIX4OTRS/Kernel/Output/HTML/CustomerDashboardTicketStatsGenericWeek.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentCustomerDashboard.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentCustomerDashboardCalendarOverview.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentCustomerDashboardCustomerSearch.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentCustomerDashboardCustomerServices.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentCustomerDashboardTicketCreate.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentCustomerDashboardTicketGeneric.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentCustomerDashboardTicketStats.dtl
- var/httpd/htdocs/js/Core.KIX4OTRS.Agent.CustomerDashboard.js
- var/httpd/htdocs/skins/Agent/KIX4OTRS/css/KIX4OTRS.AgentCustomerDashboard.css

5.8.2 SysConfig Options

Key Name	Description
Frontend::Module###AgentCustomerDashboard	Frontend module registration for the agent interface.
CustomerDashboardBackend###0001-CustomerSearch	Parameters for the customer dashboard backend to search for customers.
CustomerDashboardBackend###0120-TicketNew	Parameters for the customer dashboard backend of the new tickets overview of the agent interface. "Limit" is the number of entries shown by default. "Group" is used to restrict the access to the plugin (e. g. Group: admin;group1;group2;). "Default" determines if the plugin is enabled by default or if the user needs to enable it manually. "CacheTTLLocal" is the cache time in minutes for the plugin.
CustomerDashboardBackend###0130-TicketOpen	Parameters for the customer dashboard backend of the ticket open overview of the agent interface. "Limit" is the number of entries shown by default. "Group" is used to restrict the access to the plugin (e. g. Group: admin;group1;group2;). "Default" determines if the plugin is enabled by default or if the user needs to enable it manually. "CacheTTLLocal" is the cache time in minutes for the plugin.
CustomerDashboardBackend###0135-TicketPendingReminder	Parameters for the customer dashboard backend of the ticket pending reminder overview of the agent interface. "Limit" is the number of entries shown by default. "Group" is used to restrict the access to the plugin (e. g. Group: admin;group1;group2;). "Default" determines if the plugin is

Key Name	Description
	enabled by default or if the user needs to enable it manually. "CacheTTLLocal" is the cache time in minutes for the plugin.
CustomerDashboardBackend###0140-CustomerServices	Parameters for the customer dashboard backend to show all assigned services for the selected customer.
CustomerDashboardBackend###0150-TicketCreate	Parameters for the customer dashboard backend to create tickets for the selected customer.
CustomerDashboardBackend###0250-TicketStats	Parameters for the customer dashboard backend of the ticket stats of the agent interface. "Limit" is the number of entries shown by default. "Group" is used to restrict the access to the plugin (e. g. Group: admin;group1;group2;). "Default" determines if the plugin is enabled by default or if the user needs to enable it manually. "CacheTTLLocal" is the cache time in minutes for the plugin.
CustomerDashboardBackend###0251-TicketStats2Weeks	Parameters for the customer dashboard backend of the 2 weeks ticket stats of the agent interface. "Limit" is the number of entries shown by default. "Group" is used to restrict the access to the plugin (e. g. Group: admin;group1;group2;). "Default" determines if the plugin is enabled by default or if the user needs to enable it manually. "CacheTTLLocal" is the cache time in minutes for the plugin.
CustomerDashboardBackend###0252-TicketStats1Month	Parameters for the customer dashboard backend of the monthly ticket stats of the agent interface. "Limit" is the number of entries shown by default. "Group" is used to restrict the access to the plugin (e. g. Group: admin;group1;group2;). "Default" determines if the plugin is enabled by default or if the user needs to enable it manually. "CacheTTLLocal" is the cache time in minutes for the plugin.
CustomerDashboardBackend###0260-TicketCalendar	Parameters for the customer dashboard backend of the ticket calendar of the agent interface. "Limit" is the number of entries shown by default. "Group" is used to restrict the access to the plugin (e. g. Group: admin;group1;group2;). "Default" determines if the plugin is enabled by default or if the user needs to enable it manually. "CacheTTLLocal" is the cache time in minutes for the plugin.

5.9 Group Based Customer Data Backend Access

- the access to customer user data backends schould be limited based on groups which can be assigned to customer data backends
- if an agent, does not have access to customer user data from a certain backend no customer information will be shown while looking at one of this customers tickets or when creating a new ticket
-

5.9.1 Implementation

- the Kernel module CustomerUser completely ignores customer data backend if the requesting user has no RO-permission on at least on of the configured access groups
- during the run of the constructur method (Kernel::System::CustomerUser::new) each configued data backend is checked for configuration attribute “AccessGroups”, if UserID has no RO-membership the data backend is not added to the $Self-Hash →backend is not available in any other method

5.9.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/MSystem/CustomerUser.pm`

- `Kernel/Config.pm`

5.9.2 SysConfig Options

Key Name	Description

AccessGroups	Array attribute which contains group names to which an agent must have RO-permission in order to retrieve information from the customer data backend, for example:
	
	$Self->{CustomerUser} = {
	Name => 'Database Backend',
	Module => 'Kernel::System::CustomerUser::DB',
	[...]
	AccessGroups => ['users', 'admin'],
	Map => [
	# note: Login, Email and CustomerID needed!
	# ...
	],
	};

6 Agent User Extensions

6.1 Search Template Sharing

- Agents should be able to share their search templates with other agents.

6.1.1 Implementation

- Extended agent's ticket search to share search templates
  - Extended agent's ticket search mask to be able to share search templates
  - Extended AgentTicketSearch to assign search templates to all agent users

6.1.1.1 Related Structures

a *Filelist*

- `KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm`
- `KIX4OTRS/Kernel/Modules/AgentTicketSearch.pm`
- `KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketSearch.dtl`

6.1.2 SysConfig Options

Key Name	Description
n.a.	n.a.

6.2 Search Options For Pending And Escalation Times

- In default OTRS, there are no search options for ticket pending and ticket escalation times.
- It should be possible to use them equivalent to other ticket times (e.g. ticket create and close times)

6.2.1 Implementation

- Extended agent's ticket search to provide search options for pending and escalation times
  - Extended agent's ticket search mask to be able to use new search options
  - Extended AgentTicketSearch to handle new search options

6.2.1.1 Related Structures

a *Filelist*

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketActions.xml`
- `KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm`
- `KIX4OTRS/Kernel/Modules/AgentTicketSearch.pm`
- `KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketSearch.dtl`
- `KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm`

6.2.2 SysConfig Options

Key Name	Description
Ticket::Frontend::AgentTicketSearch###Defaults###TicketPendingTimeSlot	Dis-/enables pending times as a default shown ticket search attribute for ticket search screen
Ticket::Frontend::AgentTicketSearch###Defaults###TicketPendingTimePoint	Dis-/enables pending times as a default shown ticket search attribute for ticket search screen
Ticket::Frontend::AgentTicketSearch###	Dis-/enables escalation times as a default shown ticket search

Key Name	Description
Defaults###TicketEscalationTimePoint	attribute for ticket search screen
Ticket::Frontend::AgentTicketSearch###Defaults###TicketEscalationTimeSlot	Dis-/enables escalation times as a default shown ticket search attribute for ticket search screen

6.3 Redirect Target After Ticket Close

- Whenever a ticket gets closed, the acting agent user will be redirect to last used screen overview.
- It should be possible to get redirected to this ticket again.

6.3.1 Implementation

- Additional agent preference to set preferred redirect target after ticket has been closed
- Extended agent's ticket processing modules to handle redirect target

6.3.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml`
- `KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm`
- `KIX4OTRS/Kernel/Modules/AgentTicketActionCommon.pm`
- `KIX4OTRS/Kernel/Modules/AgentTicketCompose.pm`
- `KIX4OTRS/Kernel/Modules/AgentTicketForward.pm`
- `KIX4OTRS/Kernel/Modules/AgentTicketPhoneOutbound.pm`
- `KIX4OTRS/Kernel/Modules/AgentTicketZoomTabActionCommon.pm`

6.3.2 SysConfig Options

Key Name	Description
PreferencesGroups###RedirectAfterTicketClose	Defines which page is shown after a ticket has been closed.

6.4 Notification Forwarding In Agents Absence

- During the agent's absence notifications sent to this agent are (temporarily) lost
- It should be possible to define a substitute user/contact

6.4.1 Implementation

- Additional agent preference which is only visible if agent is currently out of office
- All notification emails send to an out of office agent are also send to his/her substitute contact – triggered by a ticket event
- It's possible to configure an additional text to tell the substitute why he/she receives this message

6.4.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_PreferencesExtensions.xml`
- `KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm`
- `KIX4OTRS/Kernel/Output/HTML/PreferencesOutOfOfficeSubstitute.pm`
- `KIX4OTRS/Kernel/Output/HTML/Standard/AdminUser.dtl`
- `KIX4OTRS/Kernel/Output/HTML/Standard/AgentPreferences.dtl`
- `KIX4OTRS/Kernel/System/Ticket/Event/NotificationEvent.pm`

- KIX4OTRS/Kernel/System/Ticket/Event/NotificationToOutOfOfficeSubstitute.pm
- KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm

6.4.2 SysConfig Options

Key Name	Description
PreferencesGroups###OutOfOfficeSubstitute	Registration for the agent preference plugin
Ticket::EventModulePost###900-NotificationToOutOfOfficeSubstitute	Dis/enabled the out-of-office-substitute message sending

6.5 Textarea For Agents Preferences

- Agents preferences cannot consist of a multiple line input
- It should be possible to define multiple lines, e.g. as an individually used signature

6.5.1 Implementation

- Extended agent preferences to provide textareas for multiple lines inputs.

6.5.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_PreferencesExtensions.xml
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentPreferences.dtl

6.5.2 SysConfig Options

Key Name	Description
PreferencesGroups###TextInput	Registration of an exemplary agent's preference, to allow multiple lines input and be shown in the preferences view.

6.6 Multiple Selections For Agents Preferences

- Agents preferences cannot consist of a multiple selection
- It should be possible to define preferences as multiple selections

6.6.1 Implementation

- New agent preferences module to provide multiple selections
  - Shows multiple selections
  - Saves selected values as a comma-separated agents preference

6.6.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_PreferencesExtensions.xml
- KIX4OTRS/Kernel/Output/HTML/PreferencesGenericMultiple.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentPreferences.dtl

6.6.2 SysConfig Options

Key Name	Description
PreferencesGroups###MultipleSelection	Registration of an exemplary agent's preference, to allow multiple selections and be shown in the preferences view.

6.7 Dashboard FAQ

- Show (1) most recent and (2) top 10 FAQ items
- Requires OTRS-extension FAQ to be installed

6.7.1 Implementation

- Common dashboard module with corresponding FAQ methods

6.7.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_DashboardExtensions.xml`
- `KIX4OTRS/Kernel/Output/HTML/Standard/AgentDashboardFAQ.dtl`
- `KIX4OTRS/Kernel/Kernel/Output/HTML/DashboardFAQ.pm`

6.7.2 SysConfig Options

Key Name	Description
DashboardBackend###0199-FAQ	Parameters for the dashboard FAQ News. "Group" are used to restricted access to the plugin (e. g. Group: admin;group1;group2;). "Default" means if the plugin is enabled per default.

7 Administrative Extensions

7.1 SysConfig Change Log

- Changes in SysConfig are not logged, it's impossible to track who did what change when

7.1.1 Implementation

- Functionality requires additional Perl package setup
  - Data::Compare
  - Check your system configuration with <OTRS_HOME>/bin/kix.CheckModules.pl
- Functionality based on KIXCore, which provides Event handling for SysConfig
  - Event handler is called if a change in SysConfig is detected

7.1.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_SysConfigChangeLog.xml`
- `KIX4OTRS/Kernel/System/SysConfig/Event/LogSysConfigChanges.pm`
- `KIX4OTRS/Kernel/System/SysConfig/SysConfigChangeLog.pm`
- `KIX4OTRS/Kernel/System/SysConfigChangeLog/File.pm`
- `KIX4OTRS/Kernel/System/SysConfigChangeLog/SysLog.pm`

7.1.2 SysConfig Options

Key Name	Description
SysConfig::EventModulePost###000-LogSysConfigChanges	Registration for the SysConfig event handler
SysConfigChangeLog::LogModule	Log module for the SysConfig. "File" writes all messages in a given logfile, "SysLog" uses the syslog daemon of the system, e.g. syslogd.
SysConfigChangeLog::LogModule::SysLog::Facility	If "SysLog" was selected for LogModule, you can specify a special log facility.
SysConfigChangeLog::LogModule::SysLog::LogSock	If "SysLog" was selected for LogModule, you can specify a special log sock (on solaris you may need to use 'stream').
SysConfigChangeLog::LogModule::SysLog::Charset	If "SysLog" was selected for LogModule, you can specify the charset that should be used for logging.
SysConfigChangeLog::LogModule::LogFile	If "file" was selected for LogModule, you have to specify a logfile. The file will be created by the system, if it doesn't exist.
SysConfigChangeLog::LogModule::LogFile::Date	Set this config parameter to "Yes", if you want to add a suffix with the current year and month to the SysConfig logfile. A logfile for every month will be created.

7.2 Statistics Extensions

- If you're using a static report module, In default OTRS, the mask for report creation does not support all possible params for selection lists (e.g. to dis-/enable translation) and does not know params of type:
  - Date,
  - String,
  - Hidden.

7.2.1 Implementation

- Modify agent's mask “AgentStats”

7.2.1.1 Related Structures

a Filelist

- KIS4OTRS/Kernel/Modules/AgentStats.pm
- KIS4OTRS/Kernel/Output/HTML/Standard/AgentStatsOverview.dtl

7.2.2 SysConfig Options

Key Name	Description
n.a.	n.a.

7.3 Filter for SLA and Services

- In default OTRS, all existing SLAs and services will be shown in the relevant admin interface. This is not very comfortable, especially when there is a high number of SLAs or services defined.

7.3.1 Implementation

- Integrated a filter to reduce the number of shown SLAs and services depending on variable search input
  - Extended admin's SLA template to support filtering
  - Extended admin's Service template to support filtering

7.3.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Modules/AdminSLA.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AdminService.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AdminSLA.dtl

7.3.2 SysConfig Options

Key Name	Description
n.a.	n.a.

7.4 Switch Button Agent ↔Customer Frontend

- Allow agents which do have a customer user account (with the same login) to easily switch from agent frontend to customer frontend without entering login data and vice versa
- May be restricted to agents with corresponding group membership

7.4.1 Implementation

- Use of output filter that checks if it's used in customer or agent frontend
  - Agent frontend:
    - Check if customer user with same login name exists
    - Check if agent has RO-permissions on group „SwitchButton“
    - Replace logout link by switch icon and logout icon
  - Customer frontend:
    - Check if agent user with same login name exists
    - Check if agent user's got RO-permission on „SwitchButton“ group

    - Replace logout button by switch button and logout button
- Frontend module checks login data, creates a new session on the corresponding frontend and redirects to the default page after login of this frontend

7.4.1.1 Related Structures

a *Filelist*

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_SwitchButton.xml
- KIX4OTRS/Kernel/Modules/SwitchButton.pm
- KIX4OTRS/Kernel/Output/HTML/OutputFilterSwitchButton.pm
- KIX4OTRS/Kernel/Language/de_SwitchButton.pm
- var/httpd/htdocs/skins/Agent/KIX4OTRS/css/Core.Header.css
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/logout_switch.png
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/source/logout_switch.psd
- var/packagesetup/KIX4OTRS.pm

7.4.2 SysConfig Options

Key Name	Description
CustomerFrontend::Module###SwitchButton	Registration of frontend module to create a session on the agent frontend
Frontend::Module###SwitchButton	Registration of frontend module to create a session on the customer frontend
Frontend::Output::FilterElementPre###SwitchButton	Output-filter to display/show switch button link in customer and agent frontend

7.5 Ticket Template Configurator

- Separate admin area to manage ticket templates
    - Add, edit and remove ticket templates
    - Migrate old ticket templates from SysConfig-Keys to database

7.5.1 Implementation

- New core module for ticket templates
- Expand database by two new tables
- New admin management frontend module for creating, viewing, listing, editing migrating ticket templates

7.5.1.1 Related Structures

a *Filelist*

- KIX4OTRS/Config/Files/KIX4OTRS_QuickTicketAdmin.xml
- KIX4OTRS/Language/de_KIX4OTRSTemplateConfigurator.pm
- KIX4OTRS/Modules/AdminQuickTicketConfigurator.pm
- KIX4OTRS/Config/Files/KIX4OTRS_QuickTicketAdmin.xml
- KIX4OTRS/Language/de_KIX4OTRSTemplateConfigurator.pm
- KIX4OTRS/Modules/AgentTicketEmail.pm
- KIX4OTRS/Modules/AgentTicketPhone.pm
- KIX4OTRS/Modules/CustomerTicketMessage.pm
- KIX4OTRS/Modules/CustomerTicketMessageQuickSelection.pm
- KIX4OTRS/Output/HTML/Standard/CustomerTicketMessageQuickSelection.dtl
- KIX4OTRS/Output/HTML/Standard/AdminQuickTicketConfigurator.dtl
- KIX4OTRS/System/Ticket/TicketTemplateHandler.pm
- KIX4OTRSITSMConfigManagement/Modules/CustomerTicketMessage.pm
- KIX4OTRSITSMIncidentProblem/Modules/AgentTicketEmail.pm
- KIX4OTRSITSMIncidentProblem/Modules/AgentTicketPhone.pm
- var/httpd/htdocs/js/Core.Admin.QuickTicketConfigurator.js
- var/httpd/htdocs/skins/Agent/default/KIX4OTRS/css/Core.AdminQuickTicketConfigurator.css

- var/httpd/htdocs/skins/Customer/KIX4OTRS/css/Core.Control.css
- var/packagesetup/KIX4OTRS.pm
- KIX4OTRS.sopm
- KIX4OTRS/Output/HTML/Standard/AdminQuickTicketConfigurator.dtl

b Table/Table Columns

- kix_ticket_template
  - id
  - name
  - f_agent
  - f_customer
  - valid_id
  - create_time
  - create_by
  - change_time
  - change_by
- kix_ticket_template_preferences
  - template_id
  - preferences_key
  - preferences_value

7.5.2 SysConfig Options

Key Name	Description
Frontend::Module###AdminQuickTicketConfigurator	Frontend module registration for the AdminQuickTicketConfigurator in the admin interface.
Ticket::Frontend::AdminQuickTicketConfigurator###ArticleType	Determines the possible article types for ticket templates.
Ticket::Frontend::AdminQuickTicketConfigurator###ArticleSenderType	Determines the possible article sender types for ticket templates.
Ticket::Frontend::AdminQuickTicketConfigurator###LinkType	.Determines the possible link types for ticket templates.
Ticket::Frontend::AdminQuickTicketConfigurator###LinkDirection	.Determines the possible link directions for ticket templates.
Ticket::Frontend::AdminQuickTicketConfigurator###StateType	.Determines the possible ticket states for ticket templates.
Ticket::Frontend::AdminQuickTicketConfigurator###TicketFreeText	Ticket free text options shown in the ticket template configurator of the admin interface. Possible settings: 0 = Disabled, 1 = Enabled, 2 = Enabled and required.
Ticket::Frontend::AdminQuickTicketConfigurator###TicketFreeTime	Ticket free time options shown in the ticket template configurator of the admin interface. Possible settings: 0 = Disabled, 1 = Enabled, 2 = Enabled and required.
Ticket::Frontend::AdminQuickTicketConfigurator###ArticleFreeText	Article free text options shown in the ticket template configurator of the admin interface. Possible settings: 0 = Disabled, 1 = Enabled, 2 = Enabled and required.
Frontend::AdminQuickTicketConfigurator::KIXSidebarBackend###0100-CustomerInfo	Parameters for the KIXSidebar backend CustomerInfo.
Frontend::AdminQuickTicketConfigurator::KIXSidebarBackend###0200-TextModules	Parameters for the KIXSidebar backend TextModules.
Ticket::Frontend::AdminQuickTicketConfigurator###MigrateButton	Enables or disable the migrate button in admin frontend interface.

7.6 Dashboard KIXNotify

- Show KIX related news – similar to OTRS news

7.6.1 Implementation

- Retrieve package information from c.a.p.e. IT's package repository[1] and display message if installed packages should be updates

7.6.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_DashboardExtensions.xml`
- `KIX4OTRS/Kernel/Output/HTML/Standard/AgentDashboardKIXNotify.dtl`
- `KIX4OTRS/Kernel/Kernel/Output/HTML/DashboardKIXNotify.pm`

7.6.2 SysConfig Options

Key Name	Description
DashboardBackend###0000-KIXNotify	Parameters for the dashboard backend. "Group" are used to restricted access to the plugin (e. g. Group: admin;group1;group2;). "Default" means if the plugin is enabled per default or if the user needs to enable it manually. "CacheTTLLocal" means the cache time in minutes for the plugin.

7.7 Dashboard User Offline

- Show users which are offline

7.7.1 Implementation

- Collect all users and compare with online users (active sessions)

7.7.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_DashboardExtensions.xml`
- `KIX4OTRS/Kernel/Output/HTML/Standard/AgentDashboardUserOffline.dtl`
- `KIX4OTRS/Kernel/Output/HTML/DashboardUserOffline.pm`

7.7.2 SysConfig Options

Key Name	Description
DashboardBackend###0401-UserOffline	Defines the parameters for the dashboard backend. "Limit" defines the number of entries displayed by default. "Group" is used to restrict access to the plugin (e. g. Group: admin;group1;group2;). "Default" indicates if the plugin is enabled by default or if the user needs to enable it manually. "CacheTTLLocal" defines the cache expiration period in minutes for the plugin.

1 http://www.cape-it.de/cgi-bin/download.pl/modules.xml

8 Layout extensions

8.1 Date Input – Eligible smart format

In default OTRS, date and time inputs are separated in one input field for each part of dates and times – all in all three fields for dates and two fields for times. For must users it's much easier to use one field for a date input and one field for a time input.

8.1.1 Implementation

- Extended function Kernel::Output::HTML::Layout::BuildDateSelection to provide further input format for date selections

8.1.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Layout.xml`
- `KIX4OTRS/Kernel/Output/HTML/LayoutKIX4OTRS.pm`
- `var/httpd/htdocs/js/Core.UI.Datepicker.js`

8.1.2 SysConfig Options

Key Name	Description
Loader::Agent::CommonJS###102-KIX4OTRSTimeInput	Registration of needed javascript functions
Loader::Customer::CommonJS###102-KIX4OTRSTimeInput	Registration of needed javascript functions
DateSelection::Layout::SmartDateInput	Enable a smart style for date inputs (SysConfig-option TimeInputFormat will be ignored)
DateSelection::Layout::SmartTimeInput	Enable a smart style for time inputs (SysConfig-option TimeInputFormat will be ignored)
DateSelection::Layout::TimeInputIntervall	Sets the minute interval used for in time selections

8.2 Deactivate form during AJAX requests

OTRS provides a layout class “PreventMultipleSubmits” to prevent forms from being submitted twice. It also provides javascript functions to highlight fields which are awaiting an AJAX update.
In contrast to this, forms can be submitted during an ongoing AJAX request, e.g. by the use of key enter. This should not be possible, especially since this behavior forces error messages shown to the user.

8.2.1 Implementation

- New javascript functions to disable forms whenever an AJAX request is started and to enable this forms whenever the AJAX request was completed.

8.2.1.1 Related Structures

a Filelist

- `var/httpd/htdocs/js/Core.AJAX.js`

8.2.2 SysConfig Options

Key Name	Description
n.a.	n.a.

9 Link Object Extensions

9.1 Linked Object Type „Ticket“

- in OTRS the search mask in linking tickets does not contain fields like ticket type or queue
- improve skin usage in display of linked tickets and highlight shown tickets if they are in a closed state

9.1.1 Implementation

- Show further column “type” to display current ticket type
- Show ticket title in links
- Allow to set individual search criteria in link mask (configurable via SysConfig)
- Exclude merged tickets from list of linked objects
- Highlight tickets which are already closed
- Changed layout templates for better usability (use of titles and labels)
- Create ticket history entry for every link action, no matter if it's a ticket-ticket-link-action or not

9.1.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_LinkObject.xml`
- `KIX4OTRS/Kernel/Output/HTML/LinkObjectTicket.pm`
- `KIX4OTRS/Kernel/Output/HTML/Standard/AgentLinkObject.dtl`
- `KIX4OTRS/Kernel/Output/HTML/Standard/LinkObject.dtl`
- `KIX4OTRS/Kernel/System/LinkObject/Ticket.pm`

9.1.2 SysConfig Options

Key Name	Description
LinkObject::PerformEmptySearch	Dis-/enables to allow a search with empty search parameters in link object mask.
Ticket::Link::SearchOptions::Order	Defines possible search criteria in the agents link interface for target object "Ticket". Order is important. Value is used as internal name.
Ticket::Link::SearchOptions::Name	Defines displayed name for configured search criteria. Key has to be one of the internal names (see above); Value is used as name in the interface.
Ticket::Link::SearchOptions::Order	Defines data source for configured search criteria. Key has to be one of the internal names (see above); Value is used as name in the interface.

9.2 Linked Object Type „Document“

- Create a new class of link objects which represents documents that are available at the OTRS-system/server (accessible to the web server-user on the OTRS application server, OTRS only reads the document, OTRS does not perform any write action)
- Provide linked documents for download depending on permissions of users, role or group membership
- Just show linked document names if no permission
- Allow to create/remove document links by selecting results from search for document names

- KIX4OTRS does not loose document link when document has been renamed or moved within the mounted share (within a certain range)

9.2.1 Implementation

- Recursive file search (FS backend) stores all files found in DB table kix_file_watcher (with some additional attributes like MD5 sum, filesize, last modification date, ...)
- OTRS LinkObject will use primary ID in kix_file_watcher table to link files to tickets
- Every new search inserts new file entries into table kix_file_watcher and updates old ones
- Script kix.FileWatcher.pl synchronizes all files stored in table kix_file_watcher (called meta data), so that the FS backend can keep track of renamed, changed and/or moved documents
- In case a document found in the meta data doesn't exist any longer (during synchronization process), i.e. it has been renamed, changed or moved, the synchronization process tries if another known file can be the one missing
- To do that the sync process does the following:
  - Search meta data for file with the same filename or fingerprint (MD5 sum) or size or last modification time which are not already outdated (marked as no longer available)
  - All found entries will be checked by applying a weighting scheme (hardcoded at the moment, A = org. File, B = possible replacement, distance = Levenshtein Algorithm):
    - `same LastModTime = 20 Points`
    - `SizeWeight = B.size / A.size * 30 Points`
    - `NameWeight = (length(A.name) - distance(A.name, B.name)) / length(A.name) * 50 Points`
    - `PathWeight = (length(A.path) - distance(A.path, B.path)) / length(A.path) * 50 Points`
    - `same Fingerprint (MD5 sum) = 100 Points`
  - The weights of all (matching) attributes will be added up
  - A list will be build containing the possible replacement candidates sorted by their weight in descending order
  - Only candidates with a weight above a given weight threshold (100, hardcoded at the moment) will be considered useful
  - After that the candidate with the highest weight will be taken
  - If there is only one candidate, this one will be referenced as replacement for the old file, the old file will be marked as outdated
  - If there are multiple candidates with the same (highest) weight left, no update will be done, only a log entry will be created in OTRS log
- Changed layout templates for better usability (input validation)

9.2.1.1 Related Structures

a Filelist

- `bin/kix.FileWatcher.pl`
- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Document.xml`
- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_LinkObject.xml`
- `KIX4OTRS/Kernel/Language/de_Document.pm`
- `KIX4OTRS/Kernel/Modules/AgentLinkObjectUtils.pm`
- `KIX4OTRS/Kernel/Output/HTML/LinkObjectDocument.pm`
- `KIX4OTRS/Kernel/Output/HTML/Standard/AgentLinkObject.dtl`
- `KIX4OTRS/Kernel/System/Document.pm`
- `KIX4OTRS/Kernel/System/Document/FS.pm`
- `scripts/kix.create_filewatcher_meta.pl`
- `var/cron/kix.filewatcher.dist`

b Table/Table Columns

- `kix_file_watcher`

- id
- parent_id
- fingerprint
- path
- path_lower
- name
- name_lower
- first_found
- last_found
- last_mod
- mod_type
- size
- outdated

9.2.2 SysConfig Options

Key Name	Description
LinkObject::Type###DocumentLink	This setting defines the link type 'DocumentLink'.
LinkObject::PossibleLink###9902	This setting defines that a 'Ticket' object can be linked with documents using the 'DocumentLink' link type. • Object1 => Ticket • Object2 => Document • Type => DocumentLink
Document###Sources	Here you have to define a list of sources (some sort of document container). Just give them some ID and some text that will be displayed in the GUI. • Example: ◦ ID/key: TmpShare ◦ Text/value: This is our temporary document share
Document###Backend	Here you have to define the backend to be used for each configured source. Currently only "FS" (Filesystem) is supported. • Example: ◦ ID/key: TmpShare ◦ Backend/value: FS
Document###Parameters	For each source you have to define the parameters for the configured backend. The backend "FS" (Filesystem) accepts one parameter named "RootDir". Each FS-Source can be a container of one or more different root directories. The web server-user need READ(or RW)-Permissions on the directories. • Example: ◦ ID/key: TmpShare ◦ Parameters/value: RootDir=/documents/tmp If you want to configure a collection of directories to be used as root directories for some source, you can do that by appending more RootDir options. • Example: ◦ ID/key: TmpShare ◦ Parameters/value: RootDir=/documents/tmp,RootDir=/tmp,RootDir=/home/documents
Document###Access	Here you have to define the permissions of a user to access this source. You can define a list of roles and/or groups a user has to belong to and/or assign single users. • Example: ◦ ID/key: TmpShare ◦ Access/value: Role=Developer,Role=Support,Group=users,Group=FAQ,User=root@localhost,User=RSchmidt,User=TMueller
Document::FS###SearchType	Specify the search type in FS sources ("live" is slower but does a live search in the directory tree and updates the meta data of the

Key Name	Description
	resulting files in the DB, "meta" is fast but only uses the meta data stored in the DB). • META => meta • LIVE => live The "FS" backend tries to keep track of a file, even if it is moved between directories or even different sources, changed or renamed. To do this it will create and update some meta data in the database. With this option you can define if the backend should search in the directory tree (a "live" search) or use its meta data in the database. The "meta" option is especially useful if you are searching a huge directory tree and expecting long searches and have configured meta sync (see next option).
Document::FS###SyncType	Specify the sync type for the periodic full sync of filesystem document sources. • DirectorySearch => DirectorySearch • MetaFile => MetaFile To keep track of a moved, changed and/or renamed file, the meta data in the database has to be updated on a regular basis. This will be done with a cronjob. If the cronjob is activated, this option defines how the "FS" backend will sync and update it's meta data with the filesystem. "DirectorySearch" means that it will search through all FS sources and read each file, "MetaFile" will use the meta data files defined in the next option. "MetaFile" will be particularly helpful if you import/mount huge document shares via NFS or SMB into the OTRS server, because otherwise (using "DirectorySearch") the sync would read gigabytes of data and stress your network.
Document::FS###MetaFiles	Here you can define one or more meta data files to be used to sync and update the meta data stored in the database. If your document files are located on a different server than the OTRS server (i.e. a central document share using Samba), you can create a cronjob on this server which creates the meta files locally and your OTRS server just has to copy these meta files into its filesystem (if they are not stored in one of the mounted document shares) so that the DocumentLink sync jobs can access them.

9.3 Linked Object Type „Person“

- Create a new class of link objects which represents persons
- Classify persons depending on if they are agents or customers
- Automatically collect persons on ticket owner/responsible update, receiving/sending emails (evaluation of To- and Cc-receipients)
- Add/use link types to link persons with tickets:
  - “Agent” if person is known as agent in OTRS
  - “3rd person” if person is in customer data base but it's customer ID differs from the tickets customer ID
  - “customer” if person is in customer data base and it's customer ID is equal to the tickets customer ID
- Provide linked persons in any article creation mask as To-, CC- or Notify-receipients as KIXSideBar plugin
- Upgrade “InvolvedPersons” from OTRS::CiCS to link object “Person” in package upgrade/installation
- Changed layout templates for better usability (input validation)

9.3.1 Implementation

- New link object persons corresponding to other link objects
- New link types (“Agent”, “Customer”, “3rd person”)

- New link type configuration for linking tickets with persons
- Ticket event handler to automatically collect persons on article creation
- KIXSideBar „Linked Persons“
  - Show action depending select boxes (To-/Cc-/Bcc-selection in email masks, checkboxes in phone-/note-article creating masks)
  - Add JS-methods to set To-, Cc-, Bcc-fields in email masks
  - Extend frontend modules to handle params for notifications for linked persons
- Extended frontend module to link persons to its relevant person type only
- Extended template generator for method for notification of linked persons (sub NotificationLinkedPerson)
- Extended ticket methods for sending notifications of linked persons (sub SendLinkedPersonNotification)

9.3.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_LinkObject.xml
- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_LinkObjectPerson.xml
- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_KIXSidebar.xml
- KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm
- KIX4OTRS/Kernel/Modules/AgentLinkObject.pm
- KIX4OTRS/Kernel/Modules/AgentLinkObjectUtils.pm
- KIX4OTRS/Kernel/Modules/AgentTicketPhone.pm
- KIX4OTRS/Kernel/Modules/AgentTicketActionCommon.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabActionCommon.pm
- KIX4OTRS/Kernel/Output/HTML/KIXSidebarLinkedPersons.pm
- KIX4OTRS/Kernel/Output/HTML/LayoutKIX4OTRS.pm
- KIX4OTRS/Kernel/Output/HTML/LinkObjectPerson.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentKIXSidebarLinkedPersons.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentLinkObject.dtl
- KIX4OTRS/Kernel/System/LinkObject/Person.pm
- KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm
- KIX4OTRS/Kernel/System/Ticket/Event/AutoCreateLinkedPerson.pm
- KIX4OTRS/Kernel/System/TemplateGenerator.pm
- KIX4OTRSITSMIncidentProblem/Kernel/Modules/AgentTicketActionCommon.pm
- KIX4OTRSITSMIncidentProblem/Kernel/Modules/AgentTicketZoomTabActionCommon.pm
- var/httpd/htdocs/js/Core.KIX4OTRS.js
- var/httpd/htdocs/js/Core.KIX4OTRS.LinkedPersons.js
- var/httpd/htdocs/skins/Agent/KIX4OTRS/css/Core.Default.css
- var/httpd/htdocs/skins/Agent/KIX4OTRS/css/Core.WidgetMenu.css
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/widget_bg_100.png
- KIX4OTRS.sopm

b Table/Table Columns

- link_object (inserts of Person as new link object)
- link_type (inserts of Agent, Customer and 3rdParty as new link types)
- notifications (templates for linked person notifications in English)
- notifications (templates for linked person notifications in German)
- ticket_history_type (history type SendLinkedPersonNotification)

9.3.2 SysConfig Options

Key Name	Description
Ticket::EventModulePost### AutoCreateLinkedPerson	Create new linked person on ticket events as new article or owner update Module => Kernel::System::Ticket::Event::AutoCreateLinkedPerson Event => (ArticleCreate|TicketOwnerUpdate| TicketResponsibleUpdate|TicketMerge)
LinkObject::Type###Agent	This setting defines the person link type 'agent'.
LinkObject::Type###Customer	This setting defines the person link type 'customer'.
LinkObject::Type###3rdParty	This setting defines the person link type '3rd party'.
LinkObject::PossibleLink###9910	This setting defines that a 'Ticket' object can be linked

Key Name	Description
	with persons using the 'agent' link type.
LinkObject::PossibleLink###9911	This setting defines that a 'Ticket' object can be linked with persons using the 'customer' link type.
LinkObject::PossibleLink###9912	This setting defines that a 'Ticket' object can be linked with persons using the '3rd party' link type.
Loader::Agent::CommonJS###000-KIX4OTRS	Provides javascript functions needed for linked person handling.
Loader::Agent::CommonJS### 200-KIX4OTRSLinkedPersons	List of JS files to always be loaded for the agent interface.
LinkedPerson::EmailRecipientTypes	Defines how the linked persons can be included in emails.
LinkedPerson::AllowNonAgentNotifyForInternalArticles	Defines if linked persons of types "Customer" and "3rd Party" can be selected for notification of internal articles.
LinkedPerson::ModeComplex### Columns	Defines the order and which person attributes are displayed in complex link presentation.
LinkedPerson::ModeComplex### ColumnHeaders	Defines the order of column headers of the person attributes displayed in complex link presentation.
LinkedPerson::DetailKeys	Defines the order and which person attributes are displayed in detail presentation.
Frontend::AgentTicketZoomTabActionCommon:: KIXSidebarBackend###0300-LinkedPersons	Activates and integrates the linked persons selections as a KIX sidebar module in agents ticket processing masks
Frontend::AgentTicketZoomTabEditCoreData:: KIXSidebarBackend###0300-LinkedPersons	Activates and integrates the linked persons selections as a KIX sidebar module in agents ticket zoom's processing mask
Frontend::AgentTicketCompose:: KIXSidebarBackend###0300-LinkedPersons	Activates and integrates the linked persons selections as a KIX sidebar module in agents ticket processing masks
Frontend::AgentTicketForward:: KIXSidebarBackend###0300-LinkedPersons	Activates and integrates the linked persons selections as a KIX sidebar module in agents ticket processing masks
Frontend::AgentTicketNote:: KIXSidebarBackend###0300-LinkedPersons	Activates and integrates the linked persons selections as a KIX sidebar module in agents ticket processing masks
Frontend::AgentTicketPhoneOutbound:: KIXSidebarBackend###0300-LinkedPersons	Activates and integrates the linked persons selections as a KIX sidebar module in agents ticket processing masks

10Ticket Extensions

10.1 Dashboard Ticket Generic Extensions

- Dashboard plugins should highlight those tickets which are close to or already escalated
- Configure additional columns to display further ticket information

10.1.1 Implementation

- Modify Kernel::Output::HTML::DashboardTicketGeneric

10.1.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_DashboardExtensions.xml`
- `KIX4OTRS/Kernel/Output/HTML/DashboardTicketGeneric.pm`
- `var/httpd/htdocs/skins/Agent/KIX4OTRS/css/Core.Form.css`

10.1.2 SysConfig Options

Key Name	Description
Registration for dashlets using Kernel::Output::HTML::DashboardTicketGeneric:	
ColumnFurther	Content of further dashboard columns
ColumnFurtherTitle	Title of further dashboard columns
ColumnFurtherRelevantTypes	Limit further information to certain ticket types

10.2 Dashboard Ticket Stats Extensions

In default OTRS, the agent's dashboard provides a graphical statistics for tickets created or closed last 7 days only

10.2.1 Implementation

- Common dashboard modules
  - Graphical statistic for tickets created or closed last month
  - Graphical statistic for tickets created or closed last two weeks

10.2.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_DashboardExtensions.xml`
- `KIX4OTRS/Kernel/Output/HTML/DashboardTicketStatsGenericMonth.pm`
- `KIX4OTRS/Kernel/Output/HTML/DashboardTicketStatsGenericWeek.pm`

10.2.2 SysConfig Options

Key Name	Description
DashboardBackend###0252-TicketStats1Month	Defines the parameters for the dashboard backend. "Group" is used to restrict access to the plugin (e. g. Group: admin;group1;group2;). "Default" indicates if the plugin is enabled by default or if the user needs to enable it manually.

Key Name	Description
	"CacheTTLLocal" defines the cache expiration period in minutes for the plugin.
DashboardBackend###0252-TicketStats2Weeks	Defines the parameters for the dashboard backend. "Group" is used to restrict access to the plugin (e. g. Group: admin;group1;group2;). "Default" indicates if the plugin is enabled by default or if the user needs to enable it manually. "CacheTTLLocal" defines the cache expiration period in minutes for the plugin.

10.3 Arbitrary Number of TicketFreeText fields

- Extension allows to define more than 16 freetext fields
- Configuration and behavior must be similar to the already existing freetext fields

10.3.1 Implementation

- Current implementation only supports freetext fields for tickets
- All modules (frontend and core) which were using hard coded freetext count 16 had to be changed to use new TicketObjekt method “GetTicketFreeTextCount”
- Configuration:
  - Extension uses SysConfig events to create an XML file for the additional number of freetext fields
  - SysConfig event module will be called on event “SysConfigItemUpdate”
  - Event module calls method “_UpdateConfiguration” in core module ExtendedFreeField.pm with type parameter “Ticket” (type parameter represents the first part of the name of the SysConfig option to load “**<type>**::ExtendedFreeFields”, see below)
  - According to the number of additional freetext fields a new XML file will be created based on the configured template file
- Storage:
  - Extended free fields will be stored in a new table named “kix_extended_free_field”
  - This table can be used for future generic free fields for different target objects (i.e. Ticket, Article, ...) defined via attributes “object_type” and “object_id”

10.3.1.1 Related Structures

a Filelist

- `bin/kix.RebuildExtendedFreeFieldConfig.pl`
- `KIX4OTRS/Kernel/Config/ExtendedFreeText.template`
- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_FreeFields.xml`
- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml`
- `KIX4OTRS/Kernel/Modules/AdminGenericAgent.pm`
- `KIX4OTRS/Kernel/Modules/AdminNotificationEvent.pm`
- `KIX4OTRS/Kernel/Modules/AgentTicket*.pm`
- `KIX4OTRS/Kernel/Modules/CustomerTicket*.pm`
- `KIX4OTRS/Kernel/Output/HTML/TicketOverviewMedium.pm`
- `KIX4OTRS/Kernel/Output/HTML/TicketOverviewPreview.pm`
- `KIX4OTRS/Kernel/System/ExtendedFreeField.pm`
- `KIX4OTRS/Kernel/System/GenericAgent.pm`
- `KIX4OTRS/Kernel/System/iPhone.pm`
- `KIX4OTRS/Kernel/System/PostMaster/NewTicket.pm`
- `KIX4OTRS/Kernel/System/Stats/Dynamic/Ticket.pm`
- `KIX4OTRS/Kernel/System/Stats/Dynamic/TicketAccountedTime.pm`
- `KIX4OTRS/Kernel/System/Stats/Dynamic/TicketList.pm`
- `KIX4OTRS/Kernel/System/Stats/Dynamic/TicketSolutionResponseTime.pm`
- `KIX4OTRS/Kernel/System/SysConfig/Event/UpdateTicketFreeFieldsConfiguration.pm`

- KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm
- KIX4OTRS.sopm

b Table/Table Columns

- kix_extended_free_field
  - id
  - fieldname
  - fieldkey
  - fieldvalue
  - object_type
  - object_id
  - create_time
  - create_by
  - change_time
  - change_by

10.3.2 SysConfig Options

Key Name	Description
Ticket::CustomModule### 010-TicketExtensionsKIX4OTRS	Overloads (redefines) existing or provides new functions in Kernel::System::Ticket. Used to easily add customizations. • Kernel::System::Ticket::TicketExtensionsKIX4OTRS
SysConfig::EventModulePost###100- UpdateTicketFreeFieldsConfiguration	Updates the configuration of ticket freetext fields to enable more than 16 FT fields.
Ticket::ExtendedFreeFields###TemplateFile	Specify the template file to use for the extended ticket freetext fields configuration.
Ticket::ExtendedFreeFields###XMLConfigFile	Specify the XML config file to use for the extended ticket freetext fields configuration.
Ticket::ExtendedFreeFields###Count	Specify the number of extended ticket freetext fields.

10.4 TicketFreeTime fields – Support for seconds

OTRS does support free time fields, but this fields cannot handle seconds. This is not very useful in every situation. For further information see for OTRS-bug 3677.

10.4.1 Implementation

- Extended ticket function TicketFreeTimeSet to enable support for seconds

10.4.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm

10.4.2 SysConfig Options

Key Name	Description
n.a.	n.a.

10.5 Ticket-ACL – extended filter conditions

- In default OTRS, the combination of many ACL does not work very well in respect to many ACLs defining PossibleProperties and PossibleActions.
  - Low prioritized ACL may prohibit a ticket action which cannot be effectively allowed by a higher prioritized ACL

    - Low prioritized ACL may prohibit a property which cannot be effectively allowed by a higher prioritized ACL
    - Therefore a subsumption of possible actions and properties is required.
    - In order to keep downwards compatibility the function can be dis-/enabled by SysConfig
- Filter attribute "DefaultSet" defines which ticket template is used and may restrict available ticket actions based on that information
- The ID of the currently selected ticket type is added to the filter group "Ticket"
- The ID and the name of the currently selected ticket queue is added to the filter group "Ticket"

10.5.1 Implementation

- Extension of parameters passed from frontend modules to core methods
- Modification of the ticket method "TicketAcl" to implement subsumption for allowed ticket actions (PossibleActions) and impossible ticket properties (PropertiesNot)

10.5.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/System/TicketExtensionsKIX4OTRS.pm`

10.5.2 SysConfig Options

Key Name	Description
Ticket::ACL-PossibleActionSubsumption	Defines whether the „Possible“-results for actions from many ACLs should be summarized, thus implementing a more modular approach to ACLs (disabled OTRS Default behavior).
Ticket::ACL-PossiblePropertiesSubsumption	Defines whether the „PossibleNot“-results for properties from many ACLs should be summarized, thus implementing a more modular approach to ACLs (disabled OTRS Default behavior).

10.6 Ticket-ACL – depending freetext selections

In default OTRS, there is no possibility to restrict ticket free text selections depending on other selections. Due to that selections for categories and following subcategories cannot be provided safely.

10.6.1 Implementation

- Limitations for available options in ticket free text selections are implemented by Ticket-ACL
- In order to set this up easily, limitations can be configured by SysConfig

10.6.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/ExtendFreeText.template`
- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_FreeFields.xml`
- `KIX4OTRS/Kernel/System/Ticket/Acl/DependingFreeTextSelection.pm`

10.6.2 SysConfig Options

Key Name	Description
Ticket::Acl::Module### 990_DependingFreeTextSelection	Ticket-ACL to enable depending free text selections

Key Name	Description
DependingFreeTextSelection###[Number]	Defines the free text dependency among chosen ([Number]) free text field and all previous free text fields. The key defines the selected values in previous free text fields as a regular expression, separated by :::. The value defines which free text selection options are NOT accessible. Multiple blacklist options can be split by ; or by a regular expression. For example: To restrict possible options for free text field 5, you have to set up all match criteria from free text field 1 to 4: • “(.*):::(.*):::(.*):::(.*)” would always match • “(.*):::(.*):::(OTRS):::(ITSM)” would match if free text field 3 is set to “OTRS” and free text field 4 is set to “ITSM”

10.7 Ticket-ACL – multi purpose match-restriction

In default OTRS, there is no way to easily set up ticket restrictions. To restrict ticket data selections depending on current settings (like used action) and selections (like ticket type and queue), you need to create a new ACL-module or a new ACL-configuration in your Config.pm. This is not very comfortable and not very flexible.
The same applies to restricted actions in both customer's and agent's frontend.

10.7.1 Implementation

- Generic ACL-module to restrict possible ticket data depending on current action and current ticket data/ticket data selections
  - Complementary
  - Configurable via SysConfig-Keys
- Generic ACL-module to restrict possible actions depending on current action and current ticket data/ticket data selections
  - Complementary
  - Configurable via SysConfig-Keys

10.7.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_FrontendTicketRestrictions.xml`
- `KIX4OTRS/Kernel/System/Ticket/Acl/MatchActionRestrictions.pm`
- `KIX4OTRS/Kernel/System/Ticket/Acl/MatchTicketDataRestrictions.pm`

10.7.2 SysConfig Options

Key Name	Description
Ticket::Acl::Module### 802-MatchTicketDataRestrictions	Ticket-ACL to restrict some ticket data selections based on current ticket data.
Match::ExcludedTicketData::Identifier	Registers an identifier for the ticket data restrictions. Defined values are used in the following config options. Example: • NoCRForCustomers (prohibit ticket type “CR” in customer frontend) • RestrictPrioritiesForServiceRequest (tickets of type “Service Request” can only be of priority very low, low and normal)
Match::ExcludedTicketData::ActionsMatch	Defines which ticket actions have to be restricted (agent and customer frontend is possible; regular expressions are possible). The key has to be one of the identifier (see above). The value defines restricted ticket actions and has to be filled at any time.

Key Name	Description
	Multiple actions can be separated by ;. Example: • NoCRForCustomers →[regexp]Customer.* (matches all actions in customer frontend) • RestrictPrioritiesForServiceRequest → [regexp].* (matches all actions)
Match::ExcludedTicketData::DataMatch	Defines ticket match properties (e.g. type:::default). The key has to be one of the identifier (see above). The value defines matching ticket data type and its values, separated by :::. Multiple values can be separated by ;. Split multiple match criteria by |||. Leave it empty for always matching. Example: • NoCRForCustomers →“” (empty; always match) • RestrictPrioritiesForServiceRequest → Type:::Service Request
Match::ExcludedTicketData::DataRestricted	Defines which ticket data types have to be restricted and which values are NOT accessible. Key has to be one of the identifier (see above). Value defines ticket data type and its blacklist, separated by :::. Multiple blacklist values can be separated by ;. Split multiple ticket data restrictions by |||. Example: • NoCRForCustomers →Type:::CR • RestrictPrioritiesForServiceRequest → Priority:::very high;high
Ticket::Acl::Module###802-MatchTicketDataRestrictions	Ticket-ACL to restrict some ticket actions based on current ticket data.
Match::ExcludedAction	Defines which ticket actions are NOT accessible (agent and customer frontend is possible; regular expressions are possible). The key defines matching ticket data type and its values, separated by :::. Multiple values can be separated by ;. Split multiple match criteria by |||. The value defines action blacklist. Multiple blacklist actions can be separated by ;. Example: If ticket was closed, prohibit ticket lock functionality • Key: State:::[regexp]closed.* e.g. closed successful, closed unsuccessful • Value: AgentTicketLock

10.8 Ticket-ACL – processing for merged tickets

In default OTRS, merged tickets are handled as normal tickets. So it is possible to compose emails, add notes and change other ticket data. This could cause some confusion or double work.

10.8.1 Implementation

- ACL-module to restrict possible ticket actions for tickets of state merged and removed
  - Permitted and prohibited actions are configurable via SysConfig-Keys

10.8.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_RestrictTicketActionsOnMerged.xml
- KIX4OTRS/Kernel/System/Ticket/Acl/RestrictTicketActionsOnMerged.pm

10.8.2 SysConfig Options

Key Name	Description
Ticket::Acl::Module###500-RestrictTicketActionsOnMerged	Ticket-ACL to restrict possible actions for merged tickets.
Ticket::RestrictTicketActionsOnMerged::ActionsMapping	Defines allowed and not allowed actions for merged and removed tickets.

10.9 Ticket State Workflow

- Ticket state workflow allows to define ticket type depending state workflows and automatic actions
- Limit available ticket states for agent and customer users
- Set type depending ticket states on ticket lock update
- Automatically set next states after follow up arrives - depend on current ticket type and state
- Possible automatic actions are:
  - set next state,
  - set pending time (if next state is of pending type),
  - move to specific queue when reaching specific state
- Set default ticket state if ticket type is updated and current state is not allowed for the new ticket type – with force option
- Ticket state workflows are defined in SysConfig
- AgentTicketBulk list only those states which are common next states to all tickets which are subject to the bulk action. If there is no common next state, no state update is possible.

10.9.1 Implementation

- Ticket state limitations are implemented by Ticket-ACL
- Modifications in postmaster-follow-up handling
- Modifications in frontend masks to pass selected ticket type to Ticket-ACL
- Event handler for setting ticket state and pending time after ticket type update
- Event handler for automatic move actions
- Event handler for automatic state actions
- a core ticket method (Kernel::System::Ticket::TSWFCommonNextStates) returns a set of possible next states for single or multiple tickets specified by a parameter containing an array of TicketIDs

10.9.1.1 Related Structures

a Filelist

- bin/otrs.PendingJobs.pl
- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketStateWorkflow.xml
- KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm
- KIX4OTRS/Kernel/Modules/AgentTicketBulk.pm
- KIX4OTRS/Kernel/Modules/AgentTicketEmail.pm
- KIX4OTRS/Kernel/Modules/AgentTicketPhone.pm
- KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm
- KIX4OTRSITSMIncidentProblem/Kernel/Modules/AgentTicketEmail.pm
- KIX4OTRSITSMIncidentProblem/Kernel/Modules/AgentTicketPhone.pm
- KIX4OTRS/Kernel/System/PostMaster/FollowUp.pm
- KIX4OTRS/Kernel/System/Ticket/Acl/TicketStateWorkflow.pm
- KIX4OTRS/Kernel/System/Ticket/Event/TicketStateWorkflowAutomaticStateAction.pm

- KIX4OTRS/Kernel/System/Ticket/Event/TicketStateWorkflowForceState.pm
- KIX4OTRS/Kernel/System/Ticket/Event/TicketStateWorkflowTypeUpdate.pm

10.9.2 SysConfig Options

Key Name	Description
Ticket::Acl::Module###950_TicketStateWorkflow	Ticket-ACL to limit available ticket states
TicketStateWorkflow	Configuration for the ticket state workflow, to define possible next states depending on ticket type and current state: • Key must be written in following syntax „<TicketType>:::<CurrentStateName>“ (e.g. „Incident:::new“ if you want to define possible next states for a ticket of type „Incident“ in state „new“ • Value consist of comma separated state names of possible next states – you may use placeholders as _ANY_, _PREVIOUS_ and _NONE_
TicketStateWorkflow::DefaultTicketState	Configuration for default ticket states depending on ticket type – relevant for AgentTicketPhone and -Email
TicketStateWorkflow::DefaultTicketQueue	Configuration of default ticket queues depending on ticket type – relevant for AgentTicketPhone and -Email
TicketStateWorkflow::PostmasterFollowUpState	Ticket states which are set after a follow up is received NOTICE: if this configuration is not done properly a follow up may not cause a reopen of the ticket, even though this is configured in your queue configuration
TicketStateWorkflow::PostmasterFollowUpCheckCustomerIDFrom	Checks if the sender of a message is available in the OTRS' customer user database and has the same CustomerID as set on the ticket. If not the email is considered as „email-internal“ causing this message being invisible to the customer user. This is a more restrictive way to classify incoming emails as visible for the customer user than the OTRS-default behavior – which is disabled if this option is enabled.
TicketStateWorkflow::PostmasterFollowUpCheckAgentFrom	Checks if the sender of a message is available in the OTRS' agent database. If so the email sender is considered as „agent“ causing this message being handled as an outgoing email.
Ticket::Frontend::AgentTicketPhone###StateType	Must be configured if you allow ticket states which are not available by the ticket state types in this mask
Ticket::Frontend::AgentTicketEmail###StateType	Must be configured if you allow ticket states which are not available by the ticket state types in this mask
Ticket::EventModulePost###700-TicketStateWorkflowTypeUpdate	Update ticket state if required or forced after ticket type update
TicketStateWorkflow::ForceDefaultTicketState	Configure this if you want to force a ticket state update after ticket type update
Ticket::EventModulePost###701-TicketStateWorkflowAutomaticStateAction	Executes ticket actions caused by ticket state updates – currently limited to queue move and state set actions
TicketStateWorkflowAutomaticStateAction###QueueMove	Moves ticket automatically to a pre-configured queue if ticket state is reached. You may use placeholder for the queue name, e.g. <OTRS_TicketFreeText1>
TicketStateWorkflowAutomaticStateAction###NextStateSet	Allows the automatic setting of a next state when a special state has been reached, thus implementing automatic transitions
TicketStateWorkflowAutomaticStateAction###NextTypeSet	Allows the automatic setting of a ticket type when a special state has been reached
TicketStateWorkflowAutomaticStateAction##	Some note that will be added to the ticket if the configured

Key Name	Description
# FallbackOnErrorNote	move target (queue) does not exist
TicketStateWorkflowAutomaticStateAction### FallbackOnErrorQueue	Some default queue to which the ticket will be moved, if the configured move target (queue) does not exist
TicketStateWorkflowAutomaticStateAction### FallbackOnErrorState	Some default state to which the ticket will be set, if the configured move target (queue) does not exist

10.10Automatic Queue Assignment by Service Selection

- Allow to configure an assigned queue to every service
- If the service on an existing ticket is updated and this service has a configured queue, the ticket should automatically move to that queue unless an exclusion based on ticket type and ticket state is configured
- The assigned queues should be set automatically in ticket creation masks in the agent frontend (especially AgentTicketPhone and AgentTicketEmail)
- If service based queue assignment is active a manual queue update must be prevented by a Ticket-ACL

10.10.1 Implementation

- The service object needs a new preference based on selection values
  - Sources for selections are queues, ticket types or general catalog
- A ticket event triggered by “ServiceUpdate” checks the service that has been set and existing exclusions and moves the ticket to the corresponding queue
- Service selections in masks AgentTicketPhone and AgentTicketEmail triggers an AJAX-update on the queue selection field

10.10.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_ServiceAdoptions.xml`
- `KIX4OTRS/Kernel/Modules/AgentTicketEmail.pm`
- `KIX4OTRS/Kernel/Modules/AgentTicketPhone.pm`
- `KIX4OTRS/Kernel/Output/HTML/ServicePreferencesSelection.pm`
- `KIX4OTRS/Kernel/System/Ticket/Acl/HideAgentTicketMoveServiceQueueAssignment.pm`
- `KIX4OTRS/Kernel/System/Ticket/Event/TicketServiceQueueAssignment.pm`
- `KIX4OTRSITSMIncidentProblem/Kernel/Modules/AgentTicketEmail.pm`
- `KIX4OTRSITSMIncidentProblem/Kernel/Modules/AgentTicketPhone.pm`

10.10.2 SysConfig Options

Key Name	Description
ServicePreferences###AssignedQueue	Registration for the additional service preference based on queue selection
Ticket::EventModulePost### 300-TicketServiceQueueAssignment	Registration for the ticket event for the autom. Service-2-Queue-assignment
Ticket::Acl::Module###890-HideAgentTicketMove	Ticket-ACL to hides the move action if autom. Service-2-Queue-assignment is enabled
Ticket::ServiceQueueAssignment### TypeStateExclusions	Contains automatic-move-exclusions as key value pairs. All pairs are sequentially matched until one rule delivers a true value (that is not null/0). Therefore the key consists of three parts separated by ”:::”. The first part defines the priority of the rule by an alphanumeric order. The second part defines a regular expression that may match the ticket type name of the ticket, while the

Key Name	Description
	third part may match the current ticket state name – e.g. • (000):::(TypeRegexp):::(StateRegexp) => 1 • (000):::(.*):::(.*) => 1 →sets an exclusion for every ticket

10.11Service Selection – Always offer default services

- If a customer contact is not known in any customer data backend, there will not be any service offered for selction. Although some of the services might be default services.
- If a customer contact is known in a customer data backend AND this customer has individually assigned services, no further default services will not be offered for selection.

10.11.1 Implementation

- Extended agent's ticket processing masks to show default services for not known customer contacts
  - Extended frontend module AgentTicketActionCommon
  - Extended frontend module AgentTicketEmail
  - Extended frontend module AgentTicketPhone
- Subsumption of default and individually assigned services
  - Extended service core module to support subsumption of individual and default services for given customers
  - Configurable via SysConfig

10.11.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_ServiceAdoptions.xml`
- `KIX4OTRS/Kernel/Modules/AgentTicketActionCommon.pm`
- `KIX4OTRS/Kernel/Modules/AgentTicketEmail.pm`
- `KIX4OTRS/Kernel/Modules/AgentTicketPhone.pm`
- `KIX4OTRS/Kernel/System/Service.pm`

10.11.2 SysConfig Options

Key Name	Description
Service::DefaultServices::ForceShow	Choose if default services will be shown in addition to customers individually assigned services.

10.12SLA-Disabling Ticket Properties

- Depending on the current ticket properties an SLA-destination time may be postponed or not necessarily be met. For instance some situations require a feedback from the customer user in order to continue work. The time spent waiting for some feedback should not be counted to the solution time of the ticket, instead the SLA-solution time is set to a value far in the future, the duration of time spent waiting for a response is also not counted as solution time
- **Configured ticket states**:
  - If a ticket reaches a specified state, the time which is spent in this state must not be added to the allowed SLA-solution time
- **SLA-free ticket types:**

- Disables SLA-calculation for specified ticket types
- **Start SLA at defined date:**
  - Start SLA-times not with ticket creation but with time defined in some freetime field

10.12.1 Implementation

- Override default OTRS-function for SLA-calculation depending on configuration parameters
  - Kernel::System::Ticket::_TicketGetFirstResponse
  - Kernel::System::Ticket::TicketEscalationIndexBuild
- New method the get non-escalation relevant business time (e.g. business time spent to solve the ticket - duration between creation and first close of ticket minus business time spent in non-SLA-relevant ticket states)
  - GetTotalNonEscalationRelevantBusinessTime
- Displays a hint in agents and customers interfaces to show disabled SLA-times

10.12.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Escalation.xml`
- `KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm`
- `var/httpd/htdocs/js/Core.KIX4OTRS.TicketEscalation.js`

10.12.2 SysConfig Options

Key Name	Description
Ticket::EventModulePost###900-EscalationIndex	Updates the ticket escalation index after a ticket attribute got updated. • Module => Kernel::System::Ticket::Event::TicketEscalationIndex • Event => (◦ TicketSLAUpdate| ◦ TicketQueueUpdate| ◦ TicketStateUpdate| ◦ TicketCreate| ◦ ArticleCreate| ◦ TicketTypeUpdate)
Ticket::ResponsetimeSetByPhoneTicket	Disables response time SLA, if the newly created ticket is a phone ticket.
Ticket::ResponsetimeSetByPhoneTicket::OnlyForTheseTicketTypes	Restricts the ResponsetimeSetByPhoneTicket to these ticket types.
Ticket::ResponsetimeSetByAutoReply	Disables response time SLA, if an auto reply was sent for this ticket.
Ticket::ResponsetimeSetByAutoReply::OnlyForTheseTicketTypes	Restricts the ResponsetimeSetByAutoReply to these ticket types.
Ticket::EscalationDisabled::RelevantStates	Defines state names for which the SLA-times are disabled. Is a ticket set to on of these states, the SLA-destination times are set to hold. The time a ticket stays in this state is excluded from the SLA-times.
Ticket::EscalationDisabled::RelevantTypes	Defines ticket type names for which the SLA-calculation time is disabled.
Ticket::EscalationDisabled::RelevantQueues	Defines queue names for which the SLA-calculation time is disabled.
Ticket::EscalationDelayed::FreeTimeField	Defines a ticket free time field which is used as start time for solution SLA-computation rather than ticket creation time, thus allowing to start SLA-countdown with begin of customer desired times. • Example:

Key Name	Description
	○ Index =>1 ○ KeyRegExp => (Desired date)
Loader::Agent::CommonJS### 901-KIX4OTRSTicketEscalation	List of JS files to always be loaded for the agent interface. Shows the hint in the agents and customers interfaces. • Core.KIX4OTRS.TicketEscalation.js

10.13Type-Depending Responsible User

- The responsible user can be set automatically if the first owner is assigned to a ticket
- This extension allows to set the responsible automatically depending on the ticket type (if option chosen)

10.13.1 Implementation

- Event handler to set the responsible user when ticket is created, owner is updated or ticket state is set
- Allow to set type depending responsible only if no responsible is not specified, to force responsible set or to set owner if responsible not specified

10.13.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_ResponsibleAutoSetPerTicketType.xml`
- `KIX4OTRS/Kernel/System/Ticket/Event/ResponsibleAutoSetPerTickettype.pm`

10.13.2 SysConfig Options

Key Name	Description
Ticket::EventModulePost### 800-ResponsibleAutoSetPerTickettype	Dis-/enables setting of ticket responsible - define ticket type depending responsible users as additional entries with following syntax (key => value) • TicketType:::<TypeName> => <UserLogin>
Ticket::ResponsibleAutoSetPerTickettype	If the ticket responsible feature and auto-set-event is enabled, set responsible on ticket creation or state update depending on configuration: • Force ticket type responsible • Set ticket type responsible if not specified • Set owner, if responsible not specified • Disabled

10.14FAQ-Workflow

- Need for a workflow to create a FAQ-article directly from a new ticket article

10.14.1 Implementation

- Ticket event module to create FAQ-article
- Changed default OTRS-configuration to set up the article free field 3 as the trigger field for the FAQ-workflow
- FAQ-Workflow configurable via SysConfig

10.14.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_FAQWorkflow.xml
- KIX4OTRS/Kernel/System/Ticket/Event/CreateFAQEntry.pm

10.14.2 SysConfig Options

Key Name	Description
Ticket::EventModulePost###200-CreateFAQEntry	Registration for the ticket event module to automatically create a FAQ-entry from an article
FAQWorkflow::Basic	Basic configuration for automatically created FAQ-entries
FAQWorkflow::CreateLink	Defines if the new FAQ-article is linked to the source ticket
FAQWorkflow::ResetTriggerFlag	Defines if the trigger flag at the source ticket/article will be reseted after creation of the FAQ-entry

10.15Quick-Ticket Templates for Agent Users

In default OTRS there is no easy way to configure quick-ticket templates for agents. It is possible to define new navigation bar entries with predefined ticket content. This is not very comfortable.
It should be possible to define ticket templates and provide an acceptable presentation of those templates.

10.15.1 Implementation

- Extended agent's ticket masks to provide quick-ticket templates
  - Configurable via SysConfig
  - New ticket mask to show all configured quick-ticket templates and to allow a selection.

10.15.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_QuickTicket.xml
- KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm
- KIX4OTRS/Kernel/Modules/AgentTicketPhone.pm
- KIX4OTRS/Kernel/Modules/AgentTicketPhoneQuick.pm
- KIX4OTRS/Kernel/Modules/AgentTicketEmail.pm
- KIX4OTRS/Kernel/Modules/AgentTicketEmailQuick.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketEmail.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketPhone.dtl

10.15.2 SysConfig Options

Key Name	Description
Frontend::Module###AgentTicketEmailQuick	Frontend module registration for the Quickticket via AgentTicketPhone
Ticket::Frontend::AgentTicketEmailQuick###ArticleType	Sets the default article type for new email quick tickets
Frontend::Module###AgentTicketPhoneQuick	Frontend module registration for the Quickticket via AgentTicketPhone
Ticket::Frontend::AgentTicketPhoneQuick###ArticleType	Sets the default article type for new phone quick tickets
Ticket::QuickTicketByDefaultSet::Selection###AgentTicketPhone	Defines which quick ticket templates are available in AgentTicketEmail

Key Name	Description
Ticket::QuickTicketByDefaultSet::Selection###AgentTicketEmail	Defines which quick ticket templates are available in AgentTicketEmail
Ticket::QuickTicketByDefaultSet###CustomerLogin	Defines the quickticket customer
Ticket::QuickTicketByDefaultSet###TicketType	Defines the quickticket ticket type
Ticket::QuickTicketByDefaultSet###Queue	Defines the quickticket queue
Ticket::QuickTicketByDefaultSet###Service	Defines the quickticket service
Ticket::QuickTicketByDefaultSet###SLA	Defines the quickticket SLA
Ticket::QuickTicketByDefaultSet###OwnerLogin	Defines the quickticket user
Ticket::QuickTicketByDefaultSet###ResponsibleLogin	Defines the quickticket responsible
Ticket::QuickTicketByDefaultSet###Subject	Defines the quickticket article subject
Ticket::QuickTicketByDefaultSet###Body	Defines the quickticket article body
Ticket::QuickTicketByDefaultSet###State	Defines the quickticket ticket state
Ticket::QuickTicketByDefaultSet###PendingOffset	Defines the quickticket pending time
Ticket::QuickTicketByDefaultSet###Priority	Defines the quickticket priority
Ticket::QuickTicketByDefaultSet###TicketFreeKey	Defines the quickticket freekey
Ticket::QuickTicketByDefaultSet###TicketFreeText	Defines the quickticket freetext
Ticket::QuickTicketByDefaultSet###TicketFreeTime	Defines the quickticket freetime
Ticket::QuickTicketByDefaultSet###TimeAccount	Defines the quickticket time accounting value
Ticket::QuickTicketByDefaultSet###LinkDirection	Defines link direction for quickticket templates
Ticket::QuickTicketByDefaultSet###LinkType	Defines link type for quickticket templates
Ticket::QuickTicketByDefaultSet###ArticleType	Defines article type for quickticket templates
Ticket::QuickTicketByDefaultSet###ArticleSenderType	Defines article type for quickticket templates

10.16Quick-Ticket Templates for Customer Users

In default OTRS there is no easy way to configure quick-ticket templates for customer users. It is possible to define new navigation bar entries with predefined ticket content. This is not very comfortable.
It should be possible to define ticket templates and provide an acceptable presentation of those templates.

10.16.1 Implementation

- Extended customer's ticket masks to provide quick-ticket templates
  - Configurable via SysConfig
  - New ticket mask to show all configured quick-ticket templates and to allow a selection.

10.16.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_QuickTicketCustomer.xml`
- `KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm`
- `KIX4OTRS/Kernel/Modules/CustomerTicketMessage.pm`
- `KIX4OTRS/Kernel/Modules/CustomerTicketMessageQuick.pm`
- `KIX4OTRS/Kernel/Modules/CustomerTicketMessageQuickSelection.pm`
- `KIX4OTRS/Kernel/Output/HTML/Standard/CustomerTicketMessageQuickSelection.dtl`

10.16.2 SysConfig Options

Key Name	Description
CustomerFrontend::Module###CustomerTicketMessageQuickSelection	Frontend module registration for the customer interface.
CustomerFrontend::Module###CustomerTicketMessageQuick	Frontend module registration for the customer interface.
Ticket::QuickTicketByDefaultSet::Customer###TemplateRegistration	Defines the internal name of the template (value) and it's label (key).
Ticket::QuickTicketByDefaultSet::Customer###UserAttributeRestriction	Defines restrictions for the viewability of templates for customer users.
Ticket::QuickTicketByDefaultSet::Customer###Description	Defines a one-line description for each template.
Ticket::QuickTicketByDefaultSet::Customer###TicketType	Defines the quickticket ticket type.
Ticket::QuickTicketByDefaultSet::Customer###Queue	Defines the quickticket queue.
Ticket::QuickTicketByDefaultSet::Customer###Service	Defines the quickticket service.
Ticket::QuickTicketByDefaultSet::Customer###SLA	Defines the quickticket SLA.
Ticket::QuickTicketByDefaultSet::Customer###Subject	Defines the quickticket article subject.
Ticket::QuickTicketByDefaultSet::Customer###Body	Defines the quickticket article body.
Ticket::QuickTicketByDefaultSet::Customer###Priority	Defines the quickticket priority.
Ticket::QuickTicketByDefaultSet::Customer###TicketFreeKey	Defines the quickticket free keys.
Ticket::QuickTicketByDefaultSet::Customer###TicketFreeText	Defines the quickticket free text values.
Ticket::QuickTicketByDefaultSet::Customer###TicketFreeTime	Defines the quickticket free time values.

10.17Extended Template Generator

- Additional placeholder „<OTRS_ARTICLE_*>“ and „<OTRS_ARTICLE_DATA_*>“ which refers to properties of the given article
- Additional placeholder „<OTRS_FIRST_*>“ which refers to properties of the very first article of the ticket created by the customer
  - Behavior similar to <OTRS_CUSTOMER_*> which refer to the last by customer created article

10.17.1 Implementation

- Modification of template generator to evaluate <OTRS_ARTICLE_*>-tags
- Modification of template generator to evaluate <OTRS_ARTICLE_DATA_*>-tags
- Modification of template generator to evaluate <OTRS_FIRST_*>-tags

10.17.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/System/TemplateGenerator.pm`

10.17.2 SysConfig Options

Key Name	Description
n.a.	n.a.

10.18Extended notifications for ticket escalations

In default OTRS, ticket escalations will be shown as a notification at top of the agents interface. Considered tickets need to exceed at least one SLA-time, no matter if the agent subscribed the ticket's queue or not.

10.18.1 Implementation

- Extended existing notification module to restrict considered tickets on agent's custom queues only.

10.18.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Escalation.xml`
- `KIX4OTRS/Kernel/Output/NotificationAgentTicketEscalation.pm`

10.18.2 SysConfig Options

Key Name	Description
Frontend::NotifyModule###5-Ticket::TicketEscalation	Extended configuration-options to restrict shown ticket escalations to agents custom queues only

10.19Text Modules

- More general, more modular approach than email answer templates
- Text modules can define
  - Article content
  - Article subject
- Text modules can use placeholders as known from email templates
- Allows to select multiple text modules to create a ticket note-, phone call-, web-request or email-article
- Depending on selected or currently set ticket type and queue as well as which frontend (customer or agent) is used, available text modules are shown in the KIXSideBar for selection
- Separate admin area to manage text modules
  - Add, edit and remove text templates
  - Download text modules as XML
  - Upload text modules as XML

10.19.1 Implementation

- New core module for TextModules
- New admin management frontend module for creating, viewing, listing, editing down- and uploading text modules
- KIXSideBar to allow selection of text modules depending on ticket type and queue (selection and current values)

10.19.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_CustomerFrontendAdoptions.xml
- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_KIXSidebar.xml
- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TextModules.xml
- KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm
- KIX4OTRS/Kernel/Language/de_TextModules.pm
- KIX4OTRS/Kernel/Modules/AdminQueueTextModules.pm
- KIX4OTRS/Kernel/Modules/AdminTextModules.pm
- KIX4OTRS/Kernel/Modules/CustomerTicketMessage.pm
- KIX4OTRS/Kernel/Modules/CustomerTicketZoom.pm
- KIX4OTRS/Kernel/Modules/TextModuleAJAXHandler.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AdminQueueTextModules.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AdminTextModules.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentKIXSidebarTextModules.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/CustomerKIXSidebarTextModules.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/CustomerTicketMessage.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/CustomerTicketZoom.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/TextModulesSelection.dtl
- KIX4OTRS/Kernel/Output/HTML/KIXSidebarTextModules.pm
- KIX4OTRS/Kernel/Output/HTML/LayoutKIX4OTRS.pm
- KIX4OTRS/Kernel/System/TextModule.pm
- var/httpd/htdocs/js/Core.AJAX.js
- var/httpd/htdocs/js/Core.KIX4OTRS.Form.Validate.js
- var/httpd/htdocs/js/Core.KIX4OTRS.TextModules.js
- var/httpd/htdocs/skins/Customer/KIX4OTRS/css/Core.Default.css
- var/httpd/htdocs/skins/Customer/KIX4OTRS/css/Core.Default.IE7.css
- var/httpd/htdocs/skins/Customer/KIX4OTRS/css/Core.PageLayout.css
- var/httpd/htdocs/skins/Customer/KIX4OTRS/css/Core.PageLayout.IE7.css
- var/httpd/htdocs/skins/Customer/KIX4OTRS/css/Core.Widget.css
- var/httpd/htdocs/skins/Customer/KIX4OTRS/css/Core.Widget.IE7.css
- var/httpd/htdocs/skins/Customer/KIX4OTRS/img/toggle_arrow.png
- var/httpd/htdocs/skins/Customer/KIX4OTRS/img/widget_bg_100.png
- var/packagesetup/KIX4OTRS.pm
- KIX4OTRS.sopm

b Table/Table Columns

- kix_text_module
  - id
  - name
  - text
  - language
  - keywords
  - comment1
  - comment2
  - subject
  - f_agent
  - f_customer
  - f_public
  - valid_id
  - create_time
  - create_by
  - change_time
  - change_by
- kix_text_module_queue
  - queue_id
  - text_module_id
  - create_time
  - create_by
  - change_time
  - change_by
- kix_text_module_ticket_type
  - ticket_type_id
  - text_module_id
  - create_time
  - create_by
  - change_time
  - change_by

10.19.2 SysConfig Options

Key Name	Description
Frontend::AgentTicketZoomTabActionCommon::KIXSidebarBackend###0200-TextModules	Activates and integrates the text module selections as a KIX sidebar module in agents ticket processing masks
Frontend::AgentTicketZoomTabEditCoreData::KIXSidebarBackend###0200-TextModules	Activates and integrates the text module selections as a KIX sidebar module in agents ticket zoom's processing mask
Frontend::AgentTicketCompose::KIXSidebarBackend###0200-TextModules	Activates and integrates the text module selections as a KIX sidebar module in agents ticket processing masks
Frontend::AgentTicketEmail::KIXSidebarBackend###0200-TextModules	Activates and integrates the text module selections as a KIX sidebar module in agents ticket create masks
Frontend::AgentTicketForward::KIXSidebarBackend###0200-TextModules	Activates and integrates the text module selections as a KIX sidebar module in agents ticket processing masks
Frontend::AgentTicketNote::KIXSidebarBackend###0200-TextModules	Activates and integrates the text module selections as a KIX sidebar module in agents ticket processing masks
Frontend::AgentTicketPhone::KIXSidebarBackend###0200-TextModules	Activates and integrates the text module selections as a KIX sidebar module in agents ticket create masks
Frontend::AgentTicketPhoneOutbound::KIXSidebarBackend###0200-TextModules	Activates and integrates the text module selections as a KIX sidebar module in agents ticket processing masks
CustomerFrontend::CustomerTicketMessage::KIXSidebarBackend###0200-TextModules	Activates and integrates the text module selections as a KIX sidebar module in customers ticket create masks
CustomerFrontend::CustomerTicketZoom::KIXSidebarBackend###0200-TextModules	Activates and integrates the text module selections as a KIX sidebar module in customers ticket create masks
Frontend::Module###TextModuleAJAXHandler	Frontend module registration for the TextModuleAJAXHandler object.
Frontend::Module###AdminTextModules	Frontend module registration for the AdminTextModules object in the admin interface.
Frontend::Module###AdminQueueTextModules	Frontend module registration for the AdminQueueTextModules object in the admin area.
Loader::Agent::CommonJS###101-KIX4OTRSTextModules	Provides javascript functions needed for text module selections.
Loader::Customer::CommonJS###101-KIX4OTRSTextModules	Provides javascript functions needed for text module selections.
TextModule::LimitShownEntries	Default value for maximum number of entries shown in admin's TextModule overview.
TextModule::XMLUploadDoNotAdd	Default value for Do-Not-Add-Flag in admin's XML-textmodule upload.
TextModule::LanguageQueueMatching	If activated queues offered for use in EditView are limited by the selected language (language short identifier must be contained as subqueuename in complete queue name).
TextModule::CustomModules	Additional and extended TextModule methods.
AdminResponsesUploads::TextModuleDefaults	Default values for uploaded TextModules.
Ticket::Frontend::CustomerTicketMessage###ResetBody	Defines if the messages body is reseted after ticket type or queue changed. Relevant for automatic loading of a single text module.
Loader::Customer::CommonCSS###100-KIX4OTRS	Dis-/enables needed stylesheet information for text module seletions
Loader::Customer::CommonCSS::IE7###100-KIX4OTRS	Dis-/enables needed stylesheet information for text module seletions in Internet Explorer 7

10.20KIXSideBar – Tools for Ticket Processing

- KIXSideBar allows to access additional information and tools in most ticket processing masks

10.20.1 Implementation

- remove customer info block from AgentTicketPhone, and -Email
- add KIXSidebar-handling to all relevant frontend modules and dtl-files

10.20.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_KIXSidebar.xml
- KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm
- KIX4OTRS/Kernel/Modules/AgentTicketActionCommon.pm
- KIX4OTRS/Kernel/Modules/AgentTicketCompose.pm
- KIX4OTRS/Kernel/Modules/AgentTicketCustomer.pm
- KIX4OTRS/Kernel/Modules/AgentTicketEmail.pm
- KIX4OTRS/Kernel/Modules/AgentTicketForward.pm
- KIX4OTRS/Kernel/Modules/AgentTicketPhone.pm
- KIX4OTRS/Kernel/Modules/AgentTicketPhoneOutbound.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabActionCommon.pm
- KIX4OTRS/Kernel/Modules/CustomerTicketMessage.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketActionCommon.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketCompose.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketCustomer.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketEmail.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketForward.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketPhone.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketPhoneOutbound.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabActionCommon.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/CustomerTicketMessage.dtl
- KIX4OTRS/Kernel/Output/HTML/LayoutKIX4OTRS.pm
- KIX4OTRSITSMConfigManagement/Kernel/Modules/CustomerTicketMessage.pm
- KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/Standard/CustomerTicketMessage.dtl
- KIX4OTRSITSMIncidentProblem/Kernel/Modules/AgentTicketActionCommon.pm
- KIX4OTRSITSMIncidentProblem/Kernel/Modules/AgentTicketEmail.pm
- KIX4OTRSITSMIncidentProblem/Kernel/Modules/AgentTicketPhone.pm
- KIX4OTRSITSMIncidentProblem/Kernel/Modules/AgentTicketZoomTabActionCommon.pm
- KIX4OTRSITSMIncidentProblem/Kernel/Output/HTML/Standard/AgentTicketActionCommon.dtl
- KIX4OTRSITSMIncidentProblem/Kernel/Output/HTML/Standard/AgentTicketEmail.dtl
- KIX4OTRSITSMIncidentProblem/Kernel/Output/HTML/Standard/AgentTicketPhone.dtl

10.20.2 SysConfig Options

Key Name	Description
n.a.	no general KIXSidebar configuration – but KIXSidebar-module-specific configuration

10.21KIXSideBar – Text Module Selection

- The side bar plugin shows all available text modules for creation of article content
- See Text Modules for more information

10.22KIXSideBar – Linked Person Selection

- Allows to select linked persons for to-, Cc- or Bcc-receipient selection in email masks
- Allows to select linked persons for a notification message in phone- or note creating masks

- See Linked Persons for more information

10.23KIXSideBar – Customer Info

- Same functionality as known from the OTRS customer info box but integrated in the KIXSideBar framework
- Allows to display customer information in almost any ticket action mask

10.23.1 Implementation

- Implement a KIXSideBar plugin that displays the information for a given customer user
  - Configurable layout for shown customer data
  - Pop up to show extended customer data
- Removed the common customer information box from AgentTicketPhone and AgentTicketEmail

10.23.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_KIXSidebar.xml`
- `KIX4OTRS/Kernel/Modules/AgentCustomerSearch.pm`
- `KIX4OTRS/Kernel/Output/HTML/Standard/AgentCustomerTableView.dtl`
- `KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicket*.dtl`
- `KIX4OTRS/Kernel/Output/HTML/KIXSidebarCustomerInfo.pm`
- `KIX4OTRS/Kernel/Output/HTML/LayoutKIX4OTRS.pm`
- `KIX4OTRS/Kernel/Output/HTML/Standard/AgentKIXSidebarCustomerInfo.dtl`
- `var/httpd/htdocs/js/Core.Agent.CustomerSearch.js`
- `var/httpd/htdocs/js/Core.KIX4OTRS.CustomerDetails.js`

10.23.2 SysConfig Options

Key Name	Description
DefaultCustomerInfoString	Customer data information string that will be used to show customer data if no specific presentation is defined in the relevant customer data backend.
CustomerDataKeys	Defines which customer user data are displayed in the order specified in the customer data details presentation (shown as a pop up).
Loader::Agent::CommonJS###110-KIX4OTRSCustomerDetails	Provides javascript functions needed to show customer information and data
Frontend::<FrontendModule>::KIXSidebarBackend###0100-CustomerInfo	Activates and integrates the customer info block as a KIX sidebar module in agents ticket processing masks

10.24KIXSideBar – QueueName as Link

- The SideBar shows QueueName as a link for quick access to other tickets in TicketQueue

10.24.1 Implementation

- Extended TicketExtensionsKIX4OTRS for method creating QueueLink (sub TicketQueueLinkGet)
- Changed label for Queue in AgentTicketZoom.xml

10.24.1.1 Related Structures

a *Filelist*

- KIX4OTRS/Kernel/Config/Files/AgentTicketZoom.xml
- KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm

10.24.2 SysConfig Options

Key Name	Description
Ticket::Frontend::AgentTicketZoom###TicketDataLabel	Defines labels for internal ticket attribute names.

10.25KIXSideBar – Customer Assigned Config Item

- Allows to select customer assigned config items to link them with the ticket
- Allows to display customer assigned config intems in almost any ticket action mask

10.25.1 Implementation

- New KIXSidebar modul created
- KIXSidebar-handling added to all relevant frontend modules

10.25.1.1 Related Structures

a *Filelist*

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_KIXSidebar.xml
- KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm
- KIX4OTRS/Kernel/Modules/KIXSidebarLinkedCIsAJAXHandler.pm
- KIX4OTRS/Kernel/Modules/
- KIX4OTRS/Kernel/Output/HTML/KIXSidebarLinkedCIs.pm
- KIX4OTRS/Kernel/Output/HTML/LayoutKIX4OTRS.pm
- KIX4OTRS/Kernel/Output/HTML
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentKIXSidebarLinkedCIs.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/KIXSideBarAssignedConfigItemList.dtl
- var/httpd/htdocs/js/Core.Agent.CustomerSearch.js

10.25.2 SysConfig Options

Key Name	Description
Ticket::Frontend::<FrontendModule>::KIXSidebarBackend###0400-LinkedCIs	Activates and integrates the customer assigned config item selection as a KIX sidebar module in <FrontendModule> mask
Ticket::CustomerFrontend::CustomerTicketMessage::KIXSidebarBackend###0400-LinkedCIs	Activates and integrates the customer assigned config item selection as a KIX sidebar module in CustomerTicketMessage mask
Frontend::Module###KIXSidebarLinkedCIsAJAXHandler	Activates and integrates the AJAXHandler in agenten frontend
CustomerFrontend::Module###KIXSidebarLinkedCIsAJAXHandler	Activates and integrates the AJAXHandler in cstomer frontend
CustomerFrontend::Module###CustomerLinkObject	Activates and integrates a customer frontends for linking objects
KIXSidebarConfigItemLink::CISearchInClasses	Config item classes to search for
KIXSidebarConfigItemLink::KIXSidebarLinkedCIsParams	Various parameters for linked config item representation
KIXSidebarConfigItemLink::LinkType	Link type for direct linking using a checkbox

Key Name	Description
Ticket::Frontend::CustomerTicketMessage###AssignedConfigItemSearchAttribute	Search attribute to find customer assigned config items in customer frontend

10.26Queue View – Display as Tree/Drop Down

- In default OTRS, the queue view layout might be not useful or confusing with many listed queues
- The queue view layout can be chosen as a user preference
  - Tree based
    - Shows all available queues in a tree as known from file system explorer
  - Drop down
    - Shows all sub-queues which are available in currently selected queue as a drop down box
    - On selection of a sub-queue from the drop down list, the queue view moves to the selected sub-queue

10.26.1 Implementation

- Depending on preferred queue view the current representation is build by the corresponding function
- New agents preferences option

10.26.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_QueueView.xml
- KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm
- KIX4OTRS/Kernel/Modules/AgentTicketQueue.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketQueueTree.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketQueueDropDown.dtl
- var/httpd/htdocs/js/thirdparty/jquery-treeview-1.5pre/jquery.treeview.js
- var/httpd/htdocs/skins/Agent/default/css/thirdparty/jquery-treeview-1.5pre/jquery-treeview.css
- var/httpd/htdocs/skins/Agent/KIX4OTRS/css/Core.AgentTicketQueue.css
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/toggle_side_arrow.png

10.26.2 SysConfig Options

Key Name	Description
Frontend::Module###AgentTicketQueue	Frontend module registration for the agent interface. • JavaScript => thirdparty/jquery-treeview-1.5pre/jquery.treeview.js • CSS => thirdparty/jquery-treeview-1.5pre/jquery-treeview.css
PreferencesGroups###QueueViewLayout	Agent preferences registration for selecting a queue view layout.

10.27Queue View – Virtual Queues

- Allow to configure ticket searches and display results as queues in queue view
- Currently virtual queues are non-personal and defined by the OTRS-Admin in the SysConfig

10.27.1 Implementation

- Extended agents frontend module AgentTicketQueue to get and build additional queue views according to configuration in SysConfig
- Extended ticket methods to provide a ticket search method with complementary search parameters
  - TicketSearchOR
    - Nearly the same as sub TicketSearch but SOME search parameters are combined with OR
  - _TicketSearchSqlAndStringCreateOR
    - Nearly the same as sub TicketSearchSqlAndStringCreate but returned SQL uses OR

10.27.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_QueueView.xml`
- `KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm`
- `KIX4OTRS/Kernel/Modules/AgentTicketQueue.pm`
- `KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm`

10.27.2 SysConfig Options

Key Name	Description
Ticket::Frontend::AgentTicketQueue###IndividualViewNames	Configures the identifier and the displayed name for new virtual views in ticket overview (AgentTicketQueue). Identifier must start with a letter. Example: • P1000 => My Tickets (all) • P1100 => My Tickets (open)
Ticket::Frontend::AgentTicketQueue###IndividualViewParameterAND	Sets search parameters for new queue views. Key has to be one of the identifier (see above). Value defines searched ticket data type and its values, separated by :::. Multiple values can be separated by ; and are combined as **AND**-criteria. Split multiple ticket data search criteria by |||. Possible placeholders for values: _ANY_, _NONE_, _ME_ (stands for agents user ID) and _ME_PREF_* (stands for named agents preferences, e.g. _ME_PREF_UserSkin). Example: • P1000 => OwnerIDs:::_ME_ • P1100 => OwnerIDs:::_ME_|||StateTypeIDs:::1;2
Ticket::Frontend::AgentTicketQueue###IndividualViewParameterOR	Sets search parameters for new queue views. Key has to be one of the identifier (see above). Value defines searched ticket data type and its values, separated by :::. Multiple values can be separated by ; and are combined as **OR**-criteria. Split multiple ticket data search criteria by |||. Possible placeholders for values: _ANY_, _NONE_, _ME_ (stands for agents user ID) and _ME_PREF_* (stands for agents preferences).
Ticket::Frontend::AgentTicketQueue###IndividualViewPermission	Sets search permission for new queue views. Key has to be one of the identifier (see above). Value has to be 'rw' or 'ro'. If not given for virtual queue, default configuration of ViewAllPossibleTickets will be used. Example: • P1000 => ro • P1100 => ro

10.28 Queue View – Shown Columns/Data

- Ticket overview do not show ticket responsible information

- Ticket overview of type small does not show ticket type information
- Ticket overview of type small shows ticket escalation times only if ticket is escalated

10.28.1 Implementation

- Extended ticket overview modules to show ticket responsible information
- Extended ticket overview module of type small to show ticket type information
- New SysConfig-option to always show ticket escalation time in ticket overview module of type small,

10.28.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_QueueView.xml
- KIX4OTRS/Kernel/Output/HTML/TicketOverviewPreview.pm
- KIX4OTRS/Kernel/Output/HTML/TicketOverviewSmall.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketOverviewMedium.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketOverviewPreview.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketOverviewSmall.dtl

10.28.2 SysConfig Options

Key Name	Description
Ticket::Frontend::OverviewSmall###ColumnEscalationTime	Dis-/enables showing of ticket escalation times in agent's ticket overviews.

10.29Queue View – Ticket Highlighting

- In default OTRS, all tickets are shown in the same way. This is not very comfortable, especially to easily find very important tickets.

10.29.1 Implementation

- Extended ticket overview modules to show ticket responsible information
  - Style is configurable via SysConfig-options

10.29.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketOverview.xml
- KIX4OTRS/Kernel/Output/HTML/TicketOverviewMedium.pm
- KIX4OTRS/Kernel/Output/HTML/TicketOverviewPreview.pm
- KIX4OTRS/Kernel/Output/HTML/TicketOverviewSmall.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketOverviewMedium.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketOverviewPreview.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketOverviewSmall.dtl
- var/httpd/htdocs/js/Output/HTML/Core.KIX4OTRS.TicketOverviewHighlight.pm

10.29.2 SysConfig Options

Key Name	Description
KIX4OTRSTicketOverviewLargeHighlightMapping	Defines styles used for ticket highlighting depending on current ticket state – for ticket overview of type “medium” and “preview”
KIX4OTRSTicketOverviewSmallHighlightMapping	Defines styles used for ticket highlighting depending on current ticket state – for ticket overview of type “small”

10.30Queue View – Show Locked on Default

- The queue view layout can be chosen as a user preference

10.30.1 Implementation

- Use “show all” on default if set in agents preferences
- New agents preferences option

10.30.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_QueueView.xml`
- `KIX4OTRS/Kernel/Modules/AgentTicketQueue.pm`
- `KIX4OTRS/Kernel/System/Ticket/IndexAccelerator/RuntimeDB.pm`

10.30.2 SysConfig Options

Key Name	Description
PreferencesGroups###QueueViewAll	Agent preferences registration for selecting a queue view layout.

10.31Tabbed Ticket Detail Mask

- Reworked modular ticket zoom mask
- Tab-based ticket zoom mask
  - Allows to integrate other information in additional tabs
  - Ticket information shown on the right-hand side is configurable via SysConfig
- Tab contents are:
  - Article tree
    - Shows the article tree and article's content
  - Linked objects
    - Shows all linked objects in complex view mode
    - Allows to easily remove links
  - Article attachments
    - Shows a list of all attachments in all articles
    - Allows to filter for attachment name
  - Note add
    - Similar to action „Add Note“ but not as a pop up
  - Ticket core data
    - Similar to action „Free Fields“ but with most ticket core data pre-configured to edit
  - Ticket summary
    - Allows to enter a free note field which is not historicised and can be edited by any agent who's permitted to read the ticket (see for next chapter)
    - Allows to edit freetext fields without opening separate window/pop up
    - Allows to edit freetime fields without opening separate window/pop up

10.31.1 Implementation

- AgentTicketZoom set up to handle dynamic and static tab content by emplyoing uses jquery UI-Tabs 1.8.12
  - dynamic: tab content is generated after selecting/displaying a tab by a separate frontend module
  - static: tab content is generated when AgentTicketZoom is generated
- provide methods which generate human readabe content for ticket data

- tab module AgentTicketZoomTabActionCommon is the tab-equivalent for AgentTicketZoomActionCommon – basically the same functionality

10.31.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketZoom.xml
- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketZoomActionCommon.xml
- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketZoomTicketCoreData.xml
- KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm
- KIX4OTRS/Kernel/Language/de_KIX4OTRSTicketZoomTab.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoom.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomKIX4OTRSMinimumextended.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabActionCommon.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabArticle.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabAttachments.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabLinkedObjects.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabSummary.pm
- KIX4OTRS/Kernel/Output/HTML/LayoutKIX4OTRS.pm
- KIX4OTRS/Kernel/Output/HTML/TicketZoomTabDummy.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoom.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomKIX4OTRSMinimumextended.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabActionCommon.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabArticle.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabAttachments.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabDummy.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabLinkedObjects.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabSummary.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/FooterTicketZoomTab.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/NotifyKIX4OTRS.dtl
- KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm
- var/httpd/htdocs/js/thirdparty/jquery-ui-tabs-1.8.12/jquery.ui.tabs.js
- var/httpd/htdocs/js/Core.KIX4OTRS.Dialog.js
- var/httpd/htdocs/js/Core.KIX4OTRS.Form.Validate.js
- var/httpd/htdocs/js/Core.KIX4OTRS.TicketZoomTabs.js
- var/httpd/htdocs/skins/Agent/KIX4OTRS/css/Core.Table.css
- var/httpd/htdocs/skins/Agent/KIX4OTRS/css/Core.TicketDetail.css
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/action.png
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/action_hover.png
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/disk.png
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/thead_sort_down_bg.png
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/thead_sort_down_bg_rtl.png
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/thead_sort_up_bg.png
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/thead_sort_up_bg_rtl.png

10.31.2 SysConfig Options

Key Name	Description
Frontend::Module### AgentTicketZoomTabActionCommon	Frontend module registration for agent ticket zoom tab
Frontend::Module### AgentTicketZoomTabAttachments	Frontend module registration for agent ticket zoom tab
Frontend::Module### AgentTicketZoomTabLinkedObjects	Frontend module registration for agent ticket zoom tab
Frontend::Module### AgentTicketZoomTabSummary	Frontend module registration for agent ticket zoom tab
Frontend::Module### AgentTicketZoomTabArticle	Frontend module registration for agent ticket zoom tab
Frontend::Module### AgentTicketZoomTabEditCoreData	Frontend module registration for agent ticket zoom tab
Ticket::Frontend::AgentTicketZoomTabActionComm on ###***	Configuration-options for article action in tabbed ticket zoom view
Ticket::Frontend::AgentTicketZoomTabEditCoreDat a ###***	Configuration-options for ticket data change action in tabbed ticket zoom view

Key Name	Description
Ticket::Frontend::AgentTicketZoomTabSummary ###***	Configuration-options for ticket summary tab in tabbed ticket zoom view
Ticket::Frontend::AgentTicketZoom###TicketData Keys	Defines which ticket data parameters are displayed in direct data presentation.
Ticket::Frontend::AgentTicketZoom###TicketData Label	Defines labels for internal ticket attribute names.
AgentTicketZoomBackend###0050-PreloadDummy	Defines parameters for a further exemplary tab in the tabbed ticket zoom view.
AgentTicketZoomBackend###0110-Article	Defines parameters for the AgentTicketZoomTab "Articles".
AgentTicketZoomBackend###0115-Attachments	Defines parameters for the AgentTicketZoomTab "Attachments".
AgentTicketZoomBackend###0120-LinkedObjects	Defines parameters for the AgentTicketZoomTab "Linked Objects".
AgentTicketZoomBackend###0250-Note	Defines parameters for the AgentTicketZoomTab "Note".
AgentTicketZoomBackend###0255-CoreData	Defines parameters for the AgentTicketZoomTab "Ticket Core Data".
AgentTicketZoomBackend###0300-Summary	Defines parameters for the AgentTicketZoomTab "Summary".

10.32TicketZoom – Article Tree View

In former OTRS version, within the ticket zoom views articles could be distinguished by the use of an article specific icon. Somehow those icons are not shown anymore. This is not very comfortable, especially for tickets with a high number of articles.
Furthermore, the last customer article will be shown whenever the agents goes into a ticket zoom view. It is sometimes necessary to display the first or last article (this could be an internal note), otherwise this forcer additional working steps.

10.32.1 Implementation

- Extended the article tree view in agent's ticket zoom view to show an article specific icon.
  - Shows direction of articles (incoming, outgoing, internal)
  - Shows the article type (email, phone, note, ...)
  - Used artice icons are configurable via SysConfig
- Extended article display methods to offer an individually selected article on page initialization
  - Configurable by agents preferences

10.32.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml
- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketZoom.xml
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabArticle.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabArticle.dtl
- var/httpd/htdocs/skins/Agent/default/img/direction-incoming.png
- var/httpd/htdocs/skins/Agent/default/img/direction-internal.png
- var/httpd/htdocs/skins/Agent/default/img/direction-outgoing.png
- var/httpd/htdocs/skins/Agent/default/img/email-external.png
- var/httpd/htdocs/skins/Agent/default/img/email-internal.png
- var/httpd/htdocs/skins/Agent/default/img/email-notification-ext.png
- var/httpd/htdocs/skins/Agent/default/img/email-notification-int.png
- var/httpd/htdocs/skins/Agent/default/img/note-external.png
- var/httpd/htdocs/skins/Agent/default/img/note-internal.png
- var/httpd/htdocs/skins/Agent/default/img/note-report.png

- var/httpd/htdocs/skins/Agent/default/img/phone.png
- var/httpd/htdocs/skins/Agent/default/img/sms.png
- var/httpd/htdocs/skins/Agent/default/img/webrequest.png

10.32.2 SysConfig Options

Key Name	Description
Ticket::ArticleDirectionIcon	Define the icon to be used as article direction.
Ticket::ArticleSenderTypeIcon	Define the icon to be used as article sender type.
Ticket::ArticleTypeIcon	Define the icon to be used as article type.
PreferencesGroups###ArticleToDisplay	Registration for agents preferences to set the initially shown article in agent's ticket zoom mask

10.33TicketZoom – Flexible use of Article Actions

- in OTRS the action available to certain article types are hard coded, it's not possible to forward a note-article or to prevent some article types from being subject to specific article actions without changind the source code

10.33.1 Implementation

- the article menu generation has been made configurable (article type to article actions)

10.33.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketZoom.xml
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabArticle.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabArticle.dtl

10.33.2 SysConfig Options

Key Name	Description
Ticket::Frontend::AgentTicketZoomTabArticle###ArticleEmailActions	Defines email-actions allowed for article types.

10.34TicketZoom – TicketFilter for use with Subject and Body

- TicketFilter extended for use with Subject and Body in AgentTicketZoomArticle. Now tickets could also be filtered by these two criteria

10.34.1 Implementation

- Added two input fields to filter mask. Extended the SessionString by ArticleSubjectFilter and ArticleBodyFilter. Inserted matching-criteria.

10.34.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabArticle.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabArticle.dtl

10.34.2 SysConfig Options

Key Name	Description
n.a	n.a

10.35Ticket Scratch Pad Notes

- Need to enter a free note field which is not historized and can be edited by any agent who's permitted to read the ticket. This field is used to give short information like Post-It notes.

10.35.1 Implementation

- Extended Ticket-methods to handle ticket scratch pad notes (Add-, Update-, Delete-methods)
- Extended agent's ticket zoom mask to show and edit scratch pad notes

10.35.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketZoom.xml
- KIX4OTRS/Kernel/Language/de_KIX4OTRSTicketZoomTab.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabSummary.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabSummary.dtl
- KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm
- var/httpd/htdocs/js/Core.KIX4OTRS.Form.Validate.js
- KIX4OTRS.sopm

b Table/Table Columns

- kix_text_module
  - ticket_id
  - note
  - create_time
  - create_by
  - change_time
  - change_by

10.35.2 SysConfig Options

Key Name	Description
Ticket::Frontend::ScratchPad	Dis-/Enables ticket scratch pad functionality in the agent's ticket zoom interface

10.36Ticket processing – Show all owner and responsibles

Owner and responsible selections show agents based on the selected queue and agents custom queues in agent's ticket create masks. To prevent unnecessary working steps, it is sometimes helpful to show all agents with RW-permissions on queue selection.

10.36.1 Implementation

- Extended agent's frontend ticket create masks to offer all owner and responsible for selection as default
  - Extended frontend modules AgentTicketEmail and AgentTicketPhone
  - Configurable via SysConfig

10.36.1.1 Related Structures

a *Filelist*

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml
- KIX4OTRS/Kernel/Modules/AgentTicketEmail.pm
- KIX4OTRS/Kernel/Modules/AgentTicketPhone.pm

10.36.2 SysConfig Options

Key Name	Description
Frontend::Agent::CreateOptions::ViewAllOwner	Dis-/enables to show all owner and responsibles with RW-permissions on page initialization

10.37Ticket processing – link tickets while ticket creation

Using the OTRS::ITSM-package IncidentProblemManagement, it is possible to link tickets to other objects during ticket creation. This function should be available without this extension in a default OTRS as well.

10.37.1 Implementation

- Extended agent's frontend ticket create masks to offer ticket link functions without any ITSM extension package.
  - Extended AgentTicketEmail to select and handle linked objects
  - Extended AgentTicketPhone to select and handle linked objects

10.37.1.1 Related Structures

a *Filelist*

- KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm
- KIX4OTRS/Kernel/Modules/AgentTicketEmail.pm
- KIX4OTRS/Kernel/Modules/AgentTicketPhone.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketEmail.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketPhone.dtl

10.37.2 SysConfig Options

Key Name	Description
n.a.	n.a.

10.38Ticket processing – Preselect current Ticket data

- Whenever a customer composes a follow up in the customer interface, he has to select a new state for his ticket. There is no way to use the current ticket state as a preselected value. This might cause some unwanted changes, e.g. the ticket was in a waiting state and the customer changed it to open.
- Equivalent to this, there is no way to offer a preselection in agent's ticket processing masks. This is again not very useful. E.g. if you are creating an internal note and you are forced to select a ticket owner but do not want to change it, you have to keep in mind who is the current ticket owner. This is impossible when you are dealing with many tickets at a time.

10.38.1 Implementation

- Extended agent's ticket note module (AgentTicketActionCommon) to preselect current ticket state, owner and responsible

- Extended customer's ticket zoom module to preselect current ticket state
- Added SysConfig-Option to dis-/enable preselection, depending on used action

10.38.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml
- KIX4OTRS/Kernel/Modules/AgentTicketActionCommon.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabActionCommon.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabEditCoreData.pm
- KIX4OTRS/Kernel/Modules/CustomerTicketZoom.pm

10.38.2 SysConfig Options

Key Name	Description
Ticket::ProcessingOptions::InitialDataShown	Preselect old ticket data in choosen agent's ticket note functions and customer ticket zoom function

10.39Ticket processing – Eligible Ticket Owner mandatory

The agents must select a new or previous owner in each ticket processing mask, like AgentTicketNote and AgentTicketClose. Whenever the ticket owner will not be changed, this handling forces unnecessary working steps.

10.39.1 Implementation

- Extended ticket processing mask to offer and handle empty selections and to show hints, if a new owner has to be selected
  - Extended frontend module AgentTicketActionCommon
  - Extended frontend module AgentTicketZoomTabActionCommon
  - Extended frontend module AgentTicketZoomTabEditCoreData
  - Configurable via SysConfig

10.39.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketZoomActionCommon.xml
- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketZoomTicketCoreData.xml
- KIX4OTRS/Kernel/Modules/AgentTicketActionCommon.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabActionCommon.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabEditCoreData.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketActionCommon.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabActionCommon.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabEditCoreData.dtl

10.39.2 SysConfig Options

Key Name	Description
Ticket::Frontend::AgentTicketZoomTabActionCommon ###OwnerMandatory	Dis-/enables if an owner has to be selected by the agent. If disabled, ticket owner will not change.
Ticket::Frontend::AgentTicketZoomTabEditCoreData ###OwnerMandatory	Dis-/enables if an owner has to be selected by the agent. If disabled, ticket owner will not change.
Ticket::Frontend::[Action] ###OwnerMandatory	Example for further ticket actions based on AgentTicketActionCommon. Dis-/enables if an owner has to be selected by the agent. If disabled, ticket owner will not change.

10.40Ticket processing – Offer to change ticket queue

In default OTRS, the relevant queue for a ticket can be set during ticket creation or changed with the help of agent's ticket module AgentTicketMove. But this is not useful in every situation. It should be possible to change the ticket queue while changing ticket free fields, ticket owner and other ticket data.
If so, it would be possible to define a ticket processing mask to set or change ticket data at a time.

10.40.1 Implementation

- Extended agents ticket processing actions to offer a queue move function.
  - Extended AgentTicketActionCommon to set and handle queue moves.
  - New SysConfig-Options to dis-/enable queue move for each ticket processing action

10.40.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml`
- `KIX4OTRS/Kernel/Modules/AgentTicketActionCommon.pm`
- `KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketActionCommon.dtl`

10.40.2 SysConfig Options

Key Name	Description
Ticket::Frontend::AgentTicketClose###QueueMove	Defines if ticket move is enabled in this screen.
Ticket::Frontend::AgentTicketFreeText###QueueMove	Defines if ticket move is enabled in this screen.
Ticket::Frontend::AgentTicketNote###QueueMove	Defines if ticket move is enabled in this screen.
Ticket::Frontend::AgentTicketOwner###QueueMove	Defines if ticket move is enabled in this screen.
Ticket::Frontend::AgentTicketPending###QueueMove	Defines if ticket move is enabled in this screen.
Ticket::Frontend::AgentTicketPriority###QueueMove	Defines if ticket move is enabled in this screen.
Ticket::Frontend::AgentTicketResponsible###QueueMove	Defines if ticket move is enabled in this screen.

10.41Ticket processing – PretendAction

- In default OTRS a new ticket action requires creating a frontend module with DTL-File, plus some configuration work. Since AgentTicketActionCommon provides all required function the first steps can be made redundant by the use of a special parameter. If given, the PretendAction-parameter overrides the default configuration for AgentTicketActionCommon, thus allowing to create new ticket actions without creating a new frontend module.
- It is useful toe dis-/enable input fields being set with the current value, i.e. if entering these fields is mandadory but a change not always required. Entering the current value can be annyoing because it requires a good memory or a look at the ticket zoom view

10.41.1 Implementation

- add handling for an additional parameter, which defines the actual

configuration for this call (“PretendAction”), to frontend modules
- add additional parameter to DTL-files (new form field)

10.41.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml
- KIX4OTRS/Kernel/Modules/AgentTicketActionCommon.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabActionCommon.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketActionCommon.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketZoomTabActionCommon.dtl

10.41.2 SysConfig Options

Key Name	Description
AgentTicketZoomBackend###0255-CoreData	• a sample for the use of “PretendAction” • ticket zoom tab “Core Data” has been registered as a new tab action but no separate frontend module file was created

10.42Ticket processing – Initial Data Selection

- It is useful to dis-/enable input fields being set with the current value, i.e. if entering these fields is mandatory but a change not always required. Entering the current value can be annoying because it requires a good memory or a look at the ticket zoom view

10.42.1 Implementation

- affects fields Owner, Responsible, State
- if parameter enabled for current Action/PRetendAction, set selected value to current value →modifications in frontend modules

10.42.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml
- KIX4OTRS/Kernel/Modules/AgentTicketActionCommon.pm
- KIX4OTRS/Kernel/Modules/AgentTicketZoomTabActionCommon.pm
- KIX4OTRS/Kernel/Modules/CustomerTicketZoom.pm

10.42.2 SysConfig Options

Key Name	Description
Ticket::ProcessingOptions::InitialDataShown	Preselect old ticket data in chosen ticket note functions.

10.43Ticket processing – AJAX-updates in AgentTicketActionCommom

- Changing a ticket data value in a ticket processing mask causes a page reload. Depending on your OTRS server this might wast some time, especially since content updates could be performed much faster via AJAX requests.

10.43.1 Implementation

- Extended frontend module AgentTicketActionCommon to use AJAX request to update ticket data fields instead of page reloads.

10.43.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Modules/AgentTicketActionCommon.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketActionCommon.dtl

10.43.2 SysConfig Options

Key Name	Description
n.a.	n.a.

10.44Ticket processing – automatic bounce information

In default OTRS, there is no easy way to realize if a ticket was bounced to another mail address. Bounce actions can be identified only in the ticket history. But this information should be viewable directly in the ticket detail mask and generated automatically without any further actions.

10.44.1 Implementation

- Extended agents frontend module AgentTicketBounce to generate automatic bounce information
  - Creates an article
  - Content of bounce article configurable via SysConfig

10.44.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml
- KIX4OTRS/Kernel/Language/de_KIX4OTRS.pm
- KIX4OTRS/Kernel/Modules/AgentTicketBounce.pm

10.44.2 SysConfig Options

Key Name	Description
Frontend::Agent::AutomaticBounceText	When a ticket is bounced, a note will be added automatically to this ticket. In this text area you can define this text.

10.45Ticket processing – selectable Re:/Fwd:-Addition

In default OTRS, subjects of forwarded (AgentTicketForward) or composed emails (AgentTicketCompose) will always be completed with “Re:” or “Fwd:” at the beginning. This is not useful in every situation. Therefore, it should be possible to deactivate this autocompletion.

10.45.1 Implementation

- Extended agents frontend module AgentTicketCompose and AgentTicketForward to provide a selectable subject-addition.
  - Extended layout templates to provide a checkbox
  - Extended frontend ticket modules to handle agent's selection

10.45.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml
- KIX4OTRS/Kernel/Modules/AgentTicketCompose.pm
- KIX4OTRS/Kernel/Modules/AgentTicketForward.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketCompose.dtl
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketForward.dtl
- var/httpd/htdocs/skins/Agent/KIX4OTRS/css/Core.Form.css
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/NoFwd.png
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/NoRe.png

10.45.2 SysConfig Options

Key Name	Description
n.a.	n.a.

10.46Ticket processing – empty emails

In default OTRS, there is no way to write an email starting with an empty template from an existing ticket. The last customer article will be quoted and added automatically.

10.46.1 Implementation

- Extended agents frontend module AgentTicketCompose to offer a blank email template
  - Registered new ticket menu modue to offer an empty email-action
  - Extended AgentTicketCompose to start with an empty compose mask

10.46.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketZoom.xml
- KIX4OTRS/Kernel/Modules/AgentTicketCompose.pm

10.46.2 SysConfig Options

Key Name	Description
Ticket::Frontend::MenuModule###500-EmptyMail	Registration to show an link to the empty email template in the ticket menu.

10.47Ticket processing – predefined body for forwarding

In default OTRS, the agent's mask to forward tickets will always start with an empty ticket body. This is not very comfortable and different to other ticket processing actions.

10.47.1 Implementation

- Extended agents frontend module AgentTicketForward to handle a default body
  - Default body configurable via SysConfig

10.47.1.1 Related Structures

a *Filelist*

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml
- KIX4OTRS/Kernel/Modules/AgentTicketForward.pm

10.47.2 SysConfig Options

Key Name	Description
Ticket::Frontend::AgentTicketForward### DefaultTextTicketForwardBody	Defines the default body for a forwarded email.

10.48Ticket processing – merge tickets based on customer users

Provide a view to show all tickets from a given customer and allow to merge those tickets to the oldest, newest or current selected ticket.

10.48.1 Implementation

- Provide new agents frontend module AgentTicketMergeToCustomer to merge all tickets from a given customer user.
  - Highlights tickets which are answered
  - Restricts shown tickets based on ticket state type

10.48.1.1 Related Structures

a *Filelist*

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_AgentTicketMergeToCustomer.xml
- KIX4OTRS/Kernel/Language/de_KIX4OTRSAgentTicketMergeToCustomer.pm
- KIX4OTRS/Kernel/Modules/AgentTicketMergeToCustomer.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentTicketMergeToCustomer.dtl
- var/httpd/htdocs/js/Core.KIX4OTRS.Agent.TicketMergeToCusomer.js
- var/httpd/htdocs/skins/KIX4OTRS/css/KIX4OTRS.AgentTicketMergeToCusomer.css
- var/httpd/htdocs/skins/Agent/KIX4OTRS/img/Answered.png

10.48.2 SysConfig Options

Key Name	Description
Frontend::Module###AgentTicketMergeToCustomer	Frontend module registration for AgentTicketMergeToCustomer.
Ticket::Frontend::MenuModule### 470-AgentTicketMergeToCustomer	Shows a link in the menu that allows to merge all tickets from the ticket customer in the ticket zoom view of the agent interface.
Ticket::Frontend::PreMenuModule### 470-AgentTicketMergeToCustomer	Shows a link in the ticket overview menu that allows to merge all tickets from the ticket customer in the ticket zoom view of the agent interface.
Ticket::Frontend::AgentTicketMergeToCustomer### AnsweredHistoryType	Selected history types to classify a ticket to be answered.
Ticket::Frontend::AgentTicketMergeToCustomer### StateTypes	Selected state types to restrict shown customer tickets.

10.49Ticket processing - copy, move or delete article

Allow to copy, move or delete articles of a ticket. The accounted time of the article can be moved or deleted too. To use this function you have to be in a specific group.

10.49.1 Implementation

- Provide new agents frontend module AgentArticleCopyMove to copy, move and delete articles.

10.49.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketZoom.xml
- KIX4OTRS/Kernel/Modules/AgentArticleCopyMove.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentArticleCopyMove.dtl
- KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm

10.49.2 SysConfig Options

Key Name	Description
Frontend::Module###AgentArticleCopyMove	Frontend module registration for AgentArticleCopyMove.

10.50Ticket processing - edit article

Allow to edit existing article of a ticket. You have to be the responsible of the ticket to do this action. You are only allowed to edit articles which are of the article type “note”.

10.50.1 Implementation

- New agents frontend module AgentArticleEdit to edit article data.

10.50.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_AgentArticleEdit.xml
- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_TicketZoom.xml
- KIX4OTRS/Kernel/Language/de_KIX4OTRSAgentArticleEdit.pm
- KIX4OTRS/Kernel/Modules/AgentArticleEdit.pm
- KIX4OTRS/Kernel/Output/HTML/Standard/AgentArticleEdit.dtl

10.50.2 SysConfig Options

Key Name	Description
Frontend::Module###AgentArticleEdit	Frontend module registration for AgentArticleEdit.
Ticket::Frontend::AgentArticleEdit###Permission	Required permissions to edit articles.
Ticket::Frontend::AgentArticleEdit###RequiredLock	Defines if a ticket lock is required to edit articles.
Ticket::Frontend::AgentArticleEdit###HistoryType	History type for this action.
Ticket::Frontend::AgentArticleEdit###ArticleFreeText	Article free text options shown in the article edit screen in the agent interface. Possible settings: 0 = Disabled, 1 = Enabled, 2 = Enabled and required.
Ticket::Frontend::AgentArticleEdit###OnlyResponsible	Only ticket responsible can edit articles of the ticket.
Ticket::Frontend::AgentTicketZoomTabArticle###ArticleEmailActions	Defines email-actions allowed for article types.

10.51Ticket processing - configurable CustomerTicketMessage

In default OTRS the customer's ticket create mask is not as flexible as the agent's ticket create masks. For instance, there are no SysConfig-options to disable the ticket type selection and to set up a predefined body and subject.

10.51.1 Implementation

- Extended customer's ticket create masks to provide a more flexible appearance
- New options in SysConfig to configure the appearance of the customer's ticket create mask

10.51.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_CustomerFrontendAdoptions.xml`
- `KIX4OTRS/Kernel/Modules/CustomerTicketMessage.pm`

10.51.2 SysConfig Options

Key Name	Description
Ticket::Frontend::CustomerTicketMessage###TicketType	Dis-/enables ticket type selection in the customer's ticket create mask.
Ticket::Frontend::CustomerTicketMessage###TicketTypeDefault	Sets the default selected ticket type.
Ticket::Frontend::CustomerTicketMessage###TicketTypeFix	Used ticket type, if ticket type selection is disabled.
Ticket::Frontend::CustomerTicketMessage###Subject	Defines the default subject of a note in the customer interface.
Ticket::Frontend::CustomerTicketMessage###Body	Defines the default body of a note in the customer interface.

10.52Ticket processing – No Double Addresses after Change of Notification Selection

Depending on the change of a persons notification selection, e.g. in empty answer, double addresses in to/cc/bcc should be removed.

10.52.1 Implementation

- Extend javascript functionality of Core.KIX4OTRS.LinkedPersons

10.52.1.1 Related Structures

a Filelist

- `Var/httpd/htdocs/js/Core.KIX4OTRS.LinkedPersons.js`

10.52.2 SysConfig Options

Key Name	Description
n.a.	n.a.

10.53Translations for free fields and other

- In default OTRS, All keys and values for free text fields, free time fields and article free fields.
- Furthermore there are some translations missing and some layout files do not translate given text.

10.53.1 Implementation

- Extended handle for free fields
  - Translation is used according to configuration in SysConfig
  - Extended layout methods for free fields to provide translations
- Extended set of translations
- Activated translations for layout files

10.53.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Ticket.xml`
- `KIX4OTRS/Kernel/Language/de_OTRSaddition.pm`
- `KIX4OTRS/Kernel/Modules/AgentTicket*.pm`
- `KIX4OTRS/Kernel/Modules/CustomerTicketZoom.pm`
- `KIX4OTRS/Kernel/Output/HTML/LayoutKIX4OTRS.pm`
- `KIX4OTRS/Kernel/Output/HTML/Standard/Warning.dtl`

10.53.2 SysConfig Options

Key Name	Description
TicketFreeKey::LanguageTranslation	Activates language translation for TicketFreeKey-fields.
TicketFreeText::LanguageTranslation	Activates language translation for TicketFreeText-fields.
TicketFreeTime::LanguageTranslation	Activates language translation for TicketFreeTime-names.
ArticleFreeKey::LanguageTranslation	Activates language translation for ArticleFreeKey-fields.
ArticleFreeText::LanguageTranslation	Activates language translation for ArticleFreeText-fields.

10.54Configurable favorite icon

- OTRS does not provide any option to change the used favorite icon.

10.54.1 Implementation

- Extended layout files and SysConfig to provide a configurable favorite icon

10.54.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_Layout.xml`
- `KIX4OTRS/Kernel/Output/HTML/Standard/CustomerHeader.dtl`
- `KIX4OTRS/Kernel/Output/HTML/Standard/HTMLHead.dtl`
- `KIX4OTRS/Kernel/Output/HTML/Standard/Login.dtl`
- `var/httpd/htdocs/skins/Agent/default/img/icons/kix4otrs.ico`

10.54.2 SysConfig Options

Key Name	Description
ProductIcon	The icon file to be used as favicon (relative to Frontend::ImagePath).

10.55Clickable link in merged tickets

- In merged tickets it's now possible to access the target ticket via ticketnumber.

10.55.1 Implementation

- On merging tickets there will be insert a “flag”, which will be replaced with the correct link by an javascript function depending on the frontend.

10.55.1.1 Related Structures

a Filelist

- `./var/httpd/js/Core.KIX4OTRS.Agent.TicketMergeLink.js`
- `./var/httpd/js/Core.KIX4OTRS.Agent.TicketMergeToCustomer.js`
- `./KIX4OTRS/Kernel/System/Ticket/TicketExtensionsKIX4OTRS.pm`

11ITSM-Core Extensions

11.1 Display Service List

- Added a filter to the SLA overview in admin interface
- Added missing German translations

11.1.1 Implementation

- Added the filter widget to the layout generation / DTL

11.1.1.1 Related Structures

a Filelist

- `KIX4OTRSITSMCore/Kernel/Language/de_OTRSITSMaddition.pm`
- `KIX4OTRSITSMCore/Kernel/Modules/AdminSLA.pm`
- `KIX4OTRSITSMCore/Kernel/Output/HTML/Standard/AdminSLA.dtl`

11.1.2 SysConfig Options

Key Name	Description
n.a.	n.a.

12ITSM-Incident-Problem-Man. Extensions

General Note: all modifications made to frontend and core modules, as well as to DTL templates have also been made to the corresponding files in ITSMIncidentProblemManagement. For our own convenience these files and modifications are not listed again in this chapter.

Affected masks are:

- AgentTicketActionCommon
- AgentTicketEmail
- AgenTicketPhone
- AgentTicketPrint
- AgentTicketZoomTabActionCommon
- CustomerTicketPrint
- CustomerTicketZoom

12.1 Modified AgentTicketZoom Configuration

- Additional ticket data must be displayed in AgentTicketZoom itself and in tab „Summary“
- The customized use of freetext fields and (impact criticality) requires custom methods for displaying human readable values in AgentTicketZoom

12.1.1 Implementation

- Methods for displaying the impact and criticality selection as string
- Modified default configuration for data shown in AgentTicketZoom

12.1.1.1 Related Structures

a Filelist

- `KIX4OTRSITSMIncidentProblem/Kernel/Config/Files/KIX4OTRS_ITSMIncidentProblem.xml`
- `KIX4OTRSITSMIncidentProblem/Kernel/System/Ticket/TicketExtensionsKIX4OTRSITSMIncidentProblem.pm`

12.1.2 SysConfig Options

Key Name	Description
Ticket::CustomModule###010-TicketExtensionsKIX4OTRSITSMIncidentProblem	Overloads (redefines) existing functions in Kernel::System::Ticket. Used to easily add customizations. • Kernel::System::Ticket::TicketExtensionsKIX4OTRSITSMIncidentProblem
Ticket::Frontend::AgentTicketZoom###TicketDataKeys	Defines which ticket data parameters are displayed in direct data presentation. • 1000 => Type • 1050 => Lock • 1100 => State • 1105Unquoted => PendingUntil • 1200UnquotedNewLinedBy:: => Queue • 1500UnquotedNewLinedBy:: => Service • 1502 => SLA • 1510 => CallMethod::TicketObject::TicketCriticalityStringGet • 1520 => CallMethod::TicketObject::TicketImpactStringGet

Key Name	Description
	• 1700 => Owner • 1800 => Responsible • 4000 => CallMethod::TicketObject::TicketAccountedTimeGet
Ticket::Frontend::AgentTicketZoomTabSummary### TicketFreeTextKeys	Defines which TicketFreeText data parameters are displayed. • 4006 => TicketFreeText1 • 4007 => TicketFreeText2 • 4008 => TicketFreeText3 • 4009 => TicketFreeText4 • 4010 => TicketFreeText5 • 4011 => TicketFreeText6 • 4012 => TicketFreeText7 • 4013 => TicketFreeText8 • 4014 => TicketFreeText9 • 4015 => TicketFreeText10 • 4016 => TicketFreeText11 • 4017 => TicketFreeText12 • 4018 => TicketFreeText13 • 4020 => TicketFreeText15 • 4021 => TicketFreeText16 • 4000 => CallMethod::TicketObject::TicketCriticalityStringGet • 4001 => CallMethod::TicketObject::TicketImpactStringGet
Ticket::Frontend::AgentTicketZoomTabSummary### TicketDataLabel	Defines preferred labels for internal ticket attribute names. • PendingUntil => Pending Until • Lock => Lock State • CallMethod::TicketObject::TicketImpactStringGet => Impact • CallMethod::TicketObject::TicketCriticalityStringGet => Criticality • CallMethod::TicketObject::ReviewRequiredStringGet => Review Required

13ITSM-CMDB Extensions

13.1 Customer Assigned Config Items

- In default OTRS::ITSM, tickets can only be linked with CIs by the use of the „Link“-functionality in the GUI (either on ticket creation or within ticket processing). This is not very comfortable.
- Requirement:
  - Agent frontend:
    - Show config items which are assigned to the selected customer (with selection boxes for linking)
      - Link selected/marked config items with ticket upon ticket creation
    - Show config items whenever customer user details are shown (without selection boxes) if configured
  - Customer frontend:
    - Show config items assigned to currently logged in customer user in order to allow selection for ticket (if relevant)
      - Link selcted/marked config items with ticket upon ticket creation

13.1.1 Implementation

- Requires the use of attribute type "Customer" (or other identifying attribute values) in the relevant config item classes
- Enabling/Configuration via SysConfig:
  - Define search attribute key names for each relevant CI-class
  - Configure a comma-separated list of unique attribute key names per CI class; in these CI-classes the attribute values are checked for identity with the currently search customer user attribute
  - The calling action must be contained in AJAX-Request as additional parameter in order to evaluate if select boxes should be shown or not
  - Define shown config item attributes in customer table

13.1.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Modules/AgentTicketEmail.pm
- KIX4OTRS/Kernel/Modules/AgentTicketPhone.pm
- KIX4OTRS/Output/HTML/Standard/AgentTicketEmail.dtl
- KIX4OTRS/Output/HTML/Standard/AgentTicketPhone.dtl
- KIX4OTRSITSMIncidentProblem/Kernel/Modules/AgentTicketEmail.pm
- KIX4OTRSITSMIncidentProblem/Kernel/Modules/AgentTicketEmail.pm
- KIX4OTRSITSMIncidentProblem/Output/HTML/Standard/AgentTicketEmail.dtl
- KIX4OTRSITSMIncidentProblem/Output/HTML/Standard/AgentTicketPhone.dtl
- KIX4OTRSITSMConfigManagement/Kernel/Config/Files/KIX4OTRS_ConfigItemLink.xml
- KIX4OTRSITSMConfigManagement/Kernel/Language/de_KIX4OTRSITSMConfigManagement.pm
- KIX4OTRSITSMConfigManagement/Kernel/Modules/CustomerTicketMessage.pm
- KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/CustomerUserConfigItem.pm
- KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/LayoutKIX4OTRSITSMConfigManagement.pm
- KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/Standard/AgentCustomerTableView.dtl
- KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/Standard/CustomerAssignedConfigItemList.dtl
- KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/Standard/CustomerTicketMessage.dtl

13.1.2 SysConfig Options

Key Name	Description
CustomerUserConfigItemLink::CISearchInClasses	• Defines for which CI-classes which attribute-key-name is used to search for the relevant customer

Key Name	Description
	user attribute, e.g. UserLogin • Default values ◦ Computer: Owner ◦ Hardware: Owner ◦ Software: Owner
CustomerUserConfigItemLink::LinkType	• Defines which link type is used for creation of links between selected config items and tickets (default RelevantTo)
Frontend::CustomerUser::Item###99-ConfigItems	• Registration of customer information module to show related config items for selection or just display • Default values ◦ Module => Kernel::Output::HTML::CustomerUserConfigItem ◦ SearchAttribute: UserLogin ▪ Defines which CustomerUser-Attribute is used for the config item lookup ◦ ShowSelectBoxActionRegExp: (AgentTicketPhone|AgentTicketEmail) ▪ Defines per regexp in which masks the select boxes are shown ◦ ShowListOnly: 1 ▪ Defines if config item list is display if no select boxes are shown
Ticket::Frontend::CustomerTicketMessage###AssignedConfigItem	• Allows customers to select the affected config items from the list of assigned config items.
Ticket::Frontend::CustomerTicketMessage###AssignedConfigItemSearchAttribute	• Defines which customer user attribute is used to perform config item search. • See for Frontend::CustomerUser::Item###99-ConfigItems.
CustomerUserConfigItemLink::ShownAttributes	• Defines which attributes are shown in customer table.

13.2 Config Item Pre-Events

- Meanwhile OTRS knows config item events and uses them for writing the history of a config item (who change when which attribute). These events are triggered after the action has been performed, e.g. after a new version has been created
- Pre-Events are meant to allow complex plausibility check before a config item version is created, currently no useful example is delivered with KIX4OTRS. Possible scenarios are:
  - Ensure uniqueness of certain attributes, i.e. CI-names and prevent storage if name is already in use
  - Permit updates of certain attributes only if an equivalent change is linked to this config item

13.2.1 Implementation

- Requires a mechanism analog to TicketCustom-Modules in Kernel::System::Ticket in Kernel::System::ITSMConfigItem
- Extension of the core functionality of Kernel::System::ITSMConfigItem
- Modification of core methods to check for a corresponding method in super class and (if available) call these instead of original methods (ConfigItemAdd, ConfigItemDelete, VersionAdd, VersionDelete, DefinitionDelete)

- In order to simplify the handling of „XML-Data-Hashes“ some additional functions are provided (GetAttributeValuesByKey, GetAttributeContentsByKey, GetAttributeDataByType, GetKeyNamesByType, GetAttributeDefByTagKey, VersionDataUpdate, SetAttributeContentsByKey)
- Integrate Pre-Events analog to Post-Events
- All methods which trigger post events must also trigger Pre-Events
- A failed Pre-Event returns a hash ref with keys "Error" and "Message"
- The message of a failed Pre-Event in AgentConfigItemEdit is shown in the mask without creating a new CI-version

13.2.1.1 Related Structures

a Filelist

- KIX4OTRSITSMConfigManagement/Kernel/Config/Files/KIX4OTRS_ITSMConfigItem.pm
- KIX4OTRSITSMConfigManagement/Kernel/Config/Files/KIX4OTRS_ITSMConfigItemEvents.pm
- KIX4OTRSITSMConfigManagement/Kernel/Language/de_KIX4OTRSITSMConfigManagearticleeditment.pm
- KIX4OTRSITSMConfigManagement/Kernel/Modules/AgentITSMConfigItemEdit.pm
- KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/Standard/AgentITSMConfigItemEdit.dtl
- KIX4OTRSITSMConfigManagement/Kernel/System/ITSMConfigItem.pm
- KIX4OTRSITSMConfigManagement/Kernel/System/ITSMConfigItem/Event/Test.pm
- KIX4OTRSITSMConfigManagement/Kernel/System/ITSMConfigItem/DefinitionX.pm
- KIX4OTRSITSMConfigManagement/Kernel/System/ITSMConfigItem/ITSMConfigItemX.pm
- KIX4OTRSITSMConfigManagement/Kernel/System/ITSMConfigItem/VersionX.pm
- KIX4OTRSITSMConfigManagement/Kernel/System/PreEventHandler.pm

13.2.2 SysConfig Options

Key Name	Description
ITSMConfigItem::EventModulePre###999-Test	• Sample Pre-Event registration
ITSMConfigItem::EventModulePost###999-Test	• Sample Post-Event registration
ITSMConfigItem::CustomModules###001-CustomModule	• Modified methods for Kernel::System::ITSMConfigItem
ITSMConfigItem::CustomModules###010-CustomModule	• Modified methods for Kernel::System::ITSMConfigItem::Definition
ITSMConfigItem::CustomModules###020-CustomModule	• Modified methods for Kernel::System::ITSMConfigItem::Version
ITSMConfigItem::CustomModules###030-CustomModule	• Registration of methods for Pre-Event handling

13.3 Tabbed Config Item Detail Mask

- Reworked modular config item zoom mask
- Tab-based config item zoom mask
  - Allows to integrate other information in additional tabs
  - Tab contents are
    - Version list
      - Shows the config items version data
    - Linked objects
      - Shows all directly linked objects in the complex view mode
    - Link graph
      - Shows all config items of selected CI-classes which are linked by selected link-types with the current config item to a selectable link depth (n-th neighbor)

13.3.1 Implementation

- Reorganization of frontend module AgentITSMConfigItemZoom

- Keep right-hand part for general CI data (last modified, class, create date, etc.)
- Main block is replaced by the tab handling especially sub _XMLOutput

- Create config item zoom tab modules
  - Tab „Config Item“
  - Tab „Linked Objects“
  - Tab „link object graph”

13.3.1.1 Related Structures

a Filelist

- KIX4OTRSITSMConfigManagement/Kernel/Config/Files/KIX4OTRS_ITSMConfigItem.xml
- KIX4OTRSITSMConfigManagement/Kernel/Config/Files/KIX4OTRS_ITSMConfigItemZoom.xml
- KIX4OTRSITSMConfigManagement/Kernel/Language/de_KIX4OTRSITSMConfigManagement.pm
- KIX4OTRSITSMConfigManagement/Kernel/Modules/AgentITSMConfigItemZoom.pm
- KIX4OTRSITSMConfigManagement/Kernel/Modules/AgentITSMConfigItemZoomTabConfigItem.pm
- KIX4OTRSITSMConfigManagement/Kernel/Modules/AgentITSMConfigItemZoomTabLinkedObjects.pm
- KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/ConfigItemZoomTabDummy.pm
- KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/Standard/AgentITSMConfigItemZoom.dtl
- KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/Standard/AgentITSMConfigItemZoomTabConfigItem.dtl
- KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/Standard/AgentITSMConfigItemZoomTabLinkedObjects.dtl
- var/httpd/htdocs/js/thirdparty/jquery-ui-tabs-1.8.12/jquery.ui.tabs.js
- var/httpd/htdocs/skins/Agent/KIX4OTRS/css/KIX4OTRS.AgentITSMConfigItemZoomTab.css
- var/httpd/htdocs/skins/Agent/KIX4OTRS/css/KIX4OTRS.ITSM.Agent.Detail.css

13.3.2 SysConfig Options

Key Name	Description
Frontend::Module### AgentITSMConfigItemZoom	Frontend module registration for the agent interface. • CSS: KIX4OTRS.AgentITSMConfigItemZoomTab.css • JavaScript: Core.KIX4OTRS.TicketZoomTabs.js
Frontend::Module### AgentITSMConfigItemZoomTabConfigItem	Frontend module registration for the agent interface. • CSS: KIX4OTRS.ITSM.Agent.Detail.css • JavaScript: thirdparty/jquery-ui-tabs-1.8.12/jquery.ui.tabs.js
Frontend::Module### AgentITSMConfigItemZoomTabLinkedObjects	Frontend module registration for the agent interface. • JavaScript: thirdparty/jquery-ui-tabs-1.8.12/jquery.ui.tabs.js
AgentITSMConfigItemZoomBackend### 0050-PreloadedDummy	Defines parameters for the AgentTicketZoomTab "DummyTab".
AgentITSMConfigItemZoomBackend### 0110-ConfigItem	Defines parameters for the AgentITSMConfigItemZoomTab "ConfigItem".
AgentITSMConfigItemZoomBackend### 0120-LinkedObjects	Defines parameters for the AgentITSMConfigItemZoomTab "Linked Objects".
AgentITSMConfigItemZoomBackend### 0130-LinkGraph	Defines parameters for the AAgentITSMConfigItemZoomTab "Linked Objects".
ITSMConfigItem::Frontend::AgentITSMConfigItemZoomTabConfigItem###Permission	Required permissions to use the ITSM configuration item zoom screen in the agent interface.
ITSMConfigItem::Frontend::AgentITSMConfigItemZoomTabLinkedObjects###Permission	Required permissions to use the ITSM configuration item zoom screen in the agent interface.

- See next chapter for more information

13.4 Link Graph Visualization

- Generate a link graph as scalable vector graphic (SVG) using Perl module GraphViz on server side to be displayed in browser or to be downloaded
  - Add URLs to shown config items
- Required for config item zoom tab „Link Object Graph“

13.4.1 Implementation

- Frontend integration
  - Retrieve essential parameters (relevant CI classes, relevant link types, max. search depth, display type) from requested URL
  - Create traverse graph in depth first search starting from given config item
  - Add nodes (config item information) and edges (links) to the GraphViz graph and create visualization as SVG
  - Return SVG as requested by download type (inline or attachment)
- Command line integration
  - Added script to create and output graph visualization via command line
- Requires Perl module „GraphViz“ to be installed on OTRS-server
  - See your operating system distribution or CPAN
  - Check your system configuration with <OTRS_HOME>/bin/kix.CheckModules.pl

13.4.1.1 Related Structures

a Filelist

- `bin/kix.CreateCMDB_Map.pl`
- `KIX4OTRSITSMConfigManagement/Kernel/Config/Files/KIX4OTRS_AgentObjectGraph.xml`
- `KIX4OTRSITSMConfigManagement/Kernel/Language/de_KIX4OTRSITSMConfigManagement.pm`
- `KIX4OTRSITSMConfigManagement/Kernel/Modules/AgentObjectGraph.pm`
- `KIX4OTRSITSMConfigManagement/Kernel/Modules/AgentITSMConfigItemZoomTabLinkGraph.pm`
- `KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/Standard/AgentITSMConfigItemZoomTabLinkedObjects.dtl`
- `var/httpd/htdocs/skins/Agent/KIX4OTRS/css/KIX4OTRS.AgentITSMConfigItemZoomTab.css`
- `var/httpd/htdocs/js/Core.KIX4OTRS.AgentITSMConfigItemZoomTabLinkGraph.js`

13.4.2 SysConfig Options

Key Name	Description
Frontend::Module### AgentObjectGraph	Frontend module registration for the agent interface.
Frontend::Module### AgentITSMConfigItemZoomTabLinkGraph	Frontend module registration for the agent interface. • CSS: KIX4OTRS.AgentITSMConfigItemZoomTab.css • JavaScript: Core.KIX4OTRS.AgentITSMConfigItemZoomTabLinkGraph.js
AgentITSMConfigItemZoomBackend### 0130-LinkGraph	Defines parameters for the AAgentITSMConfigItemZoomTab "Linked Objects".
ITSMConfigItem::Frontend::AgentITSMConfigItemZoomTabLinkGraph###IFrameConfig	Defines the parameters for the AgentObjectGraphIFrameDefault".
ITSMConfigItem::Frontend::AgentITSMConfigItemZoomTabLinkGraph###Permission	Required permissions to use the ITSM configuration item zoom screen in the agent interface.
Frontend::Agent::AgentObjectGraph### DefaultMaxLinkDepth	Defines the maximum search depth for DFS in CMDB graph. • Default: 5
Frontend::Agent::AgentObjectGraph### LinkColors	Defines the colors for link visualization - links are not displayed if no color given. • Normal => #9b9b9b • ParentChild => #407c0f • DependsOn => #407ca8

Key Name	Description
	• AlternativeTo => #95b740 • ConnectedTo => #535353 • Includes => #323232 • RelevantTo => #95b7d6 • DocumentLink =>
Frontend::Agent::AgentObjectGraph###ObjectClassColors	Defines the colors for object visualization - key consists of object type (ConfigItem, Service or Ticket) followed by triple colon followed by subclass (if applicable - e.g. config item class Computer). • ConfigItem:::CIClassName => • ConfigItem:::Computer => #000000 • ConfigItem:::Location => #808080 • ConfigItem:::Network => #3c9cb1 • ConfigItem:::Hardware => #2828ae • ConfigItem:::VM => #8f8fd9 • ConfigItem:::Software => #26d96e • Service => #000000 • Ticket => #000000
Frontend::Agent::AgentObjectGraph###ObjectClassShapes	Defines the shapes for object visualization - see GraphViz for available forms. Key consists of object type (ConfigItem, Service or Ticket) followed by triple colon followed by subclass (if applicable - e.g. config item class Computer). • ConfigItem:::CIClassName => • ConfigItem:::Computer => record • ConfigItem:::Location => record • ConfigItem:::Network => record • ConfigItem:::Hardware => record • ConfigItem:::VM => record • ConfigItem:::Software => record • Service => record • Ticket => record

13.5 Configurable propagation of warning and error CI-states

- Add a plausibility check to ensure the uniqueness of config items regarding customizable attributes, e.g. name, IP address, etc.
- Uniqueness must be either within CI-class or within the entire CMDB

13.5.1 Implementation

- Added SysConfig-Keys to choose link direction for propagation of incidents states.
- Extended ITSMConfigItem-methods to handle flexible link direction

13.5.1.1 Related Structures

a Filelist

- `KIX4OTRSITSMConfigManagement/Kernel/Config/Files/KIX4OTRS_ITSMConfigItem.xml`
- `KIX4OTRSITSMConfigManagement/Kernel/Language/de_KIX4OTRSITSMConfigManagement.pm`
- `KIX4OTRSITSMConfigManagement/Kernel/System/ITSMConfigItem.pm`

13.5.2 SysConfig Options

Key Name	Description
ITSMConfigItem::CILinkDirection	ConfigItem link direction for propagating of warning/error incident states.

13.6 ConfigItemInfo for KIXSidebar

- allows to access additional information about config item in KIXSidebar

13.6.1 Implementation

- remove config item info block from ConfigItemZoom
- add new modul for KIXSidebarConfigItemInfo and use it with KIXITSMConfigItemZoom
- Change LayoutKIX4OTRS.pm to use it with ITSM

13.6.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_ITSMConfigItemZoom.xml`
- `KIX4OTRS/Kernel/Output/HTML/LayoutKIX4OTRS.pm`
- `KIX4OTRSITSMConfigManagement/Kernel/Modules/AgentITSMConfigItemZoom.pm`
- `KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/Standard/AgentITSMConfigItemZoom.dtl`
- `KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/Standard/AgentKIXSidebarConfigItemInfo.dtl`
- `KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/KIXSidebarConfigItemInfo.pm`

13.6.2 SysConfig Options

Key Name	Description
Frontend::AgentITSMConfigItemZoom::KIXSidebarBackend###0100-ConfigItemInfo	Parameters for the KIXSidebar backend ConfigItemInfo.

13.7 CI-Pre-Event for unique CI-Attribute values

- Add a plausibility check to ensure the uniqueness of config items regarding customizable attributes, e.g. name, IP address, etc.
- Uniqueness must be either within CI-class or within the entire CMDB

13.7.1 Implementation

- NOT IMPLEMENTED YET

13.7.1.1 Related Structures

a Filelist

- `none`

b Table/Table Columns

- `none`

13.7.2 SysConfig Options

Key Name	Description
n.a.	n.a.

13.8 Search for CI-class specific attributes in link search

- while creating a link to an object of type “ITSMConfigItem” it should be possible to search for CI-class specific attributes

13.8.1 Implementation

- extend capablities of frontend module for ITSMConfigItem link search to display also other attributes of type text, general catalog or other except Date or DateTime (single input fields)
- extend search method use in ITSMConfigItem Link object to use ci-class specific attributes

13.8.1.1 Related Structures

a Filelist

- `KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/LinkObjectITSMConfigItem.pm`
- `KIX4OTRSITSMConfigManagement/Kernel/System/LinkObject/ITSMConfigItem.pm`

b Table/Table Columns

- `none`

13.8.2 SysConfig Options

Key Name	Description
n.a.	n.a.

13.9 Compare Different Versions of Config Items

- Affords an opportunity to compare two different versions of one ConfigItem

13.9.1 Implementation

- New tab in AgentITSMConfigItemZoom
- Show all available versions of selected ConfigItem in two tables
- Checkboxes for selection of version to compare
- Show changes in separat section

13.9.1.1 Related Structures

a Filelist

- `KIX4OTRSITSMConfigManagement/Kernel/Config/Files/KIX4OTRS_ITSMConfigItem.xml`
- `KIX4OTRSITSMConfigManagement/Kernel/Language/de_KIX4OTRSITSMConfigManagement.pm`
- `KIX4OTRSITSMConfigManagement/Kernel/Modules/AgentITSMConfigItemCompare.pm`
- `KIX4OTRSITSMConfigManagement/Kernel/Output/HTML/Standard/AgentITSMConfigItemCompare.dtl`
- `Var/httpd/htdocs/skins/Agent/KIX4OTRS/css/KIX4OTRS.ITSM.Agent.Detail.css`

13.9.2 SysConfig Options

Key Name	Description
Frontend::Module###AgentITSMConfigItemCompare	• Frontend module registration for the agent interface.
ITSMConfigItem::Frontend::MenuModule###700-Compare	• Shows a link in the menu to compare a configuration item with an other.
ITSMConfigItem::Frontend::AgentITSMConfigItemCompare###Permission	• Required permissions to use the compare ITSM configuration item screen in the agent interface. ◦ ro
ITSMConfigItem::Frontend::AgentITSMConfigItemCompare###CSSHighlight	• Configure an highlightning for a row in the compare table depending on compare result. ◦ added ◦ changed ◦ deleted

14ITSM-Change Management Extensions

14.1 Tabbed Change Detail Mask

- Reworked modular change zoom mask
- Tab-based change zoom mask
  - Allows to integrate other information in additional tabs
  - Tab contents are
    - Overview
      - Shows the change and the WorkOrderGraph
    - Linked objects
      - Shows all directly linked objects in the complex view mode

14.1.1 Implementation

- Reorganization of frontend module AgentITSMChangeZoom
  - Keep right-hand part for general change data
  - Main block is replaced by the tab handling
- Create change zoom tab modules
  - Tab „Overview“
  - Tab „Linked Objects“

14.1.1.1 Related Structures

a Filelist

- `KIX4OTRSITSMChangeManagement/Kernel/Config/Files/KIX4OTRS_ITSMChangeZoom.xml`
- `KIX4OTRSITSMChangeManagement/Kernel/Modules/AgentITSMChangeZoom.pm`
- `KIX4OTRSITSMChangeManagement/Kernel/Modules/AgentITSMChangeZoomTabOverview.pm`
- `KIX4OTRSITSMChangeManagement/Kernel/Modules/AgentITSMChangeZoomTabLinkedObjects.pm`
- `KIX4OTRSITSMChangeManagement/Kernel/Output/HMTL/Standard/AgentITSMChangeZoom.dtl`
- `KIX4OTRSITSMChangeManagement/Kernel/Output/HMTL/Standard/AgentITSMChangeZoomTabOverview.dtl`
- `KIX4OTRSITSMChangeManagement/Kernel/Output/HMTL/Standard/AgentITSMChangeZoomTabLinkedObjects.dtl`
- `KIX4OTRSITSMCore/Kernel/Output/HTML/Standard/FooterITSMZoomTab.dtl`
- `KIX4OTRS.sopm`
- `var/httpd/htdocs/js/Core.KIX4OTRS.js`
- `var/httpd/htdocs/js/Core.KIX4OTRS.ITSMZoomTabs.js`
- `KIX4OTRS/Kernel/Output/HTML/LayoutLinkObject.pm`

14.1.2 SysConfig Options

Key Name	Description
Frontend::Module###AgentITSMChangeZoom	Frontend module registration for the agent interface. • CSS: ITSM.Agent.Default.css, ITSM.ChangeManagement.Default.css, ITSM.ChangeManagement.WorkorderGraph.css, ITSM.ChangeManagement.RTEContent.css, • JavaScript: thirdparty/jquery-ui-tabs-1.8.12/jquery.ui.tabs.js, thirdparty/jquery-tablesorter-2.0.5/jquery.tablesorter.js, Core.UI.Table.Sort.js, Core.KIX4OTRS.ITSMZoomTabs.js, ITSM.Agent.ChangeManagement.WorkorderGraph.js
Frontend::Module###AgentITSMChangeZoomTabOverview	Frontend module registration for the agent interface.
Frontend::Module###AgentITSMChangeZoomTabLinkedObjects	Frontend module registration for the agent interface.

Key Name	Description
AgentITSMChangeZoomBackend###0100-Overview	Defines parameters for the AgentITSMChangeZoomTab "Overview". Link, Title, Description, Block, Permission, CountMethod
AgentITSMChangeZoomBackend###0200-LinkedObjects	Defines parameters for the AgentITSMChangeZoomTab "Linked Objects". ink, Title, Description, Block, Permission, CountMethod

14.2 ChangeInfo for KIXSidebar

- allows to access additional information about a change in KIXSidebar

14.2.1 Implementation

- remove change info block from ITSMChangeZoom
- add new modul for KIXSidebarChangeInfo and use it with KIXITSMChangeZoom
- Change LayoutKIX4OTRS.pm to use it with ITSM

14.2.1.1 Related Structures

a Filelist

- `KIX4OTRS/Kernel/Config/Files/KIX4OTRS_ITSMChangeZoom.xml`
- `KIX4OTRS/Kernel/Output/HTML/LayoutKIX4OTRS.pm`
- `KIX4OTRSITSMChangeManagement/Kernel/Modules/AgentITSMChangeZoom.pm`
- `KIX4OTRSITSMChangeManagement/Kernel/Output/HTML/Standard/AgentITSMChangeZoom.dtl`
- `KIX4OTRSITSMChangeManagement/Kernel/Output/HTML/Standard/AgentKIXSidebarChangeInfo.dtl`
- `KIX4OTRSITSMChangeManagement/Kernel/Output/HTML/KIXSidebarChangeInfo.pm`

14.2.2 SysConfig Options

Key Name	Description
Frontend::AgentITSMChangeZoom::KIXSidebarBackend###0100-ChangeInfo	Parameters for the KIXSidebar backend ChangeInfo

14.3 Tabbed WorkOrder Detail Mask

- Reworked modular change zoom mask
- Tab-based change zoom mask
  - Allows to integrate other information in additional tabs
  - Tab contents are
    - Overview
      - Shows the change and the WorkOrderGraph
    - Linked objects
      - Shows all directly linked objects in the complex view mode

14.3.1 Implementation

- Reorganization of frontend module AgentITSMChangeZoom
  - Keep right-hand part for general change data
  - Main block is replaced by the tab handling
- Create change zoom tab modules
  - Tab „Overview“

- Tab „Linked Objects“

14.3.1.1 Related Structures

a Filelist

- KIX4OTRSITSMChangeManagement/Kernel/Config/Files/KIX4OTRS_ITSMWorkOrderZoom.xml
- KIX4OTRSITSMChangeManagement/Kernel/Modules/AgentITSMWorkOrderZoom.pm
- KIX4OTRSITSMChangeManagement/Kernel/Modules/AgentITSMWorkOrderZoomTabOverview.pm
- KIX4OTRSITSMChangeManagement/Kernel/Modules/AgentITSMWorkOrderZoomTabLinkedObjects.pm
- KIX4OTRSITSMChangeManagement/Kernel/Output/HMTL/Standard/AgentITSMWorkOrderZoom.dtl
- KIX4OTRSITSMChangeManagement/Kernel/Output/HMTL/Standard/AgentITSMWorkOrderZoomTabOverview.dtl
- KIX4OTRSITSMChangeManagement/Kernel/Output/HMTL/Standard/AgentITSMWorkOrderZoomTabLinkedObjects.dtl
- KIX4OTRSITSMCore/Kernel/Output/HTML/Standard/FooterITSMZoomTab.dtl
- KIX4OTRS.sopm
- var/httpd/htdocs/js/Core.KIX4OTRS.js
- var/httpd/htdocs/js/Core.KIX4OTRS.ITSMZoomTabs.js
- KIX4OTRS/Kernel/Output/HTML/LayoutLinkObject.pm

14.3.2 SysConfig Options

Key Name	Description
Frontend::Module###AgentITSMWorkOrderZoom	• Frontend module registration for the agent interface. • CSS: ITSM.Agent.Default.css, ITSM.ChangeManagement.Default.css, ITSM.ChangeManagement.RTEContent.css, • JavaScript: thirdparty/jquery-ui-tabs-1.8.12/jquery.ui.tabs.js, thirdparty/jquery-tablesorter-2.0.5/jquery.tablesorter.js, Core.UI.Table.Sort.js, Core.KIX4OTRS.ITSMZoomTabs.js, ITSM.Agent.ConfirmationDialog.js
Frontend::Module###AgentITSMWorkOrderZoomTabOverview	Frontend module registration for the agent interface.
Frontend::Module###AgentITSMWorkOrderZoomTabLinkedObjects	Frontend module registration for the agent interface.
AgentITSMWorkOrderZoomBackend###0100-Overview	Defines parameters for the AgentITSMWorkOrderZoomTab "Overview". Link, Title, Description, Block, Permission, CountMethod
AgentITSMWorkOrderZoomBackend###0200-LinkedObjects	Defines parameters for the AgentITSMWorkOrderZoomTab "Linked Objects". ink, Title, Description, Block, Permission, CountMethod

14.4 WorkOrderInfo for KIXSidebar

- allows to access additional information about a work order in KIXSidebar

14.4.1 Implementation

- remove work order info block from ConfigItemZoom
- add new modul for KIXSidebarWorkOrderInfo and use it with KIXITSMWorkOrderZoom
- Change LayoutKIX4OTRS.pm to use it with ITSM

14.4.1.1 Related Structures

a Filelist

- KIX4OTRS/Kernel/Config/Files/KIX4OTRS_ITSMWorkOrderZoom.xml
- KIX4OTRS/Kernel/Output/HTML/LayoutKIX4OTRS.pm
- KIX4OTRSITSMChangeManagement/Kernel/Modules/AgentITSMWorkOrderZoom.pm
- KIX4OTRSITSMChangeManagement/Kernel/Output/HTML/Standard/AgentITSMWorkOrderZoom.dtl
- KIX4OTRSITSMChangeManagement/Kernel/Output/HTML/Standard/AgentKIXSidebarWorkOrderInfo.dtl
- KIX4OTRSITSMChangeManagement/Kernel/Output/HTML/KIXSidebarWorkOrderInfo.pm

14.4.2 SysConfig Options

Key Name	Description
Frontend::AgentITSMWorkOrderZoom::KIXSidebarBackend###0100-ChangeInfo	Parameters for the KIXSidebar backend WorkOrderInfo

15 Modified Default SysConfig-Keys

This chapter lists SysConfig keys which are available in default OTRS but have been changed for KIX4OTRS.

Key Name	New Default Value
Frontend::Module###AgentITSMConfigItemZoom	Extended default OTRS-configuration to enable tab view.
Ticket::Frontend::CustomerTicketZoom###StateDefault	Changed required-flag due to KIX4OTRS-adoptions (this SysConfig-option does not need to be defined anymore).
Ticket::EventModulePost###130-ForceStateChangeOnLock	Changed used Event-module to support ticket state workflow functionality
ProductIcon	Changed due to KIX4OTRS-layout
AgentLogo	Changed due to KIX4OTRS-layout
CustomerLogo	Changed due to KIX4OTRS-layout
Loader::Agent::DefaultSelectedSkin	Changed due to KIX4OTRS-layout
Loader::Customer::DefaultSelectedSkin	Changed due to KIX4OTRS-layout
PDF::LogoFile	Changed due to KIX4OTRS-layout
Frontend::NotifyModule###5-Ticket::TicketEscalation	Extended configuration-options to restrict shown ticket escalations to agents custom queues only
Frontend::Module###AgentTicketQueue	Extended default OTRS-configuration to enable new view modes.
Ticket::Frontend::OverviewSmall###ColumnHeader	Changed default selected value due to better usability.
Frontend::Module###AgentTicketZoom	Extended default OTRS-configuration to enable tab view.
ArticleFreeKey3	Extended default OTRS-configuration to enable FAQ-Workflow.
ArticleFreeText3	Extended default OTRS-configuration to enable FAQ-Workflow.
ArticleFreeText3::DefaultSelection	Extended default OTRS-configuration to enable FAQ-Workflow.
Frontend::Module###AgentStats	Changed default OTRS-configuration due to better usability.
Frontend::Module###AdminCustomerUserService	Changed default OTRS-configuration due to better usability.
Frontend::Module###AdminCustomerCompany	Changed default OTRS-configuration due to better usability.
Frontend::Module###AdminCustomerUser	Changed default OTRS-configuration due to better usability.
Ticket::Frontend::MenuModule###300-Priority	Deactivated menu entry due to better usability.
Ticket::Frontend::PreMenuModule###300-Priority	Deactivated menu entry due to better usability.
Ticket::Frontend::PreMenuModule###440-Close	Deactivated menu entry due to better usability.
Ticket::Frontend::MenuModule###320-Link	Changed default position in menu due to better usability.
Ticket::Frontend::MenuModule###420-Customer	Changed default position in menu due to better usability.
Ticket::Frontend::MenuModule###430-Merge	Changed default position in menu due to better usability.
Ticket::Frontend::PreMenuModule###445-Move	Changed default position in menu due to better usability.