OTRS::ITSM 1.2 - Basic

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Whitehaven Beach Edition

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Preface

The document at hand addresses OTRS::ITSM users and administrators and provides information on the basic use of OTRS::ITSM by IT service managers, IT service staff (agent) and end users (customer). Information regarding installation, configuration and administration is only provided if there are differences to the OTRS core product or for functions, which only exist in OTRS::ITSM.

In spite of the many many hours of work, even more cups of coffee and quite a few sausages and pretzels consumed in the course of writing the following sections, this manual does not claim to be complete. The chapters will be revised and/or amended periodically for continual improvement.

We welcome your feedback as a critical contribution to the best possible quality of the following chapters and of the product itself. Please tell us if you miss information, find it difficult to understand certain aspects the way they are presented, have suggestions or other comments. Any feedback submitted at http://otrs.org is highly appreciated.

We are very proud of the product at hand and want to thank the ITIL experts of Enterprise Consulting GmbH and our top-notch OTRS developers. Their joint efforts have significantly contributed to the successful development of OTRS::ITSM.

We want to thank you, the users and OTRS::ITSM community, in advance for any kind of aid and feedback and hope you will have fun using OTRS::ITSM.

André Mindermann, Managing Partner OTRS AG

Bad Homburg, May 2007

((enjoy))

Chapter 1. OTRS::ITSM - The OTRS for IT service management

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

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

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

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

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

The development of OTRS::ITSM was initiated as a logical consequence of the great success of the Open Ticket Request System OTRS in order to combine the globally accepted, public ITIL recommendations with the benefits of open-source software.

OTRS::ITSM 1.0 was the first real-world ITIL compliant IT service management solution on open-source basis, built on the solid fundament of over 55,000 known OTRS installations and the related active community (information dating from April 2007). OTRS::ITSM is under permanent development and new ITIL topics are added continously.

Core objective of the development of OTRS::ITSM is a strong praxis orientation. This aim can be accomplished by the close development collaboration with Enterprise Consulting GmbH from Bad Homburg, which is very experienced in the practical application of ITIL. Additionally to providing

ITSM consulting services and solutions, Enterprise operates complete ITIL compliant IT organizations for renowned customers.

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

OTRS::ITSM and OTRS are freely available (no license fees apply) and are subject to GNU General Public License (GPL).

1.1. Features

OTRS::ITSM 1.2 is based on the Open Ticket Request System OTRS 2.3. All functionalities known from OTRS continue to be available and the functionalities representing ITIL processes can be installed as packages.

1.1.1. New OTRS::ITSM 1.2 features

OTRS::ITSM 1.2 offers:

- Modularization

  From now on the additional ITSM packages covering single ITIL disciplines like incident management / problem management, configuration management, service level management, can be installed independently from each other. To you as a user that means that you neither have to install the packages in a certain installation order nor that you have to install them all to use OTRS::ITSM.

- Reduced reloads

  ITSM functionalities (e. g. priority calculation based on a tickets impact) have been reimplemented in AJAX technology to reduce necessary reloads. That leads to an increased speed using OTRS::ITSM.

- Joint Link-Object mechanism

  OTRS::ITSM 1.1 and lower releases were designed based on an own extended Object-Link mechanism. As a consequence, the Object-Link functionality of OTRS couldn't be used in OTRS::ITSM. A joint Object-Link mechanism has now been implemented, which covers all the features from both former Link object mechanisms.

- Improved speed

  The improvement to faster access the Configuration Items (CI) database has been achieved by switching database access technology to SQL bind parameters.

- Locations

  Locations are no longer a separate menu item. They are now integrated into the Configuration Items, which will bring a sustainable gain in flexibility.

- SLA-Service multi-assignments

  It is now possible to assign an SLA to multiple Services.

- SLA Overwiew

  In the service menu, there is now a new SLA overwiew mask.

- Refresh-Mechanism

  Added a refresh mechanism to refresh the service overview and the config item overview screens automatically.

1.1.2. New OTRS::ITSM 1.1 features

OTRS::ITSM 1.1 offers:

- Authorization concept

  Each object like Service/SLA, Location, CI, Linkobject now creates an own group, so the agents rights can be assigned more granulary.

- Allocation of services to customers

Services can be assigned to authorized customers. Further more, services may be assigned as general 'default services' which are valid to use for each customer.

- Service/CI view

  A view on services and CIs including information on each objects current state allows to analyze an incident and calculate the incidents impact on affected services and customers. As an enhancement of the service view, now SLAs and linked CIs are displayed too. For each CI the current incident state is shown. Also, the incident state will be propagated for dependent SLAs and CIs. If a service is selected, the service details will be shown, now with the additional 'current incident state', which is calculated from the incident states of dependent services and CIs.

  CIs are now enhanced with a 'current incident state', which includes two state types:

  - Operational
  - Incident

  For each state type any number of states can be registered. The state of a CI affects the service state, which will be dynamically calculated, and can have one of the following three values:

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

  The propagation of the incident state will be carried out if CIs are linked with the link type 'depend on'. Here the following rules apply:

  - If a CI is dependent from another CI, which is in the state 'Incident', the dependent CI gets the state 'Warning'.
  - If a service is dependent from CIs, and one of these CIs has a state 'Incident', the service will also get the state 'Incident'.
  - If a service is dependent from CIs, and one of these CIs has the state 'Warning', the service will also get the state 'Warning'.
  - If a service has sub-services, and one of these services has the state 'Incident', the parent service will get the state 'Warning'.
  - If a service has sub-services, and one of these services has the state 'Warning', the parent service will get the state 'Warning'.

  The states of the respective services, sub-services and CIs will be shown in the view.

- CI search and linking from agent interface

A service agent may search, select and assign any of a customers configuration items (CIs) or existing tickets while recording a new incident ticket.

- CMDB Import/Export (CSV and API)

  This feature offers the possibility to import or update data from CSV files into the CMBD of OTRS::ITSM, and to export data from the CMDB to CSV files. Each line of the CSV file describes one CI, with the data of the CI in the columns.

  The import and export is controlled with ImEx definitions. These definitions map the columns of the CSV file to the fields in the CMDB. You can create an ImEx definition via the admin interface in OTRS. For each available field in the CMDB, the corresponding column in the CSV file needs to be defined. This is done in a form, which represents the current CI definition. Also, a filter can be applied, to limit the number of the exported CIs. Any number of ImEx definitions can be stored in the system, and each definition can be used for import and for export.

  To start an import (exports work the same way), two possibilities exist: interactive with the web interface, or automatically with a script. Using the interactive way, the desired ImEx definition is selected, and then the CSV file is uploaded to the system. During the interactive export, the CSV file will be offered for download respectively.

  The automatic import is carried out via a script, which needs the name of the ImEx definition and the name of the CSV file as arguments. During the script based export, the CIs that were given the script as arguments, will be saved in a CSV file. Before the execution of the import or export, the selected ImEx definition will be compared with the current CI definition. If inconsistencies were found, the process will be cancelled. Also, during import, restrictions in the CI definition (e.g. mandatory fields) will be checked. If applicable, the data record is rejected, but the import process continues. An import protocol can be found in the syslog. Via the API the CSV based import/export can be replaced or enhanced by other formats/transports, like direct database access or XML. The implementation of the CSV interface can be used as a reference.

- A huge variety of additional reports have been created, e.g.:

  Basic reports for tickets and configuration items (CIs):

  - Total of all ever created tickets per ticket-type and priority (state, queue, service).
  - Monthly overview of all ever created tickets of a previous month per ticket-type (priority, state, queue, service).
  - Total of created tickets in a defined period per ticket-type and priority (state, queue, service).
  - Total of all open tickets per ticket-type and priority (queue, service).
  - Total of all configuration items (CIs) created per class (per state).
  - Total of all configuration items (CIs) created in a previous month per class (per state).

  - Total of all configuration items (CIs) created in a defined period per class (per state).

  Much more reports have been added providing specific data regarding first time solution rate and average resolution time:

  - First time solution rate of all ever created tickets per ticket-type and priority (queue, service).
  - First time solution rate in a previous month per ticket-type (priority, queue, service).
  - First time solution rate in a defined period per ticket-type and priority (queue, service).
  - Average resolution time of all ever created tickets per ticket-type and priority (queue, service).
  - Average resolution time in a previous month per ticket-type and priority (queue, service).
  - Average resolution time in a defined period per ticket-type and priority (queue, service).

- Added print function for CIs, Services, SLAs, Locations.

1.1.3. OTRS::ITSM 1.0 features

OTRS::ITSM 1.0 offers:

- ITIL compliant representation of "service support" processes
  - incident management
  - problem management
  - configuration management

- an integrated, individually extensible configuration management database (CMDB)
- ITIL compliant names for new functions
- ITIL compliant role, responsibility and permission model
- cross-process communication management: within the IT service organization, with customers/users/management and suppliers/providers
- flexible stats functions for (trend) analyses; reporting, planning and controlling based on performance figures
- flexible configuration, customization and upgrade to meet individual requirements
- native ticket types are supported (integrated in OTRS): Various ticket types can be managed in the admin interface. Free-text fields are therefore no longer needed to specify ticket types. Installations using free-text fields for ticket type classification do not have to be migrated. The new feature is also shown in the ticket content and in the print view for agents and customers and can be adjusted in the agent interface.

Configuration management & integrated CMDB:

OTRS::ITSM is based on an integrated configuration management data base (CMDB), which serves as the fundament for the comprehensive control of the service management processes. It represents the configuration items (CI), their complex relationships and interdependencies with each other and with other components of the service chain.

- Comprehensive recording and management of ITSM relevant configuration items (CIs) such as computers, hardware, software, networks, documents and services, SLAs and organizational structures.
- Illustration of the IT service catalog and agreements in force (SLA, OLA, UC)
- Recording, management and illustration of technical and service related relationships and interdependences among CMDB data, e.g. a service with all necessary, alternative or relevant CIs
- Management of historic, current and future CI states, e.g. for problem diagnosis, server maintenance or planned changes
- Analysis of the potential impact of service failures or configuration changes
- Display of virtualized IT infrastructures, e.g. server / memory virtualization
- Software license management, e.g. licenses available / in use (third party products required)
- Chronological life cycle management for CIs, from acquisition to disposal
- Reporting of all configuration changes performed on CMDB data
- Interface to company directories (e.g. LDAP, eDirectory, Active Directory)

Incident management:

- Services and SLAs (integrated in OTRS): The new attributes "service" and "service level agreements (SLA)" were integrated in OTRS 2.2 on its way to becoming an IT service management tool. When creating a ticket, the customer can select a service (e.g. e-mail service) and a corresponding SLA. SLA attributes are "response time", "update time" and "solution time". IT service can use these attributes for notifications or ticket escalation in order to meet existing SLAs. Service and SLA specific information in the header of new e-mails can be analyzed as usual with the PostMaster filter module.
- Comprehensive support of IT service support organization processes with incident recording, classification, prioritization, direct help (1st level support), diagnosis, coordination (2nd/3rd level support, external partners etc.), service recovery, resolution, closure and documentation
- Incidents and service requests can be recorded quickly and intuitively by service desk staff and users (web self-service)
- Rule-based ticket generation and/or notification, e.g. in interaction with IT monitoring systems
- Classification and prioritization options (priority, impact, urgency)
- Complete CMDB coverage, e.g. services affected by the incident, configuration items concerned, FAQ database, link-up between tickets and CIs for analyses and reporting
- (Automatic) recording of "articles" for tickets (activity record)
- Constant monitoring and evaluation of the ticket processing progress
- complete integration of OTRS role, group and queue mechanisms for incident ticket allocation, tracking, escalation and interpretation

- Provision and storage of relevant time data, e.g. for service level management
- practical ticket handling (merge, split), allows to merge similar incidents and/or split complicated ones
- planning, proactive control and monitoring of service request activities (work packages, work plans, service lead times, due dates)
- generation and tracking of problem tickets from incidents

Problem management:

- comprehensive support of IT organization processes in problem identification, recording, classification, prioritization, problem origin diagnosis, resolution coordination, e.g. workaround or request for change, closure and documentation
- provision of relevant information for subprocesses
  - problem control (trouble-shooting),
  - error control (error processing),
  - proactive problem management (e.g. ticket trend analyses) and
  - management information (on incidents, problems and known errors)

- current/historic incidents, knowledge base (FAQs) and CMDB are constantly available
- complete integration of OTRS role, group and queue mechanisms to allocate, track, escalate and evaluate incident tickets
- systematic automated notifications on the problem resolution progress for users (user groups) concerned or the management
- incident management receives ready signal for resolved problems

Tickets are central information containers for IT service process management: They transport multiple possible underlying data such as:

- persons, organizations
- time stamp
- priority, impact, severity
- associations to IT service catalog and projects
- activities, e.g. note about a call with time accounting
- objects, e.g. CIs, including relations
- (sub)tickets, e.g. a problem with the underlying incidents
- notes and attachments, e.g. scanned service request forms
- work packages, i.e. planned, allocated tasks
- SLA information
- thresholds and escalation data

- ticket history (all changes)
- accounting information (time accounting).

1.2. Hardware and software requirements

The requirements for OTRS::ITSM are the same as for OTRS. More information can be found in the OTRS Admin Manual.

1.3. Community

A large community evolved around OTRS in the past years. Users and developers use mailing lists to share their insights about a wide variety of issues connected with the trouble ticket system. They address questions about installation, configuration, use, localization and development. Bugs can be reported using the bug tracking system at http://bugs.otrs.org (http://bugs.otrs.org/). They directly reach the developers responsible and fixes can be provided quickly.

The above mentioned community channels are open for OTRS::ITSM users, too, to constantly improve the product's quality. You can join the community at our homepage http://otrs.org (http://otrs.org/).

1.4. Mailing lists

Separate mailing lists have been set up for OTRS::ITSM. Please visit http://lists.otrs.org (http://lists.otrs.org/):

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://lists.otrs.org/

lists.otrs.org Mailing Lists

Welcome!

Below is a listing of all the public mailing lists on lists.otrs.org. Click on a list name to get more information about the list, or to subscribe, unsubscribe, and change the preferences on your subscription. To visit the general information page for an unadvertised list, open a URL similar to this one, but with a '/' and the list name appended.

List administrators, you can visit the list admin overview page to find the management interface for your list.

Send questions or comments to mailman@lists.otrs.org.

List	Description
announce	Announcements about OTRS.org
cvs-log	CVS commits notifications of OTRS.org
dev	Development community of OTRS.org
doc-de	German OTRS.org documentation.
i18n	Internationalization mailing list of OTRS.org
itsm	OTRS::ITSM User questions and discussions
itsm-announce	OTRS::ITSM announcement mailinglist
itsm-de	OTRS::ITSM user questions and discussions in German
k4o	Knoppix4OTRS.org
k4o-de	Knoppix4OTRS.org in German
otrs	User questions and discussions about OTRS.org
otrs-de	User questions and discussions about OTRS.org in German
sirios-announce	Announcements about SIRIOS.org

Chapter 2. Commercial services for OTRS::ITSM

OTRS AG is manufacturer and source code owner of OTRS and all modules based upon it (e.g. OTRS::ITSM) and a professional service provider. Unlike those of proprietary software providers, OTRS AG's business model is not based on license fees: OTRS and OTRS::ITSM are available free of cost and we offer commercial services associated with the software applications instead.

As your capable partner, we provide optimal support in all phases of your OTRS project design, realization and operation. We believe in deploying the most modern methods and our staff are highly skilled experts. This philosophy guarantees credit for powerful business applications and happy customers lauding our service quality (http://www.otrs.com/en/references/).

2.1. OTRS::ITSM consulting and implementation

Are you planning to use OTRS::ITSM or have found out about OTRS::ITSM in a new product screening and want to assess the system's eligibility for your requirements. Or is your OTRS::ITSM evaluation completed and you want to make use of our consulting services to efficiently lead your project towards success.

We offer extensive practical expertise in IT process consulting, software engineering, development, and ITIL compliant IT operations and support. Security and quality management for your project complement our service portfolio. You benefit from an extensive and quick knowledge transfer.

Our services include:

- identification of your requirements and assistance with product evaluation
- guidance on design and implementation of ITSM process and organizational structures
- ITIL assessments and support with ISO 20000 certification
- ITIL trainings and coaching
- ITIL implementation
- compilation of IT service catalogs
- CMDB design
- installation & configuration of OTRS::ITSM including integration with your existing system environment
- review & optimization of existing OTRS::ITSM installations
- process and data migration from predecessor systems
- release updates

- specification of business and IT requirements and features, which exceed the given functional range of OTRS::ITSM
- design and realization of project complimentary administrator and service agent trainings
- advisory services regarding managed operations (ASP/SaaS) of OTRS::ITSM and application support

2.2. Software development

One significant advantage of the open-source software OTRS::ITSM is its flexibility regarding potential extensions of the functional range. No "vendor lock-in", a typical risk of proprietary systems and protracted negotiations with the manufacturer about expanding the functional range or building interfaces apply with OTRS::ITSM.

Experienced project managers and developers are at your disposal at any time to translate your requirements exceeding the functional range of OTRS::ITSM into business and IT specifications. We develop your features, program interfaces or upgrade existent functionalities according to your conception.

Extensions, which are useful for other customers too, will be added to the standard in later releases. All parties involved benefit: OTRS::ITSM is even more powerful with the features "born" by you and other customers, and you save the cost of porting your features to new releases.

2.3. Application support

The decision for an IT service management solution is an investment into the future which should not be underestimated, even if you opt for open-source software. A competent consulting partner is critical for the success of such an implementation project. Just as important, however, is a planned and successful porting of the solution to the life system and the lasting support of a reliable partner guaranteeing a faultless operating application service.

We provide this continuous support and our service packages are tailored flexibly to meet your requirements. They offer differentiated response times for the various service level agreements with up to 24/7/365 support, 24/7/365 access to our support portal, and optional phone support. Please visit http://www.otrs.com/en/support/ for all details or contact our sales team at sales@otrs.com.

You will only pay for the services you really need. Optional add-on packages, e.g. support via remote control or an extension of the application support services to other OTRS::ITSM instances can be booked if required.

Our ITIL compliant operating Application Support Team is continually optimizing its processes and performance. Therefore, our service manager will contact you regularly to discuss your wishes and

requirements regarding our services. The monthly service reporting in the service package of your choice serves as a base for these conversations.

2.4. Managed application services (ASP/SaaS)

You do not have to operate OTRS and/or OTRS::ITSM yourself. The products can be rented via the so called "ASP" (application service provisioning) resp. "SaaS" (software as a service) model from specialized companies.

The customers (software users) are admitted internet access to exclusively rented OTRS systems and, where required, functional application support (see section above) at a fixed monthly price and can employ the application in their business to the contracted extent. No additional license fees apply as only open-source products are used.

The application service provider operates IT infrastructure, systems and software ITIL compliantly and guarantees service quality according to the agreed service levels. The provider maintains the application system, (e.g. patches, backup, monitoring), and supports the customer with incidents and/or service requests such as consultation requests, software extensions or configuration requests.

Chapter 3. Installing OTRS::ITSM

OTRS framework 2.3 must be installed prior to the installation of OTRS::ITSM. All necessary information, options and installation procedures are depicted in the OTRS Admin Manual.

Warning

Installation of the OTRS::ITSM packages requires empty free-text fields 13-16 and free-time fields 3-6 in the complete system!

3.1. Installation

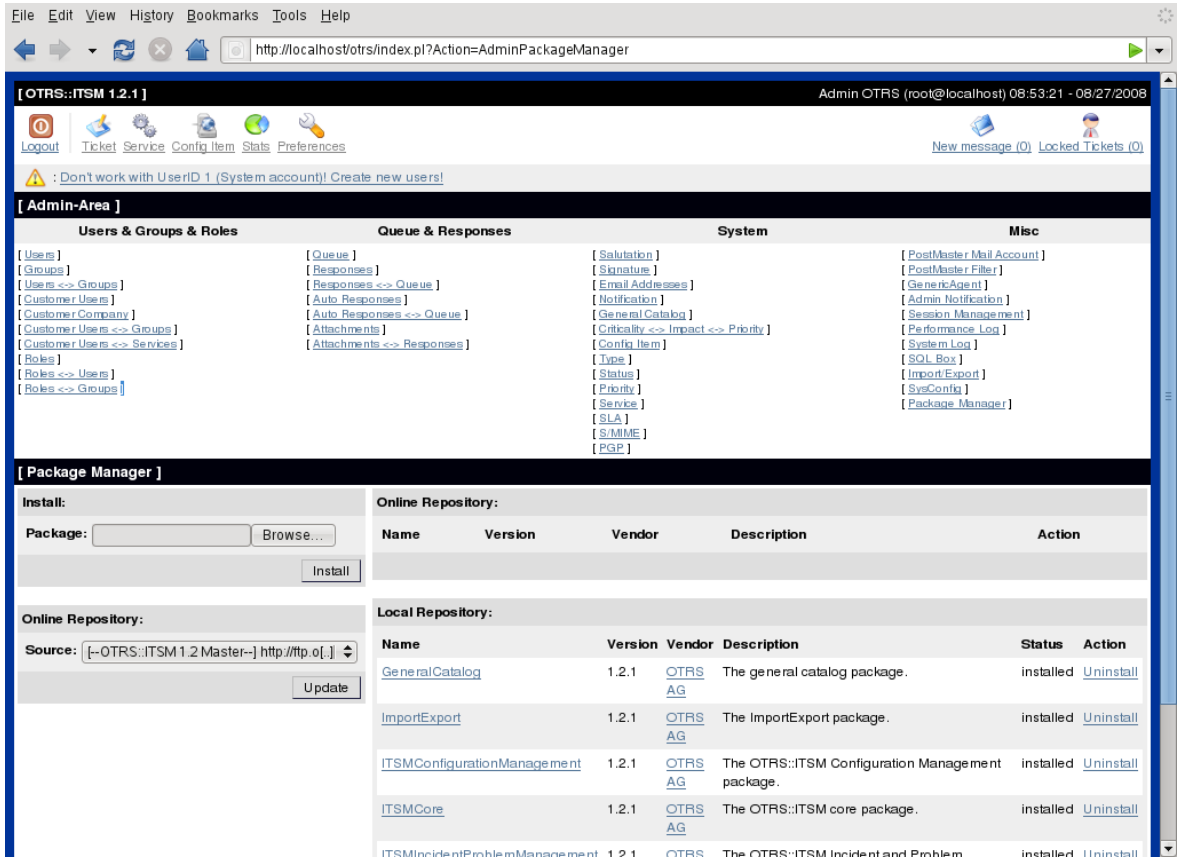
As soon as OTRS 2.3 or later is ready, sign on as administrator. Using the package manager in the admin area or via ftp://ftp.otrs.org/pub/otrs/itsm/packages12/ and install the ITSM packages in the following order:

- GeneralCatalog
- ITSMCore

If you have internet access from OTRS, use the online repository [--OTRS::ITSM 1.2 Master--] to install the packages below. Otherwise download the packages and use the package manager to install the packages:

- ITSMIncidentProblemManagement
- ITSMConfigurationManagement
- ITSMServiceLevelManagement
- ImportExport

You can find further information about the installation process here:
http://ftp.otrs.org/pub/otrs/itsm/INSTALL-1.2.ITSM



3.2. Upgrade

If an older version than OTRS::ITSM 1.1 is installed, update the system to the latest version 1.1 first.

If OTRS::ITSM 1.1 is installed already, update your OTRS 2.2 framework to version 2.3 BEFORE you update OTRS:ITSM. To do so, download the latest OTRS 2.3 framework and follow the instructions in the file UPGRADING. After that, log in to your system and use the package manager to install the package ITSMUpgradeTo12. You can download it manually or use the online repository. Ignore all error messages about not correctly installed old ITSM packages. This package will install all needed packages to update your system to an OTRS::ITSM 1.2 version, and it will migrate all your data.

Note: The upgrade can take several minutes! Please do not stop the upgrade process once it is running!

To upgrade an already installed OTRS::ITSM 1.2, use the package manager in the admin area. If you have internet access from OTRS, use the online repository [--OTRS::ITSM 1.2 Master--] to install newer packages. An 'upgrade' link next to the package name indicates if a newer package is available.

Otherwise download the packages and use the package manager to install the packages. Do not uninstall your current packages, or your data will get lost!

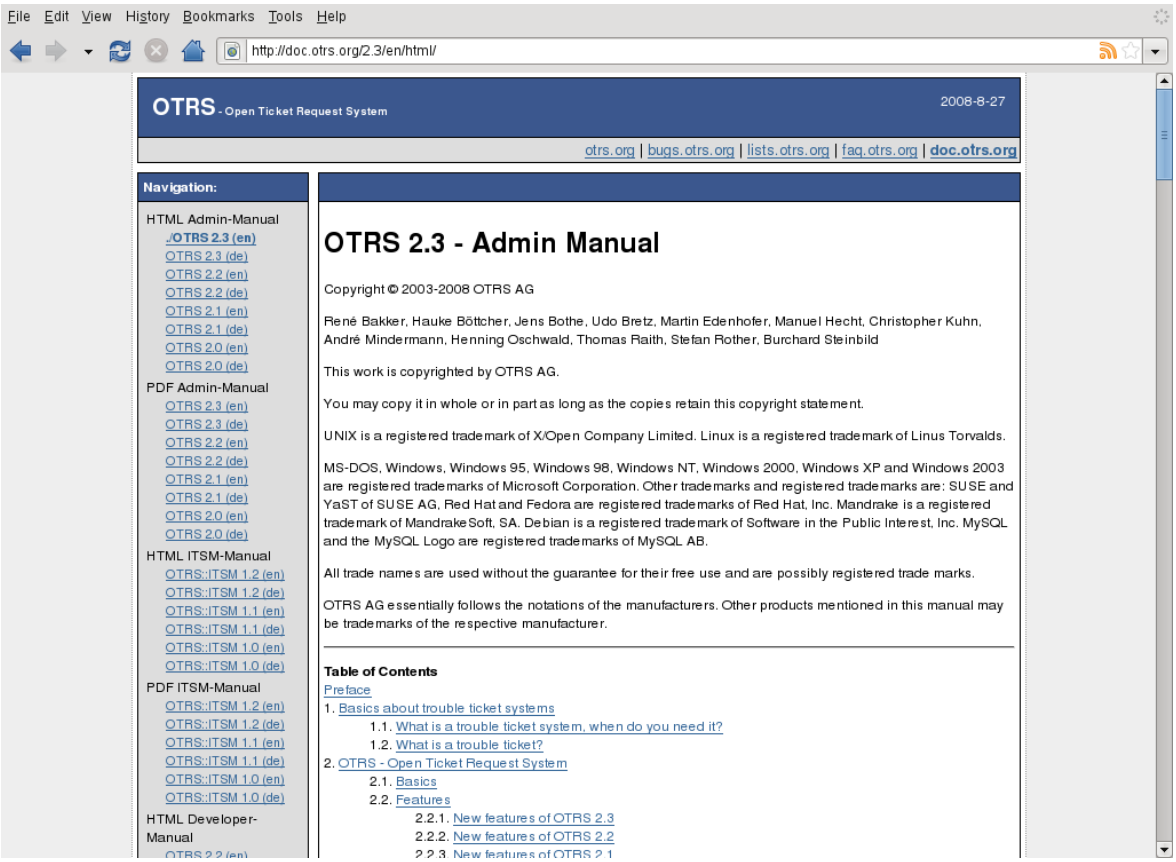
Chapter 4. First steps in OTRS::ITSM

OTRS::ITSM completely uses the agent and customer interfaces (customer frontend) implemented in OTRS. If OTRS has been used before, all features and steps such as login, queue configuration, user preferences, filters, rules, user permissions etc. can continually be used without any modifications.

The manual at hand will therefore only discuss differences to OTRS and new aspects of OTRS::ITSM and will focus particularly on:

- IT services and SLAs
- the CMDB
- new ticket fields and functions
- ITIL compliant terminology

Detailed information on the settings and proceedings identical in OTRS and OTRS::ITSM are provided at http://doc.otrs.org/2.3/en/html/ in the OTRS Admin Manual, which is constantly being revised.



Chapter 5. ITIL compliant service support with OTRS::ITSM

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

Without the thoughtful adaptation of generic ITIL processes to the individual business situation, OTRS::ITSM will confer no marked improvement core objective of IT service management to IT organization or customer service.

Therefore please excuse our raised finger at this point: The use of an ITIL compliant tool such as OTRS::ITSM only makes sense if processes, people and products (IT services) really are ITIL compliant.

Successful ITIL implementation projects typically take up to a year and longer. A neatly implemented ITIL compliant ITSM tool can help to save time and money though, as the process support of the tool supports and accelerates the process of rethinking.

OTRS::ITSM 1.2 supports the incident and problem management processes, service level management and configuration management database, which usually are designed in the first phase of ITIL implementation. A closer description of use and adaptation of the system can be found in the following sections. The package names correspond to their respective ITIL topics, each package can be installed independently.

Implementation of OTRS::ITSM is based on ITIL v2, by the way, which was published in 2000. Aforementioned version remains valid even after the publication of the revised ITIL v3 in summer 2007.

Chapter 6. The CMDB - the central IT repository

The configuration management database (CMDB) is not a database in the technical sense but a conceptual IT model, which is indispensable for efficient IT service management. All IT components and inventories are managed in the CMDB. Configuration management exceeds asset management, often incorrectly used as a synonym, as it does not only document assets from a financial point of view, but captures information regarding the relationship between components, specifications or their location. Thus IT support can quickly access information on the interdependence of IT services and the IT components (= configuration items = CIs) necessary for them.

According to ITIL, a CMDB must feature the following functionalities:

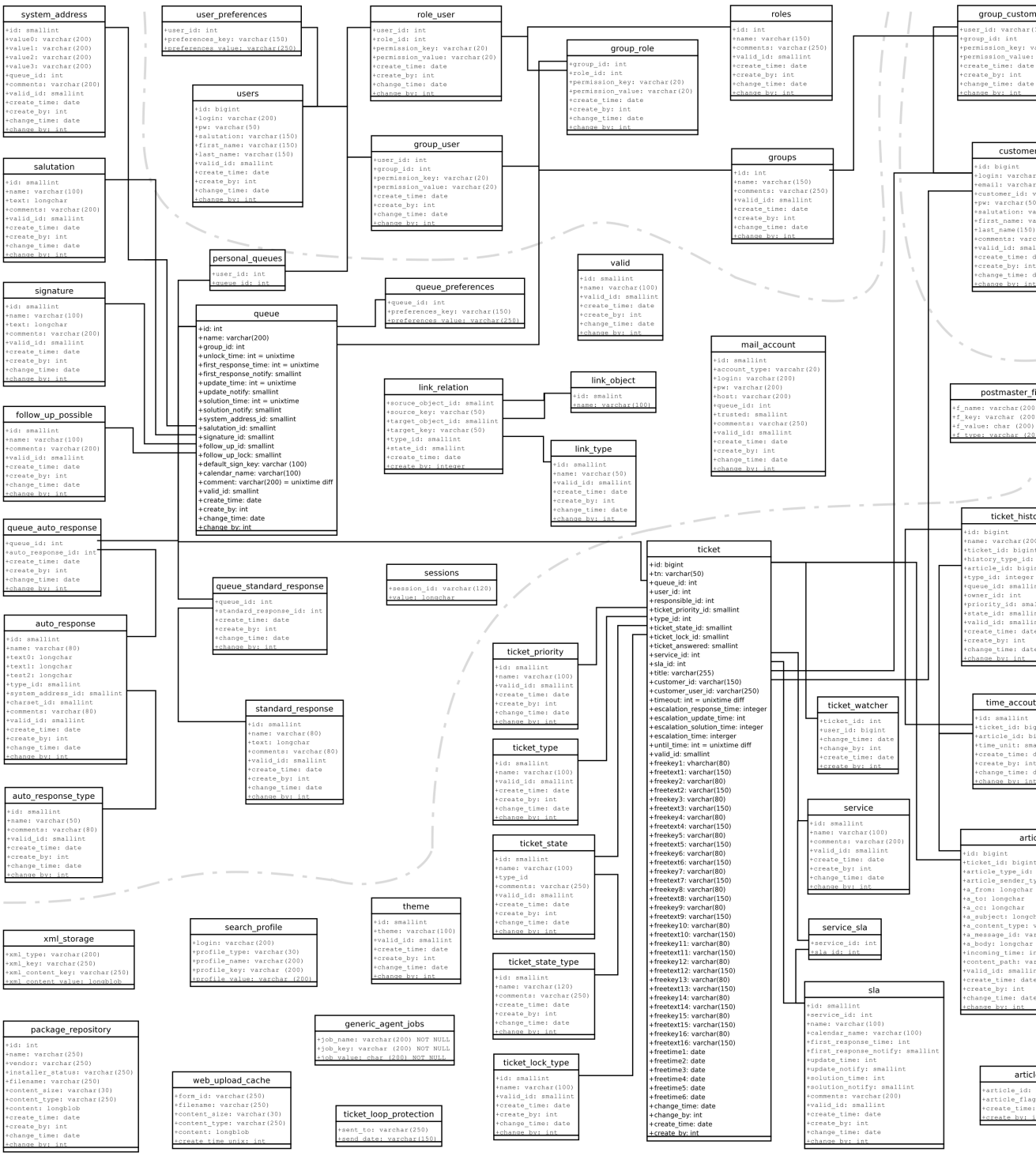
- manual and, where applicable, automatic recording and modification of configuration items
- description of the relationship and/or interdependence between CIs
- change of CI attributes (e.g. serial numbers)
- location and user management for CIs
- integration via the ITIL processes represented in the system

OTRS::ITSM meets all requirements stated above and offers numerous additional IT support functions in the CMDB.

6.1. The OTRS::ITSM database model

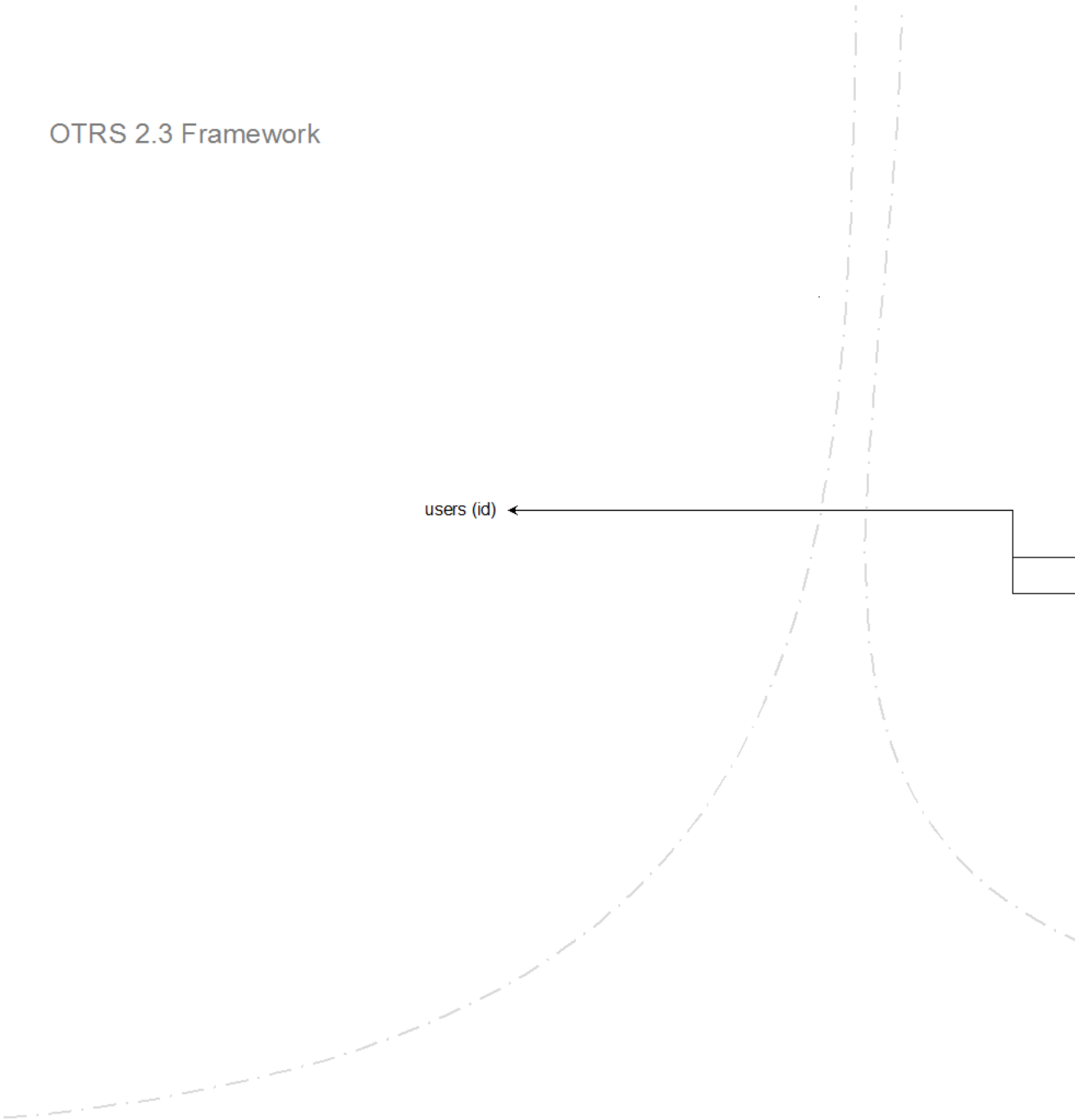
The modular architecture of OTRS::ITSM and the ability to install single OTRS::ITSM packages independently, make it difficult to display a complete database model in a single graphic. For this reaeon, separate graphics will be provided for the OTRS framework and for ITSM packages which change or extend the database scheme.

6.1.1. OTRS Framework



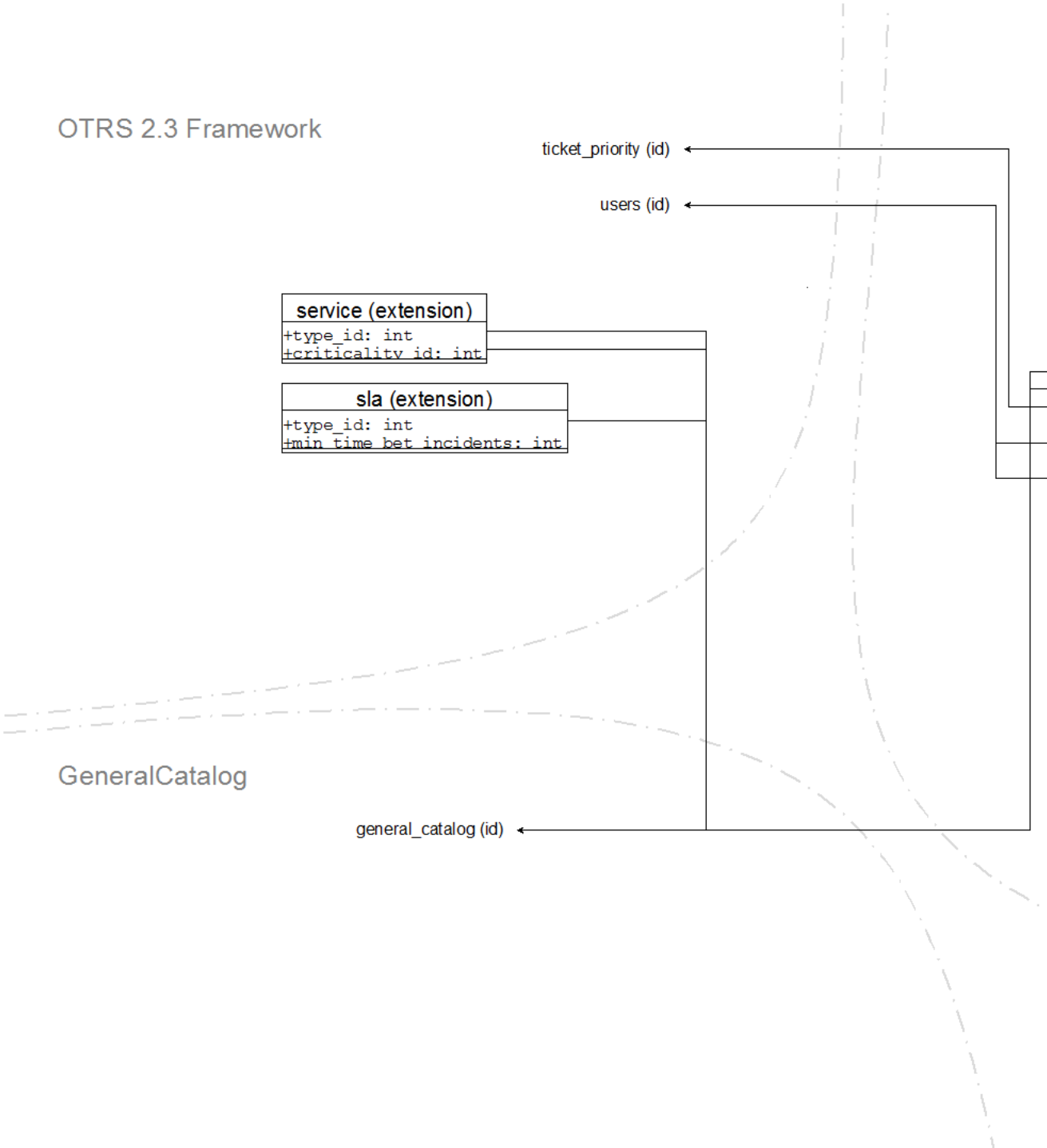
For better readability, the diagram can be found at http://ftp.otrs.org/pub/otrs/misc/otrs-2.3-database.png.

6.1.2. GeneralCatalog



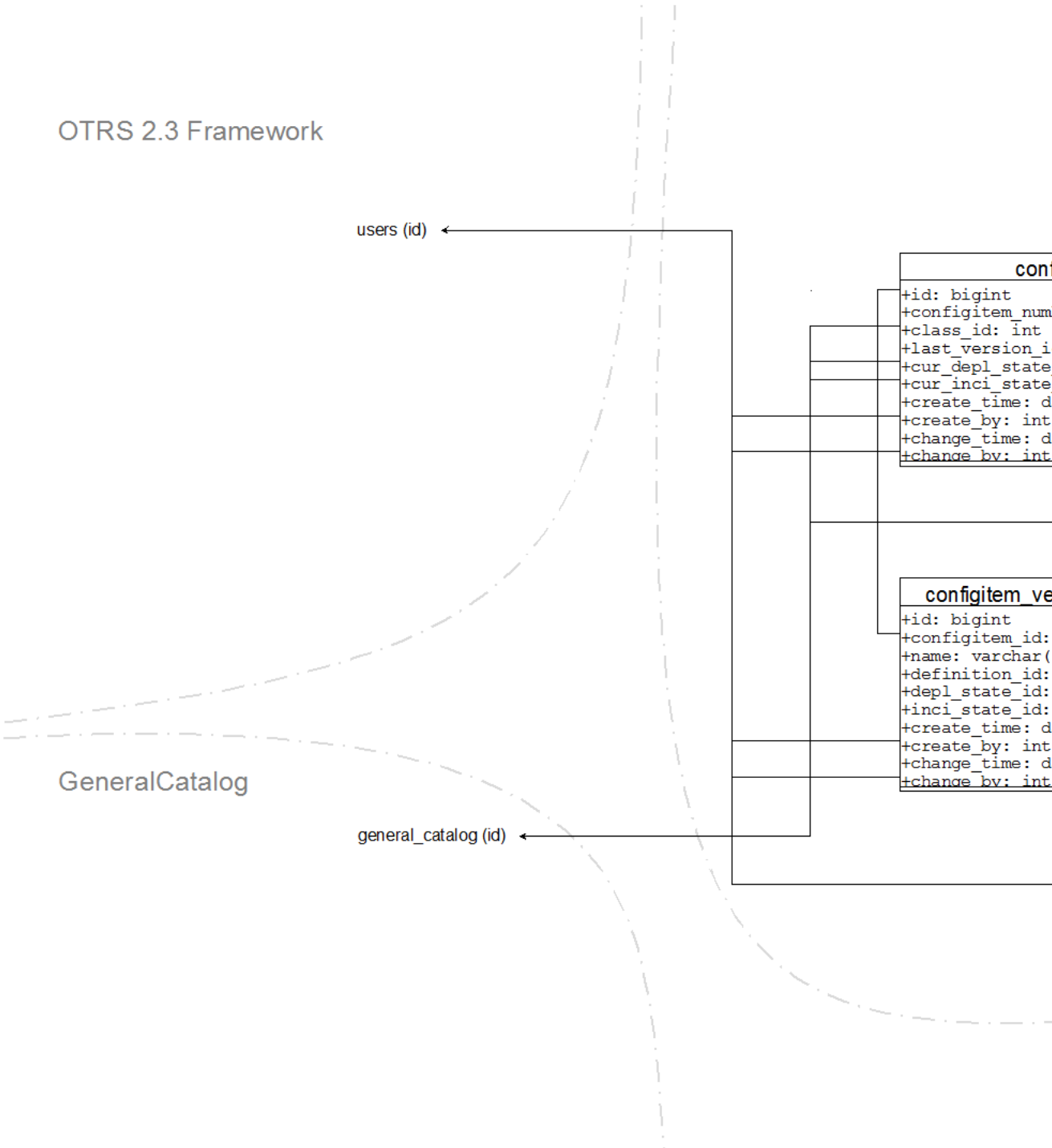
For better readability, the diagram can be found at http://cvs.otrs.org/viewvc.cgi/*checkout*/GeneralCatalog/doc/general-catalog-database.png?revision=1.1.

6.1.3. ITSMCore



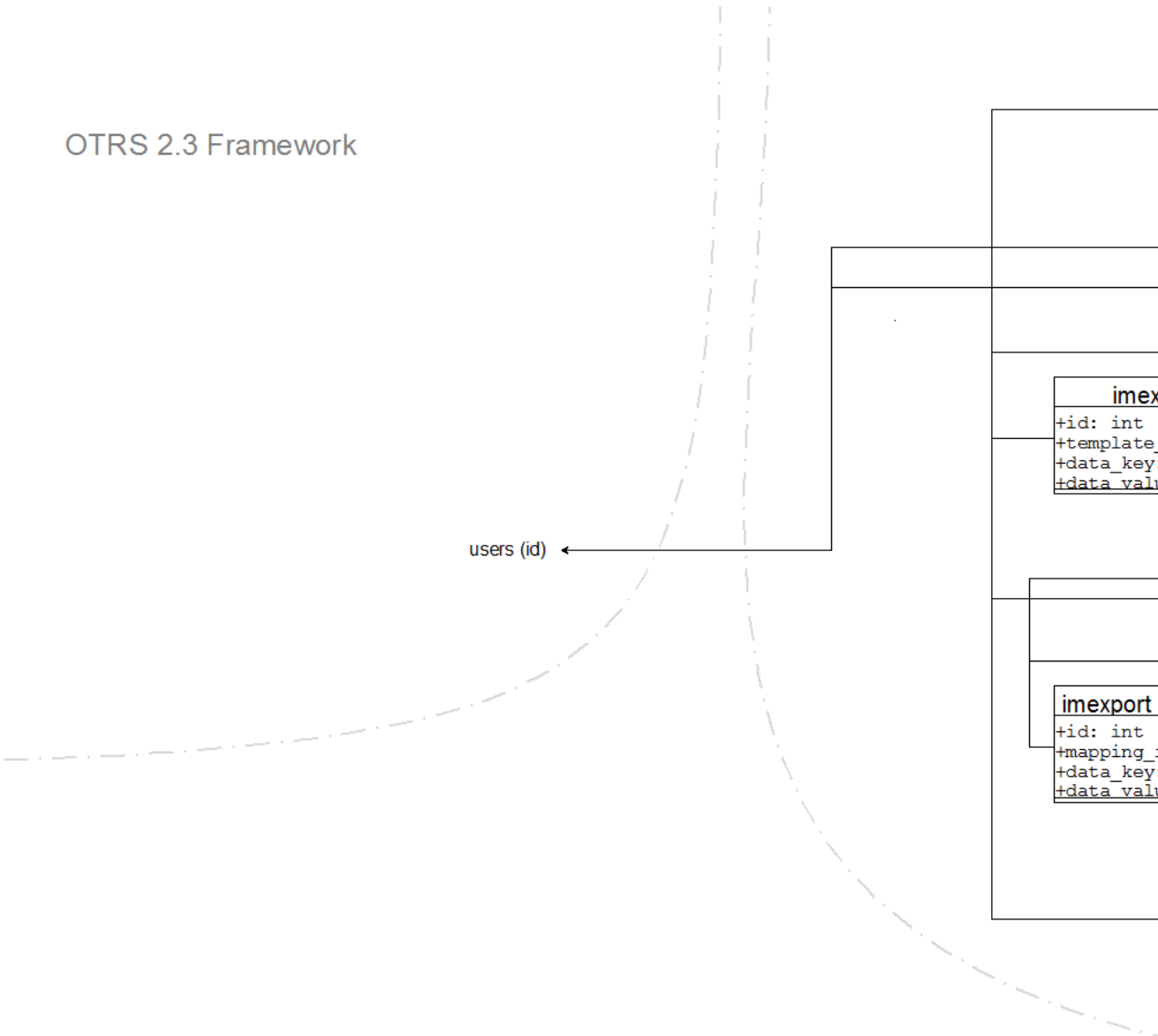
For better readability, the diagram can be found at
http://cvs.otrs.org/viewvc.cgi/*checkout*/ITSMCore/doc/itsm-core-database.png?revision=1.1.

6.1.4. ITSMConfigurationManagement



For better readability, the diagram can be found at
http://cvs.otrs.org/viewvc.cgi/*checkout*/ITSMConfigurationManagement/doc/itsm-configuration-management-database.png?revision=1.1.

6.1.5. ImportExport



For better readability, the diagram can be found at
http://cvs.otrs.org/viewvc.cgi/*checkout*/ImportExport/doc/import-export-database.png?revision=1.1.

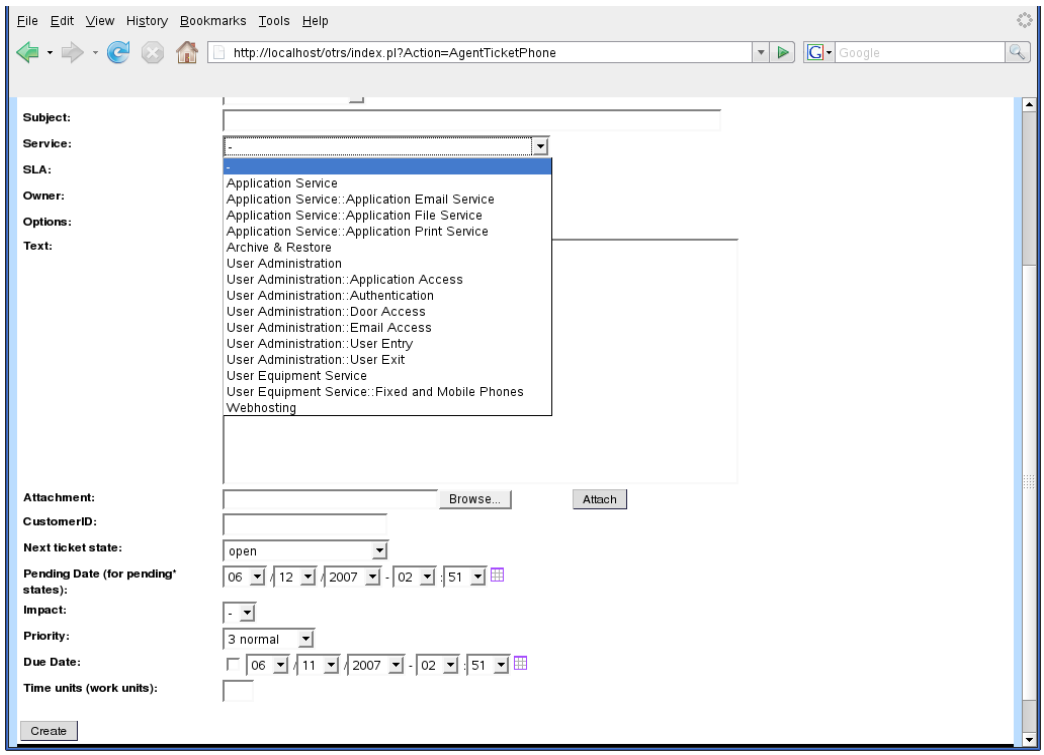
6.2. Services, at the core of everything

Services such as "standard IT workstation", "e-mail" or "web access are IT products and should at all costs be compiled in a so called IT service catalog prior to the adoption of OTRS::ITSM. Such service catalogs are usually customer or company specific, can be structured hierarchically and should be formulated in a user friendly, i.e. easily understood, language, as they can be accessed by IT personnel (agents) and IT users (customers).

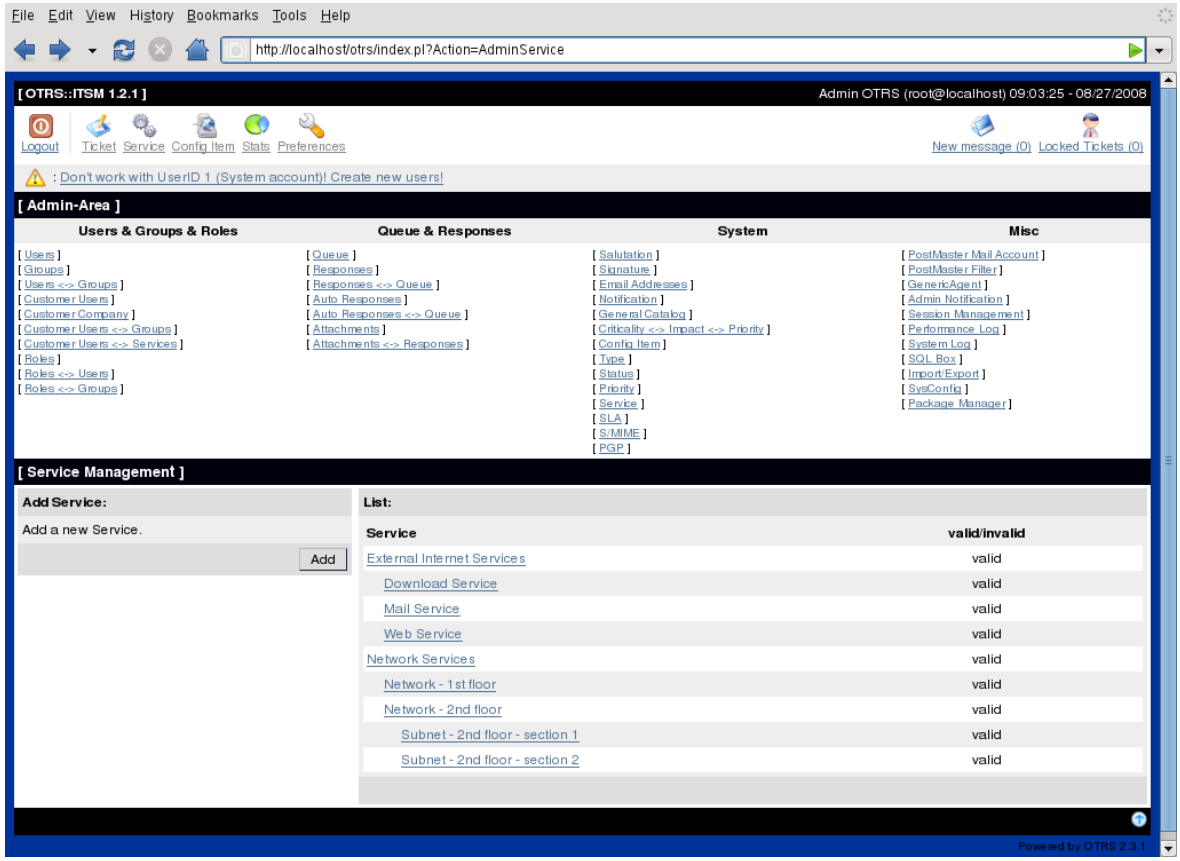
Warning

Service catalog design is a task which should not be underestimated. Our experience shows that it is highly recommendable to validate conceptual thoughts in a dry run first and transfer the service structures to OTRS::ITSM in a second step. It has proven of value to resort to external assistance, e.g. of ITIL practice experts.

Example of (part of) a hierarchic IT service catalog specified in OTRS::ITSM as shown when a ticket is created

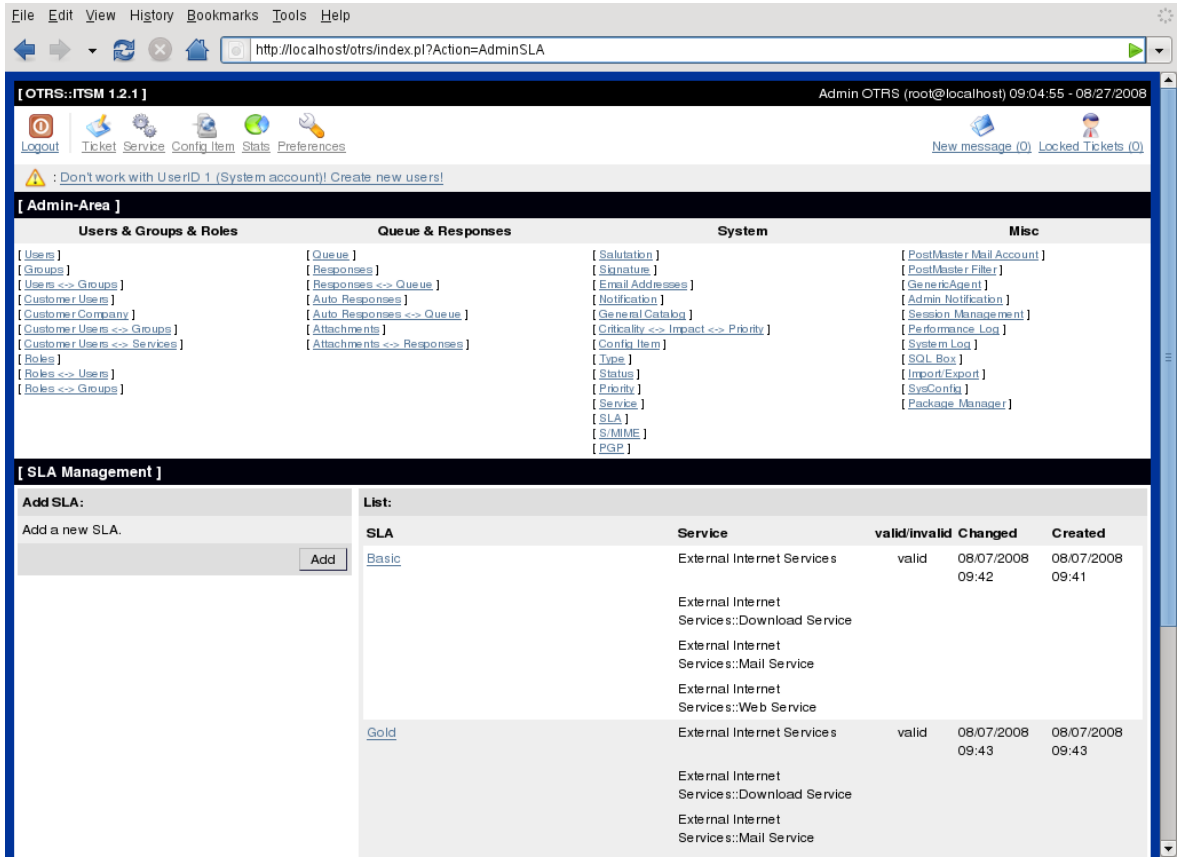


and in the administration area.

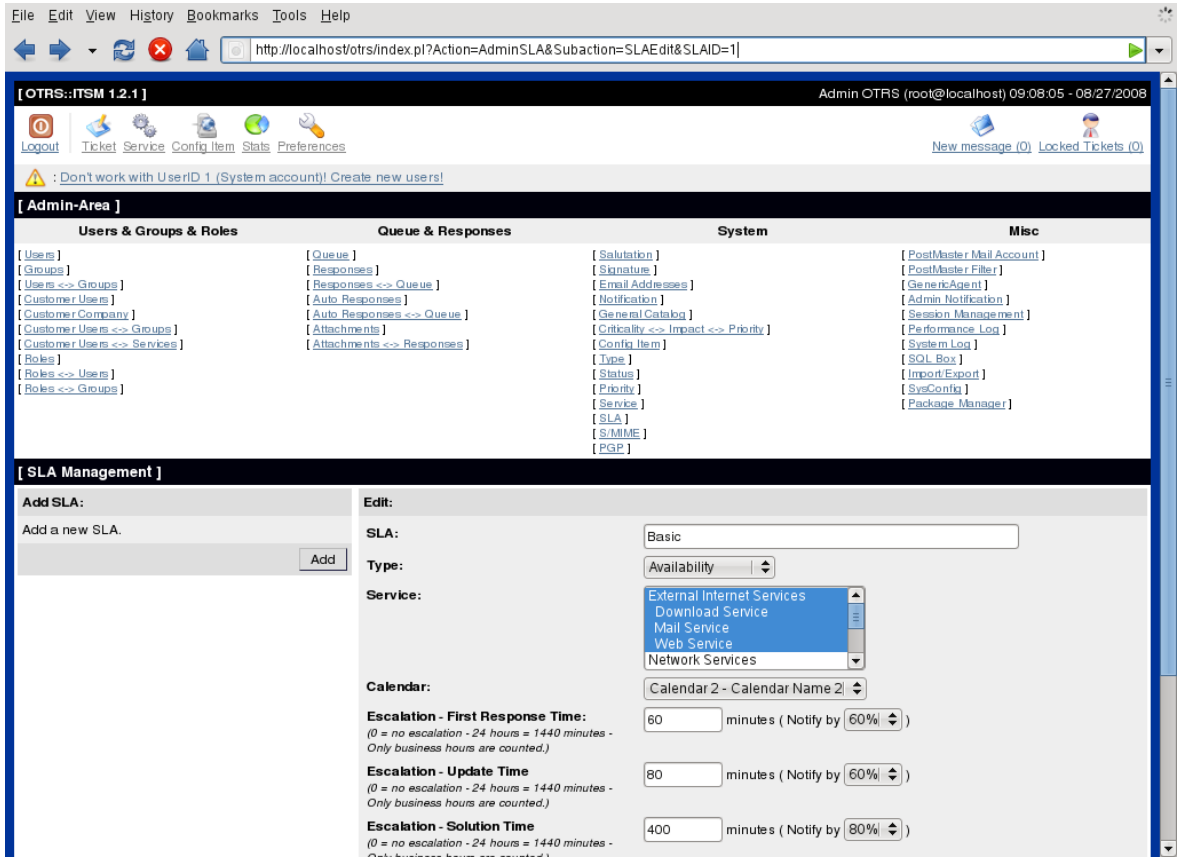


6.3. Service levels and service level agreements

Service levels and the respective agreements (service level agreements, SLAs) document quality pledges for IT services. SLAs are recorded and administered in the admin interface.



The following parameters can be recorded with every SLA:



OTRS::ITSM offers up to 99 different calendars by default to describe the various time zones for work or service times. The SLAs can be allocated to them ("service level window"). Various time spans can be entered (in minutes) which OTRS::ITSM uses to control notification and escalation:

- [Response Time]
  - = reaction time with incidents
  - = start of service request procession ("service request lead time")

- [Update Time]
  - = notification time

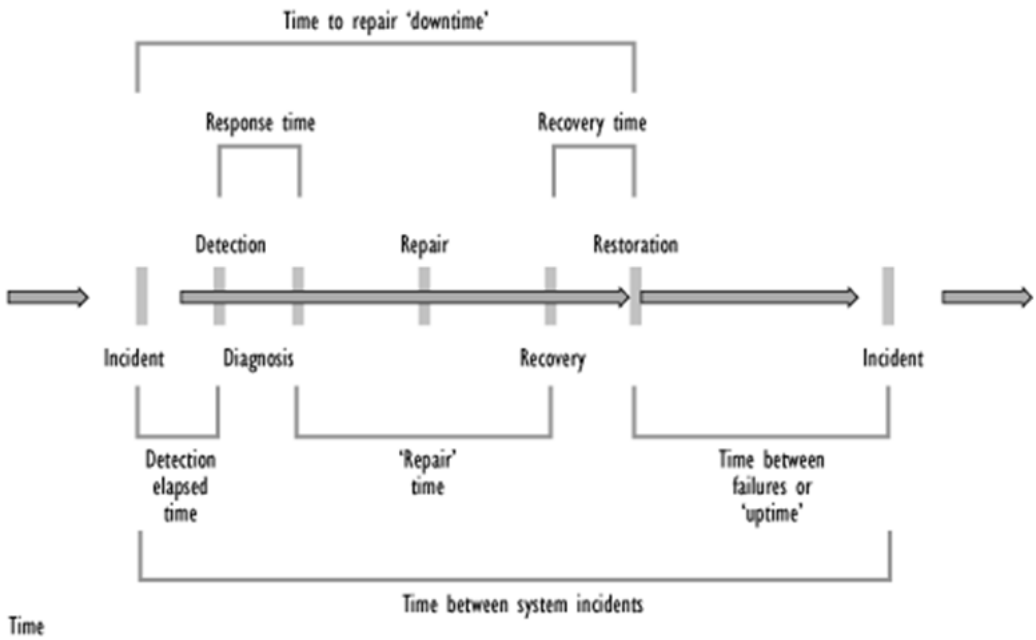
- [Solution Time]
  - = time elapsed until incidents are resolved ("maximum time to repair", "MTTR")
  - = delivery time for service requests ("delivery time")

- [Min. Time Between Incidents]
  - = "MTBI": minimal time between closure of the last incident ticket and recurrence of an incident for which the same SLA applies.

Warning

If no values for the above-named times are entered in the SLAs, escalation is effected according to the time fields "response time", "update time" and "solution time" assigned to all queues!

Important time values of OTRS::ITSM are based on the "ITIL incident lifecycle":

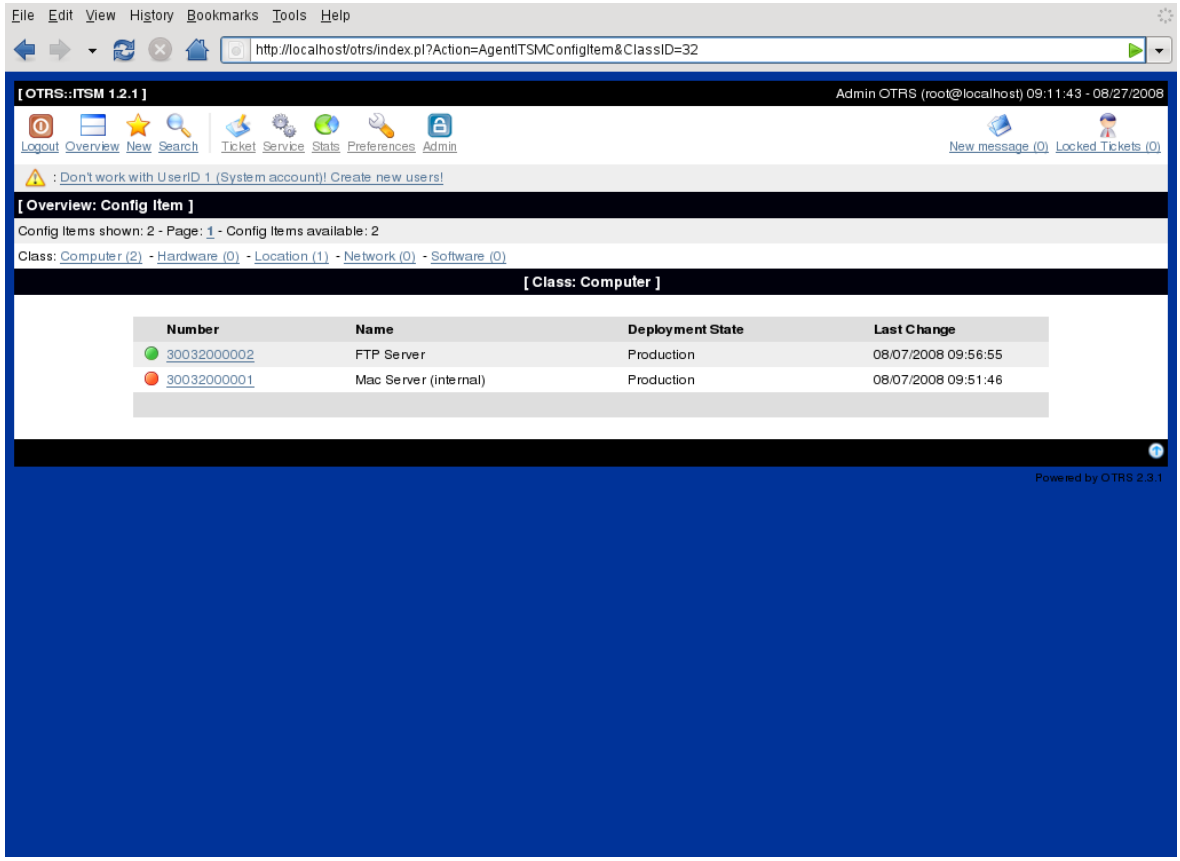


Source: OGC, ITIL Service Support Documentation

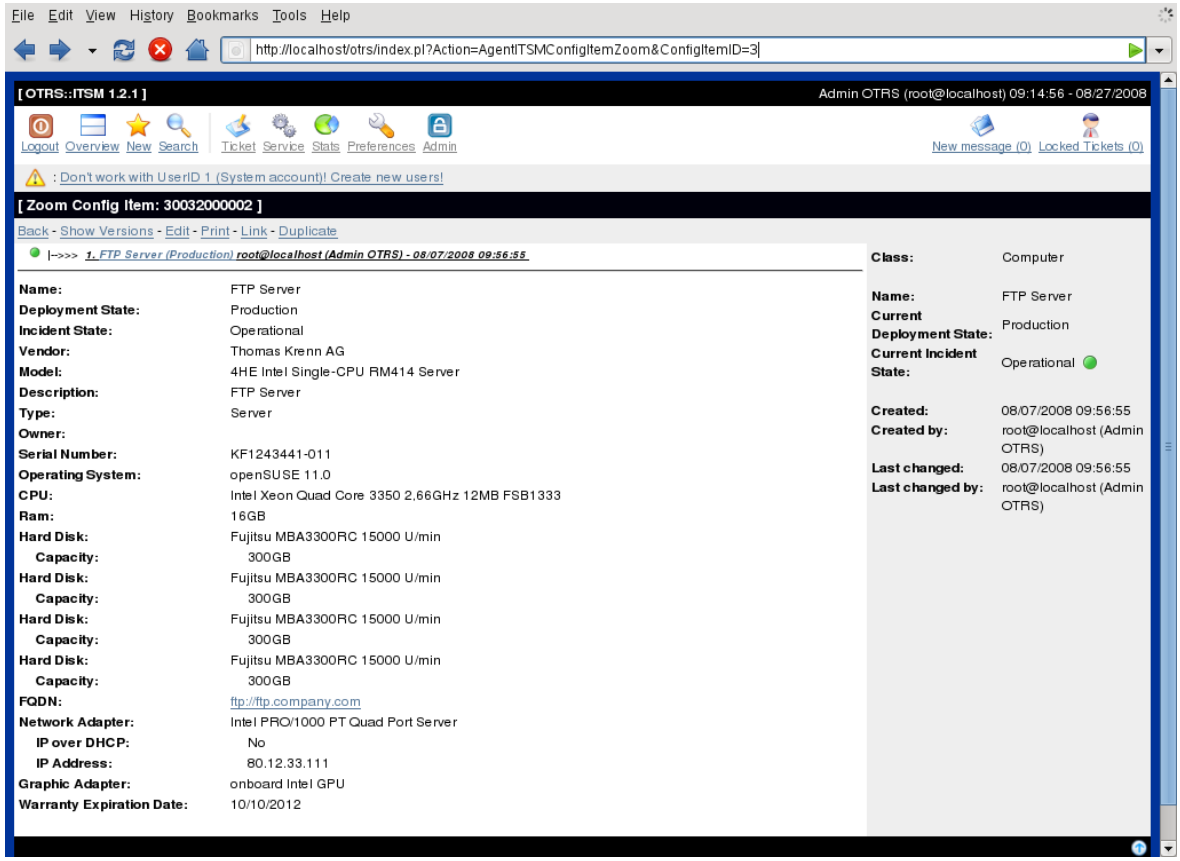
The OTRS stats framework facilitates, among other things, the definition of the actual availability of a service from recorded incidents, which often serves as a performance figure in system-oriented SLAs.

6.4. Configuration items

Exemplary overview of recorded computer CIs (part) with current CI state:

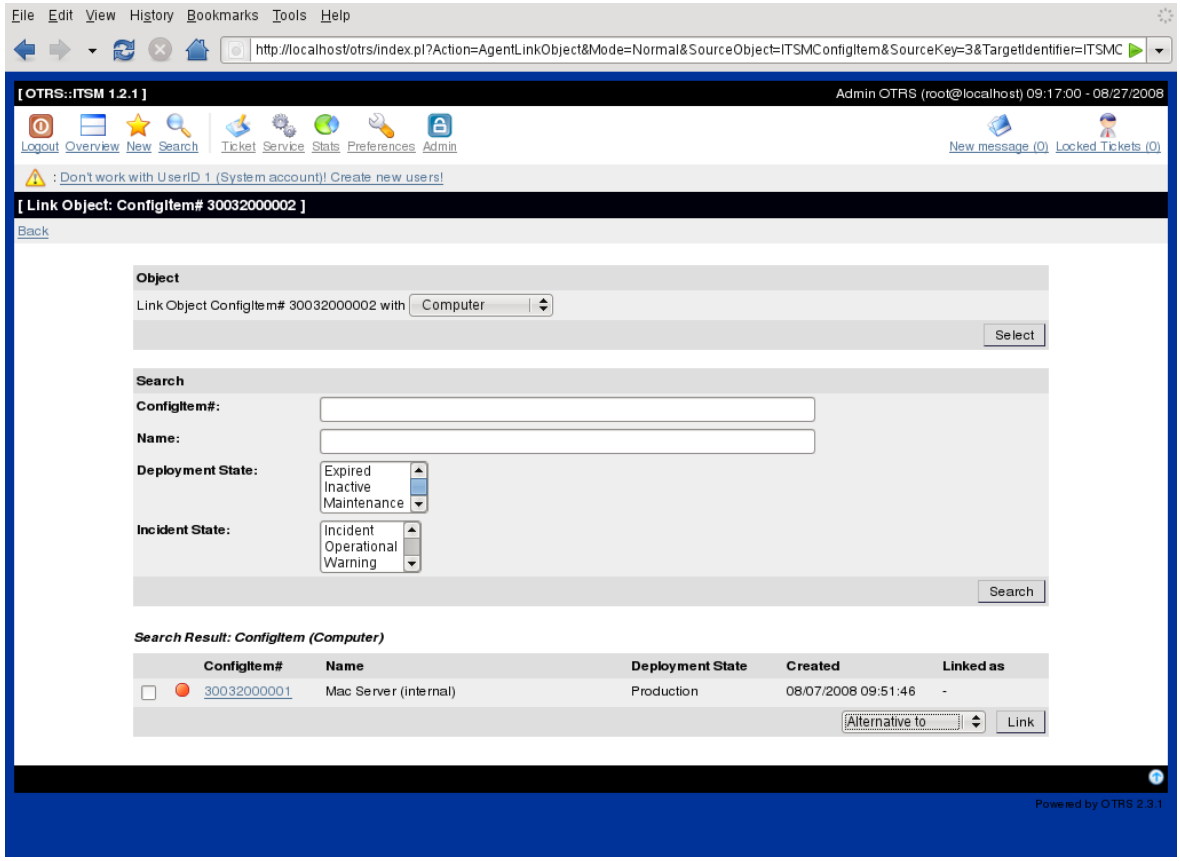


Example of an individual CI view:



The graphic exemplarily shows the links between CIs. OTRS differentiates between bidirectional and nondirectional links. Whenever a CI is linked to another CMDB object, OTRS::ITSM automatically creates the respective reverse link.

The OTRS::ITSM standard offers seven link types:



To link objects, the source object is chosen first, then the link type is defined and the target object chosen. The target object can be searched for using various criteria:

6.5. Documents and knowledge database

Using the FAQ system, which is an independent external module since OTRS 2.1, a knowledge database can be designed and managed, e.g. for suggestions and/or procedures related to the resolution of known errors.

Entries can be provided for internal use only, for all customers or the public. They can be created and sorted according to language or categories. The quality of FAQ articles can be evaluated by agents. The number of articles last created or last revised to be displayed can be configured without any limitations. All articles can be indexed for an efficient search.

6.6. Changes and amendments to the data model

The data model can be adapted flexibly and can be extended with data types, attributes and even classes. Detailed information can be found in the section "The admin area of OTRS::ITSM" in this document or in "The admin area of OTRS" in the OTRS Admin Manual.

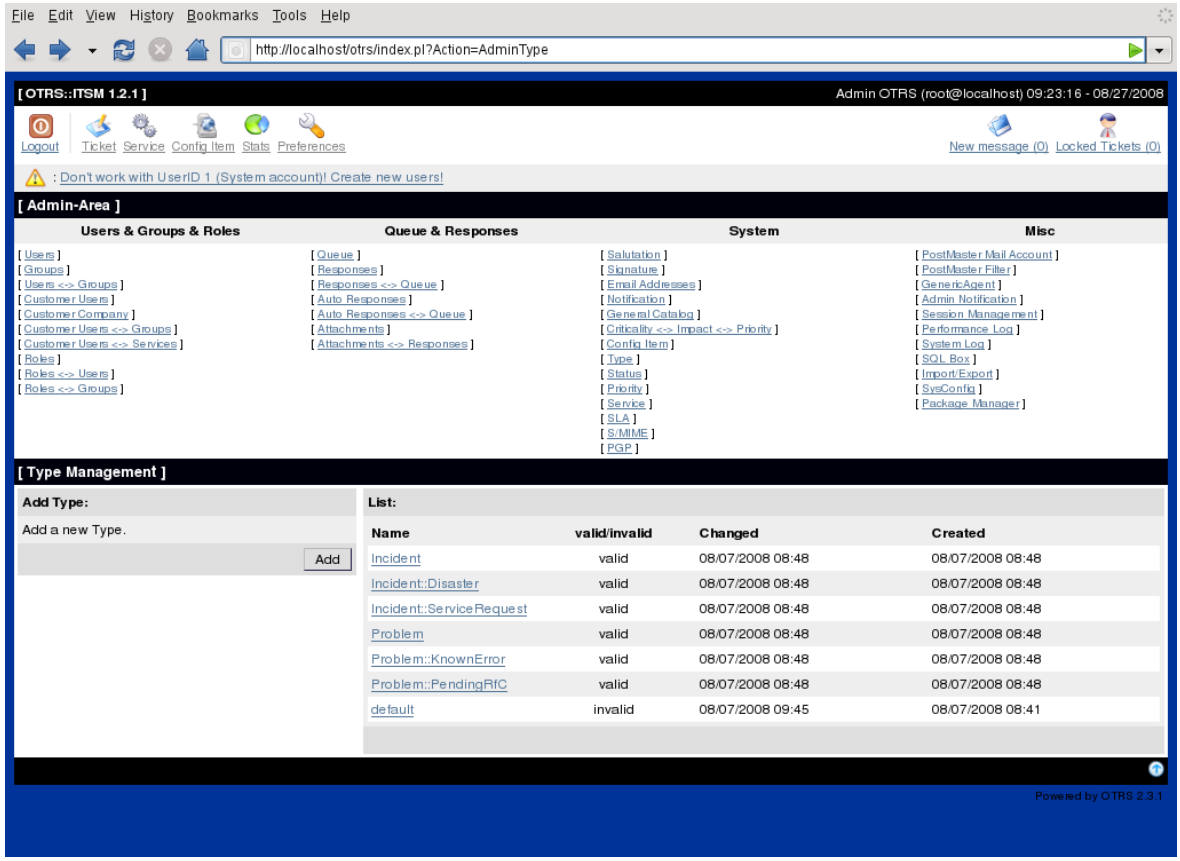
Warning

The design of a CMDB data model and the CIs to be managed within it is a task which should not be underestimated. Our experience shows that it is highly recommendable to validate conceptual thoughts in a dry run against the existing IT infrastructure first and change the OTRS::ITSM default data model and CI classes only afterwards. It has proven of value to resort to external assistance, e.g. of ITIL practice experts for CMDB design.

6.7. Ticket types and attributes

With OTRS 2.2, native ticket types were introduced, which are used in OTRS::ITSM, too. In the ITIL sub-processes which can be structured in queues, tickets are classified on their ticket types.

All ITIL processes to be implemented in later versions of OTRS::ITSM, e.g. change management, will be implemented in such a way. Ticket types such as RfC ("Request for Change") could be created.



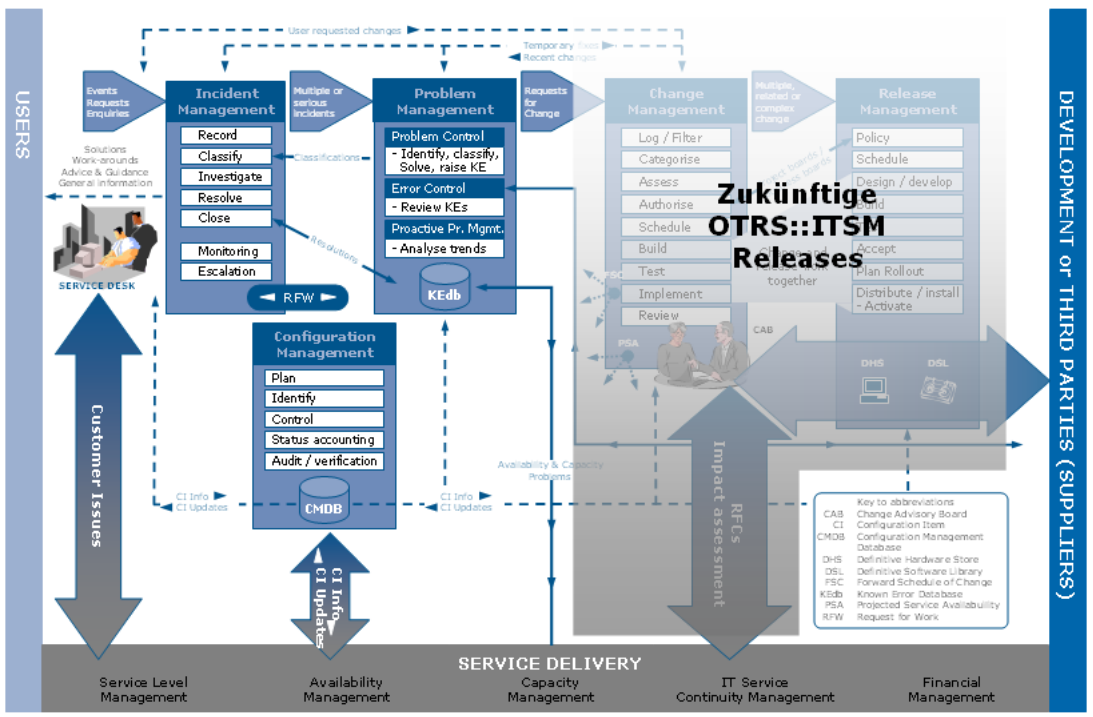
Warning

In order to assure the consistency of the data managed in OTRS::ITSM, information created in the admin area of the system cannot be deleted as a general rule. If you want to deactivate such information, change the value in the respective listbox settings from "valid" to "invalid" or "invalid-temporarily".

Chapter 7. Service desk, incident & problem management

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

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



Source: ILX Group (www.ilxgroup.com)

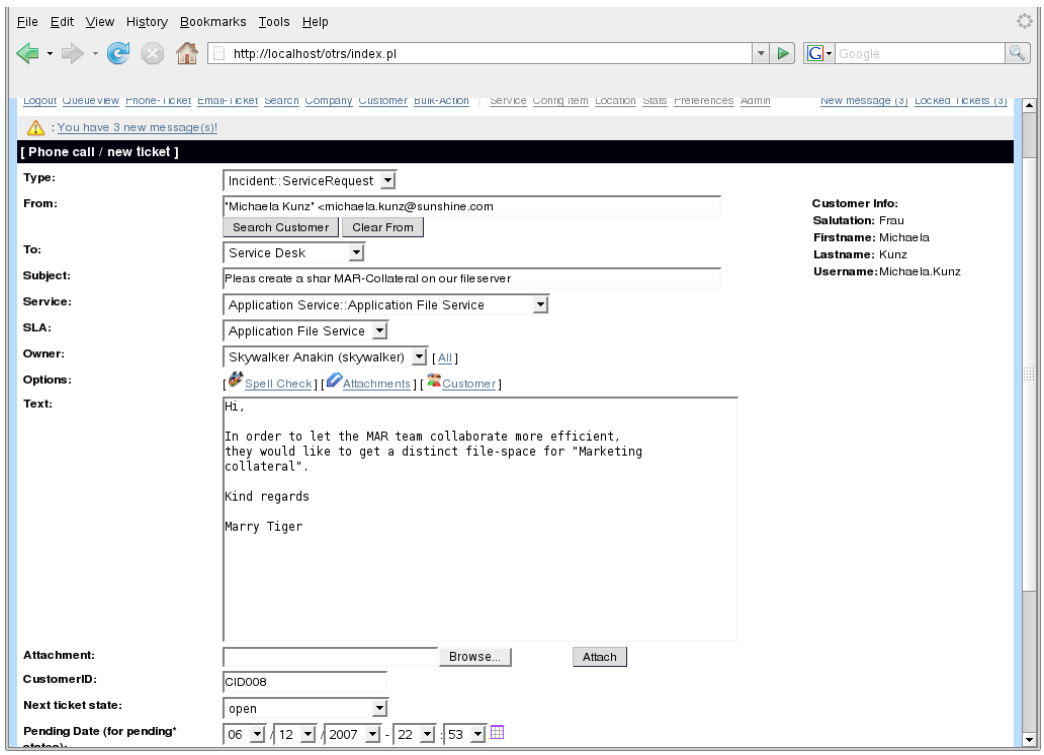
7.1. Ticket generation, classification and prioritization

At ticket generation in our case a phone ticket the following information can be registered additionally to the information implemented in OTRS:

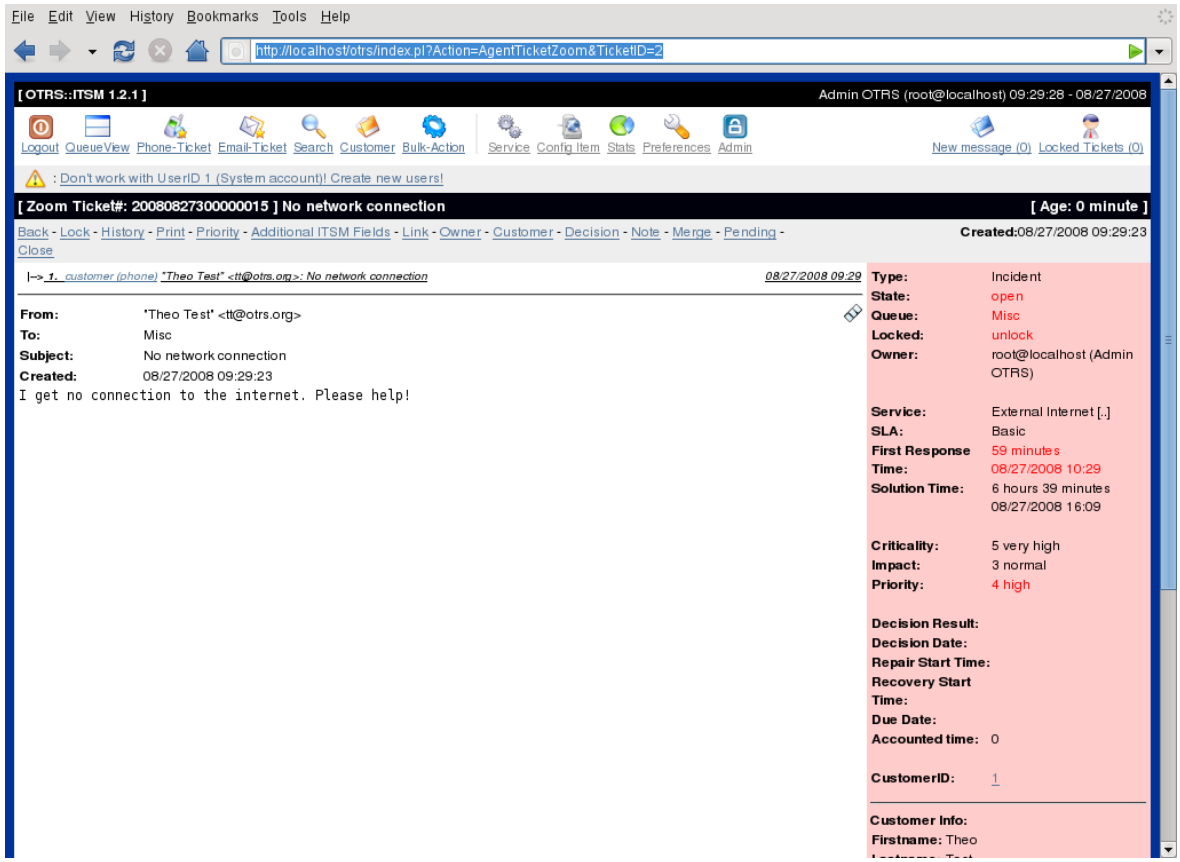
- ticket type
- relevant service
- SLA
- impact
- priority

Depending on the service selected, impact and priority are automatically submitted from the criticality impact priority matrix but can be overwritten. Requests can thus be prioritized higher or lower, which corresponds to real day-to-day IT business requirements.

Surely every IT service staff member knows a so called VIP customer who wants to be treated more equal than others and can be, this way.

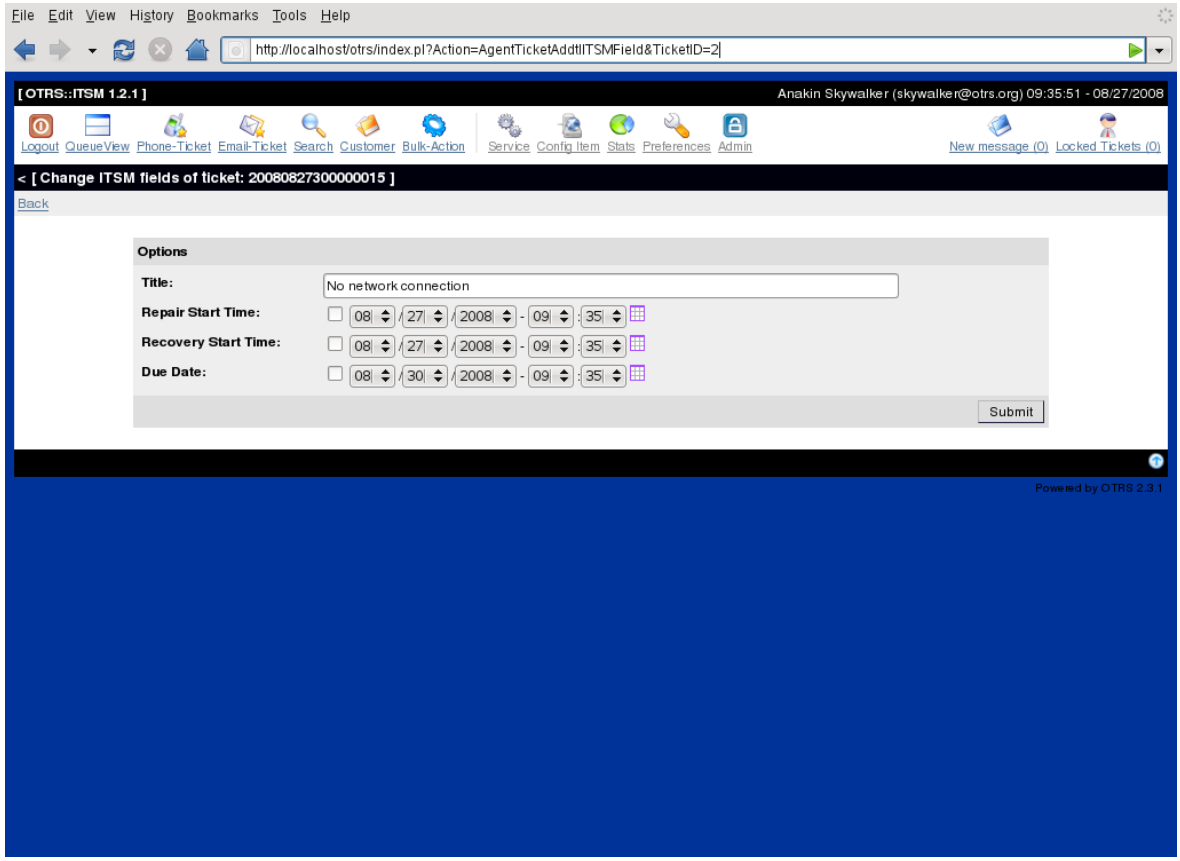


By following the ticket content (zoom) link, detailed information about the ticket can be called up. All data relevant for IT support is consolidated in the right hand section:



7.2. SLA relevant time information

With the additional ITSM fields link, time information additional to the response, update and solution time provided in the SLA can be recorded and existing information can be changed:

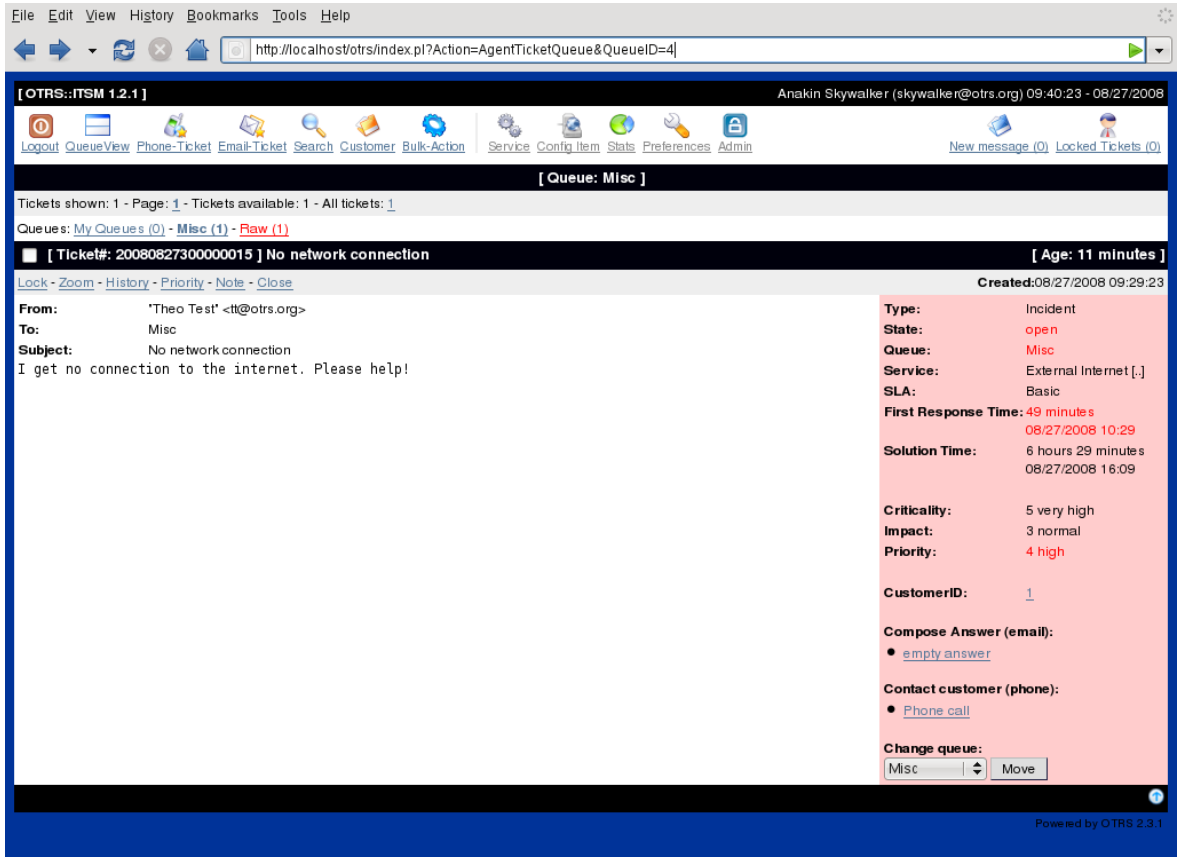


7.3. Allocate tickets (queues)

The OTRS::ITSM queues can be adapted flexibly to your organizational structures. They can follow the vertical scheme of service desk, first, second and third level support often used in IT service support or be configured in a process oriented manner based on the ticket life cycle of generation, processing, closure and post-processing.

Contrary to OTRS versions prior to version 2.2, ticket escalation in OTRS::ITSM is based first of all on the response, update and recovery times provided in the SLA. If no values are provided in the SLA, escalation is effected based on the queues and time information stored in them.

Tickets can be moved by choosing a new queue in the bottom right corner of the ticket view.

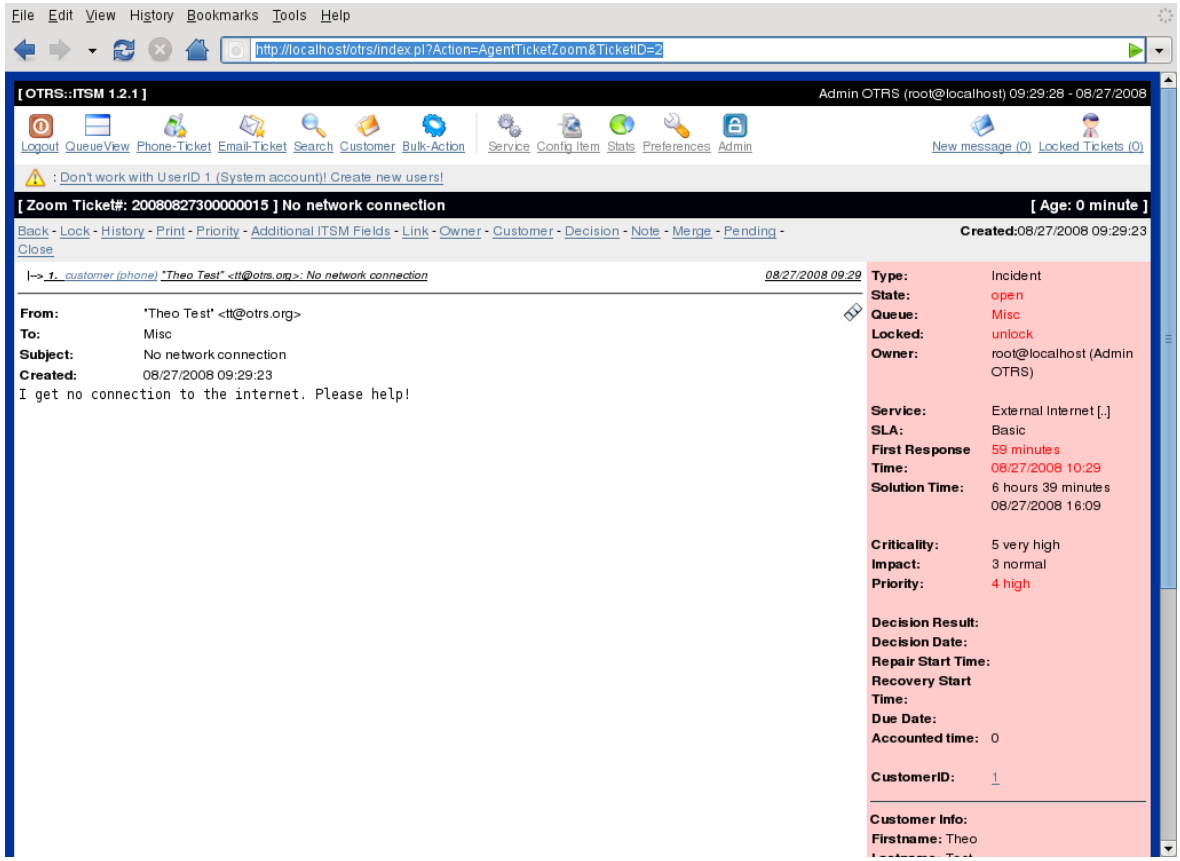


Warning

The design of a queue structure is a task which should not be underestimated. Our experience shows that it is highly recommendable to validate conceptual thoughts in a dry run against the existing IT infrastructure before configuring OTRS::ITSM. It has proven of value to resort to external assistance, e.g. of OTRS or ITIL practice experts for the queue design.

7.4. Change ticket data

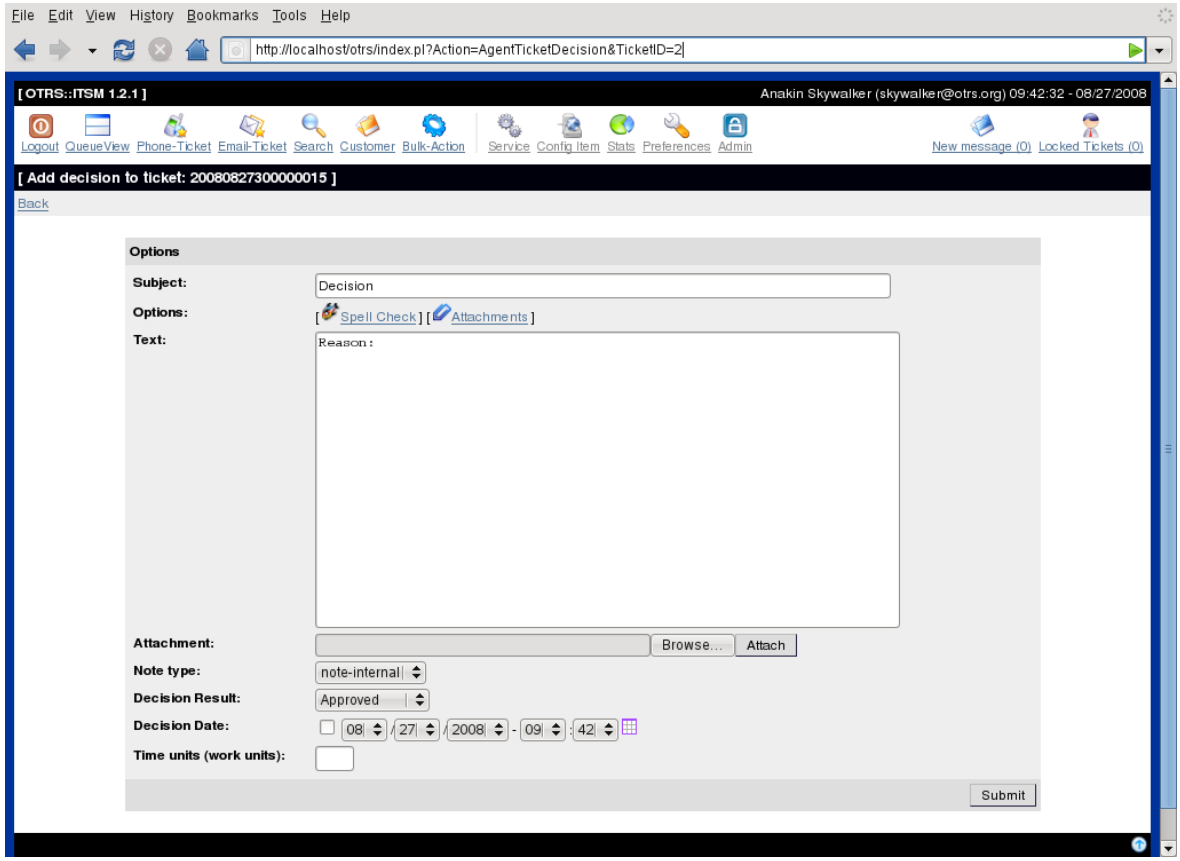
All changes to the ticket can be effected just as in OTRS using the links below the navigation bar.



7.5. Approvals and decisions

In many cases, especially with service requests, decisions have to be taken before requests can be implemented. Depending on the competence framework, decisions are either taken directly by the service staff (standard changes) or the approval of a supervising manager must be obtained first. This is primarily the case with permission changes (a user wants to access a restricted file system directory) or cost generating requests (new laptop).

In OTRS::ITSM approvals and refusals are shown via the decision link and are permanently saved with the ticket:



7.6. Generation of problem tickets from incidents

To generate a problem ticket from one or more incidents, generate a new ticket and link it with the relevant incident tickets. This way, the underlying incidents can be processed individually, can be closed with a workaround if necessary and later be substituted with a permanent solution.

A merging of incident and problem tickets obscures the reporting and complicates controlling and the continuous improvement of the IT services.

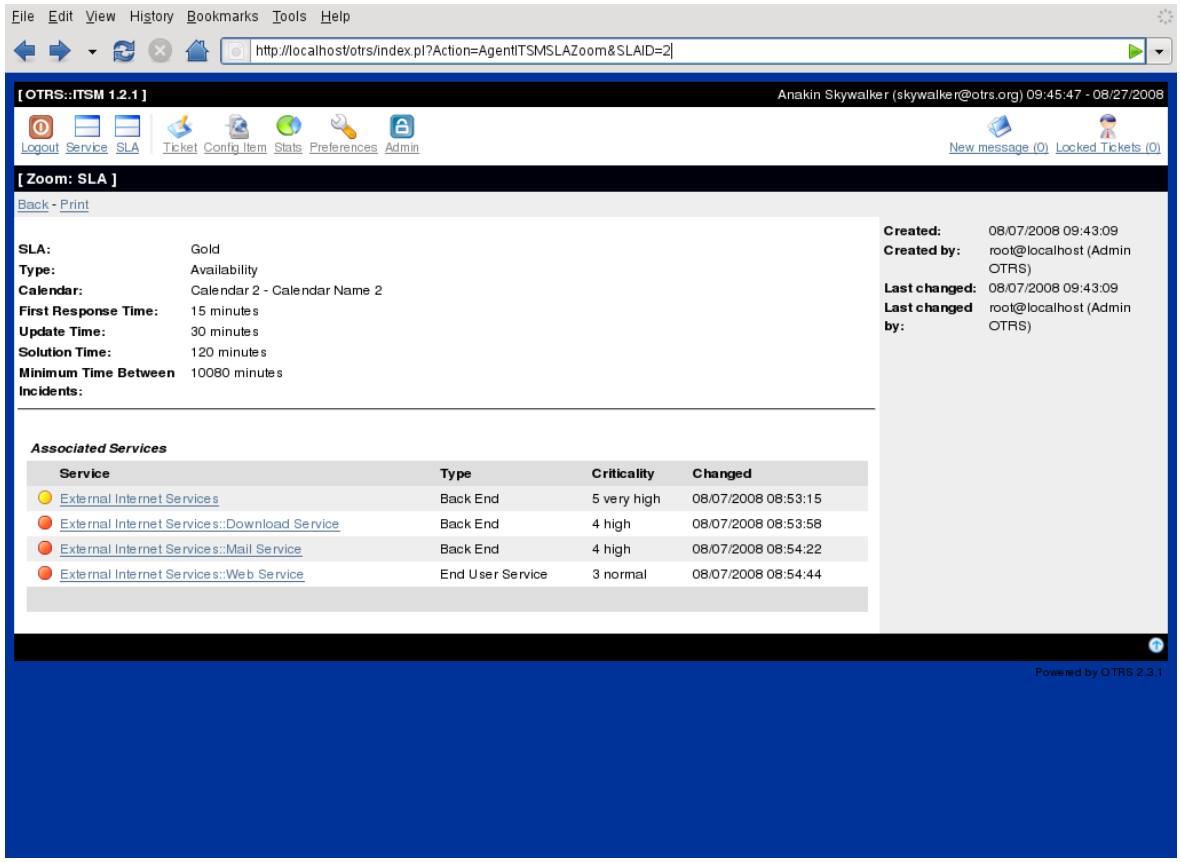
7.7. Ticket closure

Unlike the OTRS standard, OTRS::ITSM facilitates ITIL compliant ticket closure with a workaround.

7.8. Processing of service requests

Service requests are incidents, too and are processed equally. They are distinguishable from disruptions because of the ticket type Incident::Service Request.

Another difference, the SLA relevant times, is explained in greater detail in the service levels and service level agreements section.



Chapter 8. Change Management

The change management process will be implemented in a later version of OTRS::ITSM. Basic information, however, can already be configured, recorded and controlled since version 1.0.

The ticket state "Pending RfC" for example (= a known error which can be solved with a change), can be used from the problem management module.

Chapter 9. Release Management

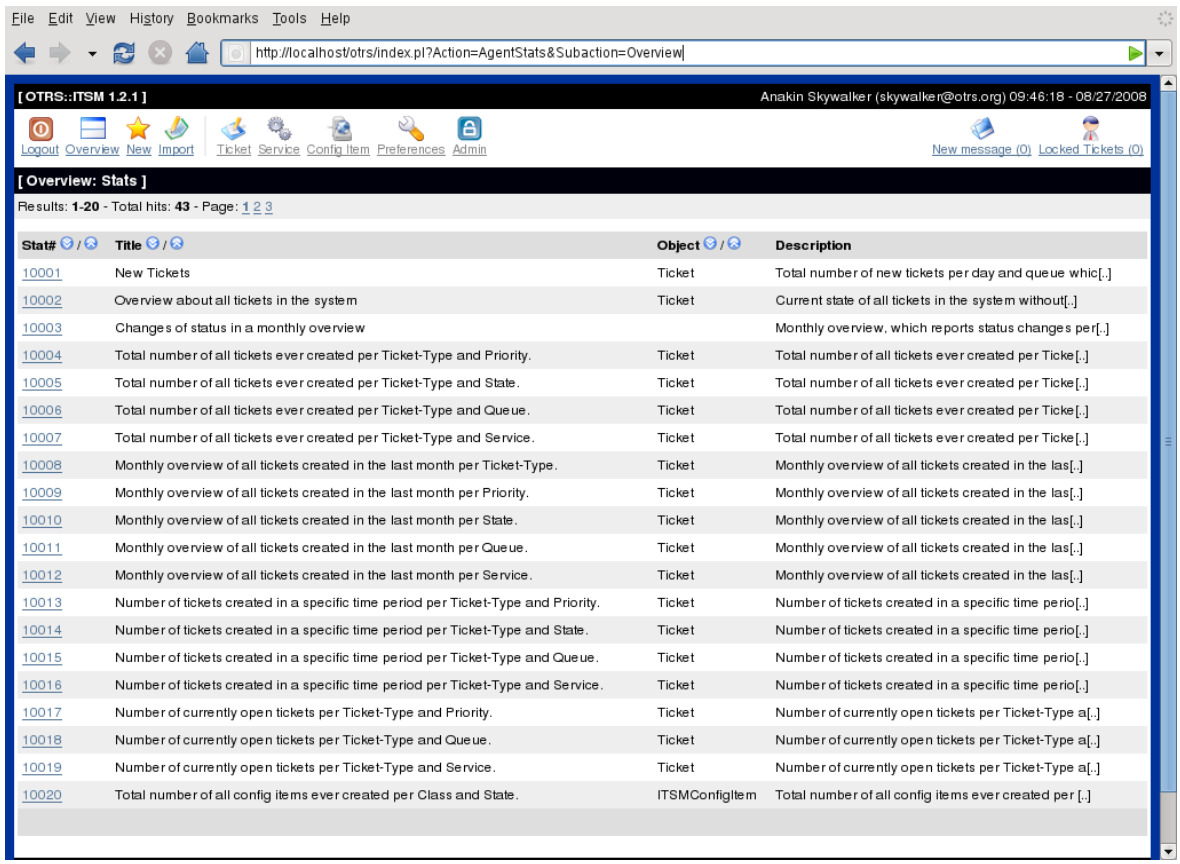
The release management process will be implemented in a later OTRS::ITSM version. Basic information, however, can be configured, captured and controlled since version 1.0 too.

As an example, approval rules or overviews from DSL (Definitive Software Library) can be configured and used.

Chapter 10. Service Level Management

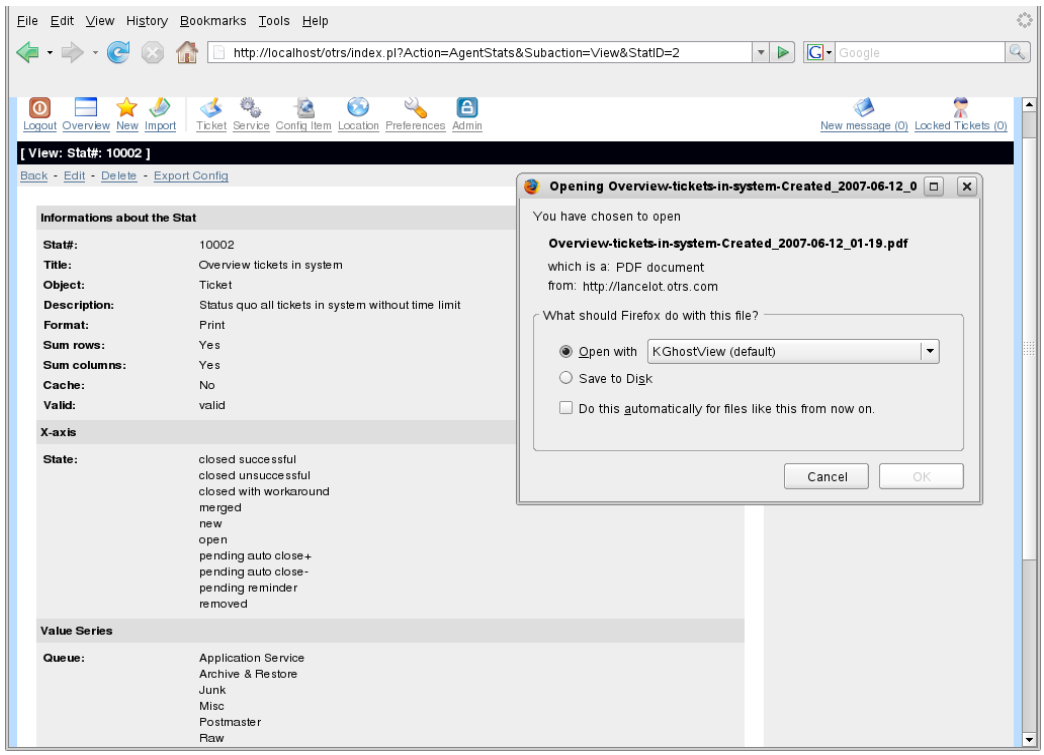
The OTRS stats framework has been completely revised for version 2.1 and nearly every type of ticket report can be created in the web interface. Generation and view of stats and charts can be activated for users, groups and/or roles. It is possible to import or export existing or new stats and further use can be made of stats modules from previous OTRS versions. With the installation of the ITSMServiceLevelManagement package, additional ITSM relevant statistics are available.

Example of a report overview:

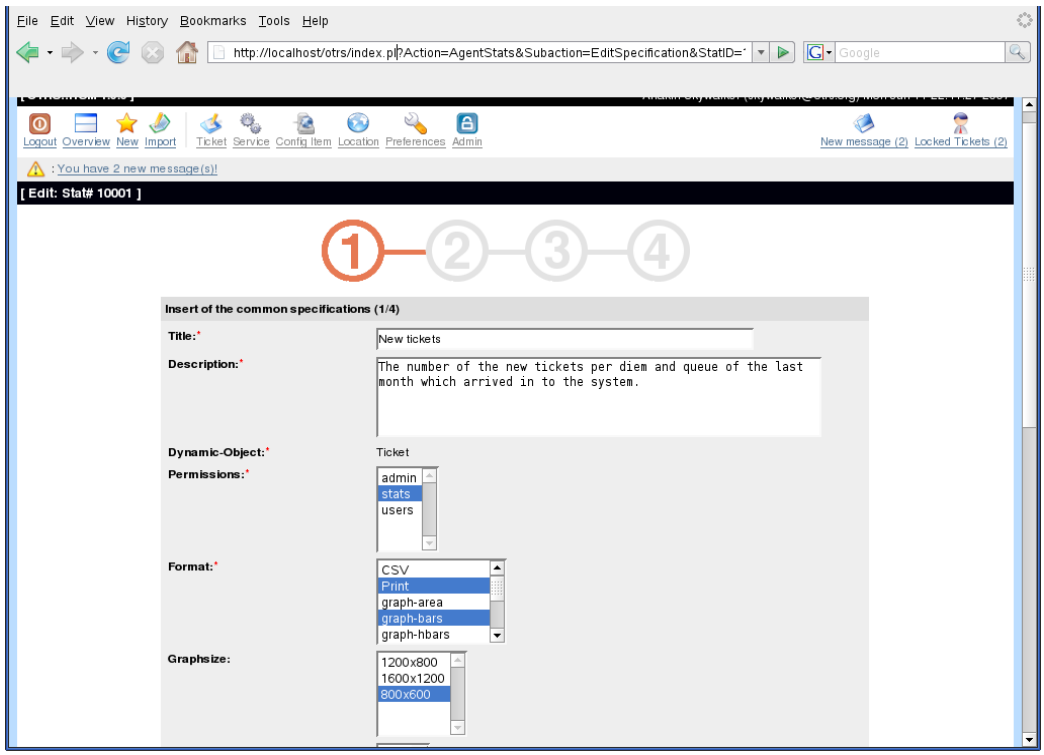


Stat#	Title	Object	Description
10001	New Tickets	Ticket	Total number of new tickets per day and queue whic[..]
10002	Overview about all tickets in the system	Ticket	Current state of all tickets in the system without[..]
10003	Changes of status in a monthly overview		Monthly overview, which reports status changes per[..]
10004	Total number of all tickets ever created per Ticket-Type and Priority.	Ticket	Total number of all tickets ever created per Ticke[..]
10005	Total number of all tickets ever created per Ticket-Type and State.	Ticket	Total number of all tickets ever created per Ticke[..]
10006	Total number of all tickets ever created per Ticket-Type and Queue.	Ticket	Total number of all tickets ever created per Ticke[..]
10007	Total number of all tickets ever created per Ticket-Type and Service.	Ticket	Total number of all tickets ever created per Ticke[..]
10008	Monthly overview of all tickets created in the last month per Ticket-Type.	Ticket	Monthly overview of all tickets created in the las[..]
10009	Monthly overview of all tickets created in the last month per Priority.	Ticket	Monthly overview of all tickets created in the las[..]
10010	Monthly overview of all tickets created in the last month per State.	Ticket	Monthly overview of all tickets created in the las[..]
10011	Monthly overview of all tickets created in the last month per Queue.	Ticket	Monthly overview of all tickets created in the las[..]
10012	Monthly overview of all tickets created in the last month per Service.	Ticket	Monthly overview of all tickets created in the las[..]
10013	Number of tickets created in a specific time period per Ticket-Type and Priority.	Ticket	Number of tickets created in a specific time perio[..]
10014	Number of tickets created in a specific time period per Ticket-Type and State.	Ticket	Number of tickets created in a specific time perio[..]
10015	Number of tickets created in a specific time period per Ticket-Type and Queue.	Ticket	Number of tickets created in a specific time perio[..]
10016	Number of tickets created in a specific time period per Ticket-Type and Service.	Ticket	Number of tickets created in a specific time perio[..]
10017	Number of currently open tickets per Ticket-Type and Priority.	Ticket	Number of currently open tickets per Ticket-Type a[..]
10018	Number of currently open tickets per Ticket-Type and Queue.	Ticket	Number of currently open tickets per Ticket-Type a[..]
10019	Number of currently open tickets per Ticket-Type and Service.	Ticket	Number of currently open tickets per Ticket-Type a[..]
10020	Total number of all config items ever created per Class and State.	ITSMConfigItem	Total number of all config items ever created per [..]

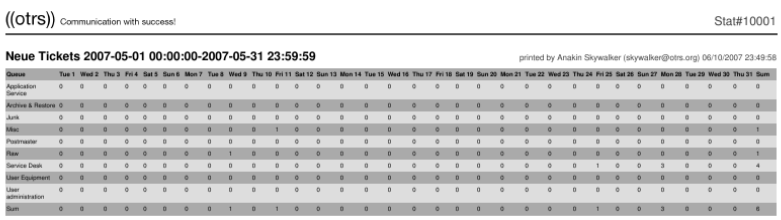
XML export of report settings:



Dialog-based creation of a new report template:



A PDF generator is incorporated too, which facilitates the export of the print view of tickets, stats and search results in PDF files:



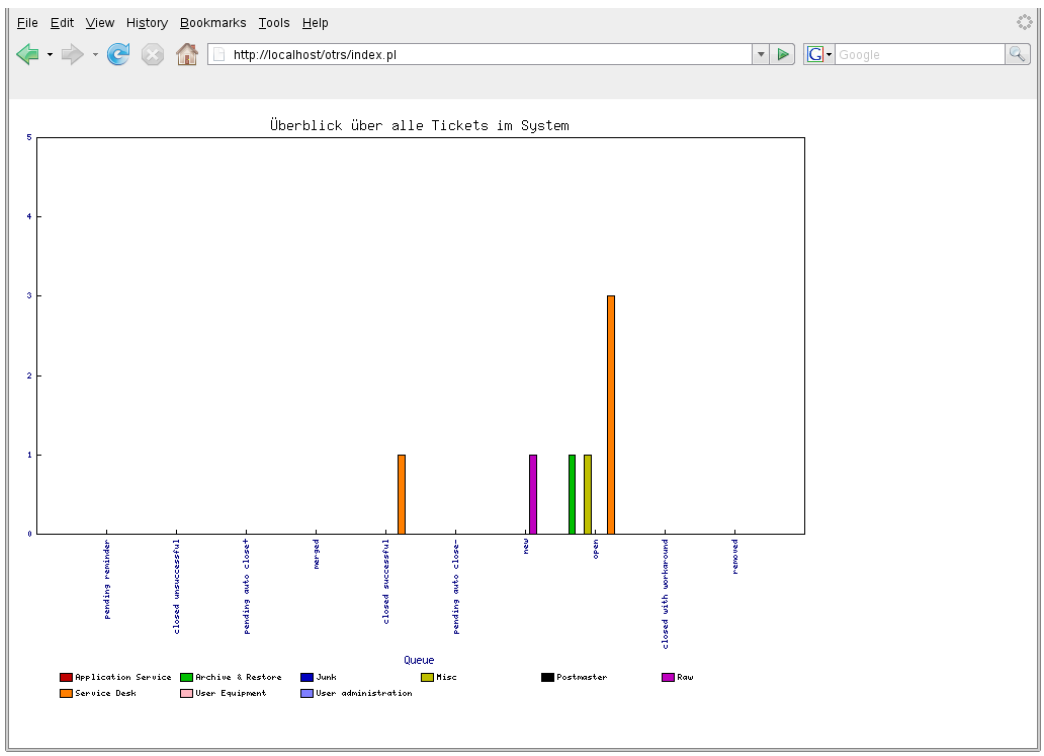
((otrs)) Communication with success: Stat#10002

Überblick über alle Tickets im System

printed by Anakin Skywalker (skywalker@otrs.org) 06/11/2007 01:45:00

Queue	pending reminder	closed unsuccessful	pending auto close+	merged	closed successful	pending auto close-	new	open	closed with workaround	removed	Sum
Application Service	0	0	0	0	0	0	0	0	0	0	0
Archive & Restore	0	0	0	0	0	0	0	1	0	0	1
Junk	0	0	0	0	0	0	0	0	0	0	0
Misc	0	0	0	0	0	0	0	1	0	0	1
Postmaster	0	0	0	0	0	0	0	0	0	0	0
Raw	0	0	0	0	0	0	1	0	0	0	1
Service Desk	0	0	0	0	1	0	0	3	0	0	4
User Equipment	0	0	0	0	0	0	0	0	0	0	0
User administration	0	0	0	0	0	0	0	0	0	0	0
Sum	0	0	0	0	1	0	1	5	0	0	7

Example of a graphical ticket overview:



Chapter 11. The admin area of OTRS::ITSM

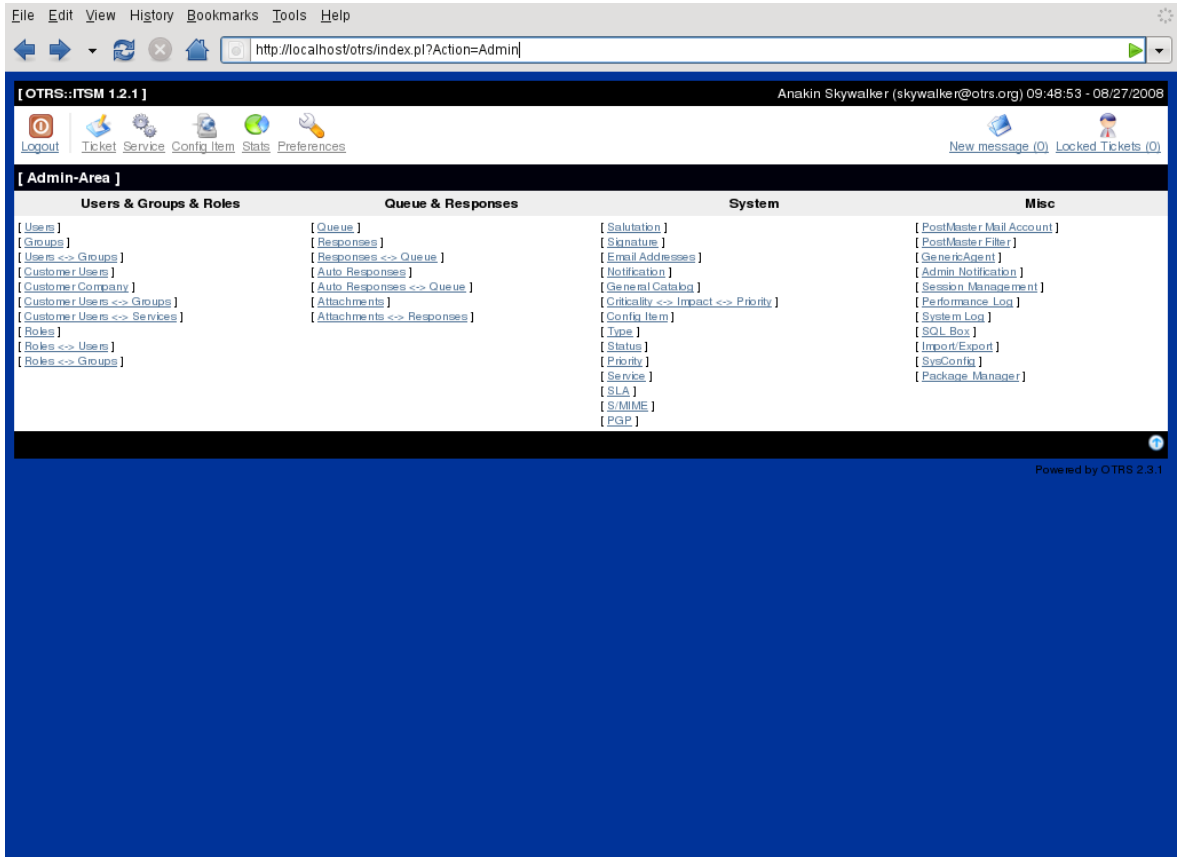
The admin area is the central interface for the ticket system administrator. All important settings of the system configuration can be checked and/or changed here, and the system can be adapted to individual needs.

The admin area can be accessed via the "admin" link in the agent interface navigation bar. The link is only shown to users logged on to the system as OTRS::ITSM administrators or having administrator permissions in the system. After a default installation you can log on to the system as OTRS admin using the user name "root@localhost" and the password "root".

Warning

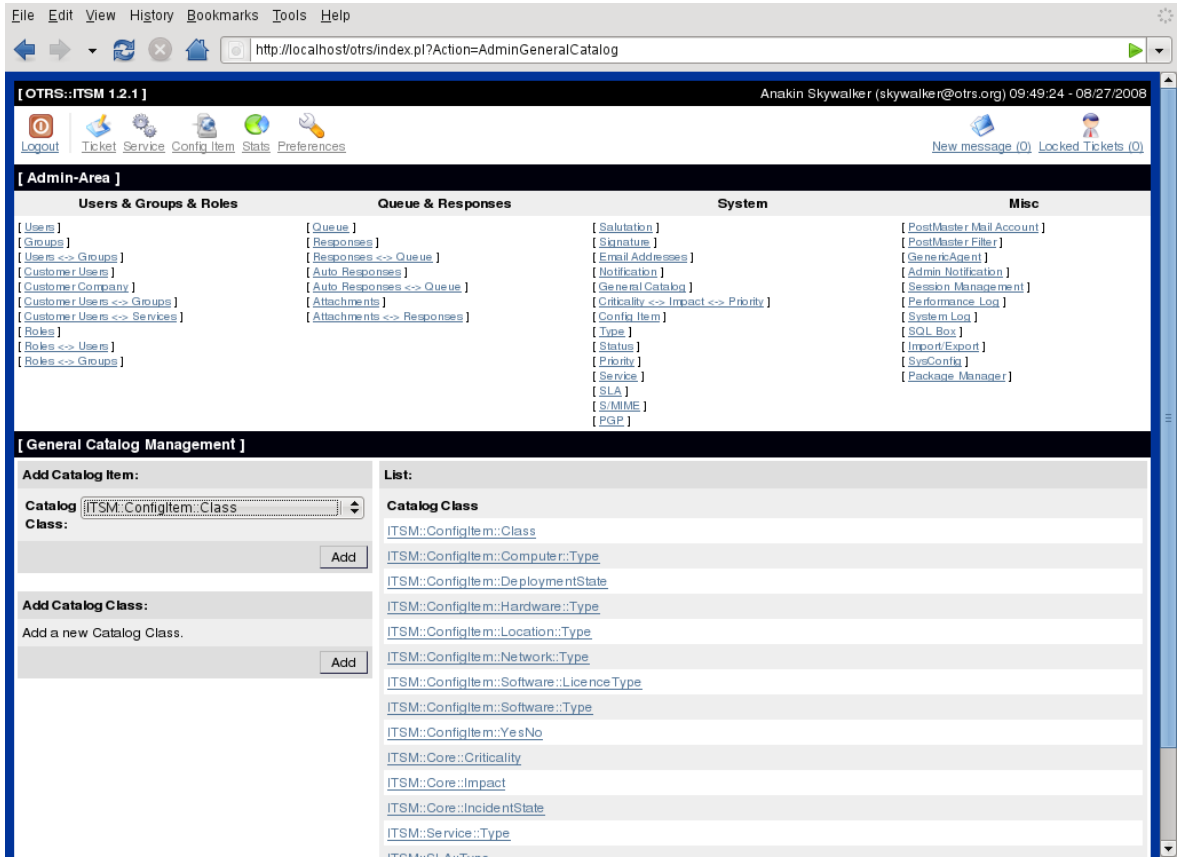
Make sure to change the password of root@localhost in the user preferences as quickly as possible after the installation as it is the default password and commonly known.

- from OTRS::ITSM 1.0 on
  - [General Catalog]
  - [Criticality - Impact - Priority
  - [ConfigItem]
- from OTRS::ITSM 1.1 on
  - [Import/Export]
- from OTRS 2.2 on
  - [Type]
  - [Status]
  - [Service]
  - [SLA]
- from OTRS 2.3 on
  - [Priority]

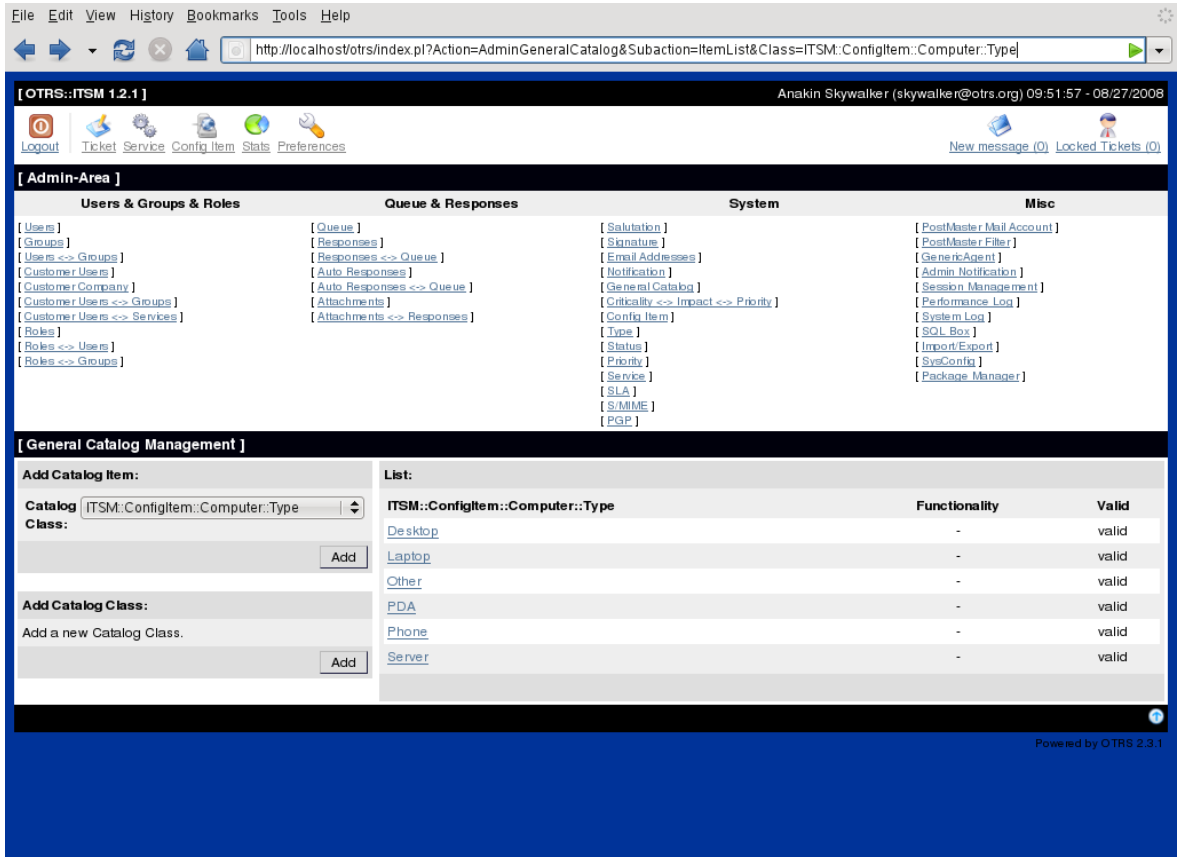


11.1. The general catalog

As the name indicates, the general catalog serves for basic ITSM relevant configurations in OTRS::ITSM.



For example the editing of reference chart entries for drop-down fields:



11.2. Configurating configuration item classes

By default OTRS::ITSM provides five CI classes to represent all relevant IT elements:

- [Computer]

  All CIs, which are classically referred to as computers, e.g. desktop PCs or laptops, and all intelligent, configurable and non-peripheral appliances such as switches, routers or other active network components.

- [Hardware]

  All hardware components not being considered as computers, ranging from "blade center" chassis, to printers and USB sticks depending on the level of detailedness of the listing.

- [Network]

Logical nets (LAN, WLAN, WAN etc.), which span IP address spaces.

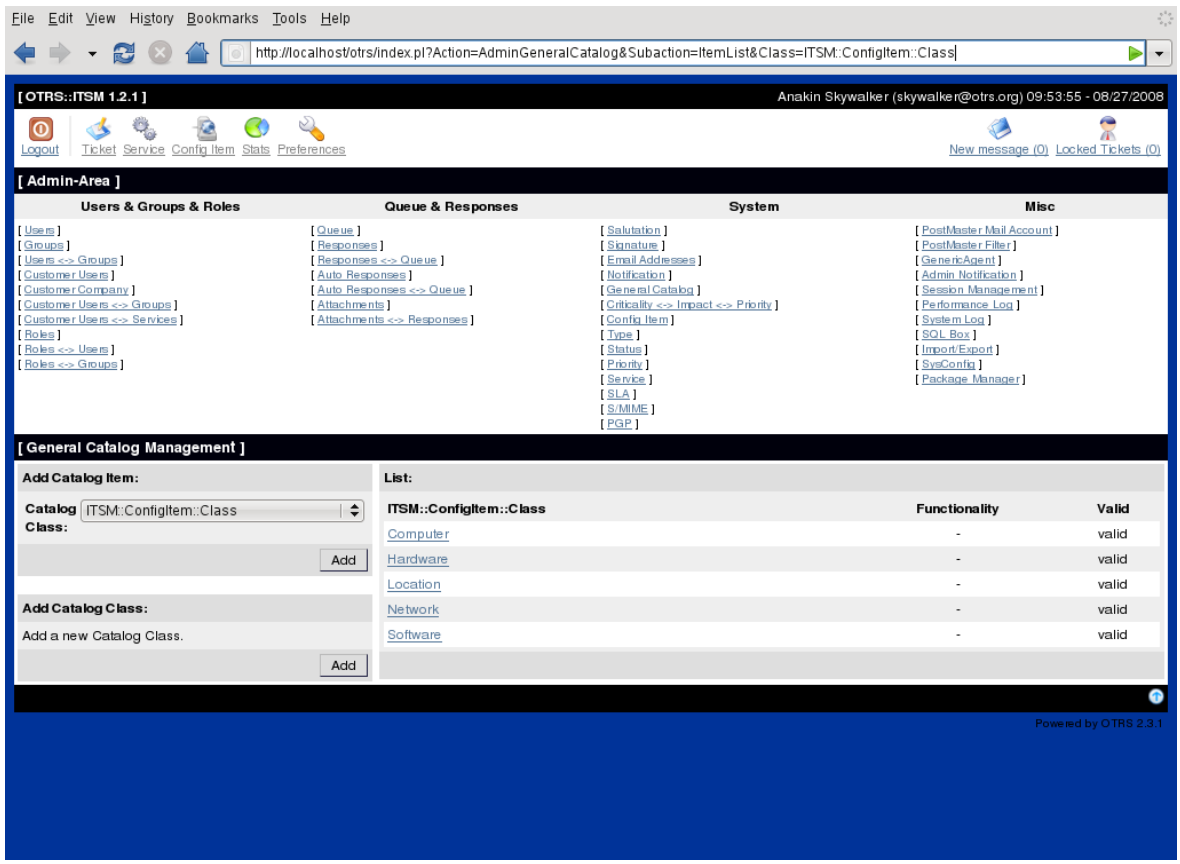
- [Software]

  All software products and licenses.

- [Locations]

  All Locations, e.g. building, workplace, IT facility.

If the five classes do not suffice to describe your IT environment, further classes can be added via the "general catalog" link in the OTRS::ITSM admin area. After creating a new CI class in the general catalog, a definition must be entered in ConfigItem".



Warning

The design of a CMDB data model and the CIs to be managed in it is a task which should not be underestimated. Our experience shows that it is highly recommendable to validate conceptual thoughts in a dry run against the existing IT infrastructure before changing the OTRS::ITSM standard data model and/or CI classes. It has proven of value to resort to external assistance, e.g. of ITIL practice experts for the CMDB design.

Please find below a part of the self-explaining default configuration for the "computer" CI class:

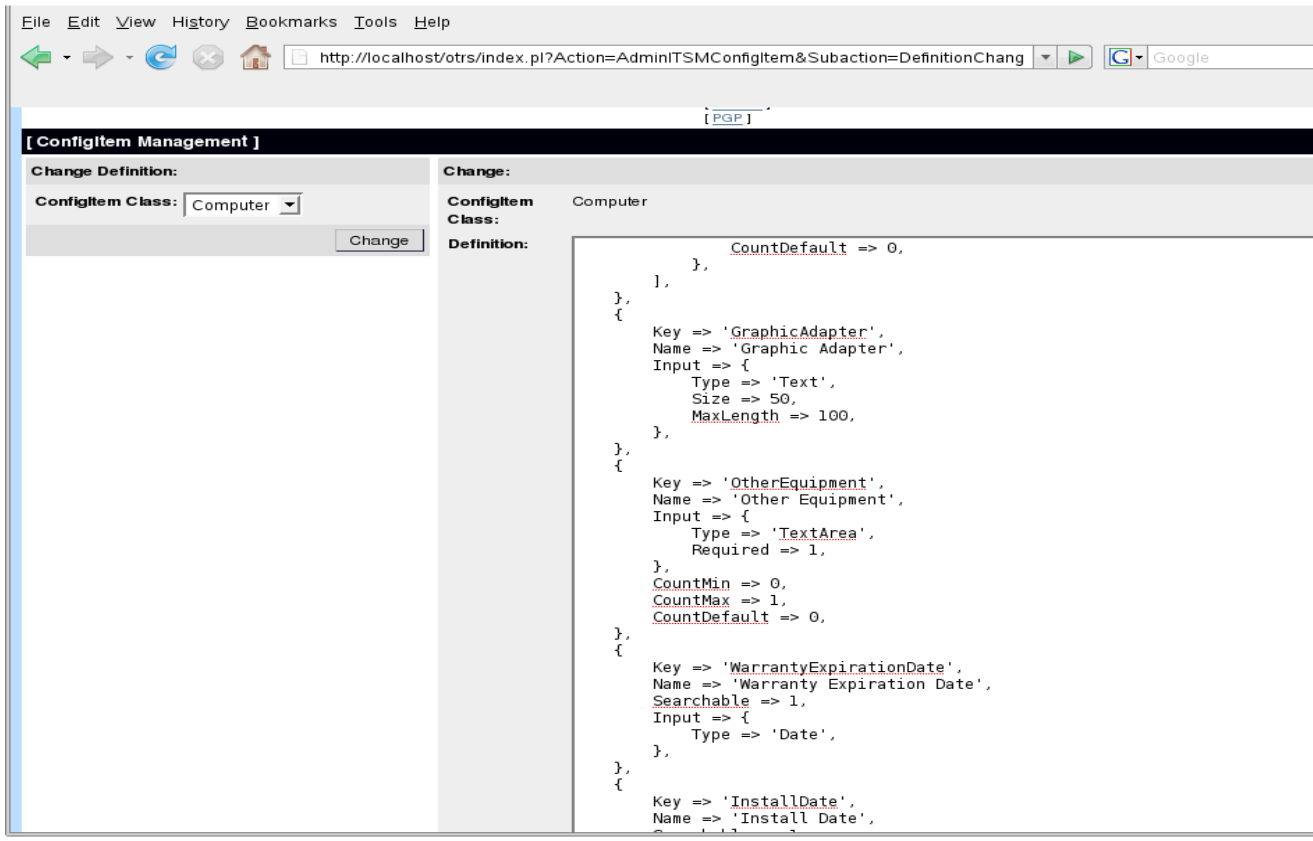
```
[
    {
        Key => 'Description',
        Name => 'Description',
        Searchable => 1,
        Input => {
            Type => 'TextArea',
        },
    },
    {
        Key => 'Type',
        Name => 'Type',
        Searchable => 1,
        Input => {
            Type => 'GeneralCatalog',
            Class => 'ITSM::ConfigItem::Computer::Type',
        },
    },
    {
        Key => 'Owner',
        Name => 'Owner',
        Searchable => 1,
        Input => {
            Type => 'Customer',
        },
    },
    {
        Key => 'AssetTag',
        Name => 'Asset Tag',
        Searchable => 1,
        Input => {
            Type => 'Text',
            Size => 50,
            MaxLength => 100,
            Required => 1,
        },
        CountMin => 0,
        CountMax => 1,
```

```
        CountDefault => 0,
    },

            :
            :
            :

    {
        Key => 'Model',
        Name => 'Model',
        Searchable => 1,
        Input => {
            Type => 'Text',
            Size => 50,
            MaxLength => 50,
        },
    },
    {
        Key => 'OperatingSystem',
        Name => 'Operating System',
        Input => {
            Type => 'Text',
            Size => 50,
            MaxLength => 100,
        },
    },
    {
        Key => 'CPU',
        Name => 'CPU',
        Input => {
            Type => 'Text',
            Size => 50,
            MaxLength => 100,
        },
        CountMin => 1,
        CountMax => 16,
        CountDefault => 1,
    },
];
```

Attribute changes and amendments can be effected in the graphical configuration area selecting "change definition":

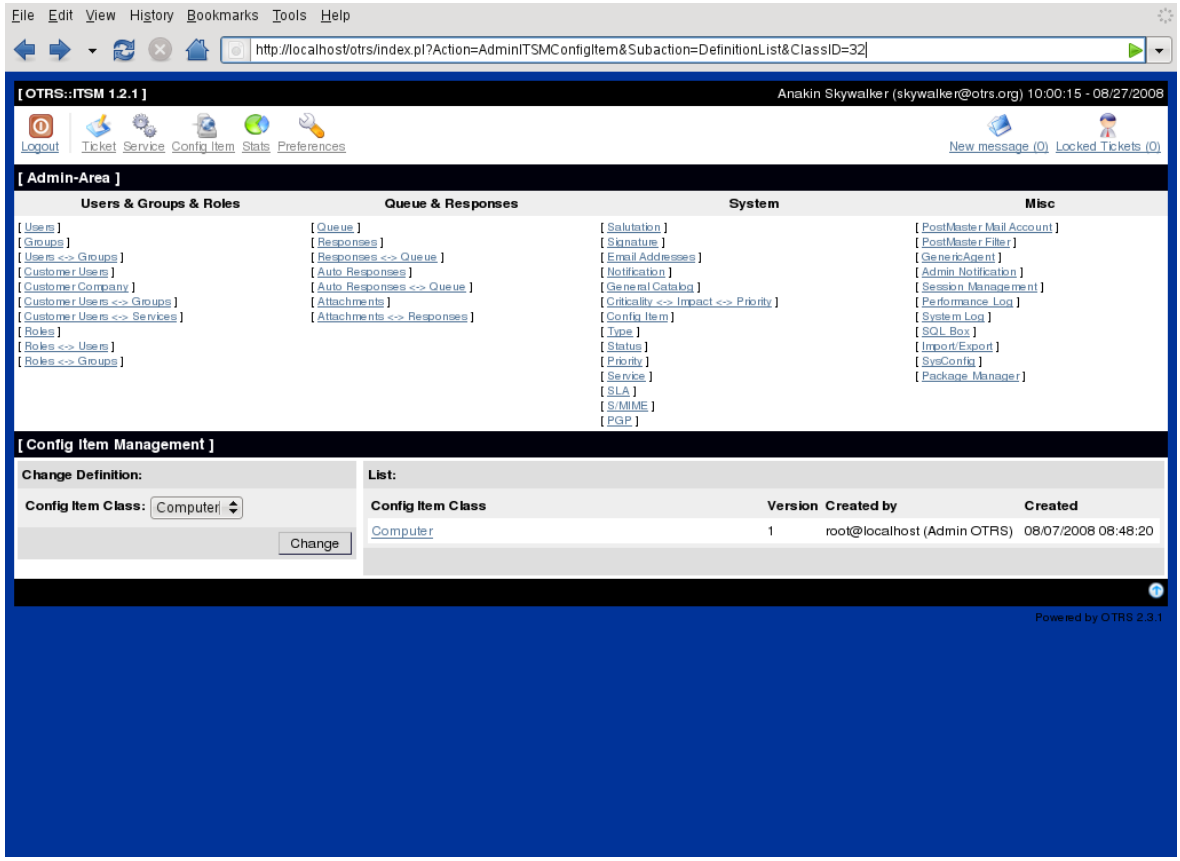


Warning

In order to assure the consistency of the data managed in OTRS::ITSM, information created in the admin area of the system cannot be deleted as a general rule. If you want to deactivate such information, change the value in the respective listbox settings from "valid" to "invalid" or "invalid-temporarily".

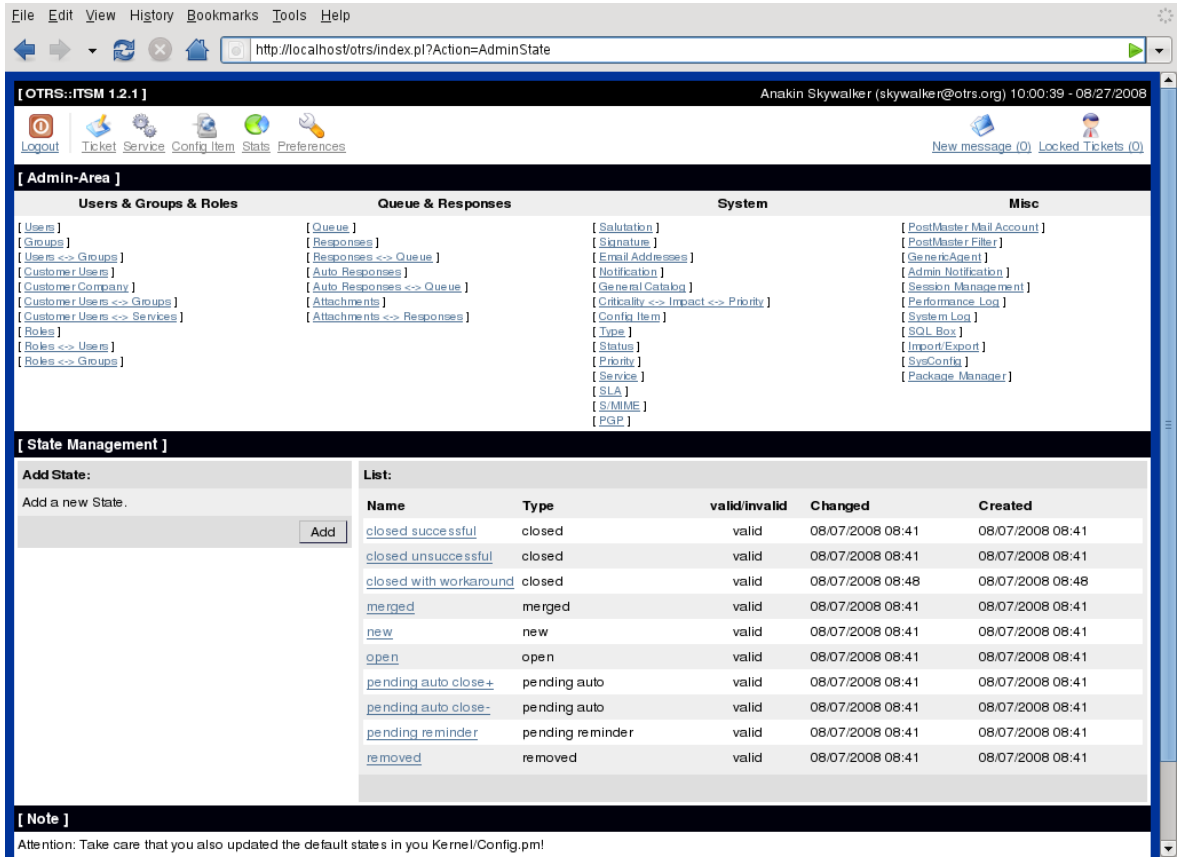
11.3. Version management of CI classes

Version management for all CI classes is integrated into the system. The latest versions are used for the processes represented in OTRS::ITSM.



11.4. Adjustment of ticket state

In ITIL compliant incident management, incidents are either resolved successfully or closed with a workaround. For such cases, OTRS::ITSM standard provides the ticket state "closed with workaround".



With OTRS::ITSM you can change ticket states or add new ones. There are two important options: the name of the state "state-name" and the type of it "state-type". All states and types available by default are pictured above.

State names can be chosen freely. In the "state" settings within the admin interface new states can be added or changed for existing state types.

Please consider that changes to the "new" state require changes in the configuration file kernel/config.pm or in the graphical configuration front-end.

```
[...]
# PostmasterDefaultState
# (The default state of new tickets.) [default: new]
$Self->{PostmasterDefaultState} = 'new';

# CustomerDefaultState
# (default state of new customer tickets)
```

```
$Self->{CustomerDefaultState} = 'new';
[...]
```

The same applies to changes to the "open" state: changes in the kernel/Config.pm or in the graphical configuration frontend are necessary.

```
[...]
# default phone new state
$Self->{'Ticket::Frontend::PhoneNextState'} = 'open';


# PostmasterFollowUpState
# (The state if a ticket got a follow up.) [default: open]

$Self->{PostmasterFollowUpState} = 'open';
[...]
```

Warning

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11.5. The criticality impact priority matrix

OTRS::ITSM provides five ticket priority levels:

- [Criticality]

  Significance ("criticality") of the service for the IT user(s)/customer(s)

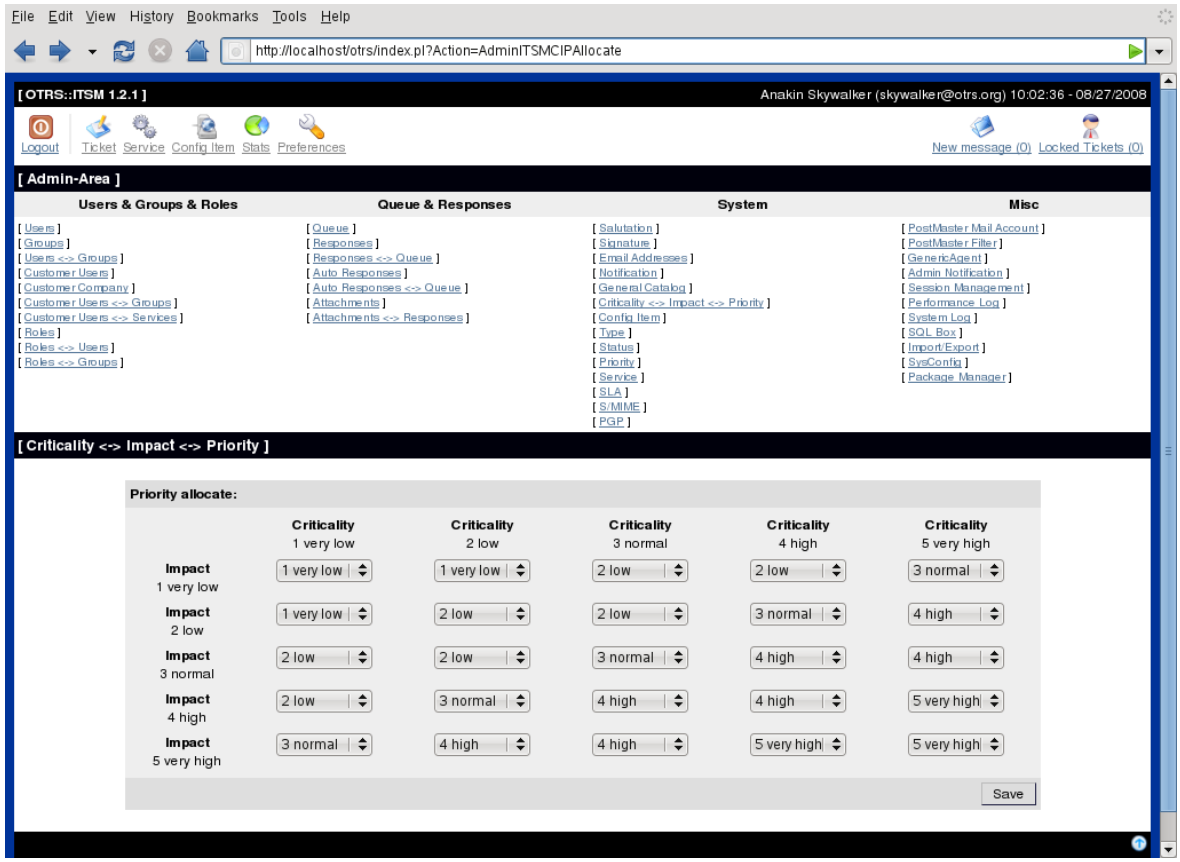
- [Impact]

  Impact of failures of the concerned service on the user(s)/customer(s)

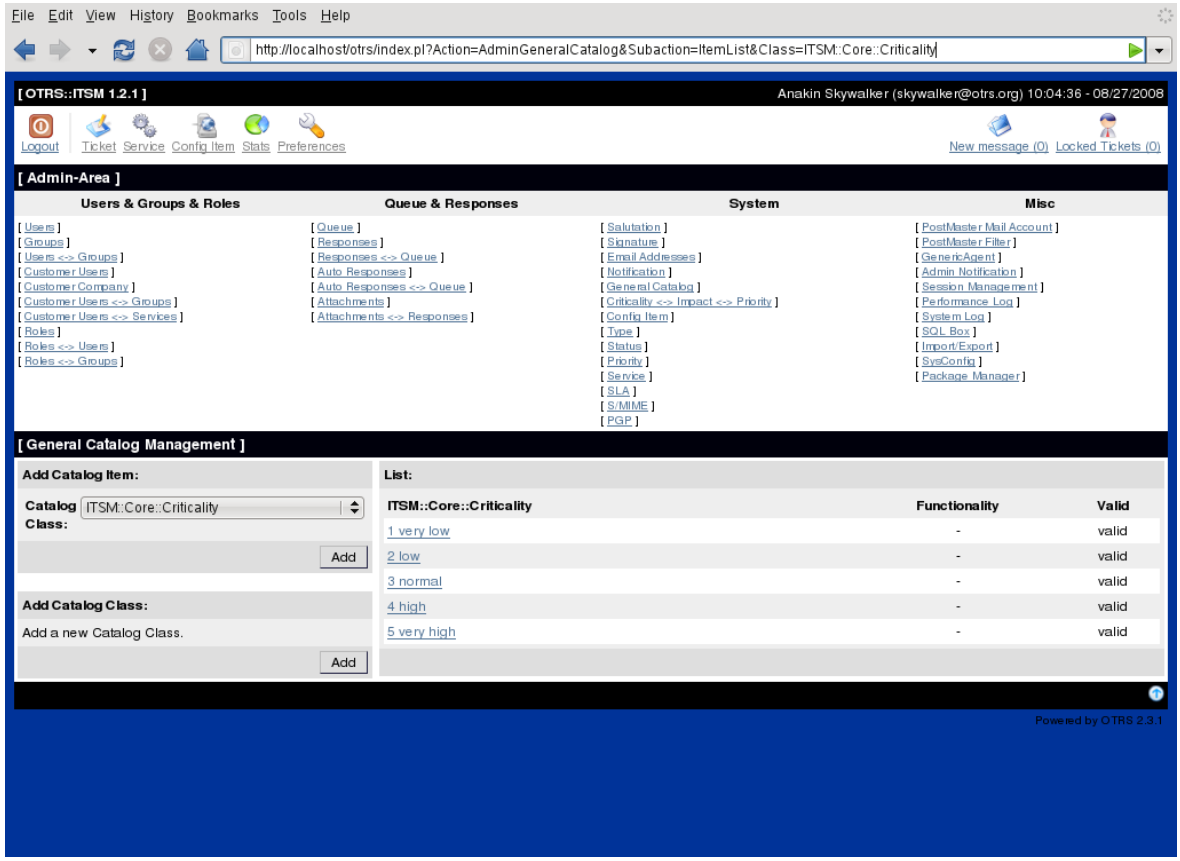
- [Priority]

  Priority within OTRS::ITSM as resulting from criticality and impact

The OTRS::ITSM ticket priority is determined with the matrix shown below and the prioritized ticket is integrated in the queue views.

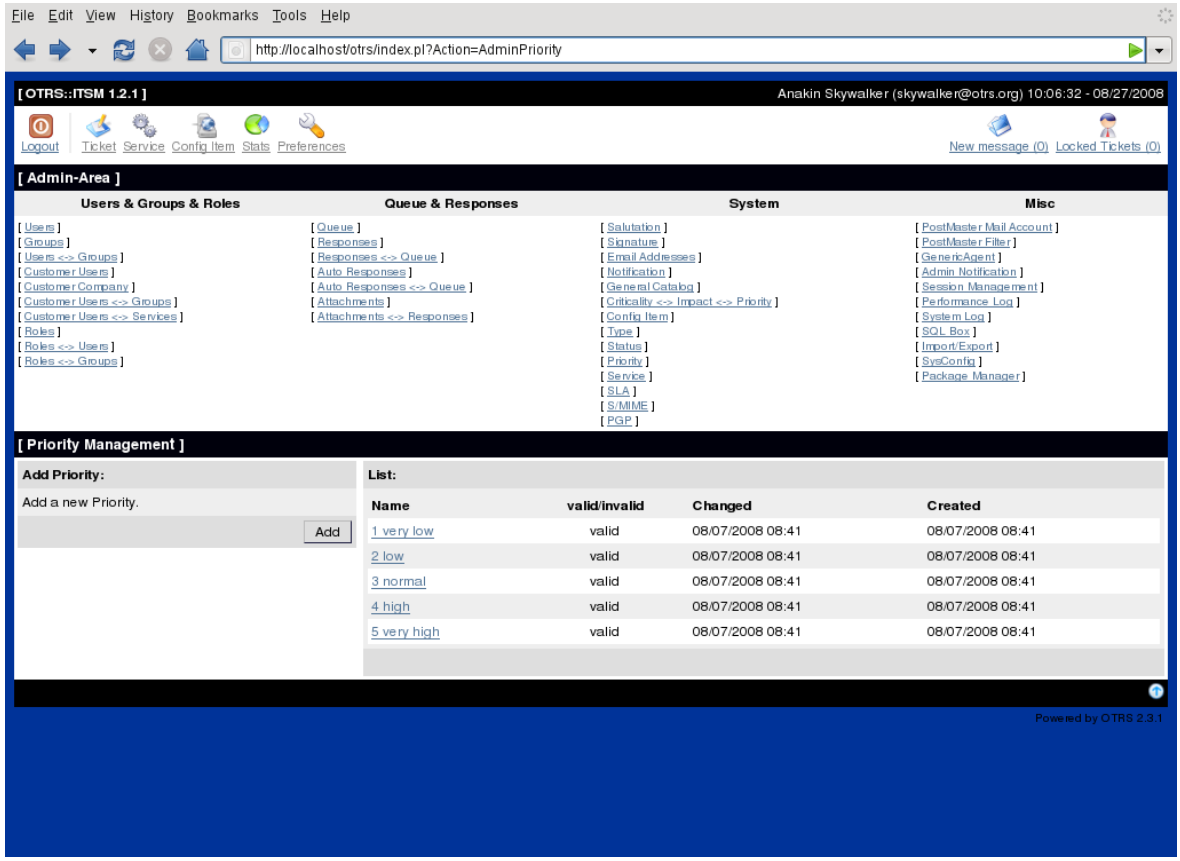


The level number, descriptions and validity can be accessed and changed in the admin interface via the "general catalog" link:



11.6. Adjustment of ticket priorities

Tickets are arranged within OTRS::ITSM on the basis of ticket priorities, i.e. tickets with a higher priority are displayed further up in the queue views and lower priority ones in lower positions. Priorities can be adjusted, re-named and amended in the graphical admin frontend.



More detailed information can be found in the OTRS Admin Manual.

Warning

The "id" attribute decides the OTRS::ITSM internal sequence of priorities. => 1 corresponds to the minimum and 5 (or higher) to the maximum. The number in the priority name is used to implement the correct sequence within the priorities.

Warning

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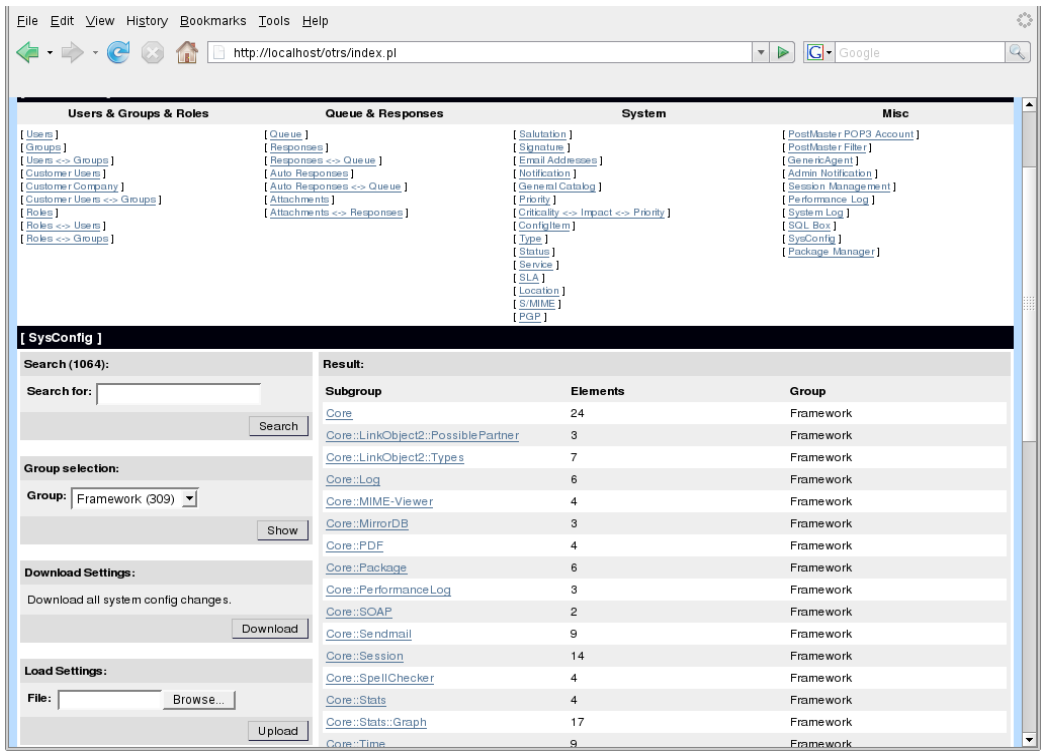
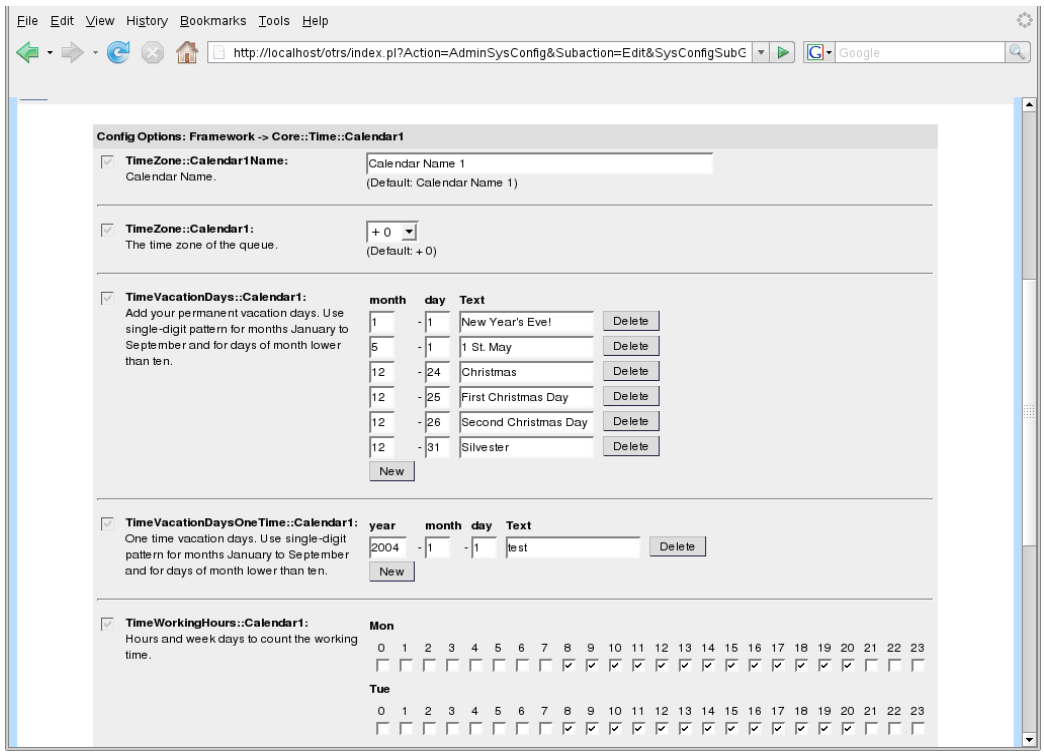
Chapter 12. Additional OTRS applications - calendar

In OTRS 2.3, 9 calendars can directly be configurated graphically by default. This number can be extended to 99. Calendar configuration is effected in the admin interface using the SysConfig framework calendar 1 etc. links:



"TimeWorkingHours" can be used in OTRS::ITSM to define so-called "service level windows" time frames in which certain service levels are guaranteed, if applicable monitored and/or evaluated to secure service level compliance.


File Edit View History Bookmarks Tools Help
http://localhost/otrs/index.pl?Action=AdminSysConfig&Subaction=Edit&SysConfigSubG
Google
Config Options: Framework -> Core::Time::Calendar1
TimeZone::Calendar1Name:
Calendar Name.
Calendar Name 1
(Default: Calendar Name 1)
TimeZone::Calendar1:
The time zone of the queue.
+ 0
(Default: + 0)
TimeVacationDays::Calendar1:
Add your permanent vacation days. Use single-digit pattern for months January to September and for days of month lower than ten.
month day Text
1 - 1 New Year's Eve! Delete
5 - 1 1 St. May Delete
12 - 24 Christmas Delete
12 - 25 First Christmas Day Delete
12 - 26 Second Christmas Day Delete
12 - 31 Silvester Delete
New
TimeVacationDaysOneTime::Calendar1:
One time vacation days. Use single-digit pattern for months January to September and for days of month lower than ten.
year month day Text
2004 - 1 - 1 test Delete
New
TimeWorkingHours::Calendar1:
Hours and week days to count the working time.
Mon
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Tue
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

Chapter 13. OTRS::ITSM interfaces

The following, partly generical, interfaces can be used for data exchange between OTRS::ITSM and other (ITSM) software products:

- NAGIOS
- SOAP
- LDAP
- E-mail (POP3, IMAP, SMTP)
- CSV Import/Export

OTRS AG will gladly create additional interfaces on request or members of the community can develop them.

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