OpenTRS - Manual

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OpenTRS - Manual

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i used my vacation to add some spice to the documentation

Dedication

This manual is dedicated to the nice folks of *Cafe Lucas*(http://www.cafe-lucas.de/) and *Echilada*(http://www.enchilada.de/) (two restaurants in Nuernberg). Thanks for the happy hour! Today we hang out mostly in Frankfurt but we still remember the good times in Nuernberg.

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Foreword

About this Book

This is an alpha edition of this book. This version may contain glaring inconsistencies, missing sections, and other misfeatures indicative of a work in progress.

About OpenTRS

Many people do not have an idea what a trouble ticket system is and why you may need one. We will try to give you an idea about it in this document and want to refere to *RFC 1297*(http://www.faqs.org/rfcs/rfc1297.html):

> RFC 1297
>
> PURPOSES OF A NOC TROUBLE TICKET SYSTEM
>
> A good Network Operations Trouble Ticket System should serve many purposes:
>
> 1) SHORT-TERM MEMORY AND COMMUNICATION ("Hospital Chart"). The primary purpose of the trouble ticket system is to act as short- term memory about specific problems for the NOC as a whole. In a multi-operator or multi-shift NOC, calls and problem updates come in without regard to who worked last on a particular problem. Problems extend over shifts, and problems may be addressed by several different operators on the same shift. The trouble ticket (like a hospital chart) provides a complete history of the problem, so that any operator can come up to speed on a problem and take the next appropriate step without having to consult with other operators who are working on something else, or have gone home, or are on vacation. In single-room NOCs, an operator may ask out loud if someone else knows about or is working on a problem, but the system should allow for more formal communication as well.
>
> 2) SCHEDULING and WORK ASSIGNMENT. NOCs typically work with many simultaneous problems with different priorities. An on-line trouble ticket system can provide real time (or even constantly displayed and updated) lists of open problems, sorted by priority. This would allow operators to sort their work at the beginning of a shift, and to pick their next task during the shift. It also would allow supervisors and operators to keep track of the current NOC workload, and to call in and assign additional staff as appropriate.
>
> It may be useful to allow current priorities of tickets change according to time of day, or in response to timer alerts.
>
> 3) REFERRALS AND DISPATCHING. If the trouble ticket system is thoroughly enough integrated with a mail system, or if the system is used by Network Engineers as well as Network Operators, then some problems can be dispatched simply by placing the appropriate Engineer or Operator name in an "assigned to" field of the trouble ticket.
>
> 4) ALARM CLOCK. Typically, most of the time a trouble ticket is open, it is waiting for something to happen. There should almost always be a timer associated with every wait. If a ticket is referred to a phone company, there will be an escalation time before

which the phone company is supposed to call back with an update on the problem. For tickets referred to remote site personnel, there may be other more arbitrary timeouts such as

"Monday morning". Tickets referred to local engineers or programmers should also have timeouts ("Check in a couple of days if you don’t hear back from me"). A good trouble ticket system will allow a timeout to be set for each ticket. This alarm will generate an alert for that ticket at the appropriate time. Preferably, the system should allow text to be attached to that timer with a shorthand message about what the alert involves ("Remind Site: TT xxx") (The full story can always be found by checking the trouble ticket). These alerts should feed into the NOC’s standard alert system.

The Alarm Clock can also assist (or enforce!) administrative escalation. An escalation timer could automatically be set based on the type of network, severity of the problem, and the time the outage occurred.

5) OVERSIGHT BY ENGINEERS AND CUSTOMER/SITE REPRESENTATIVES. NOCs frequently operate more than one network, or at least have people (engineers, customer representatives, etc) who are responsible for subsets of the total network. For these individual representatives, summaries of trouble tickets can be filtered by network or by node, and delivered electronically to the various engineers or site representatives. Each of these reports includes a summary of the previous day’s trouble tickets for those sites, a listing of older trouble tickets still open, and a section listing recurrent problems. These reports allow the site reps to keep aware the current outages and trends for their particular sites. The trouble ticket system also allows network access to the the details of individual trouble tickets, so those receiving the general reports can get more detail on any of their problems by referencing the trouble ticket number.

6) STATISTICAL ANALYSIS. The fixed-form fields of trouble tickets allow categorizations of tickets, which are useful for analyzing equipment and NOC performance. These include, Mean Time Between Failure and Mean Time to Repair reports for specific equipment. The fields may also be of use for generating statistical quality control reports, which allow deteriorating equipment to be detected and serviced before it fails completely. Ticket breakdowns by network a NOC costs to be apportioned appropriately, and help in developing staffing and funding models. A good trouble ticket system should make this statistical information in a format suitable for spreadsheets and graphics programs.

7) FILTERING CURRENT ALERTS. It would be possible to use network status information from the trouble ticket system to filter the alerts that are displayed on the alert system. For instance, if node XXX is known to be down because the trouble ticket is

currently open on it, the alert display for that node could automatically be acknowledged. Trouble tickets could potentially contain much further information useful for expert system analysis of current network alert information.

8) ACCOUNTABILITY ("CYA"), FACILITATING CUSTOMER FOLLOW-THROUGH, AND NOC IMAGE). Keeping user-complaint tickets facilities the kind of follow through with end-users that generates happy clients (and good NOC image) for normal trouble-fixing situations. But also, by their nature, NOCs deal with crises; they occasionally find themselves with major outages, and angry users or

administrators. The trouble ticket system documents the NOC's (and the rest of the organization's) efforts to solve problems in case of complaints.

Of course we added many features to the OpenTRS which are not mentioned in this RFC. And we will add many features.

Anyhow we are keen on your feedback. Please do not hesitate to send us an e-mail to <feedback@otrs.org>

Your OpenTRS core team

Chapter 1. Install - The quick way.

1.1. Installing the rpm

This install way is intended for *SuSE Linux*(http://www.suse.de/) users. For other distributions please have a look at *http://www.otrs.org/* .

Install the otrs.rpm with YaST (YaST2) or rpm what ever you prefer. Please be aware of the fact that OpenTRS needs some Perl-Modules which are not installed by default in a typical SuSE installation. In case you use YaST you will not have troubles because YaST will tell you what packages have to be installed.

Once you installed the otrs.rpm in your system you have to reload the apache by rcapache reload to force him to reload the config file.

```
skywalker:~ # rcapache reload
 PERL PHP4 Python Reload httpd                                    done
```

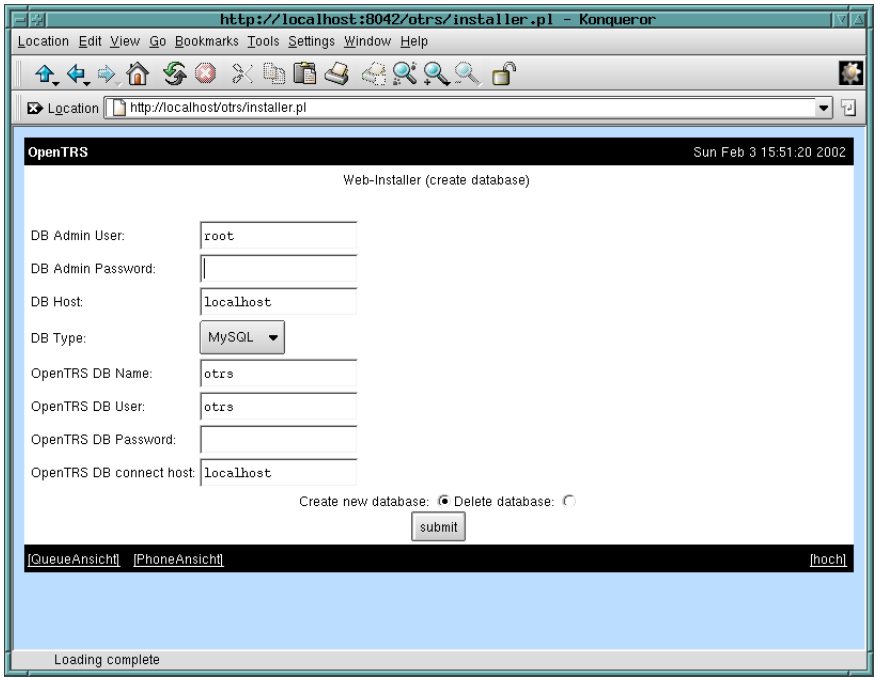
Of course you have to have started the mysql database allready (please see the mysql docu for help). After that you have to start otrs with rcotrs start

```
skywalker:~ # rcotrs start
Starting OpenTRS
 Starting mysql ... done.
 Checking database connect... (It looks Ok!).
 Checking otrs spool dir...  done.
 Starting httpd ... done.
```

1.2. installer.pl

The script/webpage *http://localhost/otrs/installer.pl* has to be visited now. It will

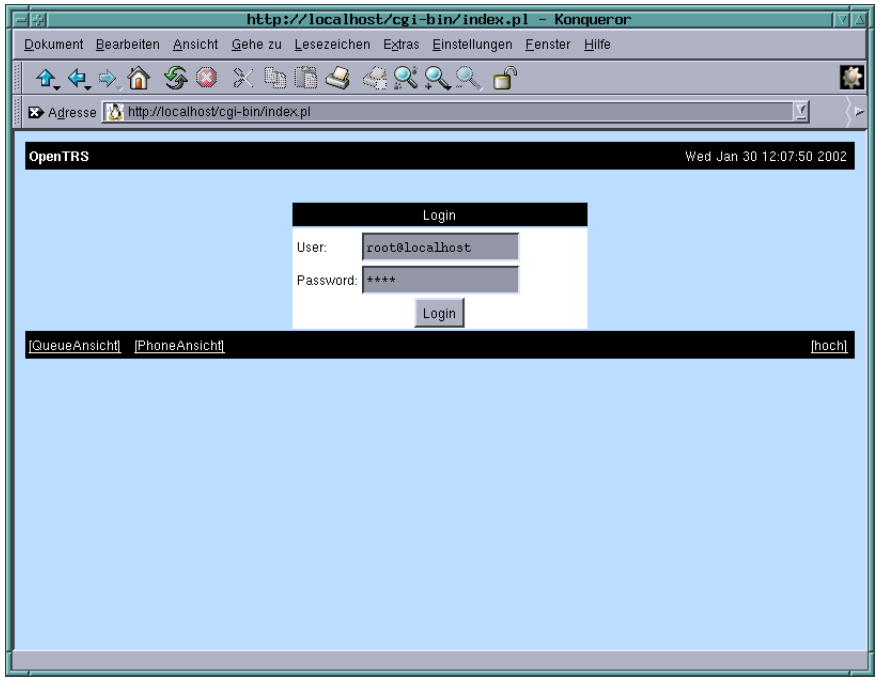
help you to set up the database. Please doublecheck your database password.



1.3. index.pl

Than fire up your favorate webbrowser and have a look at

http://localhost/otrs/index.pl. index.pl is your central starting point.



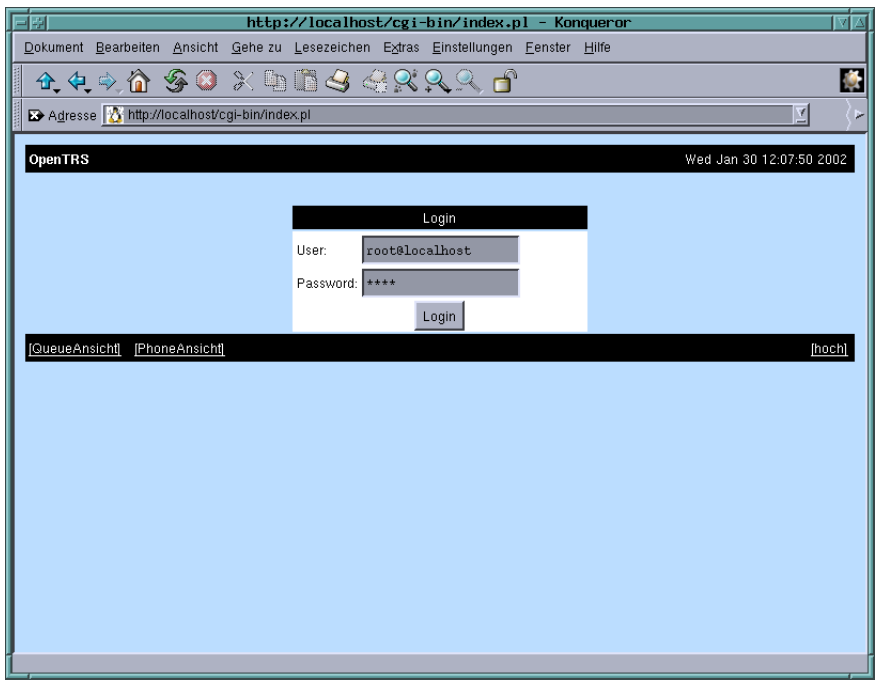
In case you have problems to install OpenTRS please have a look into the trouble-shooting section.

Chapter 2. First steps

2.1. Login as root and create a new account

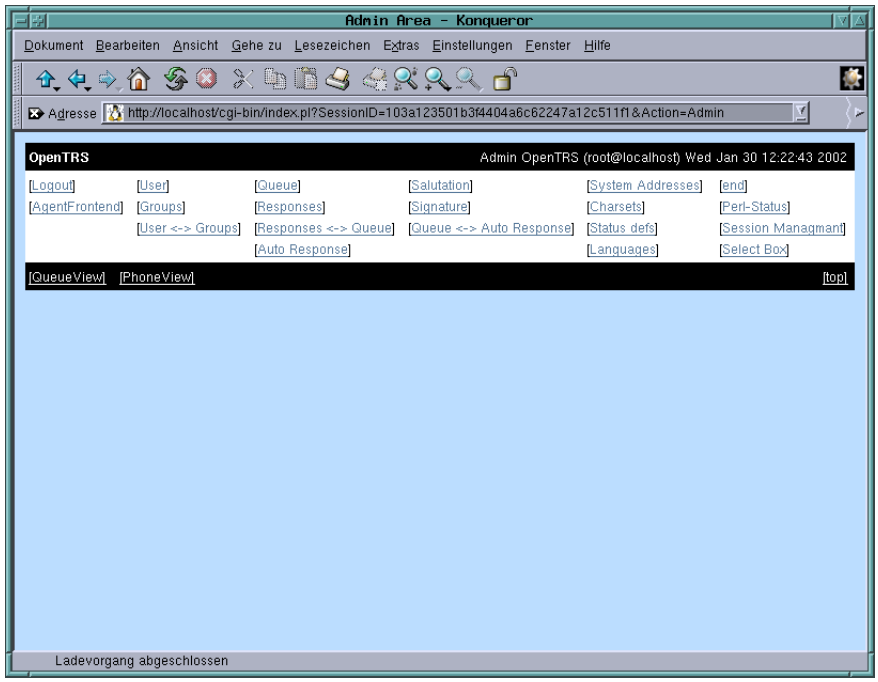
Let’s presume that you have an installed OpenTRS system on your system and of course you do not want to waste to much time and see quick results.

First you have to start your favorate webbrowser and have a look at *http://localhost/otrs/index.pl*

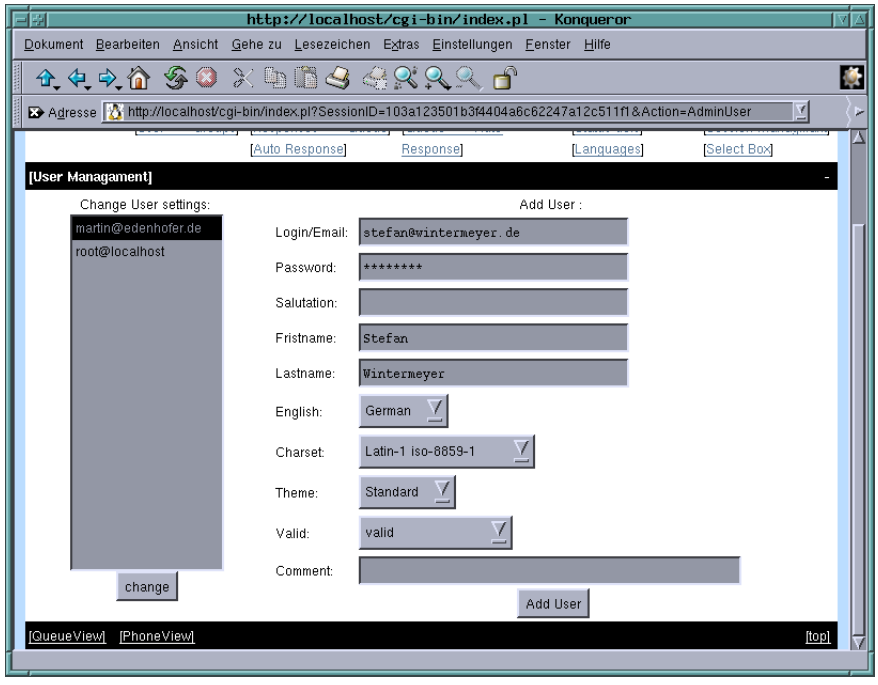


Login as root@localhost who has the password root. Please change this in the admin part asap (of course it is totaly independent from your normal root account).

You are the root of OpenTRS know. That means you can do everything! You have the power you are admin of the system. Normaly you don’t want to work as root and of course you need an account for all agents. So the first thing is to go into the admin interface.

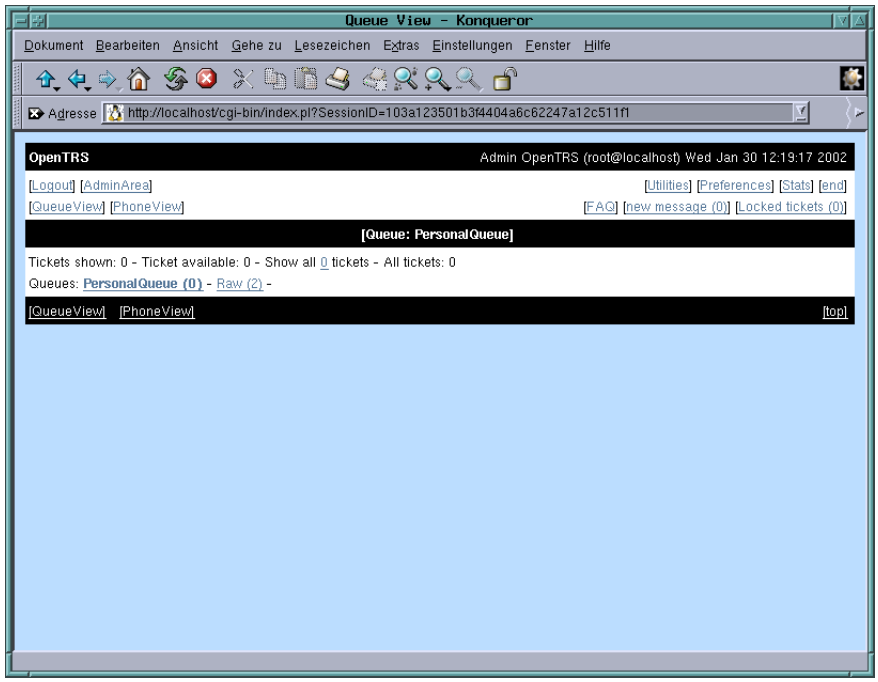


The admin interface is the central of your power. You can create and delete users, groups, queues and all sort of usefull stuff here. Browse around and give it a try. But for know we want to create a new user.

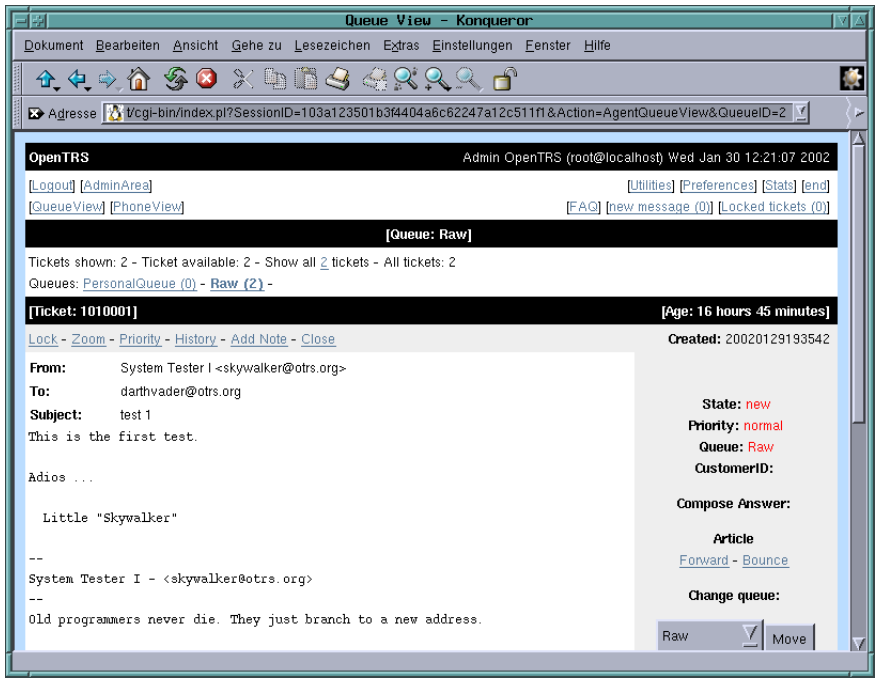


2.2. Login with user privilege

After you created the new user we ask you to logout and to login again as this new user. After login in he/she will see the following screen:



Between the second and third black bar (in this example) the user has access to the different queues. He/she can browser the queue by simply clicking on the link with the queue name.


Queue View - Konqueror
Dokument Bearbeiten Ansicht Gehe zu Lesezeichen Extras Einstellungen Fenster Hilfe
Adresse t/cgi-bin/index.pl?SessionID=103a123501b3f4404a6c62247a12c511f1&Action=AgentQueueView&QueueID=2
OpenTRS
Admin OpenTRS (root@localhost) Wed Jan 30 12:21:07 2002
[Logout] [AdminArea]
[Utilities] [Preferences] [Stats] [end]
[QueueView] [PhoneView]
[FAQ] [new message (0)] [Locked tickets (0)]
[Queue: Raw]
Tickets shown: 2 - Ticket available: 2 - Show all 2 tickets - All tickets: 2
Queues: PersonalQueue (0) - Raw (2) -
[Ticket: 1010001]
[Age: 16 hours 45 minutes]
Lock - Zoom - Priority - History - Add Note - Close
Created: 20020129193542
From: System Tester I <skywalker@otrs.org>
To: darthvader@otrs.org
Subject: test 1
This is the first test.
Adios ...
Little "Skywalker"
--
System Tester I - <skywalker@otrs.org>
--
Old programmers never die. They just branch to a new address.
State: new
Priority: normal
Queue: Raw
CustomerID:
Compose Answer:
Article
Forward - Bounce
Change queue:
Raw
Move

Chapter 3. First Ticket

3.1. How can somebody write e-mails to the OpenTRS?

The default installation will accept e-mails to the e-mail address <otrs@localhost>. This is good to start a little playing. Use your favorate e-mail client and send an e-mail to this address (of course you have to be on this system). Or you can have a look in the admin section of OpenTRS to add different e-mail addresses like <info@foo.org>. But please take care that these e-mails will be delivered to the local otrs account! In case you are not familiar with the configuration of your sendmail or postfix have a look in the man-pages or send an e-mail to the mailinglist <otrs@otrs.org>.

Config of sendmail in SuSE Linux

Ok, ok, ... we show you a simple example. Lets presume you have a plain SuSE Linux installation with sendmail as a default Mail Transfer Agent and you want to set up a OpenTRS e-mail account for the e-mail address <info@example.com>. All you have to do is to add a line to your /etc/mail/virtusertable file.

```
# /etc/mail/virtusertable
#
# Description:
#
#  A domain-specific form of aliasing, allowing multiple virtual
#  domains to be hosted on one machine.
#
# Examples:
#
#info@foo.com            foo-info
#info@bar.com            bar-info
#joe@bar.com             error:nouser No such user here
#jax@bar.com             error:D.S.N:unavailable Address invalid
#@baz.org                jane@example.net
#

info@example.com         otrs
support@example.com      otrs
```

That’s it (we actually added a second e-mail address with the name <support@example.com>! You have to run SuSEconfig.

```
skywalker:~ # SuSEconfig
Starting SuSEconfig, the SuSE Configuration Tool...
Running in quick mode.
Reading /etc/rc.config and updating the system...
Executing /sbin/conf.d/SuSEconfig.aaa_at_first...
Executing /sbin/conf.d/SuSEconfig.hostname...
Executing /sbin/conf.d/SuSEconfig.inittab...
Executing /sbin/conf.d/SuSEconfig.pam...
Executing /sbin/conf.d/SuSEconfig.sendmail...
Rebuilding /etc/mail/virtusertable.db.
Executing /sbin/conf.d/SuSEconfig.ypclient...
Finished.
```

Reload sendmail (just to be sure).

```
skywalker:~ # rcsendmail reload
Reload service sendmail                                  done
```

Now all incoming e-mails to info@example.com will be delivers to the local user otrs.

Every e-mail to the user otrs will be handled by the procmail-rule of otrs which pipes the e-mail to the system. You will find the e-mail in the RAW queue.

Chapter 4. Basics about a Trouble Ticket System

4.1. A simple example for a small Trouble Ticket System

What is a typical scenario for using OpenTRS?

Example: Bob is a manufactor of VCRs and his customers often have problems to program the VCRs. So they send Bob an e-mail. Sometimes they send a second e-mail to show Bob how important their request is. They are wondering if Bob is alive and how fast he will answer. Bob is using a normal INBOX and reads his e-mails with pine, mutt or what ever e-mail client. Sometimes his two brothers Tim and Joe help him to answer the e-mails. They all use the same INBOX. Of course they have no clue that one customer wrote two e-mails and maybe Tim gives a different answer to the first e-mail than his brother Joe does for the second. So the client gets different informations. Of couse Bob has no client-history and no clue how much support he is offering. For the next VCR he is producing he has no feedback from his support. That is bad!

But Bob is a smart cookie so he installs OpenTRS. The e-mails of his customers are not anymore going to his personal INBOX but are routed to the OpenTRS account (normaly called otrs). The OpenTRS account has some nifty procmail rules which pipe this e-mails to the system. The system answers the client a standard text which says that they recieved the e-mail and gives the client a Trouble Ticket Number (which is very important to trace the ticket). The client is happy because he knows that his valuable e-mail was recieved by Bob and his team. Anybody from Bob’s team can open a webbrowser with the URL of the OpenTRS to have a look at the amount of recieved e-mails and to answer them. In case the customer Mr. Smith send a question, Bob can answer it. Maybe Mr. Smith does not understand the question and sends a replay. But Bob is ill. Now even Tim can open this ticket and has access to the history of the ticket. He can read Bob’s answer and the original e-mail of Mr. Smith. Tim can answer Mr. Smith and Mr. Smith even does not realize that he was handled by two different people.

Of course this is just a very rough overview of the benefits of OpenTRS. Probably Bob recieves some 100 e-mails a day which could be handle even with out a Trouble Ticket System. But the time you recieve some 100000 or even just some 500 e-mails a day you will be happy to have a system which handles all the e-mails.

4.2. What is a trouble ticket in the OpenTRS?

Within the OpenTRS all trouble tickets are handled as normal e-mails. In case you want to attach something (e.g. a fax) it will be attached as an e-mail attachment. All tickets are stored on the harddrive in clear text format. The headers are stored in a database too. The database is used to sort the tickets and to give quick access to them. For detailed information about this mechanism have a look in the source code.

4.3. What is a ticket queue?

For native english speaking folks this might be a bit funny but for non native speakers the term QUEUE does not make any sense at all. So we use this section to describe the idea and concept.

Normaly a e-mail (and as descripted above a trouble ticket is stored as an e-mail) is stored in an INBOX. An INBOX is a large file and every new e-mail is just cated at the end of the INBOX. The e-mail client is parsing this file and sorts it as you want it (typically by date of recieving).

A queue is a mechanism to store many tickets within. As a user you do not know where the tickets are stored. You just know that a new ticket is e.g. in the RAW queue. A user (agent) can move a ticket from one queue to an other. Why should he/she do this? You can use different queues to get more order and a better overview to your tickets. Let’s assume you recieve 200 e-mails (tickets) a day. And you have 3 teams of specialists. It doesn’t make any sense to ask every specialist to read every ticket. It is a waste of time. So you have to create a fourth team which dispaches all the tickets in the INCOMING-QUEUE (or how ever you call this queue). The dispache instance will have a quick (quick!) look at every ticket and moves it than to a special queue. The 3 teams of specialists read their special queues only.

Chapter 5. Dispatching with procmail

Procmail is a very common e-mail filter in the Linux enviroment. It will be probably installed on your system. If not have a look at the *procmail homepage*(http://www.procmail.org/).

5.1. The X-OTRS-Queue Mail-Header

The X-OTRS-Queue Mail-Header is parsed by OpenTRS and OpenTRS will pipe these e-mails direct in this queue. Procmail and fromail can be used to create a powerfull dispatcher tool.

5.2. Examples

The following examples are copied from the procmailex man-page. Feel free to have a look into it (actually it is quite a good idea). Of course we changed the wording a bit (to fit it into the queueing idea).

Sort out all mail coming from the scuba-dive mailing list into the scuba queue.

```
:0
* ^TOscuba
| formail -I "X-OTRS-Queue: scuba"
```

Forward all mail from peter about compilers into the william queue.

```
:0
* ^From.*peter
* ^Subject:.*compilers
| formail -I "X-OTRS-Queue: william"
```

And here a last example.

```
# --
# Examples for queue presorting.
# --

:0 fhw :
* ^List-Id:.*OpenAntiVirus
| formail -I "X-OTRS-Queue: OpenAntiVirus"

:0 fhw :
* ^Sender:.*example.com
```

```
| formail -I "X-OTRS-Queue: example"

:0 fhw :
* TO:.*BUGTRAQ
| formail -I "X-OTRS-Queue: BUGTRAQ"
```

Please have a look into the procmailex man-page for more examples.

Chapter 6. Troubleshooting

We split this section into different parts per distribution. Of course you can set up your own system with your own linux system. But please understand that we can not provide any support for that. OpenTRS is much to complecated and has to many links to other components of the system that we are lucky to have access to mechanisms like RPM. We will try to support as many platforms as possilbe but time is a valuable resource. ;-)

6.1. General problems with OpenTRS on SuSE Linux

The very first step should be a visit to *http://www.suse.de/de/support/download/updates/* which is the page where you can find the latest patches and updates for your SuSE Linux. Please check especialy for fixes about Apache, MySQL, Perl and of course OpenTRS. YaST2 users should be able to use the Yast Online Update mechanism. Otherwise download the rpm files and install them with rpm -Uvh foo.rpm

The second step should be a visit to the *OpenTRS Homepage*(http://www.otrs.org/). We will provide the very latest fixes and howtos there.

The third step is writting an e-mail to the developer team of OpenTRS. We will be more than happy to provide you with any support you need.

6.2. General problems with OpenTRS on other distributions (e.g. Redhat)

Frankly we have not tried to install it on a Redhat yet. It should be a problem but there is no ready to use RPM. We are working on it. Same for other distributions.

6.3. Problems with Apache

Most people who have problems with the Apache did build their own very special Apache. Of course you are welcome to do so but in case you run into trouble we suggest to your the vanilla version which is provided by your favorate distribution.

6.4. Problems with MySQL

Please doublecheck all passwords. Mostly people setup the system with a wrong password. In this case it is the easiest way to re-setup the system. You can call the setup program by browsing to *http://localhost/otrs/installer.pl*.

Chapter 7. FAQ

1. What stands OpenTRS for?

Open Trouble-Ticket Request System.

2. This document refers to agents. What is an agent in the context of OpenTRS?

An Agent is a human being who works with the system. User would be an alternative term.

Geeks: Of course a script could act like an agent. Feel free to do so!

3. Can I use OpenTRS only with SuSE Linux?

No, but we developed it on a SuSE Linux and frankly we did not do much testing on a Redhat, Debian, ...

But we will provide additional installation informations on *http://www.otrs.org/*. And we are more that happy to recieve some feedback from you about how you installed OpenTRS on other platforms.

4. How stable is OpenTRS?

Please be aware of the fact that you are dealing with a beta-version. New versions are anounced on *http://www.otrs.org/*. But never the less it is quite a stable system and you shouldn't run in any trouble. But we can not guarentee it!

5. What hardware do I need?

We suggest an IBM OS/390. *SCNR* ;-)

Some of our test enviroments are Pentium II 300 with 64 MB RAM and they do a pretty good job. Of course the more RAM and the faster the CPU the better.

6. How does OpenTRS scale?

This is depending on the hardware and the enviroment you are using. At the moment OpenTRS is a one box system. With little work you can set up a webserver-cluster and you can split the database to a seperate box. We are planing to support some sort of clustering mechanism. But this is not the highest priority for the development.

7. Can I use my nice Oracle or DB2?

At the moment we only support MySQL as a database. Frankly we do trust in a MySQL as much as in a DB2 (for this application). Anybody how is willing to send some time to port it to other databases is more than welcome to the OpenTRS team!

8. Can I install OpenTRS on a Windows box?

Theoraticly yes, but we are not the big windows gurus and haven't ever tried to set up a Windows box with an Apache, Perl and MySQL.

9. I did everything the right way, but it does not work. Why?

Do not panic!

We tried our very best to make a simple and smooth installation procedure. But of course as with any old style open source project we know how to install our software and sometimes we forget to update our documentation. Please do not hesitate do send us an e-mail!!!

10. How can I become a part of the OpenTRS developer comunity?

Welcome! Anybody who is willing to help us and has the time is more than welcome. Please send us an e-mail.

11. I do like the OpenTRS but would feel more comfortable by using a commercial product.

We can not help you. Sorry.

12. Do you support the RFC 1297?

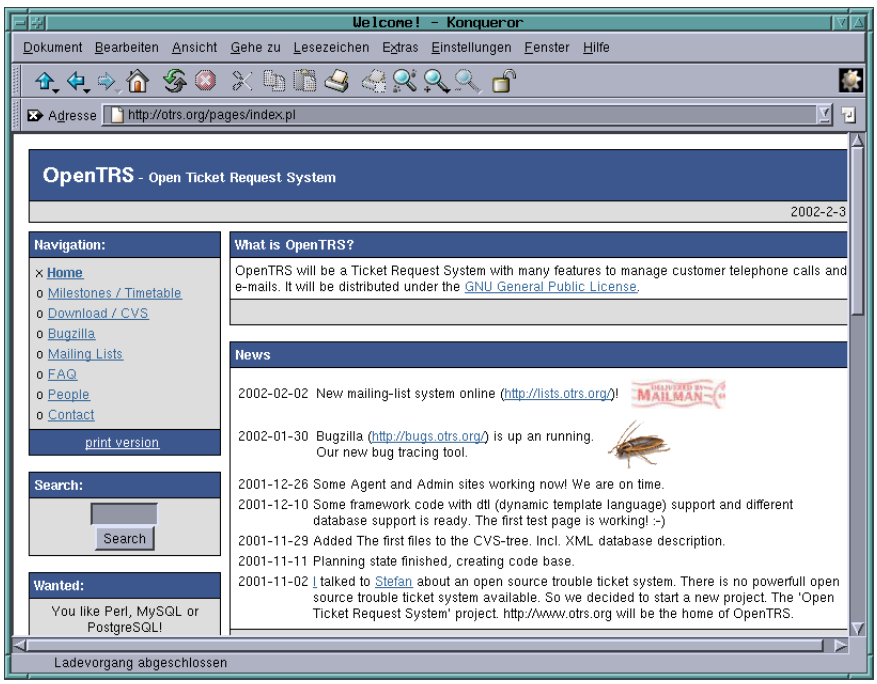
Yes, OpenTRS supports this RFC.

Appendix A. Online resources

We try to support you with the very last information about OpenTRS and give you a good way to provide us with your feedback.

A.1. OpenTRS Homepage

Our homepage can be found at *http://www.otrs.org/*.



A.2. Mailinglists

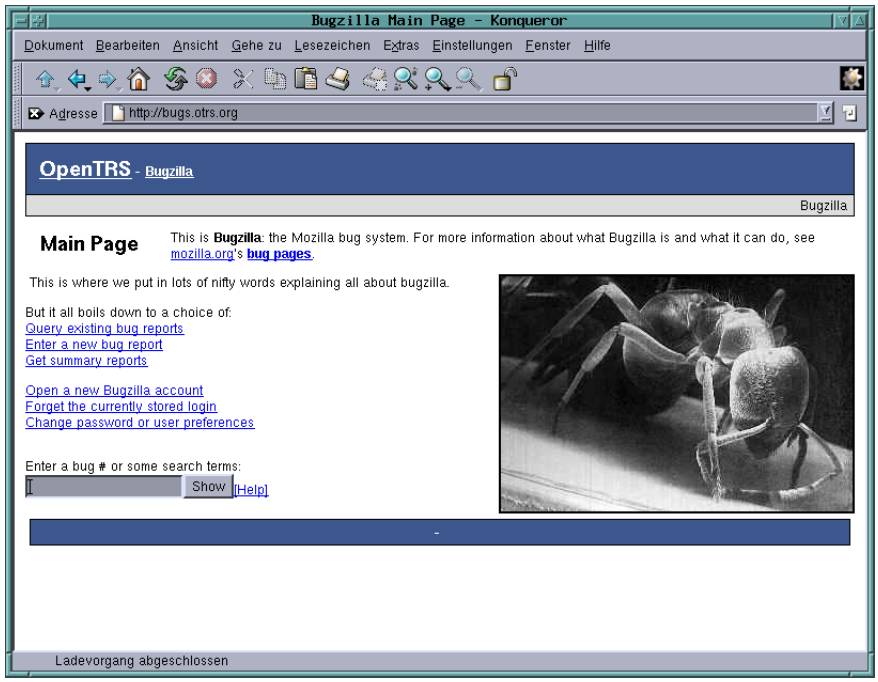
We provide two major mailinglists. <announce@otrs.org> is a low traffic announcement mailinglist. To subcribe it visit *http://lists.otrs.org/*.

The second mailinglist is <otrs@otrs.org>. It is a medium to high traffic list with all sorts of questions and support to the product. To subcribe it visit *http://lists.otrs.org/*.

A.3. Bugtracking

Real geeks don’t need a bugtracking tool! ;-)

Just kidding. To submit bugs visit *http://bugs.otrs.org/*. We know sometimes bugzilla isn’t that comfortable but right know it is the best bug tracking system we’ve found.



By reporting bugs you do help us very much. We appreciate your help!

Appendix B. The OpenTRS core team

OpenTRS was created in the third or fourth quater of the year 2001 (nobody remembers the exact date). The core team consists of Martin Edenhofer and Stefan Wintermeyer.

B.1. Martin Edenhofer

<martin@otrs.org>

we will insert some information when time comes but go a head and visit his homepage at *http://martin.edenhofer.de/*

B.2. Stefan Wintermeyer

<stefan@otrs.org>

we will insert some information when time comes but go a head and visit his homepage at *http://www.wintermeyer.de/*

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Version 1.1, March 2000

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