

# Keeping on Trac

**Managing the Operational Process**

**System Administrators Mini Conf  
Linux.Conf.AU 2009  
Hobart Australia**

**Steven Ellis  
Technical Director OpenMedia Limited  
Director Global Engineering Bulletin.net**



**OpenMedia**

# Keeping on Trac

**Why I don't use Post It Notes.**

**Documentation that doesn't suck.**

**Keeping managers off my back.**

**Not bugging my team.**

**Hassle free holidays.**



# Overview

- Introduction to Trac
- Trac Concepts
- Tips and Tricks
- Example Environments



# What is Trac?

- Lightweight web based project management framework
- Open Source -
  - Modified BSD License
- Developed at <http://trac.edgewall.com>
- Widely used by a variety of Open Source projects





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# Pidgin, Finch, and libpurple

Pidgin is a graphical IM program that lets you sign on to AIM, Jabber, MSN, Yahoo!, and other IM networks. It uses GTK+. It was formerly called Gaim.

Finch is a console-based IM program that lets you sign on to AIM, Jabber, MSN, Yahoo!, and other IM networks. It uses ncurses. It was formerly called Gaim-text.

libpurple is a library used for developing IM programs. See [What is libpurple?](#) for more information.

## For Users

### Help ¶

- [Frequently Asked Questions](#) - Look here first!
- [Using This Site](#)
  - [Tips for Bug Reports](#) - You must be logged in to submit bug reports!
  - [Get a Backtrace](#) - Follow these directions to help us debug crashes.
- [Using Pidgin](#)





# VirtualBox

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## Welcome to VirtualBox.org!

VirtualBox is a family of powerful x86 [virtualization](#) products for enterprise as well as home use. Not only is VirtualBox an extremely feature rich, high performance product for enterprise customers, it is also the only professional solution that is freely available as Open Source Software under the terms of the GNU General Public License (GPL). See "[About VirtualBox](#)" for an introduction.

Presently, VirtualBox runs on Windows, Linux, Macintosh and OpenSolaris hosts and supports a large number of [guest operating systems](#) including but not limited to Windows (NT 4.0, 2000, XP, Server 2003, Vista), DOS/Windows 3.x, Linux (2.4 and 2.6), and OpenBSD.

VirtualBox is being actively developed with frequent releases

### News Flash

#### **New June 06, 2008**

##### **VirtualBox 1.6.2 released!**

Sun today released VirtualBox 1.6.2, a maintenance release. See the [ChangeLog](#) for a list of changes since VirtualBox 1.6.0.

#### **New May 2, 2008**

##### **VirtualBox 1.6 released!**

The first major release since being acquired by Sun Microsystems is now available. Version 1.6 has new Mac and Solaris host platform support, new high performance virtual devices, improved scalability and Web Services. Get it now, Get it

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# Operational Management

- Our Needs
  - Move beyond Post-it notes
  - Prioritise work
  - Document process and procedure
  - Management visibility
  - Reporting
  - Version Control
- Potential Solutions
  - Bugzilla
  - Trac
  - Redmine
  - Jira/Confluence



# Why Trac?

- Provides an integrated approach to managing a project or team
- Key features -
  - Ticketing for tasks and bug tracking
  - Documentation via searchable simple to use Wiki
  - Version control with strong support for Subversion
  - All sections can reference each other
- Simple to install, configure, manage and use





# Key Trac Concepts

- Trac is much more than a bug tracker
- Use Trac to capture even the most mundane administration tasks
  - Office stationary or equipment orders
  - Change of phone or ISP plan
  - RMA of failed hardware
- Focus is on a single project rather than a series of projects
  - For OpenMedia our company is the project
- Multiple projects off a single install
  - Easy to host a series of projects on a single system



# Trac Front Page

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## Welcome to Trac 0.11

Trac is a **minimalistic** approach to **web-based** management of **software projects**. Its goal is to simplify effective tracking and handling of software issues, enhancements and overall progress.

All aspects of Trac have been designed with the single goal to **help developers write great software** while **staying out of the way** and imposing as little as possible on a team's established process and culture.

As all Wiki pages, this page is editable, this means that you can modify the contents of this page simply by using your web-browser. Simply click on the "Edit this page" link at the bottom of the page. [WikiFormatting](#) will give you a detailed description of available Wiki formatting commands.

"[trac-admin yourenvdir initenv](#)" created a new Trac environment, containing a default set of wiki pages and some sample data. This newly created environment also contains [documentation](#) to help you get started with your project.

You can use [trac-admin](#) to configure [Trac](#) to better fit your project, especially in regard to *components*, *versions* and *milestones*.

[TracGuide](#) is a good place to start.

Enjoy!



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# Trac Timeline

logged in as [steve](#) | [Logout](#) | [Preferences](#) | [Help/Guide](#) | [About Trac](#)

[Wiki](#)**[Timeline](#)**[Roadmap](#)[Browse Source](#)[View Tickets](#)[New Ticket](#)[Search](#)[Admin](#)

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## Timeline

### 06/27/08: Today

- 15:35 Ticket [#2](#) (Implement requirement D1 of UberProduct) created by [steve](#)  
Refer to [AlphaRequirements](#)
- 15:32 Ticket [#1](#) (Setup SVN environment) created by [steve](#)  
Create initial directory structure for our Subversion environment
- 15:28 [AlphaRequirements](#) created by [steve](#)
- 15:27 [UberProduct](#) edited by [steve](#)  
([diff](#))
- 15:26 [UberProduct](#) created by [steve](#)
- 15:09 [CamelCase](#) created by [trac](#)
- 15:09 [InterMapTxt](#) created by [trac](#)
- 15:09 [InterTrac](#) created by [trac](#)

View changes from

and  days back.

- ☒ Ticket changes
- ☒ Repository checkins
- ☒ Milestones
- ☒ Wiki changes



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# Trac Roadmap

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	<a href="#">Wiki</a>	<a href="#">Timeline</a>	<b><a href="#">Roadmap</a></b>	<a href="#">Browse Source</a>	<a href="#">View Tickets</a>	<a href="#">New Ticket</a>	<a href="#">Search</a>	<a href="#">Admin</a>
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## Roadmap

### Milestone: **Alpha Release of Uber Project**

Due in **5 weeks** (08/04/08)

Needs to meet all of the specifications for **UberProduct** defined under **AlphaRequirements**

☐ Show already completed milestones

### Milestone: **Beta 1 of UberProduct**

Due in **3 months** (10/01/08)

Must hit the first beta by 1st October if **UberProduct** is to make it into the shops for Christmas




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# Trac Tickets

- Capture all of your work items.
- Reasonably standard set of fields
  - Type - e.g. defect, enhancement or task
  - Component - The project module or subsystem
  - Priority - The importance of this bug, task etc.
  - Milestone – Based on Roadmap entries
  - Assigned to - Principal person responsible for ticket
  - Summary – Single line brief description of the ticket
  - Description – Make use of TracWiki syntax



# Trac New Ticket

**trac**  
Integrated SCM & Project Management

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	<a href="#">Wiki</a>	<a href="#">Timeline</a>	<a href="#">Roadmap</a>	<a href="#">Browse Source</a>	<a href="#">View Tickets</a>	<b><a href="#">New Ticket</a></b>	<a href="#">Search</a>	<a href="#">Admin</a>
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## Create New Ticket


**Properties**

Summary:

Reporter:

Description: 

**B** **I** **A**      

 Create a secure virtual apache host on our test server called pptest for ProjectPurple.  
  
Reference [wiki:"ProjectPurple/Phase1Requirements"] for specification and SSL Certificate details

Assign to:

Priority:

Component:

Keywords:

Type:

Milestone:

Version:

Cc:

☐ I have files to attach to this ticket





# Trac Completed Ticket

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	<a href="#">Wiki</a>	<a href="#">Timeline</a>	<a href="#">Roadmap</a>	<a href="#">Browse Source</a>	<b><a href="#">View Tickets</a></b>	<a href="#">New Ticket</a>	<a href="#">Search</a>	<a href="#">Admin</a>
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[← Previous Ticket](#) | [Next Ticket →](#)

## Ticket #4 (new task)

### Setup initial Apache environment required for Project Purple

Opened [84 seconds ago](#)

Last modified [0 seconds ago](#)

Reported by:	<a href="#">steve</a>	Owned by:	<a href="#">steeve</a>
Priority:	<a href="#">major</a>	Milestone:	<a href="#">Alpha Release of ProjectPurple</a>
Component:	<a href="#">Webserver</a>	Version:	
Keywords:		Cc:	

[Description \(last modified by steve\) \(diff\)](#)

Create a secure virtual apache host on our test server called pptest for [ProjectPurple](#).

[Reply](#)

Reference [ProjectPurple/Phase1Requirements](#) for specification and SSL Certificate details

## Attachments

[Attach file](#)



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# Version Control

- Doesn't have an integrated version control tool.
- Leverage's Subversion
- Support for other Version Control tools in development  
<http://trac.edgewall.org/wiki/VersioningSystemBackend>
- Excellent web based browser and diff tool for Subversion





# Trac Installation

- Number of on-line guides

<http://trac.edgewall.org/wiki/TracInstall>

<http://trac.edgewall.org/wiki/TracInstallPlatforms>

- Install guide from OSDC 2008

<http://www.openmedia.co.nz/openmedia/presentations/osdc/>

- Usable environment, complete with version control, in under 30 minutes



# Trac Administration

- Excellent documentation provided by edgewall
- Command line management via trac-admin tool
- First create your new Trac environment
- Now add Subversion as a component managed by a team member

```
trac-admin help
```

```
trac-admin /var/trac/MyProject initenv
```

```
trac-admin /var/trac/MyProject component add \  
Subversion steve
```



# Trac – User Management

- Define your team or company structure
- Assign permissions to groups, and then assign your team members to those groups.
- Trac 0.11 has a web admin interface
  - Available as a plug-in for the 0.10 series.
- Create an admin account

```
trac-admin /var/trac/MyProject/ permission add \  
steve TRAC_ADMIN
```

- Covered in detail at

<http://trac.edgewall.org/wiki/TracPermissions>



# Tips and Tricks

- How can we make the best use of any project management tool?
- Focus is on Trac, but could be applied to other tools such as
  - bugzilla
  - launchpad
  - Redmine
  - Jira



# Use Trac to Set-up Trac

- Document the set-up of your Trac and Subversion environment

## Ticket #1 (new task)

<b>Setup SVN environment</b>		Opened 2 weeks ago Last modified 2 weeks ago	
Reported by:	steve	Assigned to:	steve
Priority:	critical	Milestone:	
Component:	subversion	Version:	
Keywords:		Cc:	
Description			<a href="#">Reply</a>
Create initial directory structure for our Subversion environment			



# Ticket Types and Components

- Default Types are development focused
  - Defect, enhancement and task
- Default Components are simple examples and should be replaced
- Components allow auto assignment of new tickets to team members
- Effective use means simple reports can be easily generated



# Sample Types and Components

- Additional useful Types might be
  - Project
  - Change Request
  - Service Order
  - New User account
- Components might be specific applications, or different customers
  - Authentication
  - System Monitoring
  - Trac



# TracLinks and WikiMacros

- TracLinks allows seamless linking between tickets, wiki and subversion
  - Wiki pages should use CamelCase where possible or [wiki:Page] where this isn't appropriate
  - Reference tickets via #number or [ticket:number]
    - #27 or [ticket:27]
  - Ref subversion change sets by revision number
    - r21 or [changeset:21]
  - You can link to a specific location with your Subversion repository via source:/path e.g.  
[source:/trunk/project/documentation/Readme]
- WikiMacros extend Trac's core engine
  - [[PageOutline]] - Table of contents based on headings
  - [[Image]] – Layout control of images





# Subversion post-commit hook

- Highly recommend development teams to utilise the trac-post-commit-hook add-on
- Installation details covered in the Trac FAQ  
<http://trac.edgewall.org/wiki/TracFaq>
- Auto-updates Trac tickets by using a simple syntax in Subversion commit messages
  - closes #ticket – Marks ticket closed with comment
  - refs #ticket – Just adds comment to ticket



# post-commit-hook example

- Updating the Apache configuration files in SVN

Apache configuration for additional ProjectPurple virtual instance, refs #57, closes #91.

- This commit will update 2 tickets

- #91 will be closed, with the comment text and a reference to the subversion commit.
- #57 will get the commit text and a reference to the subversion commit.



# Never commit without a ticket

- If you are doing any version control updates that don't reference or close a ticket you aren't making the best use of Trac
- Even simple tasks can benefit from capturing the process of performing the work
- Use the post-commit-hook



# Version more than your code

- Avoid poor document management standards -

Design Document rev57a(steve's copy).doc

- Subversion is less than ideal for binary formats

- Do you have a document management solution?

- Tickets can track work on documents -

- Who were all of the contributors?

- You can refer to older document revisions

Please reference [source:/trunk/docs/design.doc@57 design doc] revision 57 as an example of how not to write documentation



# I'm not a coder!

- All sysadmin's code
  - Shell scripts
  - Perl scripts
- Manage configuration data
  - Webserver
  - DNS
  - Puppet/CFEngine
  - Firewall settings
- Managing Trac for other departments



# Example Environments

- Operational Team
- Development Team(s)
- Managing your business
- Multiple Projects



# Operational Team

- Roadmap

- Milestone for each large scale deliverable or project
- Capture large bodies of work
- Sets time frames

- Documentation

- Living artefacts
- Can be referenced from tickets
- Use closed tickets to update

- Version Control

- Management scripts
- Settings

- User Management

- Any sensitive information?
- Read only access of Wiki for non sysadmin team members?

- Ticket Types

- Project
- Bug
- Testing
- Change Request
- Release sign off



# Operational Components

- Ticket Components
  - Core Infrastructure
    - Server or site based grouping
    - Firewall, network and voice
  - Managed Middleware
    - Webservers – Apache / IIS / lighthttpd
    - Databases – MySQL, Postgresql, Oracle
    - Java – Websphere, Jboss, Tomcat
  - Operational Tasks
    - User Management
    - Security
    - Patching
  - Customers
    - Who are you delivering to?





# Development Team

- Roadmap
  - Milestone for each large scale deliverable or project
  - Capture large bodies of work
  - Sets time frames
- Wiki for key documentation
  - [[InterTrac]] and [[InterWiki]]
- Version Control
  - Code
  - Settings
- User Management
  - Fine grained control of code repository?
  - Read only access of Wiki for non development team members?
- Ticket Types
  - Project
  - Bug
  - Testing
  - Change Request
  - Release sign off



# Development Components

- Web Focused Ticket Components
  - Core products
    - Website
    - E-commerce engine
    - B2B layer
  - Sub or re-used components
    - XML-RPC, SOAP, REST
    - Credit card clearing
    - Images and branding
  - Third party code/libraries
    - Log4j, xerces
  - Development infrastructure
    - Tools
    - Middleware



# Business Management

- Roadmap
  - Capture each financial quarter
  - Focus on major business goals
- Documentation
  - Living artefacts
  - Easily searchable
- Version Control
  - Sufficient document management solution?
- User Management
  - Any sensitive information?
  - Restricted access?
- Ticket Types
  - Approval
  - Orders
- Ticket Components
  - Departments
    - HR
    - Accounting
    - Marketing
  - Tasks
    - Salary
    - Stationary
    - Invoicing
    - Leave Request



# Bringing it all together

- **SMB**
  - Single Trac environment
    - appropriate ticket types and categories
- **SME**
  - Multiple Trac environments
    - Office Admin
    - Operational Group(s)
    - Development Group(s)
- **Enterprise**
  - Consider alternative large scale tools
    - Redmine
    - Jira / Confluence
  - Trac still fits within niche groups



# The not so good

- Relatively few niggles
- Administration
  - 0.11 release has integrated the TracAdmin plug-in
  - Permission model needs improving
    - Can't have public and private wiki sections
    - Customer or public tickets and internal tickets.
- Ticket Assignment
  - Cannot auto assign to a group or team
- Work flow
  - Small improvements in 0.11
- Inconsistencies
  - Some have been resolved in 0.11



# Links and References

- Edgewall
  - <http://www.edgewall.org/>
  - <http://trac.edgewall.org/>
- TracHacks
  - <http://trac-hacks.org/wiki/TracHacks>
- Mylyn
  - <http://www.eclipse.org/mylyn/>
- Redmine
  - <http://www.redmine.org/>
- OpenMedia
  - <http://www.openmedia.co.nz>



# Questions



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