ParaStation TICKETSUITE

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Software Product Detailed Description PSTrac-0.9.5en

Product: ParaStation TicketSuite

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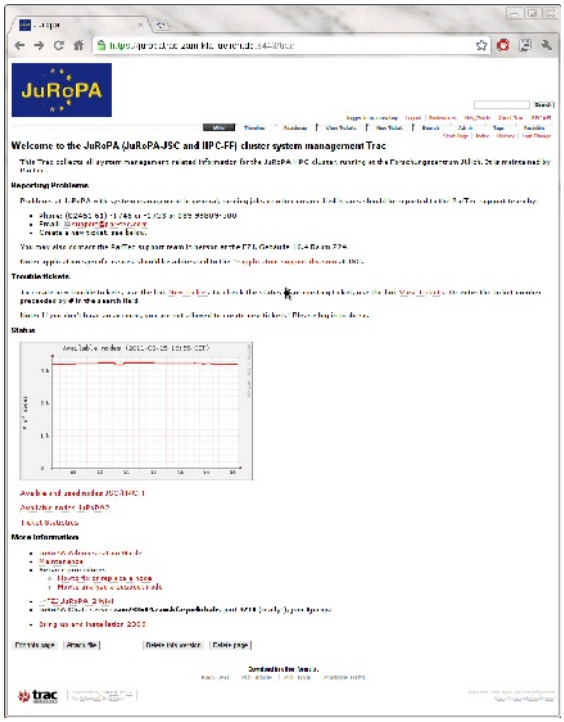
This software product description documents the functionality provided by the ParaStation TicketSuite as well as the system prerequisites required for installation and operation, licensing scheme and other useful information.

Overview



The ParaStation TicketSuite as part of the *ParaStationV5* Cluster Suite is an essential tool for maintaining large cluster installations. It helps keeping track of all issues that may arise with the hardware and software setup of such a cluster, thereby integrating well with the other components of the *ParaStationV5* Cluster Suite, like the ParaStation HealthChecker.

The ParaStation TicketSuite consists of two parts:

- A turnkey-ready virtual machine (VM) serving a Trac installation,
- A set of command line tools to interface with the Trac instance.

Trac is a well-known lightweight open-source collaboration tool especially providing (among other features) a flexible ticket system and a wiki engine, and is fully extensible via plugins.

The Trac installation as delivered within the virtual machine is pre-configured and enhanced with publicly available third-party plugins as well as an exclusive plugin for gathering and visualizing ticket statistics.

In order to ease interfacing to this Trac instance, a set of command line tools can be deployed as needed on other nodes of the cluster setup. It allows for creating new tickets, querying existing tickets and gathering quick overview statistics.

Features

The ParaStation TicketSuite is developed around the open-source collaboration system Trac (see http://trac.edgewall.org). Trac features a ticket system, a wiki-engine and a source code browser. It is a light-weight web application written in Python and easily extensible via plugins. A pre-configured Trac instance is delivered that has been enhanced with a set of ParaStation- and third-party plugins. The PSTracTools allow directly interfacing the ticket system from the command line.

Trac VM

ParTec proprietary extensions provide:

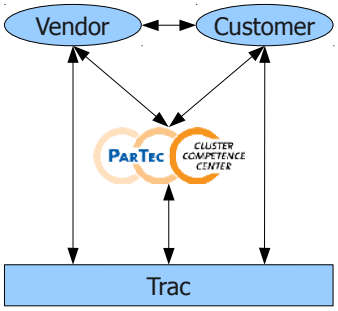
- Custom ticket fields: Additional fields for node specifications, vendor ticket numbers, etc.,
- Ticket plain-text export: Ticket data with complete history can be exported into ready-to-send email texts, taking into account special ticket fields (see above) and other customizations,

- Ticket statistics: View, compare and export various ticket statistics like ticket open/close rate, ticket residence or reaction time for selectable time ranges, based on certain criteria like ticket class. (See below for a more detailed description.)

In order to automate as much as possible and to allow for automated data flow between ParTec support, hardware vendors and local admins, the following features are enabled via Trac plugins:

- Ticket creation and updating via email,
- XMLRPC interface to ticket data, wiki pages and other Trac functionality.

Fully exploiting these tools and together with standardized procedures, the trouble ticket management for a large cluster can be made highly efficient.



Furthermore, a set of standard plugins is installed, providing:

- WYSIWYG support for wiki pages as well as ticket descriptions and comments,
- Collaboration tools like IRC logs viewer and pastebin server,
- Tag system for categorizing tickets and wiki pages,
- Export function for Wiki pages, e. g. for creating printed administration documentation.

This list is not exhaustive. Note that the Trac VM image is constantly updated, so the above feature list may change over time.

Statistics plugin

This plugin provides an additional page to the Trac web application, letting the user view, compare and export various ticket statistics on the fly. It can show the number of open tickets, the ticket open/close rates, ticket residence time or reaction time per interval and more, for selectable time ranges and interval widths, and for a selectable set of ticket classes. An arbitrary number of graphs can be created for direct comparison, and all data can be exported as CSV or JSON for external processing. Selected parameters can be saved as a bookmark for later re-use. No pre-processing or caching is needed; graphs are updated instantaneously by the JavaScript-driven GUI.

The statistics plugin enables site administrators to get a fast and objective overview of the state of their system. This allows for example to optimize spare part management, to control and evaluate maintenance activities, and finally provides a solid base for future procurement measures. If used consequently, the statistical data can help reducing time and cost.

PSTracTools

Using the XMLRPC interface of the Trac instance, the pstrac command line tools provide a lean interface to all ticket data and important node information. Features include:

- Creation of new tickets - especially by scripts and monitoring tools like the ParaStation HealtChecker,
- Querying and searching for tickets e. g. using node specifications or ticket subject pattern matching,
- Overview reports: nodes down per class of associated ticket, nodes down without open ticket, nodes up despite open tickets, etc.

These tools also bridge the gap and allow synchronizing between these three sources of information about cluster nodes: ParaStation Management, batch system and ticket system and thus help keeping the number of available nodes as high as possible.

Installation prerequisites

To install and operate the ParaStation TicketSuite, the following prerequisites must be met:

Trac VM instance

The ParaStation Trac VM instance can be deployed on all major Linux distributions and hardware platforms. We support OpenSuSE Linux, SLES11, Fedora, RHEL5 and RHEL6, CentOS5 and CentOS6 as well as Scientific Linux 5 and Scientific Linux 6. A 64bit OS version is mandatory.

Hardware requirements: The server hosting the ParaStation Trac VM instance must provide hardware virtualization, as signaled by the CPU flags "vmx" (for Intel CPUs) or "svm" (for AMD CPUs). The BIOS must be configured not to disable hardware virtualization. A minimum of 2 cores should be reserved for the Trac VM image.

Memory requirements: A minimum of 1GB of RAM should be reserved for the Trac VM. We recommend providing the host with a total of 16GB of RAM or more.

Software setup: The "kvm", "libvirt" and "libvirt-client" packages (and their respective dependencies) need to be installed and the corresponding kernel modules loaded.

If a cluster-wide (or even globally visible) IP is desired for the Trac instance, bridging has to be configured on the host. This is not mandatory however needed for some backup solutions, and it might be needed for email2trac configurations, depending on the local setup and policies.

Disk space requirements: At least 16GB of disk space should be provided for the Trac VM image.

PSTracTools

The set of command line tools for interfacing with the Trac instance can be deployed on all major Linux distributions. We support OpenSuSE Linux, SLES11, Fedora, RHEL5 and RHEL6, CentOS5 and Centos6 as well as Scientific Linux 5 and Scientific Linux 6. There are no special hardware requirements.

Software setup: Python 2.4 or later must be installed. Python 3 is not supported at this time.

The command line tools integrate with other parts of the ParaStation Cluster Suite, namely ParaStation HealthChecker, ParaStation Management daemon and ParaStation ClusterTools.

For interfacing the PBS/Torque batch system, Python bindings for PBS should be installed. For convenience, ParTec may provide RPMs for those Linux distributions lacking these bindings.

Disk space: The package needs permanently 1MB on each node, and (depending on the amount of tickets) 1-10MB of temporary disk space for caching.

Media

The Trac VM is available as a pre-configured image that is transferred onto the target system by ParTec support staff during installation. PSTracTools are available as RPM packages ready for installation on the target system(s). No physical media is provided at this time.

Please contact support@par-tec.com how to obtain the packages.

License

The ParaStation TicketSuite consists of several parts, some of which, namely Trac itself and the third-party plugins, are released under various Open Source Licenses. Source code packages for these parts are available upon written request, please contact support@par-tec.com.

The proprietary extensions for Trac as well as PSTracTools are released under the ParaStation license agreement to be found on http://www.par-tec.com.

Support

After signing a support contract, support for all packages is granted for the agreed period of time. The maximum response time is next business day. Support is performed by telephone, email, and/or remote login. On-site support at the installation site is not included.

The support comprises all *ParaStationV5* components as well as the open source software utilized (if applicable). Other open source software tools that have been provided free of charge are only supported if resources are available, a general claim cannot be advanced on the basis of this support agreement.

Scope of delivery

ParaStation TicketSuite comprises the following components:

- Software packages,
- Transfer and final setup of the pre-configured Trac VM image, in tight collaboration with the customer,
- Support as agreed in the support contract.

Copyright

Further information

For further information about the ParaStation TicketSuite visit http://www.par-tec.com or send an email to sales@par-tec.com.