PACNOG 07

NOC Tools NMS, Instrumentation, Ticketing

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Tools Examined

- Smoke Ping
- Trac
- Nagios





Smoke Ping

- Latency and packet loss are critical measurements in terms of instrumenting your network.
- Qualitative effect on customer perception...
- Smoke Ping can also be used to measure the responsiveness of services like DNS HTTP etc.
- Low bandwidth active monitoring tool.

SmokePing Targets:

Local World - ge-0-3-0-6.akbr3.global-gateway.net.nz - if1-1.core1.VCW-Vancouverteleglobe.net - bogus.com - freebsd.isc.org

Maintained by Joe Random

Running on SmokePing-2.0.9 by Tobi Oetiker and Niko Tyni

smoke

RRDtool logging & graphing

if-1-1.core1.VCW-Vancouver.teleglobe.net



Generate!

Time range: 2007-06-18 12:40 to now

Smoke Ping

- Historical data gives you access to long term trends.
- Responsiveness data about services can uncover problems that other sorts of wellness monitoring might not highlight.
- Can be used to send alarm messages when latency or loss exceed proscribed levels.

SmokePing

Targets:

nokia.net routers tunnel endpoints transit he.net verizon outside

118.ATM1-0.GW8.PAO1.ALTER.NET







Smoke Ping

 Used in conjunction with other tools like flow collection, snmp counters, it can help you diagnose some fairly bizarre problems.



Integrated SCM & Project Management				Login Set	tings Help/Guide	Search About Trac
	Wiki	Timeline	Roadmap	View Tickets	New Ticket	Search
			Start Pag	e Index by Title	Index by Date	Last Change

Welcome to Trac 0.10.3

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. <u>WikiFormatting</u> 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.

TracGuide is a good place to start.

Enjoy! The Trac Team

Starting Points

- TracGuide -- Built-in Documentation
- 🖙 The Trac project -- Trac Open Source Project
- ➡ Trac FAQ -- Frequently Asked Questions
- TracSupport -- Trac Support

For a complete list of local wiki pages, see TitleIndex.

Edit this page Attach file

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Trac – Ticketing, Wiki's, Noc Tools

- Build an environment in which your operations staff can document events.
- Respond to to customer requests.
- Assign and delegate tasks.

Wikis and Ticketing systems

- Have abundant applications outside the ISP environment.
- Trac was designed from the outset to support opensource projects but it's been used for lots of things.
- Need for this sort of application is common enough that running them as a manged service for customers is feasible.

Nagios

<u>N</u>agios[®]

General Home

Documentation

Monitoring

Tactical Overview

- Service Detail
- 🖲 Host Detail
- Status Overview
- Status Summary
- Status Grid
- 🦻 Status Map
- 3-D Status Map

Service Problems
Host Problems

- Network Outages
- Comments
- Process Info
- Performance Info
- Scheduling Queue

Reporting

- Trends
- Availability
- Alert Histogram
- Alert History
- Alert Summary
- Notifications
- Event Log

Configuration

🖲 View Config

Current Network Status Last Updated: Wed Jun 20 21:38:16 GMT 2007 Updated every 90 seconds Nagios® - www.nagios.org Logged in as *nagiosadmin* View Service Status Detail For All Host Groups View Status Overview For All Host Groups View Status Summary For All Host Groups

View Status Grid For All Host Groups

 Host Status Totals

 Up
 Down
 Unreachable
 Pending

 2
 0
 0
 0

 All Problems
 All Types

 0
 2



0

Host Status Details For All Host Groups

Host ∱↓	Status ∱∳	Last Check 🔨	Duration ↑↓	Status Information
gw 📲	VP	06-20-2007 21:30:15	1d 19h 52m 44s	(Host assumed to be up)
server 📲	VP	06-20-2007 21:32:45	0d 0h 5m 31s	(Host assumed to be up)

2 Matching Host Entries Displayed

Nagios – Wellness Monitoring

- Monitor availability of systems and services
- Build hierarchies of systems so that you don't get spurious outage notifications for devices that are unreachable because the network is down.
- Notify the owners of a monitored device that it's down in an automated fashion.

Nagios

- Nagios is great... But...
 - Maintaining a large Nagios system can become a full time job.
 - Systems like this are far less useful when a number of the monitors are broken, when the NMS is not being actively maintained etc.
- A well run Nagios installation will allow you tell at a glance where in your network you should be looking for trouble!

Monitoring Other Stuff

- Nagios has become a cottage industry. People sell:
 - Applications to groom
 Nagios data
 - Appliances that can plug into nagios to monitor all sorts of things.
 - Dedicated Nagios appliances with support





Nagios on your Pager/SMS/Email

3	Inbox for joelja@bogus	com - Thunderbird	
<u>File E</u> dit <u>V</u> iew <u>G</u> o <u>M</u> essa	ge Ope <u>n</u> PGP <u>T</u> ools <u>H</u> elp		
Get Mail Write Address B	ook Decrypt Reply Reply All Forward Delete	Junk Print Stop	0
Folders	View: All	b	🗘 nagios 🗵
📓 joelja@bogus.com	♥ 0 Subject	w Sender	◎ Date Order Received II
- 🗐 Inbox (1) - 📝 Drafts	Host DOWN alert for kixp!	 nagios@mu.uoregon.edu 	 03/20/200 63914
- Sent	🔄 Host DOWN alert for kixp!	 nagios@mu.uoregon.edu 	 03/20/200 64163
- 🕼 Trash	lost DOWN alert for kixp!	 nagios@mu.uoregon.edu 	 03/20/200 64168
auplicates	Host DOWN alert for kixp!	 nagios@mu.uoregon.edu 	 03/21/200 64264
📄 fedora (20868)	Host UP alert for kixp!	 nagios@mu.uoregon.edu 	 03/21/200 64265
📄 freeradius (2752)	Host DOWN alert for ns3!	 nagios@mu.uoregon.edu 	 03/22/200 64542
imapidx	Host UP alert for ns3!	 nagios@mu.uoregon.edu 	· 03/22/200 64543
Junk (2271)	Host DOWN alert for kixp!	 nagios@mu.uoregon.edu 	 03/22/200 64566 03/22/200 64567
🛅 linux-ker (20348)	Host DOWN alert for isc!	 nagios@mu.uoregon.edu nagios@mu.uoregon.edu 	 03/22/200 64767 03/25/200 65146
🗀 nagios	Host UP alert for eqix!	 nagios@mu.uoregon.edu 	 03/25/200 65150
🛅 routeviegios (2)	Host DOWN alert for kixp!	 nagios@mu.uoregon.edu 	 03/26/200 65194
🖻 🤖 saved-messages	Host UP alert for kixp!	 nagios@mu.uoregon.edu 	 03/26/20065195
🖻 🛅 current	Host DOWN alert for kixp!	 nagios@mu.uoregon.edu 	 03/26/200 65197
inbox01	Host DOWN alert for linx!	 nagios@mu.uoregon.edu 	• 03/26/200 65199
linux-kernel00		i a li i	
linux-k(8194) spam	Subject: Host DOWN alert for eqix!		
Local Folders	From: nagios@mu.uoregon.edu Sender: owner-rviews@routeviews.org		
g Local i olacito	Date: 03/25/2007 10:26 PM		
	To: rviews@routeviews.org		
	***** Nagios *****		
	Notification Type: PROBLEM		
	Host: eqix		
	State: DOWN		
	Address: 144.223.246.110		
	Info: CRITICAL - Host Unreachable (144.223	3.246.110)	
	Date/Time: Sun Mar 25 22:26:10 PDT 2007		
US Pacific: Wed 20:04 Hon	g Kong: Thu 11:04 GMT/UTC: Thu 03:04 Cook Is: Wed 17:04	<u>م</u> ل	Unread: 1 Total: 16283
OS FACINC: Wed 20:04 Hon	g Kong. md 11.04 <u>GM1/01C: md 05:04</u> Cook is: Wed 17:04	2	Unreau: 1 lotal: 16285





Other slides

Tools Surveyed

- Cacti
- Rancid

Cacti - SNMP stats collection