

Using Hobbit to Monitor Network Services

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Session #9283





SHARE

Technology • Connections • Results

Presentation Materials

http://www.vmassist.com/rs_samples/hobbitmon_share110.zip

SHARE is Going Green! - Thunderbird

File Edit View Go Message Tools Help

Get Mail Write Address Book Reply Reply All Forward Tag Delete Junk

Subject: SHARE is Going Green!
From: sharehq@share.org
Date: 11/26/2007 10:58 AM
To: [Rich](#)

If you cannot view this email, [click here](#).

2008 Business Issues — The SOA Journey and Virtualization

    **SHARE**
Orlando, Florida
February 24-29, 2008
Disney's Coronado Springs Resort, Lake Buena Vista, Florida

Dear Rich,

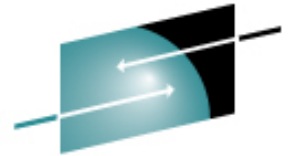
It has become increasingly evident that in daily business, greater value is being placed on giving back to the community and becoming more environmentally friendly. SHARE has taken a step to join the green movement by eliminating onsite copying service in an effort to conserve paper.

For SHARE in Orlando in February 2008, if you would like to continue providing handouts to attendees in your session, we recommend the following options. More information on these items will be available on our online Speaker/Chair Resources page on December 3.


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Agenda



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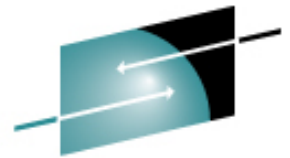
- " Why monitor the network?
- " Hobbit Network Services Monitor
 - " Architecture
 - " Clients
 - " Displays
 - " Reports
 - " Notification
 - " Enable/Disable
 - " Extensions
- " Using Hobbit with System z Operating Systems
- " Additional Hobbit Information

Why Monitor the Network?



- " Monitoring packages available
 - " Operating Systems
 - " z/VM, z/OS, z/VSE, Linux, Windows, Solaris, etc
 - " Sub Systems and Open Source
 - " CICS, Websphere, DB2, Oracle, MQ, MySQL, etc
 - " Designed to monitor internals (tasks, jobs, file access, performance metrics)
- " Networks can get quite complex
- " Systems are very interconnected
 - " We rely much more on varying types of systems
 - " Functions on one system are dependent upon processes running on one or more other systems
 - " Access to certain systems is dependent upon being able to connect to other systems

Why Monitor the Network?



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- " Many machines perform 'business critical' functions
- " Network administrators need to know when these systems are down or running degraded
- " Service Level Management
 - " Are you providing the level of service agreed to?
 - " Is the requested level of service is being delivered?

The Hobbit Monitor



- " 'Hobbit is a tool for monitoring servers, applications and networks'¹
- " Written by Henrik Stoerner
 - " Network Administrator for Computer Sciences Corporation in Copenhagen
 - " Largest CSC data center in EMEA, top 5 globally
- " Hobbit is an application that performs 'tests' of network services on pre-determined hosts
 - " TCP based connections
 - " ftp ssh telnet smtp pop3 imap nntp rsync clamd oratns qmtp qmqp dns dig ntp rpc http ldap apache and more...
- " Provides a web based status display, updated every minute

¹ from 'About the Hobbit Monitor', <http://www.hswn.dk/hobbit/help/about.html>

The Hobbit Monitor



- " Uses colored icons and backgrounds for easy status spotting
- " Can perform any number of tests on any number of hosts
 - " The author monitors over 4000 hosts
- " Server and client runs on most Linux/Unix based hosts
- " Network tests and client tests run at 5 minute intervals
- " Clients available for non-Linux operating systems
- " Email notification of events
- " Uses an open framework for writing extensions
 - " Community written extensions available
- " Integrated reporting

The Hobbit Monitor



- " Hobbit can be installed from source or RPM
 - " Runs on Linux (also Linux on System z)
 - " Source and RPMs are available at:
<http://www.sourceforge.net/projects/hobbitmon>
- " Prerequisites
 - " Apache – to display the web pages
 - " RRDtool, libpng – for graphing
 - " PCRE – Perl compatible regular expressions
 - " Open SSL, Open LDAP (optional)
- " A VMWare appliance is also available
 - " Download from sourceforge

- " **Hobbit runs as a series of processes**
 - " hobbitd – Main Hobbit process, handles status and data messages, handles enabling and disabling of hosts, keeps all state information in memory, all communication done via network connection
 - " hobbitd_channel – Queuing mechanism for message passing between processes
 - " hobbitd_rrd – Performs graph updates
 - " hobbitd_history – Updates history logs
 - " hobbitd_alert – Sends out alerts
 - " hobbitd_client – Handles incoming messages from client systems

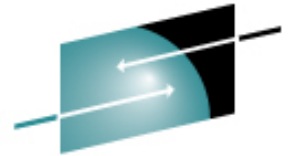
- " **The 'status message' is the basic tool used by the individual tests to communicate with Hobbit**
 - " Each test that is run for each host generates a status message that is processed by hobbitd

Architecture

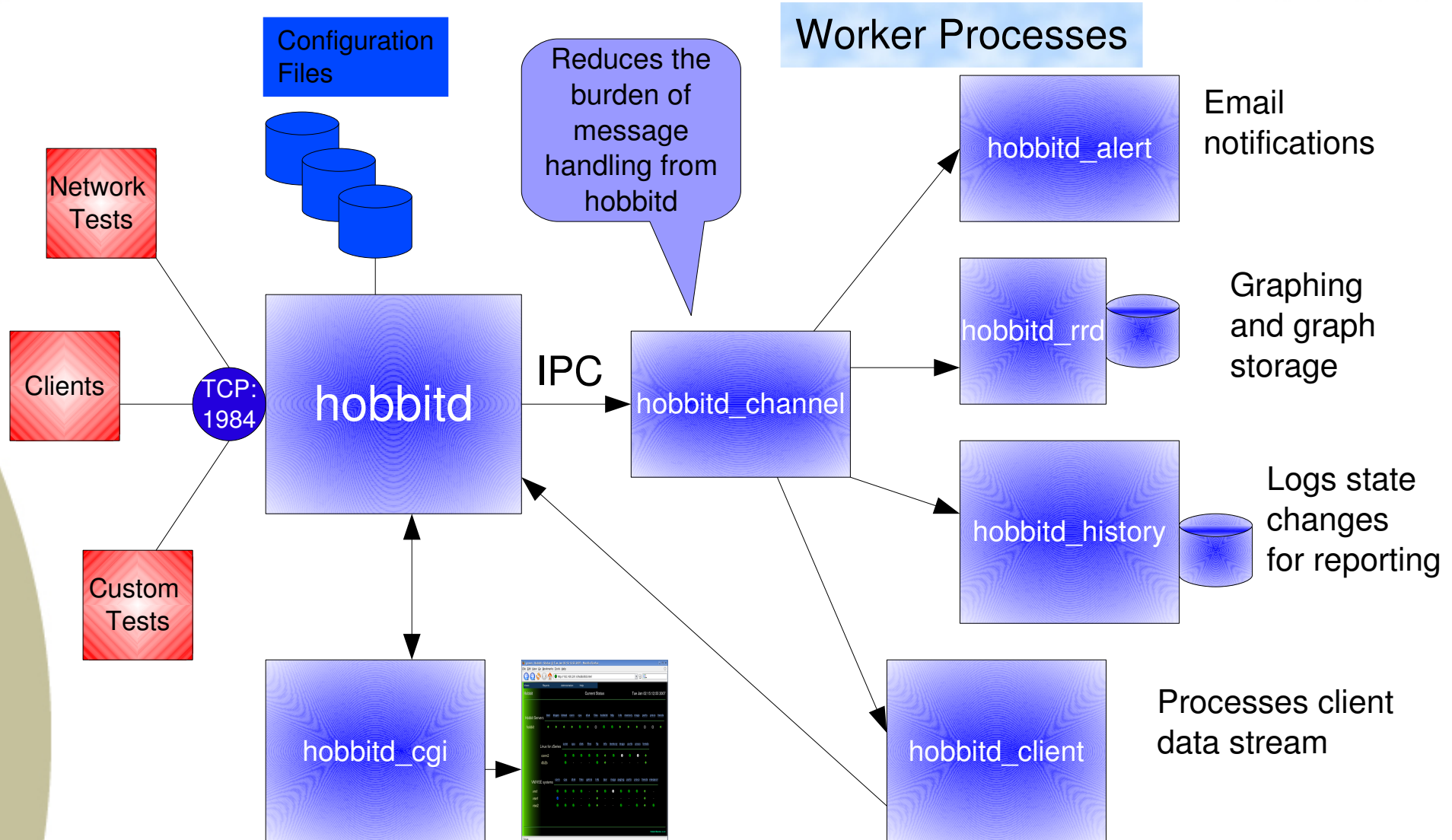


- " Communication between the processes is handled by a 'channel'
 - " System V Shared Memory IPC using semaphores
 - " Fast and efficient
 - " One channel for each type of message being passed
- " Web Interface
 - " CGI programs read data from the Hobbit daemon
- " Clients
 - " Code that runs on other systems and reports data to Hobbit
 - " Typically using operating system commands
 - " Sends a client data stream in a specific format to Hobbit
 - " Data received over the client channel is then transformed to status messages sent to the Hobbit daemon

Architecture



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Clients



- " Clients are installed on other machines
 - " Called agents by some monitoring tools
- " A Linux/Unix based client is distributed with the package
 - " Installed automatically on the server
 - " Can be built from the source
 - " Installed with a special client RPM (also for System z)
- " Clients report information about the operating system that they are running on to the Hobbit server
- " Clients use basic operating system commands or utilities
 - " On Linux: uptime, df, ps, who, vmstat, etc
 - " Reports load average, disk space utilization, running processes, memory utilization, file and directory existence and size, log file messages, tcp port connections, users

Clients



- " This information is gathered into a 'client data stream' and sent to Hobbit
- " On the Hobbit server a specialized module must be written to understand the client data stream for each operating system
- " This module picks apart the client data stream and builds status messages that are sent to Hobbit

" An example Linux client data stream

```
client conn.linux linux
[date]
Mon Apr 16 11:46:54 CDT 2007
[uname]
Linux conn 2.6.5-7.244-s390 s390
[osversion]
[uptime]
11:46am up 7 days 0:49, 1 user, load average: 0.08, 0.02, 0.01
[df]
Filesystem          1024-blocks      Used Available Capacity Mounted on
/dev/dasdal         787940          655540      92376      88% /
[free]
Mem:                total          used          free          shared        buffers        cached
-/+ buffers/cache: 42496          38484          4012           0           1192          23992
Swap:               32760          1164          31596
[ifconfig]
eth0 Link encap:Ethernet HWaddr 02:00:00:00:00:04
inet addr:192.168.201.8 Bcast:192.168.201.255 Mask:255.255.255.0
inet6 addr: fe80::200:0:100:4/64 Scope:Link
UP BROADCAST NOTRAILERS RUNNING MULTICAST MTU:1500 Metric:1
RX packets:125073 errors:0 dropped:0 overruns:0 frame:0
TX packets:76100 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:95575441 (91.1 Mb) TX bytes:27568757 (26.2 Mb)
```

Clients



- " Hobbit does Windows
- " A Windows client is available on Sourceforge
 - " <http://bbwin.sourceforge.net>
- " Supports Windows 2000, XP and 2003 32-bit server versions
 - " Restricted support for NT 4.0
- " Runs as a Windows Service
- " Integrates with centralized Hobbit configuration
- " Monitors CPU Utilization, Disk Utilization, Memory, Processes, Uptime and Services



Displays

– Main Hobbit Display

green : Hobbit - Status @ Tue Jan 02 15:12:55 2007 - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://192.168.201.6/hobbit/bb.html

Views Reports Administration Help

Hobbit Current Status Tue Jan 02 15:12:55 2007

Hobbit Servers [bbd](#) [bbgen](#) [bbtest](#) [conn](#) [cpu](#) [disk](#) [files](#) [hobbitd](#) [http](#) [info](#) [memory](#) [msgs](#) [ports](#) [procs](#) [trends](#)

Hobbit Servers	bbd	bbgen	bbtest	conn	cpu	disk	files	hobbitd	http	info	memory	msgs	ports	procs	trends
hobbit	◆	◆	◆	◆	😊	◆	☐	😊	😊	◆	◆	◆	☐	☐	◆

Linux for zSeries [conn](#) [cpu](#) [disk](#) [files](#) [ftp](#) [info](#) [memory](#) [msgs](#) [ports](#) [procs](#) [trends](#)

Linux for zSeries	conn	cpu	disk	files	ftp	info	memory	msgs	ports	procs	trends
conn2	😊	😊	😊	😊	😊	◆	😊	☐	😊	☐	◆
db2b	😊	-	-	-	😊	◆	-	-	-	-	◆

VM/VSE systems [conn](#) [cpu](#) [disk](#) [files](#) [getvis](#) [info](#) [lpar](#) [msgs](#) [paglng](#) [ports](#) [procs](#) [trends](#) [vsespool](#)

VM/VSE systems	conn	cpu	disk	files	getvis	info	lpar	msgs	paglng	ports	procs	trends	vsespool
vm1	😊	😊	😊	😊	-	◆	😊	☐	😊	😊	😊	◆	-
vse1	☐	-	-	-	-	◆	-	-	-	-	-	◆	-
vse2	😊	😊	😊	-	😊	◆	-	-	😊	-	😊	◆	😊

Hobbit Monitor 4.2.0

Done

Displays

- Explanation of icons and colors

''

Color

Changed >1 Day

Last 24 Hours

Green: OK



Yellow: Warning



Red: Critical



Clear: No data



Purple: No report

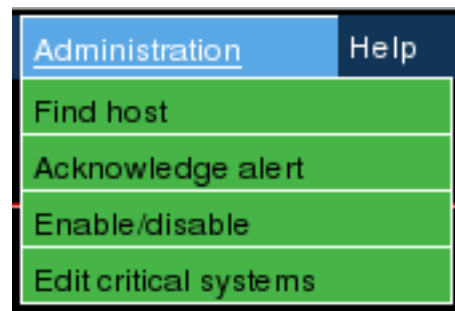
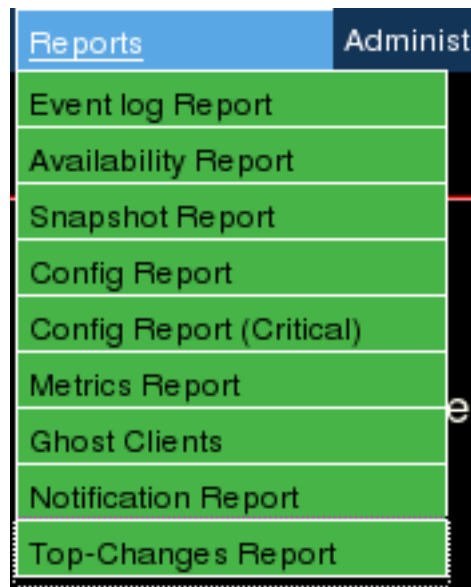
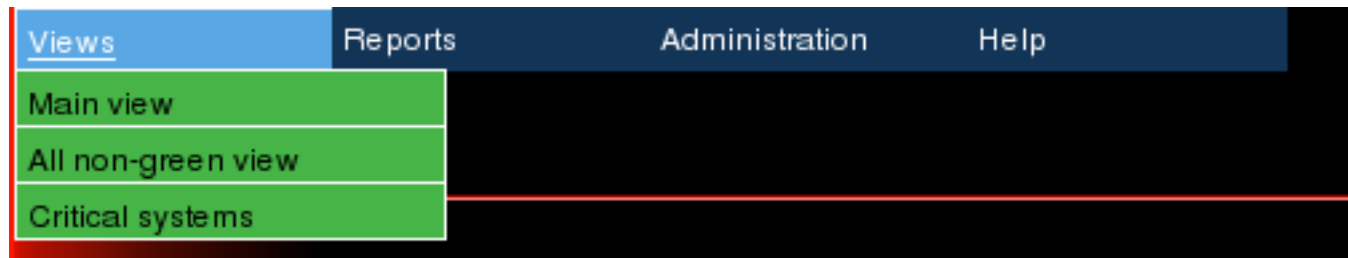


Blue: Disabled



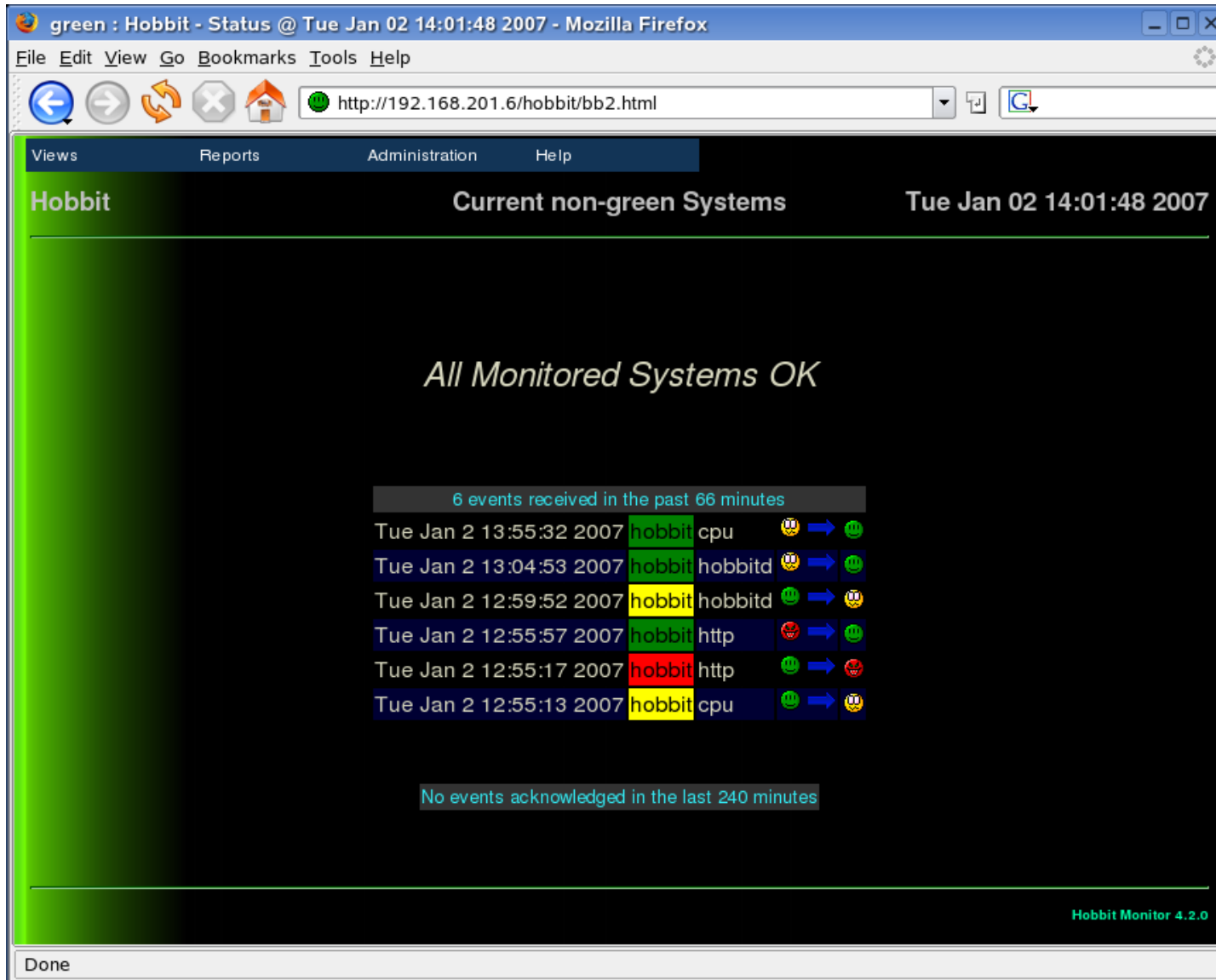
Displays

- Hobbit menus



Displays

- Non-green View



green : Hobbit - Status @ Tue Jan 02 14:01:48 2007 - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://192.168.201.6/hobbit/bb2.html

Views Reports Administration Help

Hobbit Current non-green Systems Tue Jan 02 14:01:48 2007

All Monitored Systems OK

6 events received in the past 66 minutes

Tue Jan 2 13:55:32 2007	hobbit	cpu	☹ → 😊
Tue Jan 2 13:04:53 2007	hobbit	hobbitd	☹ → 😊
Tue Jan 2 12:59:52 2007	hobbit	hobbitd	😊 → ☹
Tue Jan 2 12:55:57 2007	hobbit	http	☹ → 😊
Tue Jan 2 12:55:17 2007	hobbit	http	😊 → ☹
Tue Jan 2 12:55:13 2007	hobbit	cpu	😊 → ☹

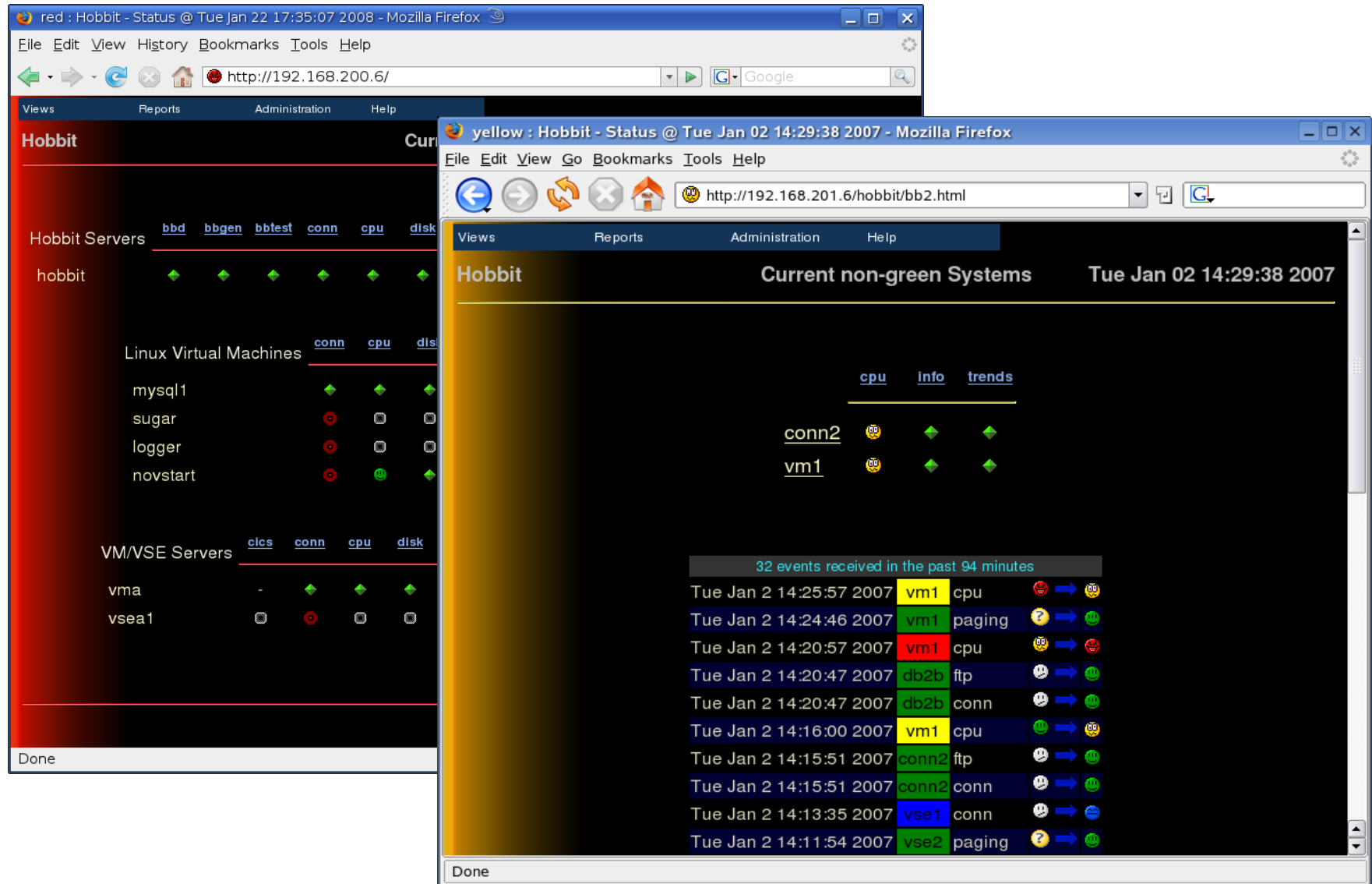
No events acknowledged in the last 240 minutes

Hobbit Monitor 4.2.0

Done

Displays

- Non-green status



The image shows two overlapping browser windows displaying the 'Hobbit' status monitoring interface. The left window, titled 'red : Hobbit - Status @ Tue Jan 22 17:35:07 2008', shows a general overview with green status indicators for various servers. The right window, titled 'yellow : Hobbit - Status @ Tue Jan 02 14:29:38 2007', shows a detailed view of 'Current non-green Systems' with a table of events.

Current non-green Systems (Tue Jan 02 14:29:38 2007)

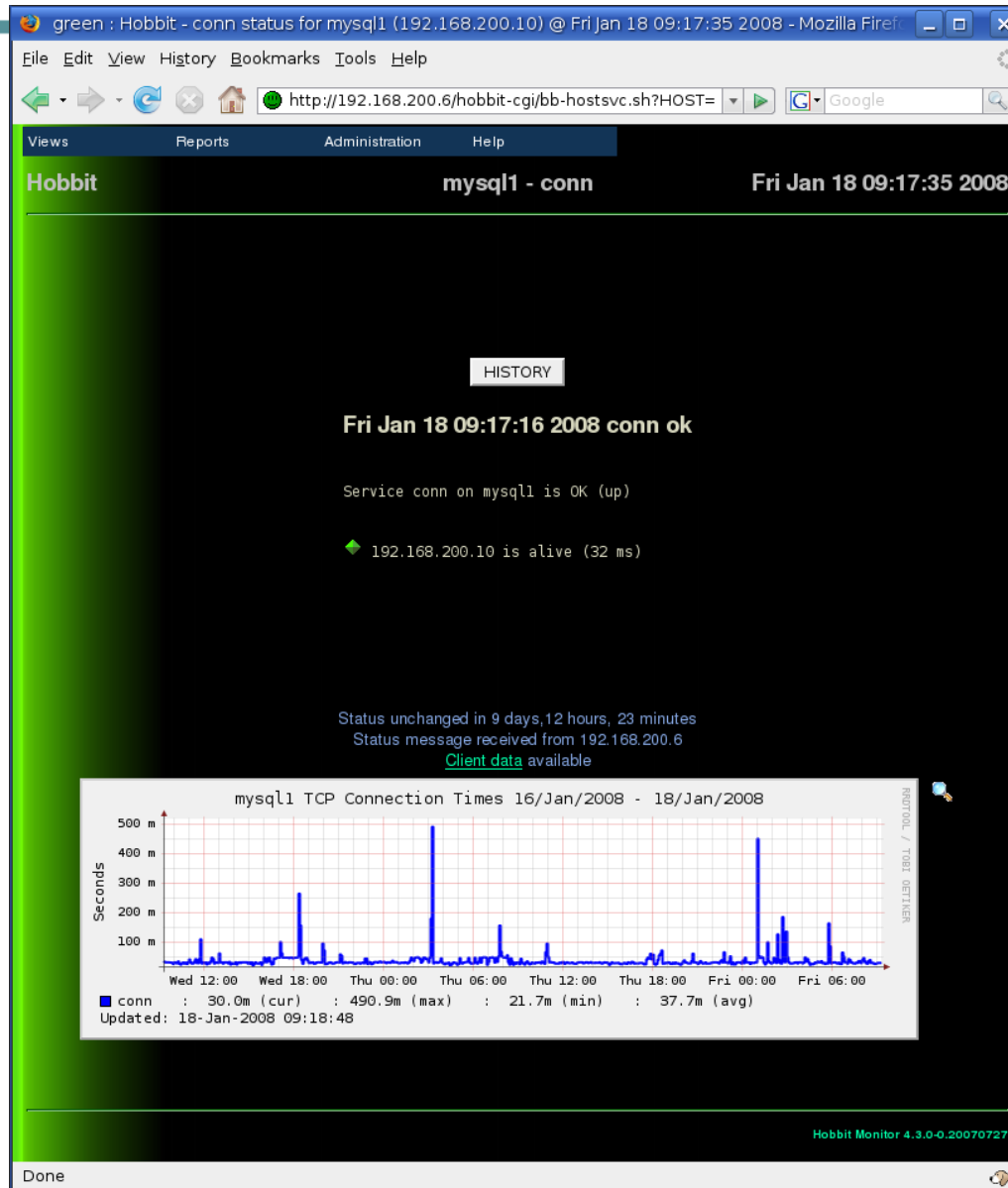
	cpu	Info	trends
<u>conn2</u>	🟡	🟢	🟢
<u>vm1</u>	🟡	🟢	🟢

32 events received in the past 94 minutes

Tue Jan 2 14:25:57 2007	vm1	cpu	🔴	🔴
Tue Jan 2 14:24:46 2007	vm1	paging	🟡	🟢
Tue Jan 2 14:20:57 2007	vm1	cpu	🟡	🔴
Tue Jan 2 14:20:47 2007	db2b	ftp	🟡	🟢
Tue Jan 2 14:20:47 2007	db2b	conn	🟡	🟢
Tue Jan 2 14:16:00 2007	vm1	cpu	🟢	🟡
Tue Jan 2 14:15:51 2007	conn2	ftp	🟡	🟢
Tue Jan 2 14:15:51 2007	conn2	conn	🟡	🟢
Tue Jan 2 14:13:35 2007	vse1	conn	🟡	🟢
Tue Jan 2 14:11:54 2007	vse2	paging	🟡	🟢

Displays

- Clicking on a green icon



green : Hobbit - conn status for mysql1 (192.168.200.10) @ Fri Jan 18 09:17:35 2008 - Mozilla Firef

File Edit View History Bookmarks Tools Help

http://192.168.200.6/hobbit-cgi/bb-hostsvc.sh?HOST=

Views Reports Administration Help

Hobbit mysql1 - conn Fri Jan 18 09:17:35 2008

HISTORY

Fri Jan 18 09:17:16 2008 conn ok

Service conn on mysql1 is OK (up)

◆ 192.168.200.10 is alive (32 ms)

Status unchanged in 9 days, 12 hours, 23 minutes
Status message received from 192.168.200.6
[Client data](#) available

mysql1 TCP Connection Times 16/Jan/2008 - 18/Jan/2008

Seconds

Wed 12:00 Wed 18:00 Thu 00:00 Thu 06:00 Thu 12:00 Thu 18:00 Fri 00:00 Fri 06:00

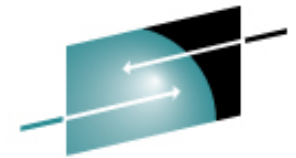
conn : 30.0m (cur) : 490.9m (max) : 21.7m (min) : 37.7m (avg)
Updated: 18-Jan-2008 09:18:48

Hobbit Monitor 4.3.0-0.20070727

Done

Displays

- Clicking on different colored icons



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red : Hobbit - conn status for logger (192.168.200.12) @ Fri Jan 18 09:32:43 2008 - Mozilla

File Edit View History Bookmarks Tools Help

http://192.168.200.6/hobbit-cgi/bb-hostsvc.sh

Views Reports Administration Help

Hobbit **logger - conn** **Fri Jan 18 09:32:43 2008**

HISTORY

Fri Jan 18 09:32:24 2008 conn NOT ok

Service conn on logger is not OK : Host does not respond to ping

System unreachable for 2155 poll periods (735291 seconds)

✘ 192.168.200.12 is unreachable

Status unchanged in 8 days, 12 hours, 15 minutes
Status message received from 192.168.200.6

logger TCP Connection Times 16/Jan/2008 - 18/Jan/2008

Done

yellow : Hobbit - disk status for hobbit (192.168.200.6) @ Fri Jan 18 09:32:33 2008 - Mozilla

File Edit View History Bookmarks Tools Help

http://192.168.200.6/hobbit-cgi/bb-hostsvc.sh

Views Reports Administration Help

Hobbit **hobbit - disk** **Fri Jan 18 09:32:33 2008**

HISTORY

Fri Jan 18 09:32:25 CST 2008 - Filesystems NOT ok

🚨 / (90% used) has reached the WARNING level (90%)

Filesystem	1024-blocks	Used	Available	Capacity	Mounted on
/dev/dasdb1	1182656	1002772	119808	90%	/

Status unchanged in 5 days, 12 hours, 4 minutes
Status message received from 192.168.200.6
[Client data](#) available

hobbit Disk Utilization 16/Jan/2008 - 18/Jan/2008

Updated: 18-Jan-2008 09:34:56

Done

Reports



- " Reports are designed to provide information on the historical data that is recorded by Hobbit
- " Criteria for running the report is entered on a web form
- " When the report is complete, it is displayed on the browser
- " Host name and Test name matching use Perl Compatible Regular Expressions (the PCRE package)
 - " Although very powerful are unlike other regular expression matching methods

Reports

- PCRE – A *Short Tutorial*



- " To match a specific host or test name, key the name exactly on the entry line
- " To match multiple host or test names, separate the names with a vertical bar
 - " eg: mysql1|logger
- " To match a name that begins with a certain set of characters, use the caret symbol
 - " eg: ^log
- " To match multiple names that begin with a certain set of characters
 - " eg: ^(sug|vse)

" Types of reports available

- " Event Log – Provides a view of state changes; report can be customized by date range, number of events, hostname, testname, test color and page name
- " Availability Report – Generates a report of uptime percentages for all hosts and tests
 - " Customized by date range, non-green or critical
 - " Detail can be drilled down for more information about a specific host
 - " Report can also be generated as a spreadsheet for separate analysis
- " Snapshot Report – A point-in-time view of the Hobbit web pages
 - " Enter the date and time
- " Config Report – Provides detailed config info about Hobbit server and clients
- " Metrics Report – Multi-host graphing comparison
- " Ghost Clients – A list of clients reporting to Hobbit that are unknown to Hobbit
- " Notification Log – Provides a report of notifications (or alerts) sent out (configurable similarly to the Event Log)
- " Top Changes – Generates a list of hosts and tests that change the most (configurable similarly to the Event Log)

Reports

- Event Log (Form and Result)



blue : Hobbit - Eventlog @ Fri Jan 18 19:00:14 2008 - Mozilla Firefox

http://192.168.200.6/hobbit-cgi/bb-eventlog.

Views Reports Administration Help

Hobbit Eventlog Fri Jan 18 19:00:

Starting minutes ago (Default 1440)

- OR -

From: (ccyy/mm/dd@hh:mm:ss)

To: (ccyy/mm/dd@hh:mm:ss)

Max # of events (Default 100)
 Hosts to match (ex: ^host.*\$)
 Hosts to skip (ex: ^host.*\$)
 Pages to match (ex: ^webservers/.)
 Pages to skip (ex: ^webservers/.)
 Tests to match (ex: cpu|vmstat)
 Tests to skip (ex: cpu|vmstat)
 Colors to match (ex: red|green)
 Ignore dialup hosts

Hobbit Monitor 4.3.0

green : Hobbit - Eventlog @ Fri Jan 18 19:20:56 2008 - Mozilla Firefox

http://192.168.200.6/hobbit-cgi/bb-eventlog.

Views Reports Administration Help

Hobbit Eventlog Fri Jan 18 19:20:56 2008

Events between 2007/12/01@00:00:00 - 2008/01/01@00:00:00

15 events received.

Mon Dec 17 21:14:06 2007	logger	conn	×	→	◆
Mon Dec 17 21:11:21 2007	logger	conn	◆	→	×
Mon Dec 17 21:07:20 2007	logger	conn	×	→	◆
Mon Dec 17 20:58:11 2007	logger	conn	?	→	×
Fri Dec 14 14:10:56 2007	sugar	conn	×	→	◆
Fri Dec 14 14:01:50 2007	mysql1	conn	×	→	◆
Fri Dec 14 13:56:49 2007	mysql1	conn	◆	→	×
Fri Dec 14 13:56:49 2007	sugar	conn	◆	→	×
Thu Dec 13 22:08:18 2007	mysql1	conn	×	→	◆
Thu Dec 13 22:05:43 2007	mysql1	conn	◆	→	×
Thu Dec 13 21:59:10 2007	mysql1	conn	×	→	◆
Thu Dec 13 21:57:24 2007	sugar	conn	×	→	◆
Thu Dec 13 21:55:37 2007	mysql1	conn	◆	→	×
Thu Dec 13 21:55:37 2007	sugar	conn	◆	→	×
Thu Dec 13 16:58:24 2007	sugar	conn	×	→	◆

Hobbit Monitor 4.3.0-0.20070727

Reports

- Availability Report (Form and Result)

Hobbit - Availability Report - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://192.168.200.6/hobbit-cgi/bb-rep.sh

Views Reports Administration Help

Hobbit Availability Report Fri Jan 18 19:45:09 2007

Hobbit Monitor Availability Report

December 1 2007 - to - December 31 2007

Display only critical events

Generate Report Generate spreadsheet

Hobbit Monitor 4.3.0-0.20070

Done

Hobbit Availability Report : Dec 01 2007 - Dec 31 2007 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://192.168.200.6/hobbit/rep/2382-1200707256

Views Reports Administration Help

Hobbit Availability Report Dec 01 2007 - Dec 31 2007

Hobbit Servers

hobbit 99.99

Linux Virtual Machines

	conn	cpu	disk	files	memory	msgs	ports	procs
mysql1	99.98	◆	◆	◆	◆	◆	◆	◆
sugar	98.97	◆	◆	◆	◆	◆	◆	◆
logger	99.94	◆	◆	◆	◆	◆	◆	◆
novstart	99.90	◆	◆	◆	◆	◆	◆	◆

VM/VSE Servers

	cics	conn	cpu	disk	files	getvis	msgs	pagimg	ports	procs
vma	-	◆	99.31	◆	◆	-	◆	99.90	◆	◆
vsea1	◆	◆	◆	◆	-	◆	-	◆	◆	◆

Hobbit Monitor 4.3.0-0.20070727

Done

Reports

- Availability Report (Detail)

Hobbit Availability Report : vma - cpu Dec 01 2007 - Dec 31 2007 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://192.168.200.6/hobbit-cgi/bb-replog.sh?HOS

Views Reports Administration Help

Hobbit **Availability** **Dec 01 2007 - Dec 31 2007**
vma - cpu

vma - cpu

Availability: 99.31%

	◆	!	⊗	⏏	⊞	⊞
24x7	99.15%	0.16%	0.69%	0.00%	0.00%	0.00%
Event count	5	5	0	0	0	0

[Total may not equal 100%]

Event logs for the given period

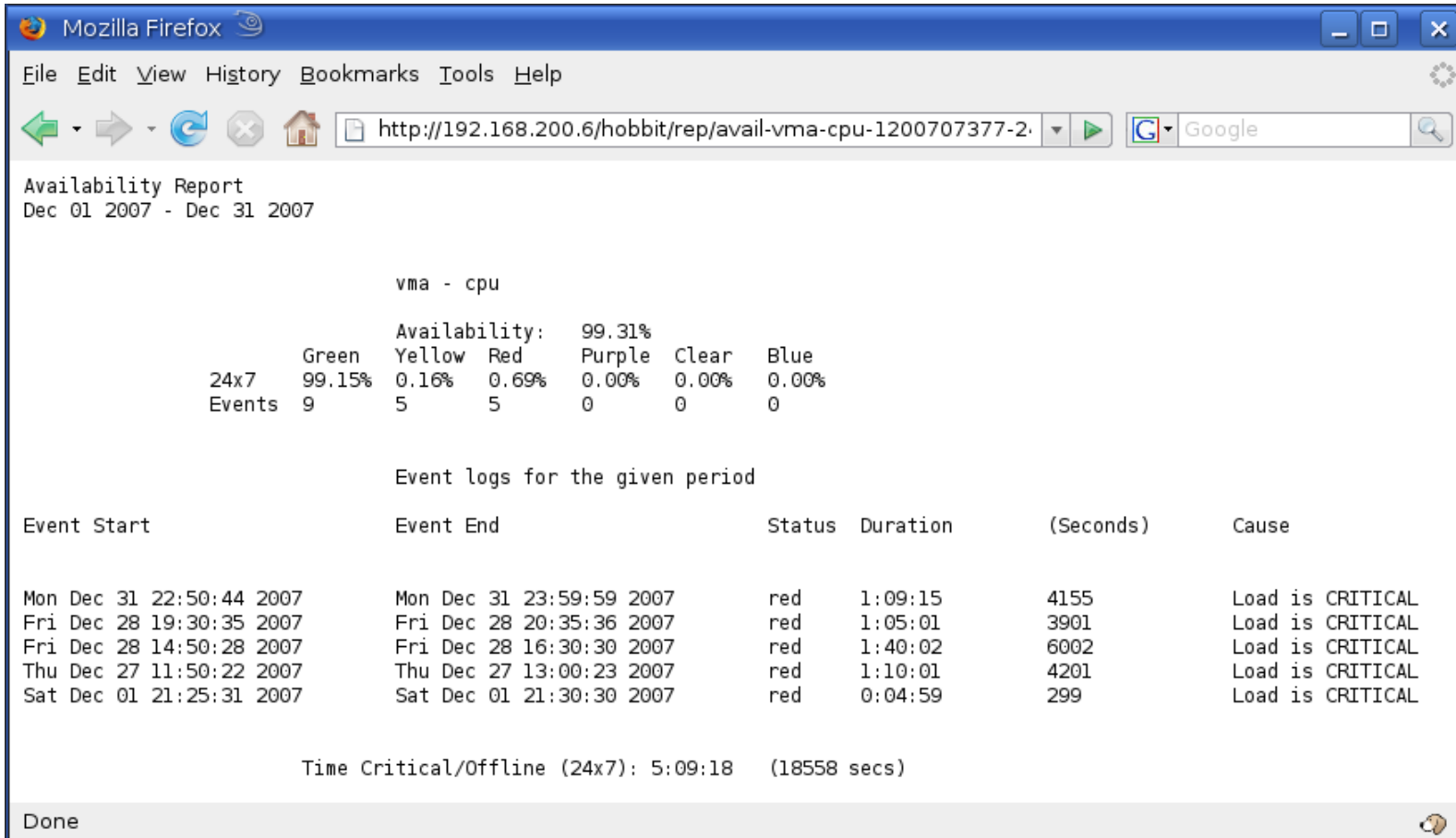
Event Start	Event End	Status	Duration	Cause
Mon Dec 31 22:50:44 2007	Mon Dec 31 23:59:59 2007	⊗	1:09:15	Load is CRITICAL
Fri Dec 28 19:30:35 2007	Fri Dec 28 20:35:36 2007	⊗	1:05:01	Load is CRITICAL
Fri Dec 28 14:50:28 2007	Fri Dec 28 16:30:30 2007	⊗	1:40:02	Load is CRITICAL
Thu Dec 27 11:50:22 2007	Thu Dec 27 13:00:23 2007	⊗	1:10:01	Load is CRITICAL
Sat Dec 01 21:25:31 2007	Sat Dec 01 21:30:30 2007	⊗	0:04:59	Load is CRITICAL
Time Critical/Offline (24x7):			5:09:18	

[Click here for text-based availability report](#)

Done

Report

- Availability Report (text)



Availability Report
Dec 01 2007 - Dec 31 2007

vma - cpu

Availability: 99.31%

24x7	Green	Yellow	Red	Purple	Clear	Blue
Events	99.15%	0.16%	0.69%	0.00%	0.00%	0.00%
	9	5	5	0	0	0

Event logs for the given period

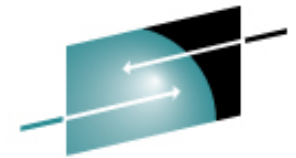
Event Start	Event End	Status	Duration	(Seconds)	Cause
Mon Dec 31 22:50:44 2007	Mon Dec 31 23:59:59 2007	red	1:09:15	4155	Load is CRITICAL
Fri Dec 28 19:30:35 2007	Fri Dec 28 20:35:36 2007	red	1:05:01	3901	Load is CRITICAL
Fri Dec 28 14:50:28 2007	Fri Dec 28 16:30:30 2007	red	1:40:02	6002	Load is CRITICAL
Thu Dec 27 11:50:22 2007	Thu Dec 27 13:00:23 2007	red	1:10:01	4201	Load is CRITICAL
Sat Dec 01 21:25:31 2007	Sat Dec 01 21:30:30 2007	red	0:04:59	299	Load is CRITICAL

Time Critical/Offline (24x7): 5:09:18 (18558 secs)

Done

Report

- Snapshot Report (Form and Result)



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Hobbit - Snapshot Report - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://192.168.200.6/hobbit-cgi/bb-snapsh

Views Reports Administration Help

Hobbit Snapshot Report Fri Jan 18 20:00

Hobbit Snapshot Report

January 18 2008 5 09 00

Generate Report

Hobbit Monitor

Done

Hobbit Snapshot Report : Fri Jan 18 05:09:00 2008 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://192.168.200.6/hobbit/snap/3261-120

Views Reports Administration Help

Hobbit Snapshot Report Fri Jan 18 05:09:00 2008

Hobbit [bbd](#) [bbgen](#) [bbtest](#) [conn](#) [cpu](#) [disk](#) [files](#) [hobbitd](#) [http](#) [memory](#) [msgs](#) [ports](#) [procs](#)

Servers

hobbit

Linux Virtual Machines [conn](#) [cpu](#) [disk](#) [files](#) [memory](#) [msgs](#) [ports](#) [procs](#)

	conn	cpu	disk	files	memory	msgs	ports	procs
mysql1								
sugar								
logger								
novstart								

VM/VSE Servers [cics](#) [conn](#) [cpu](#) [disk](#) [files](#) [getvis](#) [msgs](#) [paging](#) [ports](#) [procs](#)

	cics	conn	cpu	disk	files	getvis	msgs	paging	ports	procs
vma	-					-				
vsea1					-		-			

Hobbit Monitor 4.3.0-0.20070727

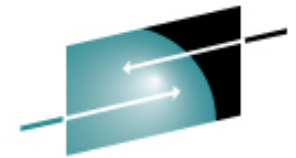
Done

Notification



- " Notification happens when host and test conditions dictate that an email or page must be sent to someone to alert them that some incident has occurred
- " A notification or alert can be an email or an SMS page
 - " SMS pages require a special script
 - " Since cellular plans are email capable, notifications can be routed to a cell phone
- " Notifications are set up in a special configuration file
 - " Controlled by host name (regular expression allowed)
 - " Can be sent to a group of users
 - " Can be controlled by day of week and time of day
 - " Repeat notifications can be sent
 - " Different notifications can be sent based on type of test
 - " Notifications can be acknowledged

Notification Email



SHARE

Technology • Connections • Results

Hobbit [110638] zvm53a:disk CRITICAL (RED) - Thunderbird

File Edit View Go Message Tools Help

Get Mail Write Address Book Reply Reply All Forward Tag Delete Junk Print Back Forward

Subject: Hobbit [110638] zvm53a:disk CRITICAL (RED)
From: hobbit@hobbit.rks0.com
Date: 10:25 AM
To: rsmrcina@vmassist.com

red Wed Jan 23 10:25:22 CST 2008 - Filesystems NOT ok
&red /SFS/VMSYS/group2 (77% used) has reached the PANIC level (75%)

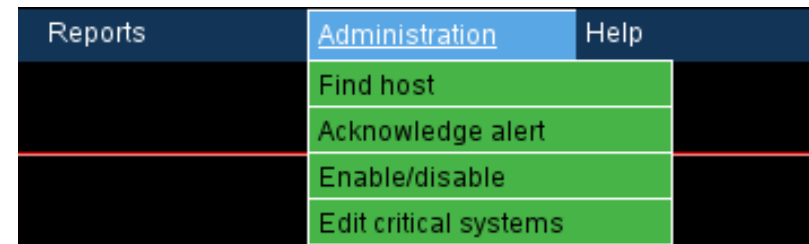
Filesystem	kbytes	Used	Avail	Capacity	Mounted as
/CP/DRCT	80	4	76	5.0%	/CP/DRCT
/CP/SPOOL	2403360	139780	2263580	5.8%	/CP/SPOOL
/CP/PAGE	2403360	4	2403356	0.0%	/CP/PAGE
/VMSYS/group2	1414528	1092836	321692	77.3%	/SFS/VMSYS/group2
/VMSYSU/group2	4280	1180	3100	27.6%	/SFS/VMSYSU/group2
/VMSYSU/ETC	1000	25	975	2.5%	/BFS/VMSYSU/ETC
/VMSYSU/HOBBITVM	500	154	346	30.8%	/SFS/VMSYSU/HOBBITVM
/VMSYSU/MAINT	7000	9	6991	0.1%	/SFS/VMSYSU/MAINT
/VMSYSU/SFPURGER	500	97	403	19.4%	/SFS/VMSYSU/SFPURGER
/VMSYSU/TMP	1000	0	1000	0.0%	/BFS/VMSYSU/TMP
/VMSYSU/VAR	1000	0	1000	0.0%	/BFS/VMSYSU/VAR
/VMSYSU/WAKEUP	200	10	190	5.0%	/SFS/VMSYSU/WAKEUP

See <http://hobbit/hobbit-cgi/bb-hostsvc.sh?HOST=zvm53a&SERVICE=disk>

Enable/Disable

- " Hobbit provides the capability to disable hosts or tests to indicate downtime
- " Hosts or tests that are 'down' are not subject to red icons or alerts
 - " Icons turn blue
- " Regularly scheduled downtime can be handled via the host configuration file

- " Use the Administration Menu



- " Or the info icon on any host



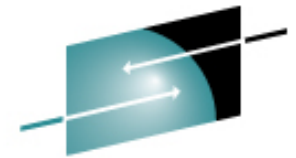
Enable/Disable



- Select a host
- Select a test or ALL
- On the 'info' page there is a Disable Tests section
- For a large number of hosts a filter can be used
- Enter a cause and duration
- Select to either disable now or at a future date/time
- Click Apply

A screenshot of a web browser window titled "Hobbit - Maintenance - Mozilla Firefox". The address bar shows the URL "http://192.168.201.6/hobbit-seccgi/hobbit-enadis.sh". The page content includes a navigation menu with "Views", "Reports", "Administration", and "Help". The main area is titled "Hobbit Maintenance" and shows the date "Mon Apr 16 18:01:02 2007". Under "Current Status", there are two sections: "Currently disabled tests" with the text "No tests disabled" and "Scheduled actions" with the text "No tasks scheduled". To the right, under "Select what to Disable", there are two lists: "Hosts" containing "conn", "grdvpn", "hobbit", "mysqld", "vmb", "vseb1", and "vseb2"; and "Tests" with a dropdown menu set to "-- Select a host --". Below these is a "Filter hostlist" section with input fields for "Hostname pattern", "Pagename pattern", and "IP address pattern", and an "Apply filters" button. At the bottom, there are fields for "Cause:", "Duration: 4 hours" (with a dropdown), and a radio button for "OR - until OK:". There are two radio buttons for "Disable now" and "Schedule disable at", with the latter having date and time dropdowns (April 16, 2007, 18:01). "Apply" and "Preview" buttons are at the bottom right.

Enable/Disable



SHARE

Technology • Connections • Results

The screenshot displays the Hobbit Monitor interface. The main window shows a grid of system status indicators for various components. A secondary window is open, showing the 'mysql - conn' status for the 'Hobbit' host. The status is 'Disabled until Mon Apr 16 20:12:08 2007'. The reason for the disable is 'Upgrade to SLES10', as indicated by the circled text in the image. Below this, the current status message is shown as 'green Mon Apr 16 18:11:29 2007 conn ok'. The service 'conn on mysql' is noted as 'OK (up)'. A ping test result shows '192.168.201.10 is alive (1 ms)'. The interface includes navigation tabs for Views, Reports, Administration, and Help.

Category	Component	conn	cpu	disk	files	ftp	info	memory	msgs	ports	proc
Hobbit Servers	hobbit	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Linux for zSeries	conn	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Linux for zSeries	mysql	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
VM/SE systems	vmb	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
VM/SE systems	vseb1	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
VM/SE systems	vseb2	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Windows	grdvpn	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆

Clicking a blue icon shows who disabled the host and why

Extensions



- " Hobbit provides a very well defined interface for external programs
- " These external programs can communicate through the 'bb' program or through a socket

```
status vm1.cpu green 8 May 2006 11:11:16 CPU Utilization 6%
z/VM Version 4 Release 4.0, service level 0501 (32-bit)
IPL at 05/03/06 09:31:55 CDT
Uptime: 5 Days, 1 Hours, 39 Minutes
AVGPROC-006% 01
```

- " IANA (Internet Assigned Numbers Authority) assigned port number 1984
 - " Originally used by Big Brother (<http://www.bb4.com>)
- " Can be used to write specific tests that are not included with the package

Extensions

- " Many extensions have been written
 - " Community written contributions to extend/improve monitoring
- " The official Hobbit extension site
 - " The Shire - <http://www.trantor.org/theshire>
- " The Big Brother extension site
 - " Deadcat - <http://www.deadcat.net>
- " A few items available on The Shire
 - " MySQL, DHCP, Netbackup, Radius, Xen Monitor

Using Hobbit with System z Operating Systems



- " System z clients are currently available for z/VM and z/VSE
 - " Client threshold configuration can be done locally (on the Hobbit server) or remotely
 - " Both are capable of using the client data stream
- " Client is in development for z/OS
 - " Locally configured (on Hobbit server)
 - " Uses the client data stream

Using Hobbit with System z Operating Systems

- " All System z clients have back end server code to process the client data stream
 - " This will be integrated into Hobbit 4.3
- " Significant code for z/VM client contributed by Thomas Kern (Thomas.Kern@hq.doe.gov), a consultant for the US Department Of Energy
 - " Code and ideas filtering into other clients

This is
way
cool!



Using Hobbit with System z Operating Systems



" System z clients and features provided

	z/VM	z/VSE	z/OS
CPU Utilization/Paging	X	X	X
Disk Utilization	X	X	X
Running Processes	X	X	X
Storage		X	
Port Usage	X	X for TCP/IP Tools	X
IP Interface Traffic	X		X
Message Logs	X		
File Size/Existence	X		
CICS Transaction Rate & DSA Utilization		X	X

Using Hobbit with System z

- z/VM Client Data Stream



```
client vmb.zvm zvm
[date]
Thu Apr 19 16:35:29 CDT 2007
[osversion]
z/VM Version 4 Release 4.0, service level 0501 (32-bit)
Generated at 05/06/05 21:07:38 CDT
IPL at 04/06/07 13:18:34 CDT
[ports]
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address          Foreign Address        State
tcp        0      0 0.0.0.0:21             0.0.0.0:*              LISTEN
tcp        0      0 0.0.0.0:23             0.0.0.0:*              LISTEN
tcp        0      0 192.168.1.80:1029     192.168.1.70:175     ESTABLISHED
tcp        0      0 0.0.0.0:175           0.0.0.0:*              LISTEN
[ifstat]
lcs0      inet addr: 192.168.1.80 mask: 255.255.255.0
          UP BROADCAST MULTICAST MTU: 1492
          vdev: 0600 type: LCS ETHERNET portnumber: 0
          RX bytes:956196776 (911.9 Mb) TX bytes:501211962 (478.0 Mb)
eth0      inet addr: 192.168.201.1 mask: 255.255.255.0
          UP BROADCAST MULTICAST MTU: 8192
          vdev: 0800 type: QDIO ETHERNET portname: GL1
          router type: NONROUTER
          vlan: ANY
          RX bytes:520784230 (496.7 Mb) TX bytes:971922108 (926.9 Mb)
[df]
Filesystem      kbytes      Used      Avail Capacity Mounted as
/CP/DRCT        80           4          76      5.0% /CP/DRCT
/CP/SP00L      344160      119892    224268  34.8% /CP/SP00L
/CP/PAGE       2283840     221364    2062476  9.7% /CP/PAGE
/VMSYS/group2  120088      5268     114820   4.4% /VMSYS/group2
/VMSYS/MAINT    7000         0         7000    0.0% /VMSYS/MAINT
/VMSYS/ROOT     2000        1317     683     65.9% /VMSYS/ROOT
/VMSYSU/group2 4280        1572     2708    36.7% /VMSYSU/group2
Copyright 2007, 2008 - VM Assist, Inc.
```

Using Hobbit with System z

- z/OS Client Data Stream



```

client zos14.zos zos
[osversion]
z/OS 01.04.00
JES2 z/OS 1.4
[date]
Fri Apr 20 05:10:14 CST 2007
[uptime]
Uptime: 0 Days, 22 Hours, 41 Minutes
[cpu]
CPU Utilization 99%
[paging]
Paging Rate 0
[jobs]
*MASTER*
          STC00006  0001
ALLOCAS  ALLOCAS                0010
ANTAS000 ANTAS000 IEFPROC        000C
ANTMAIN  ANTMAIN  IEFPROC        000B
BPXOINIT BPXOINIT BPXOINIT       002D
CATALOG  CATALOG  IEFPROC        001F
CICSA    CICSA    CICS          STC00029  0035
...
VTAM     VTAM     VTAM          STC00002  001A
WLM      WLM      IEFPROC        000A
XCFAS    XCFAS    IEFPROC        0006
ZFS      ZFS      ZFZGO          STC00005  0013
[ports]
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address          Foreign Address         State
TCP    0          0  0.0.0.0:5020           0.0.0.0:0               LISTEN
TCP    0          0  0.0.0.0:446           0.0.0.0:0               LISTEN
TCP    0          0  0.0.0.0:21            0.0.0.0:0               LISTEN
TCP    0          0  0.0.0.0:80            0.0.0.0:0               LISTEN
TCP    0          0  0.0.0.0:513           0.0.0.0:0               LISTEN
TCP    0          0  0.0.0.0:23            0.0.0.0:0               LISTEN

```

Using Hobbit with System z

- z/VSE Client Data Stream



```

client vsebl.zvse zvse
[date]
Fri Apr 20 07:03:45 CDT 2007
[osversion]
z/VSE 3.1.2
VM-SYSTEM =          (0501)  USERID =          VMCF = ON
CPUs = 0000          Cap. = 00%
PROC-MODE = ESA    (64-BIT)  IPL(100)    16:04:52 CDT  04/06/2007
SYSTEM   = z/VSE      3.1.2          06/09/2006
[uptime]
Uptime: 13 Days, 14 Hours, 59 Minutes
[cpu]
Avg CPU= 4%, Avg NP CPU= 1.95
CPU Status      CPU Time  CPU Util      NP Time NP Util   NPS
000 Active      10889.79    3.61%        5902.78  1.95% 0.542
[paging]
Page Rate=0.00 /sec
Total Page Ins=3473
Total Page Outs=5643
[jobs]
HOBVSE  01641 L L1      03/30/2007
BSTTINET 01567 V V1     03/30/2007
BSTTITAM 01569 V V2 RKS0 03/30/2007
BSTTFTP1 01570 V V3 RKS0 03/30/2007
CICSICCF 01568 Z Z1 SYSA 03/30/2007
[df]
Filesystem          kbytes    used    avail    cap Mounted as
/POWER/QFILE        862       513     349    60.0% /POWER/QFILE
/POWER/DFILE         0         0       653    62.0% /POWER/DFILE
/VSM/VSESPUC/DOSRES/1 97920    73872   24048   75.4% /VSM/VSESPUC/DOSRES/1
/VSM/VSESPUC/SYSWK1/1 40320    16176   24144   40.1% /VSM/VSESPUC/SYSWK1/1
/VSM/SYSCAT/SYSWK2/1 1200240  289200  911040  24.1% /VSM/SYSCAT/SYSWK2/1
/VOL/DOSRES         2404080  1231008 1173072  51.2% /VOL/DOSRES
/VOL/SYSWK1         2404080  2131104  272976  88.6% /VOL/SYSWK1
/VSELIB/IJSYSRS      29436    23620    5816   80.2% /VSELIB/IJSYSRS
/VSELIB/PRD1        227700   166900   60800  73.3% /VSELIB/PRD1

```

Using Hobbit with System z

- System z Operating System Displays

VM/VSE Servers	<u>cics</u>	<u>conn</u>	<u>cpu</u>	<u>disk</u>	<u>files</u>	<u>getvis</u>	<u>info</u>	<u>msgs</u>	<u>paging</u>	<u>ports</u>	<u>procs</u>	<u>trends</u>
vma	-	◆	◆	◆	◆	-	◆	■	◆	◆	◆	◆
vsea1	😊	◆	😊	😊	-	😊	◆	-	😊	😊	😞	◆

zSeries	<u>conn</u>	<u>cpu</u>	<u>disk</u>	<u>files</u>	<u>info</u>	<u>msgs</u>	<u>paging</u>	<u>ports</u>	<u>procs</u>	<u>trends</u>
zos14	😊	😊	😊	-	◆	-	😊	😡	😊	◆

Using Hobbit with System z

- System z Operating System Displays



green : Hobbit - procs status for zos14 (172.20.1.4) @ Fri Apr 20 07:48:06 2007 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://...hobbit-cgi/bb-hostsvc.sh?HO!

Views Reports Administration Help

Hobbit zos14 - procs Fri Apr

HISTORY

Fri Apr 20 06:48:04 CST 2007 - Processes OK

◆ All Jobs (found 50, req. between 1 and 70)

MASTER	STC00006	0001
ALLOCAS	ALLOCAS	0010
ANTAS000	ANTAS000	IEFPROC 000C
ANTMAIN	ANTMAIN	IEFPROC 000B
BPXOINIT	BPXOINIT	BPXOINIT 002D
CATALOG	CATALOG	IEFPROC 001F
CICSA	CICSA	CICS STC00029 0035
CONSOLE	CONSOLE	0009
CSQ1CHIN	CSQ1CHIN	PROCSTEP STC00036 001B
CSQ1MSTR	CSQ1MSTR	PROCSTEP STC00033 003B
DB2IRLM	DB2IRLM	STC00030 0038
PLF	PLF	PLF 001C

Done

green : Hobbit - procs status for zos14 (172.20.1.4) @ Fri Apr 20 07:48:06 2007 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://...hobbit-cgi/bb-hostsvc.sh?HO!

NET	NET	IEFPROC	0007
XCFAS	XCFAS	IEFPROC	0006
ZFS	ZFS	ZFZGO	STC00005 0013

Status unchanged in 1 days,9 hours, 59 minutes
Status message received from 172.20.1.4
[Client data](#) available

zos14 Process counts Last 48 Hours

■ AllJobs : 50.0 (cur) : 51.0 (max) : 50.0 (min) : 50.2 (avg)
Updated: 20-Apr-2007 07:52:35

Done

Using Hobbit with System z - System z Operating System Displays



green : Hobbit - disk status for vseb1 (192.168.201.2) @ Fri Apr 20 08:34:26 2007 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://192.168.201.6/hobbit-cgi/bb-hostsvc.sh?HOST=v

Hobbit vseb1 - disk Fri Apr 20 08:34:26 2007

HISTORY

Fri Apr 20 08:34:25 CDT 2007 - Filesystems OK

Filesystem	kbytes	used	avail	cap	Mounted as
/POWER/QFILE	862	514	348	60.0%	/POWER/QFILE
/POWER/DFILE	0	0	652	62.0%	/POWER/DFILE
/VSM/VSESPUC/DOSRES/1	97920	73872	24048	75.4%	/VSM/VSESPUC/DOSRES/1
/VSM/VSESPUC/SYSWK1/1	40320	16176	24144	40.1%	/VSM/VSESPUC/SYSWK1/1
/VSM/SYSCAT/SYSWK2/1	1200240	289200	911040	24.1%	/VSM/SYSCAT/SYSWK2/1
/VOL/DOSRES	2404080	1231008	1173072	51.2%	/VOL/DOSRES
/VOL/SYSWK1	2404080	2131104	272976	88.6%	/VOL/SYSWK1
/VOL/SYSWK2	2404080	1923936	480144	80.0%	/VOL/SYSWK2
/VSELIB/IJSYSRS	29436	23620	5816	80.2%	/VSELIB/IJSYSRS
/VSELIB/PRD1	227700	166900	60800	73.3%	/VSELIB/PRD1
/VSELIB/PRD2	196020	186784	9236	95.3%	/VSELIB/PRD2
/VSELIB/PRD3	84150	71602	12548	85.1%	/VSELIB/PRD3
/VSELIB/LOCAL	396000	258759	137241	65.3%	/VSELIB/LOCAL
/VSELIB/VENDOR	148500	59049	89451	39.8%	/VSELIB/VENDOR

Status unchanged in 7 days, 0 hours, 25 minutes
Status message received from 192.168.201.2
[Client data](#) available

vseb1 Disk Utilization Last 48 Hours

Filesystem	Cur	Max	Min	Avg
/POWER/DFILE	62.0	62.0	59.0	60.3
/POWER/QFILE	60.0	60.0	54.0	56.8
/VOL/DOSRES	51.0	51.0	51.0	51.0
/VOL/SYSWK1	88.0	88.0	88.0	88.0

Updated: 20-Apr-2007 08:36:33

green : Hobbit - cpu status for vmb (192.168.201.1) @ Fri Apr 20 08:35:24 2007 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://192.168.201.6/hobbit-cgi/bb-hostsvc.sh?HOST=v

Hobbit vmb - cpu Fri Apr 20 08:35:24 2007

HISTORY

Fri Apr 20 08:35:23 CDT 2007 z/VM CPU Utilization 13%

Uptime: 13 Days, 19 Hours, 17 Minutes
AVGPROC-013% 01
XSTORE-000000/SEC MIGRATE-0000/SEC
MDC READS-000001/SEC WRITES-000001/SEC HIT RATIO-100%
STORAGE-033% PAGING-0000/SEC STEAL-000%
Q0-00000 Q1-00001 Q2-00000 EXPAN-001 Q3-00003 EXPAN-001

Status unchanged in 4 hours, 14 minutes
Status message received from 192.168.201.1
[Client data](#) available

vmb CPU Load Last 48 Hours

CPU Load Average : 0.1 (cur) : 0.3 (max) : 0.1 (min) : 0.1 (avg)
Updated: 20-Apr-2007 08:39:25

Additional Hobbit Information



- " Hobbit Web Site
 - " <http://hobbitmon.sourceforge.net/>
- " Hobbit Wiki
 - " http://en.wikibooks.org/wiki/System_Monitoring_with_Hobbit
- " Hobbit Architecture Description
 - " <http://www.hswn.dk/hobbiton/2006/11/msg00315.html>
- " Hobbit in a z/VM Redbook
 - " Using z/VM for Test and Development Environments: A Roundup – SC24-7355
 - " Chapter 9 – System Management Tools
 - " Section 8 – Hobbit Monitor

Linuxforum 2007: overvågning der virker - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.linuxforum.dk/2007/program/saturday/Henrik_Stoerner.shtml

Linuxforum 2007

Forside Køb Billet **Program** Galla Sponsorer Udstillere Brugergrupper PR In English

Fredag Lørdag Auditorium 2 **Årets bedste open source-konference**


2 LINUXFORUM 07

Hobbit monitor - overvågning der virker

med Henrik Størner


Hvad enten man har 1 eller 4000 servere stående i kælderens, så er det rart at have noget til at holde øje med at de kører som de skal. Hobbit er et Open Source overvågnings-værktøj, der prøver at undgå for meget teknisk bøvvl med underlige protokoller og uoverskuelige bruger-interfaces, og i stedet bare virker og giver dig data om dine systemer som er til at forstå.

Hovedsponsor:




Hobbit overvåger servere, hvad enten det er Unix- eller Windows-servere; skulle du have en mainframe med z/VM stående er det heller noget problem. Desuden checker Hobbit dine netværks-services, så man ved om websitet kører - og hvornår det er på tide at forny SSL certifikatet til din betalings-side.

Mediepartner:




Alt præsenteres i et enkelt web-interface, med flittig brug af grafer og tilgængeligheds-statistikker, så selv chefen har noget at kigge på. I foredraget præsenteres Hobbit, og der gives eksempler på hvordan det bruges i den digitale virkelighed.

Sponsor:



Niveau: Let tilgængelig. Lidt erfaring med system-drift vil være en fordel.

Links: www.hobbitmon.com



Henrik Størner er manden bag Hobbit, som han har arbejdet på siden 2002. Til daglig arbejder han hos CSC i Valby nær København, hvor han - ud over at bakke med forskellige slags Internet-tilgængelige kunde-systemer - sørger for at overvågningen af flere tusind servere i CSC's maskinstuer fungerer som den skal.

Henrik er cand.scient i datalogi, har rodet med Linux og Open Source i mere end 10 år, og er en af SSLUG's system-administratorer.

Sidst opdateret: Tuesday, February 6, 2007

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Done

http://www.linuxforum.dk/2007/program/saturday/Henrik_Stoerner.shtml

Hobbit at Linuxforum 2007



Hobbit monitor – supervision that works
with Henrik Størner

No matter if you have 1 or 4000 servers in your basement, it is nice to have something to monitor if they are running as they should. Hobbit is an Open Source supervision tool that tries to avoid too much technical hassle with weird protocols and undecipherable user interfaces. Instead, it just works and gives you data about your systems that is easy to understand.

Hobbit supervises servers, no matter if they are Unix or Windows servers. ***Should you have a mainframe with z/VM in a corner, that is no problem either.*** Furthermore, Hobbit is checking your network services so you know if the website is online and when it is time to renew the SSL certificate for your payment page.

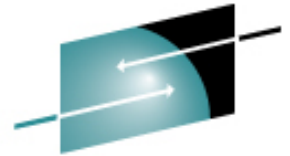
Everything is presented in a simple web interface with widespread use of graphs and availability statistics, so even the manager has something to watch.

Hobbit is the subject of the presentation, and examples are given how to use it in the digital reality.

Level: Easily understandable. Some experience with system operation will be an advantage.

Translated by Finn Skovgaard, with thanks to Rob van der Heij

Questions?



S H A R E

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