

The Apache HTTP Daemon

Current Version: 1.3.6 (3/23/99)

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**) Fixed initialization of parameter structure for sigaction.*

[mgyger@itr.ch, Adrian Filipi-Martin]

**) Fixed reinitializing the parameters before each call to accept and select, and removed potential for infinite loop in accept.*

[Roy Fielding, after useful PR from adrian@virginia.edu]

Topics

- Server Side Includes (SSI)
- Virtual Hosts
- Performance Monitoring

Virtual Hosts

IP-based Virtual Hosting

- + Client always goes to the correct site.
- - One IP needed per virtual server.
- - Not all OS's support aliased network interfaces.
- - One open socket for each IP, i.e. consumes file descriptors.

Name-based Virtual Hosting

- - Pre HTTP/1.1 clients will end up at the primary (aka first configured) site.
This is manageable though after about 1.3.2!
- + One IP needed for *all* virtual servers.
- + Fewer system resources consumed.
- + Simpler to configure.

```
Listen 205.197.102.128:80
NameVirtualHost 205.197.102.128
```

```
<VirtualHost 205.197.102.128>
    DocumentRoot /usr/local/www/data
    ServerName hengst.thehoo.com
</VirtualHost>
```

```
<VirtualHost 205.197.102.128>
    DocumentRoot /www0/football
    ServerName www.virginiafootball.com
    ServerAlias virginiafootball.thehoo.com
    ServerPath /virginiafootball
</VirtualHost>
```

```
/usr/local/www/data/index.html:
```

```
<html>
<body>
<p>
    If you are seeing this page, then you are using an old web
    browser that does not properly support virtually hosted web
    sites. Please download a newer version of <a
    href="http://www.netscape.com">Netscape Navigator</a> or
    <a href="http://www.microsoft.com">Microsoft Explorer.</a>
</p>
<ul>
<li><a href="http://www.virginiafootball.com/virginiafootball/">
    VirginiaFootball.com</a></li>
<li><a href="http://www.virginiabasketball.com/virginiabasketball/">
    VirginiaBasketball.com</a></li>
</ul>
<body>
</html>
```

Server Side Includes (SSI)

Configuration Options:

```
<Directory "/www">  
    Options Indexes FollowSymLinks ExecCGI Includes  
</Directory>
```

index.html:

```
<HTML>  
<head>  
    <title>Web Pages Goodies</title>  
</head>  
<!--#include virtual="/style/header.html"-->  
  
<!-- stuff -->  
  
<!--#set var="Author" value="toadboy@trauma.deathstar.net" -->  
<!--#include virtual="/style/footer.html"-->  
</HTML>
```

header.html:

```
<!--#include virtual="/style/header-nostar.html"-->  
<center>  
    <a href="/"></a>  
</center>
```

header-nostar.html:

```
<base target="_top">  
<body background="/images/star.gif" bgcolor="black" text="blue" link="#00FFFF" vlink="#00FFFF">
```


Performance Monitoring

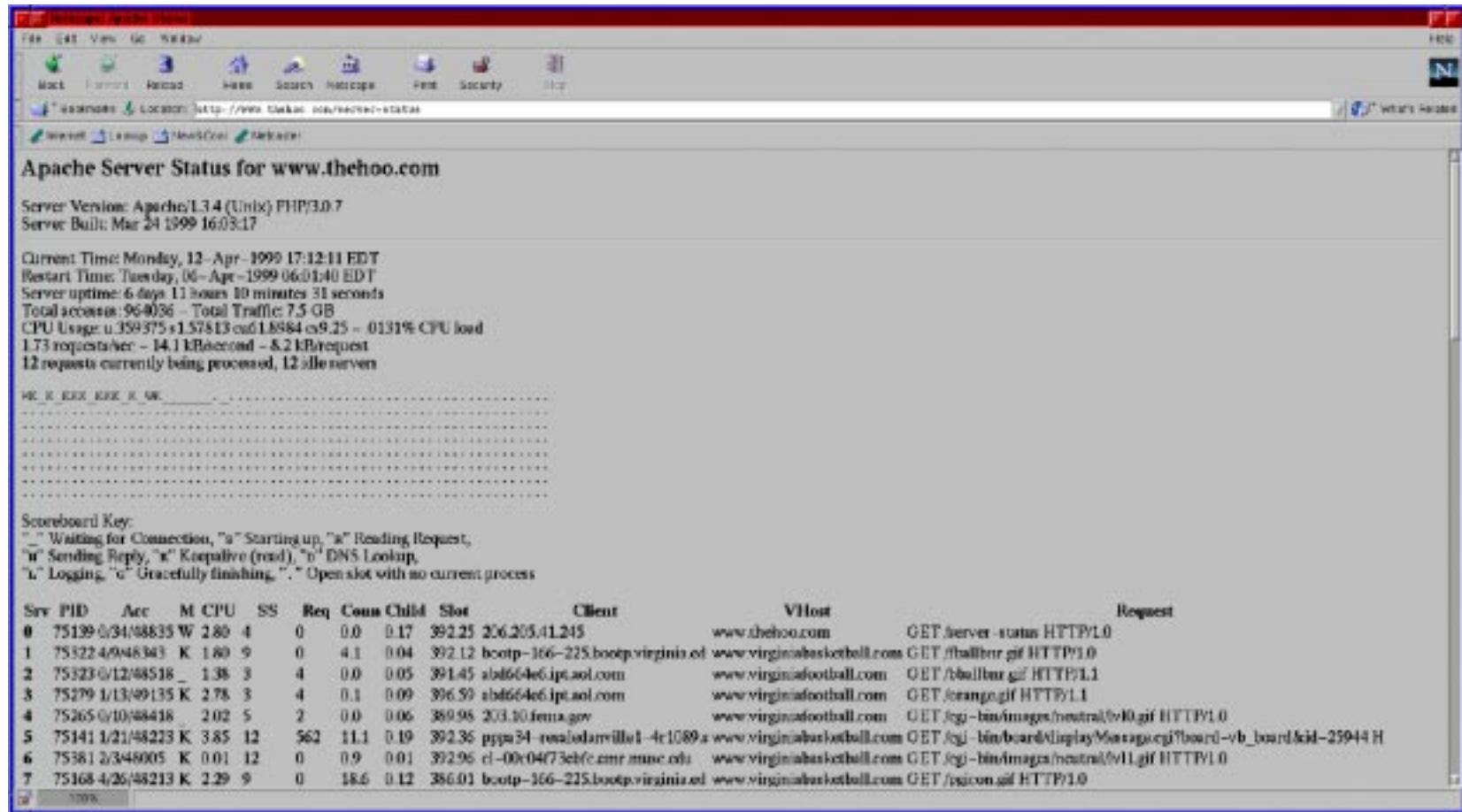
Apache built in options:

```
# Make the status module available.  
AddModule mod_status.c
```

```
# Add details for each connection.  
ExtendedStatus On
```

```
# Specify a URI that will invoke the status module.  
<Location /server-status>  
    SetHandler server-status  
    Order deny,allow  
    Deny from all  
    Allow from .ubergeeks.com  
</Location>
```

Output from `http://www.thehoo.com/server-status`:



Apache Server Status for `www.thehoo.com`

Server Version: Apache/2.3.4 (Unix) PHP/5.2.7
Server Built: Mar 24 1999 16:03:17

Current Time: Monday, 12-Apr-1999 17:12:11 EDT
Restart Time: Tuesday, 06-Apr-1999 06:01:40 EDT
Server uptime: 6 days 11 hours 10 minutes 31 seconds
Total accesses: 964036 - Total Traffic: 7.5 GB
CPU Usage: u:359375 s:157813 cu:16384 cs:9.25 - 0131% CPU load
1.73 requests/sec - 14.1 kB/second - 8.2 kB/request
12 requests currently being processed, 12 idle servers

HE K KKK KKK K SK _____

Scoreboard Key:
"_" Waiting for Connection, "s" Starting up, "R" Reading Request,
"W" Sending Reply, "K" Keepalive (read), "D" DNS Lookup,
"L" Logging, "G" Gracefully finishing, "." Open slot with no current process

Srv	PID	Acc	M	CPU	SS	Req	Conn	Child	Slot	Client	VHost	Request
0	75139	0/34/48835	W	2.80	4	0	0.0	0.17	392.25	206.205.41.245	www.thehoo.com	GET /server-status HTTP/1.0
1	75322	4/948343	K	1.80	9	0	4.1	0.04	392.12	bootp-166-225.bootp.virginia.edu	www.virginiabasketball.com	GET /ballbar.gif HTTP/1.0
2	75323	0/12/48518	_	1.38	3	4	0.0	0.05	391.45	abdf664e6.ipaol.com	www.virginiafootball.com	GET /ballbar.gif HTTP/1.1
3	75279	1/13/49135	K	2.78	3	4	0.1	0.09	396.59	abdf664e6.ipaol.com	www.virginiafootball.com	GET /orange.gif HTTP/1.1
4	75265	0/10/48418	_	2.02	5	2	0.0	0.06	389.98	203.10.fema.gov	www.virginiafootball.com	GET /cgi-bin/images/neutral/v10.gif HTTP/1.0
5	75141	1/21/48223	K	3.85	12	562	11.1	0.19	392.36	ppp34-rcslodaville1-4r1089a	www.virginiabasketball.com	GET /cgi-bin/board/DisplayMessage.cgi?board=vb_board&id=25944 HTTP/1.0
6	75381	2/3448005	K	0.01	12	0	0.9	0.01	392.96	cl-00c0473ebf.cmr.munc.edu	www.virginiabasketball.com	GET /cgi-bin/images/neutral/v11.gif HTTP/1.0
7	75168	4/26/48213	K	2.29	9	0	18.6	0.12	386.01	bootp-166-225.bootp.virginia.edu	www.virginiabasketball.com	GET /isicon.gif HTTP/1.0

vmstat (8)

```
: ubergeek@hengst; vmstat 1
```

procs			memory			page			disks				faults		cpu				
r	b	w	avm	fre	flt	re	pi	po	fr	sr	da0	da1	da2	in	sy	cs	us	sy	id
4	3	0	53908208000	0	246	0	0	0	225	0	0	0	0	321	1256	59	9	2	89
1	1	0	49252212356	0	200	0	0	0	1267	0	0	3	3	958	11100	519	32	9	59
0	1	0	44532215396	0	22	0	0	0	772	0	4	7	3	360	1297	66	3	1	95
1	6	0	51884207056	0	1100	0	0	0	148	0	11	13	0	737	8543	338	43	9	47
1	5	0	56812202268	0	1342	0	0	0	74	0	7	5	2	445	4303	162	47	10	43
4	1	0	51260207484	0	125	0	0	0	1405	0	0	0	0	1104	13602	802	39	12	49

iostat (8)

```
: ubergeek@Oxygen; iostat 1
```

tty		fd0			da0			da1			cpu				
tin	tout	KB/t	tps	MB/s	KB/t	tps	MB/s	KB/t	tps	MB/s	us	ni	sy	in	id
0	11	0.00	0	0.00	7.36	155	1.12	0.00	0	0.00	11	0	3	1	85
0	76	0.00	0	0.00	5.01	72	0.35	0.00	0	0.00	2	0	3	2	93
0	76	0.00	0	0.00	3.82	49	0.18	0.00	0	0.00	5	0	5	1	90
0	76	0.00	0	0.00	7.17	6	0.04	0.00	0	0.00	3	0	2	0	95
0	76	0.00	0	0.00	1.00	1	0.00	0.00	0	0.00	1	0	3	2	95
0	76	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	1	0	0	1	98
0	76	0.00	0	0.00	4.89	9	0.04	0.00	0	0.00	0	0	2	0	98

iostat (8)

```
: ubergeek@Oxygen: netstat 1
```

input			(Total)		output		
packets	errs	bytes	packets	errs	bytes	colls	
160	0	22411	187	0	181275	0	
155	0	19683	176	0	105533	0	
157	0	26006	155	0	94773	0	
163	0	23253	149	0	89962	0	
149	0	22140	148	0	78645	0	
97	0	18722	94	0	50711	0	
101	0	22817	91	0	73440	0	