

# SSRT3509 Potential Security Vulnerability in CIFS/9000 Server (rev.1)

**Source:** <http://www.derkeiler.com/Newsgroups/comp.security.unix/2003-05/0068.html>

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**From:** Security Alert (*secure\_at\_cup.hp.com*)

**Date:** 05/13/03

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-----BEGIN PGP SIGNED MESSAGE-----

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Source: HEWLETT-PACKARD COMPANY

SECURITY BULLETIN: HPSBUX0303-251

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SSRT3509 Potential Security Vulnerability in CIFS/9000 Server  
(rev.1)

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PROBLEM: CIFS/9000 Server is potentially vulnerable to altered  
SMB/CIFS network messages.

IMPACT: Potential remote root access.

PLATFORM: All HP9000 servers running CIFS/9000 Server versions up  
through A.01.09.02 on HP-UX 11.0, 11.11(11i), and 11.22

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SOLUTION: HP-UX 11.0, 11.11, 11.22

--> Download and install the CIFS Server 2.2e version

--> A.01.09.04 or subsequent from software.hp.com.

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MANUAL ACTIONS: Yes – Update

- > HP-UX 11.0, 11.11, 11.22
- > Download and install the CIFS Server 2.2e version
- > A.01.09.04 or subsequent from software.hp.com.

AVAILABILITY: CIFS Server 2.2e version A.01.09.04 is available  
now from software.hp.com.

CHANGE SUMMARY: Rev.01 – CIFS Server 2.2e version A.01.09.04  
available for 11.00, 11.11, 11.22.

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## A. Background

Note: The following are not vulnerable:

- HP OpenVMS
- HP NonStop Servers
- HP Tru64 UNIX
- HP Secure Web Servers for HP Tru64 UNIX
- HP Secure Web Servers for HP Tru64 OpenVMS

As further information becomes available HP will provide notice of the availability of any additional Samba updates through standard security bulletin announcements and information will be available from your normal HP Services support channel.

CIFS Server version A.01.09.01 and prior may allow modified SMB/CIFS messages to cause smbd to overwrite portions of its own process address space. This could potentially be exploited to gain root access remotely.

The latest version of CIFS Server adds checks for proper SMB/CIFS messages to prevent invalid smbd memory accesses.

The Samba team has provided a note describing ways to limit exposure to this vulnerability and future potential vulnerabilities. Please refer to Section E below.

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- >Note: The HP CIFS Server versions do not map directly to
- > original Samba versions. Significant Samba fixes,
- > including security fixes, are backported into the
- > HP CIFS Server. Specific security-related code was
- > backported from 2.2.8a into the current HP CIFS Server
- > source, which is based on Samba 2.2.5. The what(1)
- > output will show the HP version string, for example:
- > A.01.09.04. Samba commands such as "smbd -V" or
- > smbstatus will only report the underlying base Samba

--> version, for example: 2.2.5.

## B. Recommended solution

**\*\*REVISED 01\*\***

-> HP-UX 11.0, 11.11, 11.22

-> Update to version A.01.09.04 (available on software.hp.com).

-> This version includes the fixes provided by the binary

-> replacement files smbd.11.00 (version A.01.09.02) and

-> smbd.11.00.r1 (A.01.09.03) previously available via FTP

-> access.

C. To subscribe to automatically receive future NEW HP Security Bulletins from the HP IT Resource Center via electronic mail, do the following:

Use your browser to get to the HP IT Resource Center page at:

<http://itrc.hp.com>

Use the 'Login' tab at the left side of the screen to login using your ID and password. Use your existing login or the "Register" button at the left to create a login, in order to gain access to many areas of the ITRC. Remember to save the User ID assigned to you, and your password.

In the left most frame select "Maintenance and Support".

Under the "Notifications" section (near the bottom of the page), select "Support Information Digests".

To –subscribe– to future HP Security Bulletins or other Technical Digests, click the check box (in the left column) for the appropriate digest and then click the "Update Subscriptions" button at the bottom of the page.

or

To –review– bulletins already released, select the link (in the middle column) for the appropriate digest.

NOTE: Using your itrc account security bulletins can be found here:

<http://itrc.hp.com/cki/bin/doc.pl/screen=ckiSecurityBulletin>

To –gain access– to the Security Patch Matrix, select the link for "The Security Bulletins Archive". (near the bottom of the page) Once in the archive the third link is to the current Security Patch Matrix. Updated daily, this

matrix categorizes security patches by platform/OS release, and by bulletin topic. Security Patch Check completely automates the process of reviewing the patch matrix for 11.XX systems. Please note that installing the patches listed in the Security Patch Matrix will completely implement a security bulletin only if the MANUAL ACTIONS field specifies "No."

The Security Patch Check tool can verify that a security bulletin has been implemented on HP-UX 11.XX systems providing that the fix is completely implemented in a patch with no manual actions required. The Security Patch Check tool cannot verify fixes implemented via a product upgrade.

For information on the Security Patch Check tool, see:  
[http://www.software.hp.com/cgi-bin/swdepot\\_parser.cgi/cgi/displayProductInfo.pl?productNumber=B6834AA](http://www.software.hp.com/cgi-bin/swdepot_parser.cgi/cgi/displayProductInfo.pl?productNumber=B6834AA)

The security patch matrix is also available via anonymous ftp:

[ftp://ftp.itrc.hp.com/export/patches/hp-ux\\_patch\\_matrix/](ftp://ftp.itrc.hp.com/export/patches/hp-ux_patch_matrix/)

On the "Support Information Digest Main" page:  
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The PGP key used to sign this bulletin is available from several PGP Public Key servers. The key identification information is:

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D. To report new security vulnerabilities, send email to

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Please encrypt any exploit information using the security-alert PGP key, available from your local key server, or by sending a message with a -subject- (not body) of 'get key' (no quotes) to security-alert@hp.com.

E. Samba Team notes on protecting an unpatched Samba server

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## Protecting an unpatched Samba server

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This is a note on how to provide your Samba server some protection against the potential vulnerability even if you are unable to upgrade to the fixed version immediately. Even if you do upgrade these suggestions provide additional levels of protection against possible future vulnerabilities.

### Using host based protection

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In many installations of Samba the greatest threat comes from outside the immediate network. By default Samba will accept connections from any host.

One of the simplest fixes in this case is to use the 'hosts allow' and 'hosts deny' options in the Samba smb.conf configuration file to only allow access to your server from a specific range of hosts. An example might be:

```
hosts allow = 127.0.0.1 192.168.2.0/24 192.168.3.0/24
hosts deny = 0.0.0.0/0
```

The above will only allow SMB connections from 'localhost' (your own computer) and from the two private networks 192.168.2 and 192.168.3. All other connections will be refused connections as soon as the client sends its first packet. The refusal will be marked as a 'not listening on called name' error.

### Using interface protection

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By default Samba will accept connections on any network interface that it finds on your system. That means if you have a ISDN line or a PPP connection to the Internet then Samba will accept connections on those links. This may not be what you want.

You can change this behavior using options like the following:

```
interfaces = lan* lo0
bind interfaces only = yes
```

that tells Samba to only listen for connections on interfaces with a name starting with 'lan' such as lan0, lan1, plus on the loopback interface called 'lo0'. The name you will need to

use depends on what OS you are using. The example above uses the common name for ethernet adapters on HP-UX.

If you use the above and someone tries to make a SMB connection to your host over a PPP interface called 'ppp0', they will get a TCP connection refused reply. In that case no Samba code is run at all as the operating system has been told not to pass connections from that interface to any process.

#### Using a firewall

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Many people use a firewall to deny access to services that they do not want exposed outside their network. This can be a very good idea, although the methods above should also be used in case the firewall is not active for some reason.

If you are setting up a firewall then you need to know what TCP and UDP ports to allow and block. Samba uses the following:

- UDP/137 – used by nmbd
- UDP/138 – used by nmbd
- TCP/139 – used by smbd
- TCP/445 – used by smbd

The last one is important as many older firewall setups may not be aware of it, given that this port was only added to the protocol in recent years.

#### Using a IPC\$ share deny

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If the above methods are not suitable, then you could also place a more specific deny on the IPC\$ share that is used in the vulnerability reported in this bulletin. This allows you to offer access to other shares while denying access to IPC\$ from potentially untrustworthy hosts.

To do that you could use:

```
[ipc$]
hosts allow = 192.168.115.0/24 127.0.0.1
hosts deny = 0.0.0.0/0
```

this would tell Samba that IPC\$ connections are not allowed from anywhere but the two listed places (localhost and a local subnet). Connections to other shares would still be allowed. As the IPC\$ share is the only share that is always accessible anonymously this provides some level of protection

against attackers that do not know a username/password for your host.

If you use this method then clients will be given an 'access denied' reply when they try to access the IPC\$ share. That means that those clients will not be able to browse shares, and may also be unable to access some other resources.

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