



VULNERABILITIES REPORT POST REMEDIATION ACTIONS

Target: Metasploitable 2
IP Address: 192.168.2.100



Scan Information

Start time: Thu Aug 31 06:57:41 2023
End time: Thu Aug 31 07:06:58 2023

Host Information

Netbios Name: METASPLOITABLE
IP: 192.168.2.100
OS: Linux Kernel 2.6 on Ubuntu 8.04 (hardy)

Vulnerabilities

134862 - Apache Tomcat AJP Connector Request Injection (Ghostcat)

Description

A file read/inclusion vulnerability was found in AJP connector. A remote, unauthenticated attacker could exploit this vulnerability to read web application files from a vulnerable server. In instances where the vulnerable server allows file uploads, an attacker could upload malicious JavaServer Pages (JSP) code within a variety of file types and gain remote code execution (RCE).

Solution

Update the AJP configuration to require authorization and/or upgrade the Tomcat server to 7.0.100, 8.5.51, 9.0.31 or later.

Risk Factor

High

CVSS v3.0 Base Score

9.8 (CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:H/I:H/A:H)

References

CVE [CVE-2020-1745](#)
CVE [CVE-2020-1938](#)

32314 - Debian OpenSSH/OpenSSL Package Random Number Generator Weakness

Description

The remote SSH host key has been generated on a Debian or Ubuntu system which contains a bug in the random number generator of its OpenSSL library. An attacker can easily obtain the private part of the remote key and use this to set up decipher the remote session or set up a man in the middle attack.

Solution

Consider all cryptographic material generated on the remote host to be guessable. In particular, all SSH, SSL and OpenVPN key material should be re-generated.

Risk Factor

Critical

CVSS v2.0 Base Score

10.0 (CVSS2#AV:N/AC:L/Au:N/C:C/I:C/A:C)

References

CVE [CVE-2008-0166](#)

32321 - Debian OpenSSH/OpenSSL Package Random Number Generator Weakness (SSL check) -

Description

The remote x509 certificate on the remote SSL server has been generated on a Debian or Ubuntu system which contains a bug in the random number generator of its OpenSSL library. An attacker can easily obtain the private part of the remote key and use this to decipher the remote session or set up a man in the middle attack.

Solution

Consider all cryptographic material generated on the remote host to be guessable. In particular, all SSH, SSL and OpenVPN key material should be re-generated.

Risk Factor

Critical

CVSS v2.0 Base Score

10.0 (CVSS2#AV:N/AC:L/Au:N/C:C/I:C/A:C)

References

CVE [CVE-2008-0166](#)

32321 - Debian OpenSSH/OpenSSL Package Random Number Generator Weakness (SSL check) -

Description

The remote x509 certificate on the remote SSL server has been generated on a Debian or Ubuntu system which contains a bug in the random number generator of its OpenSSL library. An attacker can easily obtain the private part of the remote key and use this to decipher the remote session or set up a man in the middle attack.

Solution

Consider all cryptographic material generated on the remote host to be guessable. In particular, all SSH, SSL and OpenVPN key material should be re-generated.

Risk Factor

Critical

CVSS v2.0 Base Score

10.0 (CVSS2#AV:N/AC:L/Au:N/C:C/I:C/A:C)

References

CVE [CVE-2008-0166](#)

20007 - SSL Version 2 and 3 Protocol Detection -

Description

The remote service accepts connections encrypted using SSL 2.0 and/or SSL 3.0. These versions of SSL are affected by several cryptographic flaws. An attacker can exploit these flaws to conduct man-in-the-middle attacks or to decrypt communications between the affected service and clients.

NIST has determined that SSL 3.0 is no longer acceptable for secure communications. As of the date of enforcement found in PCI DSS v3.1, any version of SSL will not meet the PCI SSC's definition of 'strong cryptography'.

Solution

Consult the application's documentation to disable SSL 2.0 and 3.0. Use TLS 1.2 (with approved cipher suites) or higher instead.

Risk Factor

Critical

CVSS v3.0 Base Score

9.8 (CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:H/I:H/A:H)

33850 - Unix Operating System Unsupported Version Detection -

Description

According to its self-reported version number, the Unix operating system running on the remote host is no longer supported. Lack of support implies that no new security patches for the product will be released by the vendor. As a result, it is likely to contain security vulnerabilities. Ubuntu 8.04 support ended on 2011-05-12 (Desktop) / 2013-05-09 (Server)

Solution

Upgrade to a version of the Unix operating system that is currently supported.

Risk Factor

Critical

CVSS v3.0 Base Score

10.0 (CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:C/C:H/I:H/A:H)

136769 - ISC BIND Service Downgrade / Reflected DoS -

Description

The instance of ISC BIND 9 running on the remote name server is affected by performance downgrade and Reflected DoS vulnerabilities. An unauthenticated, remote attacker can exploit this to cause degrade the service of the recursive server or to use the affected server as a reflector in a reflection attack.

Solution

Upgrade to the ISC BIND version referenced in the vendor advisory.
Installed version : 9.4.2 Fixed version : 9.11.19

Risk Factor

Medium

CVSS v3.0 Base Score

8.6 (CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:C/C:N/I:N/A:H)

References

CVE [CVE-2020-8616](#)

42873 - SSL Medium Strength Cipher Suites Supported (SWEET32) -

Description

The remote host supports the use of SSL ciphers that offer medium strength encryption. Nessus regards medium strength as any encryption that uses key lengths at least 64 bits and less than 112 bits, or else that uses the 3DES encryption suite. Note that it is considerably easier to circumvent medium strength encryption if the attacker is on the same physical network.

Solution

Reconfigure the affected application if possible to avoid use of medium strength ciphers.

Risk Factor

Medium

CVSS v3.0 Base Score

7.5 (CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:H/I:N/A:N)

References

CVE [CVE-2016-2183](#)

90509 - Samba Badlock Vulnerability -

Description

The version of Samba, a CIFS/SMB server for Linux and Unix, running on the remote host is affected by a flaw, known as Badlock, that exists in the Security Account Manager (SAM) and Local Security Authority (Domain Policy) (LSAD) protocols due to improper authentication level negotiation over Remote Procedure Call (RPC) channels. A man-in-the-middle attacker who is able to intercept the traffic between a client and a server hosting a SAM database can exploit this flaw to force a downgrade of the authentication level, which allows the execution of arbitrary Samba network calls in the context of the intercepted user, such as viewing or modifying sensitive security data in the Active Directory (AD) database or disabling critical services.

Solution

Upgrade to Samba version 4.2.11 / 4.3.8 / 4.4.2 or later.

Risk Factor

Medium

CVSS v3.0 Base Score

7.5 (CVSS:3.0/AV:N/AC:H/PR:N/UI:R/S:U/C:H/I:H/A:H)

References

CVE [CVE-2016-2118](#)

10205 - rlogin Service Detection -

Description

The rlogin service is running on the remote host. This service is vulnerable since data is passed between the rlogin client and server in cleartext. A man-in-the-middle attacker can exploit this to sniff logins and passwords. Also, it may allow poorly authenticated logins without passwords. If the host is vulnerable to TCP sequence number guessing (from any network) or IP spoofing (including ARP hijacking on a local network) then it may be possible to bypass authentication. Finally, rlogin is an easy way to turn file-write access into full logins through the .rhosts or rhosts.equiv files.

Solution

Comment out the 'login' line in /etc/inetd.conf and restart the inetd process. Alternatively, disable this service and use SSH instead.

Risk Factor

High

CVSS v2.0 Base Score

7.5 (CVSS2#AV:N/AC:L/Au:N/C:P/I:P/A:P)

References

CVE [CVE-1999-0651](#)

10245 - rsh Service Detection

-

Description

The rsh service is running on the remote host. This service is vulnerable since data is passed between the rsh client and server in cleartext. A man-in-the-middle attacker can exploit this to sniff logins and passwords. Also, it may allow poorly authenticated logins without passwords. If the host is vulnerable to TCP sequence number guessing (from any network) or IP spoofing (including ARP hijacking on a local network) then it may be possible to bypass authentication. Finally, rsh is an easy way to turn file-write access into full logins through the .rhosts or rhosts.equiv files.

Solution

Comment out the 'rsh' line in /etc/inetd.conf and restart the inetd process. Alternatively, disable this service and use SSH instead.

Risk Factor

High

CVSS v2.0 Base Score

7.5 (CVSS2#AV:N/AC:L/Au:N/C:P/I:P/A:P)

References

CVE [CVE-1999-0651](#)

11213 - HTTP TRACE / TRACK Methods Allowed

-

Description

The remote web server supports the TRACE and/or TRACK methods. TRACE and TRACK are HTTP methods that are used to debug web server connections.

Solution

Disable these HTTP methods.

Risk Factor

Medium

CVSS v3.0 Base Score

5.3 (CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:L/I:N/A:N)

References

CVE [CVE-2003-1567](#)
CVE [CVE-2004-2320](#)
CVE [CVE-2010-0386](#)

139915 - ISC BIND 9.x < 9.11.22, 9.12.x < 9.16.6, 9.17.x < 9.17.4 DoS

-

Description

The installation of ISC BIND running on the remote name server is affected by a denial of service (DoS) vulnerability due to an assertion failure when attempting to verify a truncated response to a TSIG-signed request. An authenticated, remote attacker can exploit this issue by sending a truncated response to a TSIG-signed request to trigger an assertion failure, causing the server to exit.

Solution

Upgrade to BIND 9.11.22, 9.16.6, 9.17.4 or later.

Risk Factor

Medium

CVSS v3.0 Base Score

6.5 (CVSS:3.0/AV:N/AC:L/PR:L/UI:N/S:U/C:N/I:N/A:H)

References

136808 - ISC BIND Denial of Service**Description**

A denial of service (DoS) vulnerability exists in ISC BIND versions 9.11.18 / 9.11.18-S1 / 9.12.4-P2 / 9.13 / 9.14.11 / 9.15 / 9.16.2 / 9.17 / 9.17.1 and earlier. An unauthenticated, remote attacker can exploit this issue, via a specially-crafted message, to cause the service to stop responding.

Solution

Upgrade to the patched release most closely related to your current version of BIND.

Risk Factor

Medium

CVSS v3.0 Base Score

5.9 (CVSS:3.0/AV:N/AC:H/PR:N/UI:N/S:U/C:N/I:N/A:H)

References**57608 - SMB Signing not required****Description**

Signing is not required on the remote SMB server. An unauthenticated, remote attacker can exploit this to conduct man-in-the-middle attacks against the SMB server.

Solution

Enforce message signing in the host's configuration. On Windows, this is found in the policy setting 'Microsoft network server: Digitally sign communications (always)'. On Samba, the setting is called 'server signing'. See the 'see also' links for further details.

Risk Factor

Medium

CVSS v3.0 Base Score

5.3 (CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:L/A:N)

52611 - SMTP Service STARTTLS Plaintext Command Injection**Description**

The remote SMTP service contains a software flaw in its STARTTLS implementation that could allow a remote, unauthenticated attacker to inject commands during the plaintext protocol phase that will be executed during the ciphertext protocol phase. Successful exploitation could allow an attacker to steal a victim's email or associated SASL (Simple Authentication and Security Layer) credentials.

Solution

Contact the vendor to see if an update is available.

Risk Factor

Medium

CVSS v2.0 Base Score

4.0 (CVSS2#AV:N/AC:H/Au:N/C:P/I:P/A:N)

References

CVE	CVE-2011-1431
CVE	CVE-2011-1432
CVE	CVE-2011-1506
CVE	CVE-2011-2165

90317 - SSH Weak Algorithms Supported

-

Description

The remote SSH server is configured to allow weak encryption algorithms or no algorithm at all.

Solution

Contact the vendor or consult product documentation to remove the weak ciphers.

Risk Factor

Medium

CVSS v2.0 Base Score

4.3 (CVSS2#AV:N/AC:M/Au:N/C:P/I:N/A:N)

31705 - SSL Anonymous Cipher Suites Supported

-

Description

The remote host supports the use of anonymous SSL ciphers. While this enables an administrator to set up a service that encrypts traffic without having to generate and configure SSL certificates, it offers no way to verify the remote host's identity and renders the service vulnerable to a man-in-the-middle attack.

Note: This is considerably easier to exploit if the attacker is on the same physical network.

Solution

Reconfigure the affected application if possible to avoid use of weak ciphers.

Risk Factor

Low

CVSS v3.0 Base Score

5.9 (CVSS:3.0/AV:N/AC:H/PR:N/UI:N/S:U/C:H/I:N/A:N)

References

CVE [CVE-2007-1858](#)

51192 - SSL Certificate Cannot Be Trusted

-

Description

The server's X.509 certificate cannot be trusted. This situation can occur in three different ways, in which the chain of trust can be broken, as stated below :

- First, the top of the certificate chain sent by the server might not be descended from a known public certificate authority. This can occur either when the top of the chain is an unrecognized, self-signed certificate, or when intermediate certificates are missing that would connect the top of the certificate chain to a known public certificate authority.
- Second, the certificate chain may contain a certificate that is not valid at the time of the scan. This can occur either when the scan occurs before one of the certificate's 'notBefore' dates, or after one of the certificate's 'notAfter' dates.
- Third, the certificate chain may contain a signature that either didn't match the certificate's information or could not be verified. Bad signatures can be fixed by getting the certificate with the bad signature to be re-signed by its issuer. Signatures that could not be verified are the result of the certificate's issuer using a signing algorithm that Nessus either does not support or does not recognize.

If the remote host is a public host in production, any break in the chain makes it more difficult for users to verify the authenticity and identity of the web server. This could make it easier to carry out man-in-the-middle attacks against the remote host.

Solution

Purchase or generate a proper SSL certificate for this service.

Risk Factor

Medium

CVSS v3.0 Base Score

6.5 (CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:L/I:L/A:N)

15901 - SSL Certificate Expiry -

Description

The remote server's SSL certificate has already expired.

Solution

Purchase or generate a new SSL certificate to replace the existing one.

Risk Factor

Medium

CVSS v3.0 Base Score

5.3 (CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:L/A:N)

45411 - SSL Certificate with Wrong Hostname -

Description

The 'commonName' (CN) attribute of the SSL certificate presented for this service is for a different machine.

Solution

Purchase or generate a proper SSL certificate for this service.

Risk Factor

Medium

CVSS v3.0 Base Score

5.3 (CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:L/A:N)

89058 - SSL DROWN Attack Vulnerability (Decrypting RSA with Obsolete and Weakened eNcryption) -

Description

The remote host supports SSLv2 and therefore may be affected by a vulnerability that allows a cross-protocol Bleichenbacher padding oracle attack known as DROWN (Decrypting RSA with Obsolete and Weakened eNcryption). This vulnerability exists due to a flaw in the Secure Sockets Layer Version 2 (SSLv2) implementation, and it allows captured TLS traffic to be decrypted. A man-in-the-middle attacker can exploit this to decrypt the TLS connection by utilizing previously captured traffic and weak cryptography along with a series of specially crafted connections to an SSLv2 server that uses the same private key.

Solution

Disable SSLv2 and export grade cryptography cipher suites. Ensure that private keys are not used anywhere with server software that supports SSLv2 connections.

Risk Factor

Medium

CVSS v3.0 Base Score

5.9 (CVSS:3.0/AV:N/AC:H/PR:N/UI:N/S:U/C:H/I:N/A:N)

References

CVE [CVE-2016-0800](#)

65821 - SSL RC4 Cipher Suites Supported (Bar Mitzvah)

Description

The remote host supports the use of RC4 in one or more cipher suites.

The RC4 cipher is flawed in its generation of a pseudo-random stream of bytes so that a wide variety of small biases are introduced into the stream, decreasing its randomness. If plaintext is repeatedly encrypted (e.g., HTTP cookies), and an attacker is able to obtain many (i.e., tens of millions) ciphertexts, the attacker may be able to derive the plaintext.

Solution

Reconfigure the affected application, if possible, to avoid use of RC4 ciphers. Consider using TLS 1.2 with AES-GCM suites subject to browser and web server support.

Risk Factor

Medium

CVSS v3.0 Base Score

5.9 (CVSS:3.0/AV:N/AC:H/PR:N/UI:N/S:U/C:H/I:N/A:N)

References

CVE [CVE-2013-2566](#)

CVE [CVE-2015-2808](#)

57582 - SSL Self-Signed Certificate

Description

The X.509 certificate chain for this service is not signed by a recognized certificate authority. If the remote host is a public host in production, this nullifies the use of SSL as anyone could establish a man-in-the-middle attack against the remote host.

Solution

Purchase or generate a proper SSL certificate for this service.

Risk Factor

Medium

CVSS v3.0 Base Score

6.5 (CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:L/I:L/A:N)

26928 - SSL Weak Cipher Suites Supported

Description

The remote host supports the use of SSL ciphers that offer weak encryption.

Note: This is considerably easier to exploit if the attacker is on the same physical network.

Solution

Reconfigure the affected application, if possible to avoid the use of weak ciphers.

Risk Factor

Medium

CVSS v3.0 Base Score

5.3 (CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:L/I:N/A:N)

References

XREF [CWE:326](#)

81606 - SSL/TLS EXPORT_RSA <= 512-bit Cipher Suites Supported (FREAK)

Description

The remote host supports a set of weak ciphers. The remote host supports EXPORT_RSA cipher suites with keys less than or equal to 512 bits. An attacker can factor a 512-bit RSA modulus in a short amount of time. A man-in-the middle attacker may be able to downgrade the session to use EXPORT_RSA cipher suites.

Solution

Reconfigure the service to remove support for EXPORT_RSA cipher suites.

Risk Factor

Medium

CVSS v2.0 Base Score

4.3 (CVSS2#AV:N/AC:M/Au:N/C:N/I:P/A:N)

References

CVE [CVE-2015-0204](#)

104743 - TLS Version 1.0 Protocol Detection

Description

The remote service encrypts traffic using an older version of TLS. The remote service accepts connections encrypted using TLS 1.0 that has a number of cryptographic design flaws. Newer versions of TLS like 1.2 and 1.3 are designed against these flaws and should be used whenever possible.

Solution

Enable support for TLS 1.2 and 1.3, and disable support for TLS 1.0.

Risk Factor

Medium

CVSS v3.0 Base Score

6.5 (CVSS:3.0/AV:N/AC:H/PR:N/UI:N/S:U/C:H/I:L/A:N)

References

XREF [CWE:327](#)

42263 - Unencrypted Telnet Server

Synopsis

Description

The remote Telnet server transmits traffic in cleartext. This allows a remote, man-in-the-middle attacker to eavesdrop on a Telnet session to obtain credentials or other sensitive information and to modify traffic exchanged between a client and server.

Solution

Disable the Telnet service and use SSH instead.

Risk Factor

Medium

CVSS v3.0 Base Score

6.5 (CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:L/I:L/A:N)

70658 - SSH Server CBC Mode Ciphers Enabled -

Description

The SSH server is configured to support Cipher Block Chaining (CBC) encryption. This may allow an attacker to recover the plaintext message from the ciphertext.

Solution

Contact the vendor or consult product documentation to disable CBC mode cipher encryption, and enable CTR or GCM cipher mode encryption.

Risk Factor

Low

CVSS v2.0 Base Score

2.6 (CVSS2#AV:N/AC:H/Au:N/C:P/I:N/A:N)

References

CVE [CVE-2008-5161](#)

153953 - SSH Weak Key Exchange Algorithms Enabled -

Description

The remote SSH server is configured to allow key exchange algorithms which are considered weak. The following weak key exchange algorithms are enabled : diffie-hellman-group-exchange-sha1, diffie-hellman-group1-sha1. This is based on the IETF draft document Key Exchange (KEX) Method Updates and Recommendations for Secure Shell (SSH).

Solution

Contact the vendor or consult product documentation to disable the weak algorithms.

Risk Factor

Low

CVSS v3.0 Base Score

3.7 (CVSS:3.0/AV:N/AC:H/PR:N/UI:N/S:U/C:L/I:N/A:N)

71049 - SSH Weak MAC Algorithms Enabled -

Description

The remote SSH server is configured to allow either MD5 or 96-bit MAC algorithms, both of which are considered weak.

Solution

Contact the vendor or consult product documentation to disable MD5 and 96-bit MAC algorithms.

Risk Factor

Low

CVSS v2.0 Base Score

2.6 (CVSS2#AV:N/AC:H/Au:N/C:P/I:N/A:N)

83875 - SSL/TLS Diffie-Hellman Modulus <= 1024 Bits (Logjam)

-

Description

The remote host allows SSL/TLS connections with one or more Diffie-Hellman moduli less than or equal to 1024 bits. Through cryptanalysis, a third party may be able to find the shared secret in a short amount of time (depending on modulus size and attacker resources). This may allow an attacker to recover the plaintext or potentially violate the integrity of connections.

Solution

Reconfigure the service to use a unique Diffie-Hellman moduli of 2048 bits or greater.

Risk Factor

Low

CVSS v3.0 Base Score

3.7 (CVSS:3.0/AV:N/AC:H/PR:N/UI:N/S:U/C:N/I:L/A:N)

References

CVE [CVE-2015-4000](#)

78479 - SSLv3 Padding Oracle On Downgraded Legacy Encryption Vulnerability (POODLE)

-

Description

It is possible to obtain sensitive information from the remote host with SSL/TLS-enabled services. The remote host is affected by a man-in-the-middle (MitM) information disclosure vulnerability.

The TLS Fallback SCSV mechanism prevents 'version rollback' attacks without impacting legacy clients; however, it can only protect connections when the client and service support the mechanism. Sites that cannot disable SSLv3 immediately should enable this mechanism.

Solution

Disable SSLv3.

Services that must support SSLv3 should enable the TLS Fallback SCSV mechanism until SSLv3 can be disabled.

Risk Factor

Medium

CVSS v3.0 Base Score

3.4 (CVSS:3.0/AV:N/AC:H/PR:N/UI:R/S:C/C:L/I:N/A:N)

References

CVE [CVE-2014-3566](#)

10407 - X Server Detection

-

Description

The remote host is running an X11 server. X11 is a client-server protocol that can be used to display graphical applications running on a given host on a remote client. Since the X11 traffic is not ciphered, it is possible for an attacker to eavesdrop on the connection.

Solution

Restrict access to this port. If the X11 client/server facility is not used, disable TCP support in X11 entirely (-nolisten tcp).

Risk Factor

Low

CVSS v2.0 Base Score

2.6 (CVSS2#AV:N/AC:H/Au:N/C:P/I:N/A:N)