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Cyber Risk Assessment

External Vulnerability Scan Detail by Issue Report

Prepared for:
Your Customer / Prospect
Prepared by:
Your Company Name

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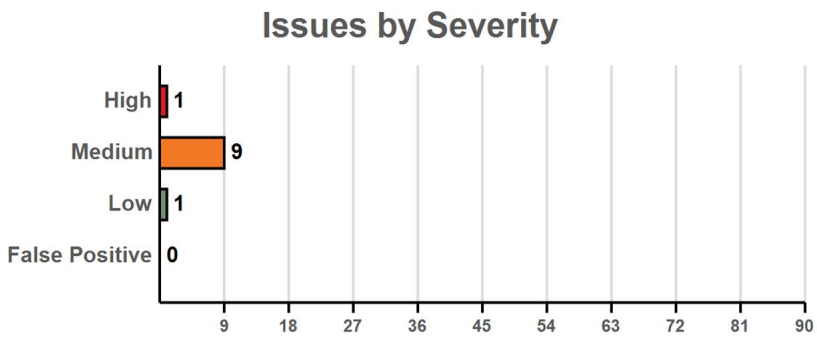
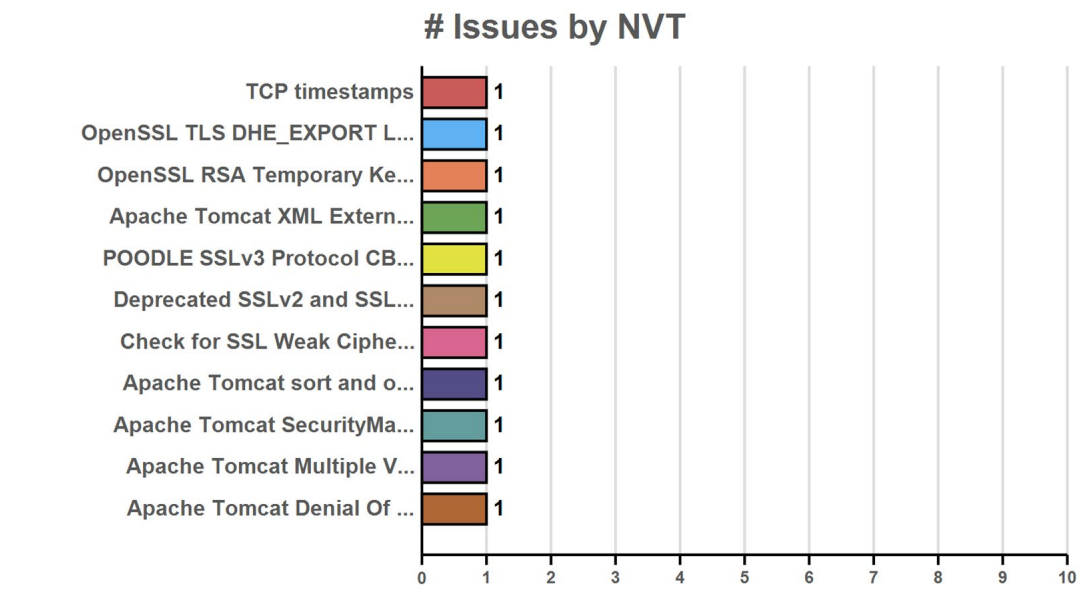
1 - Summary

This report gives details on hosts that were tested and issues that were found during the External Vulnerability Scan. The findings are grouped by category.



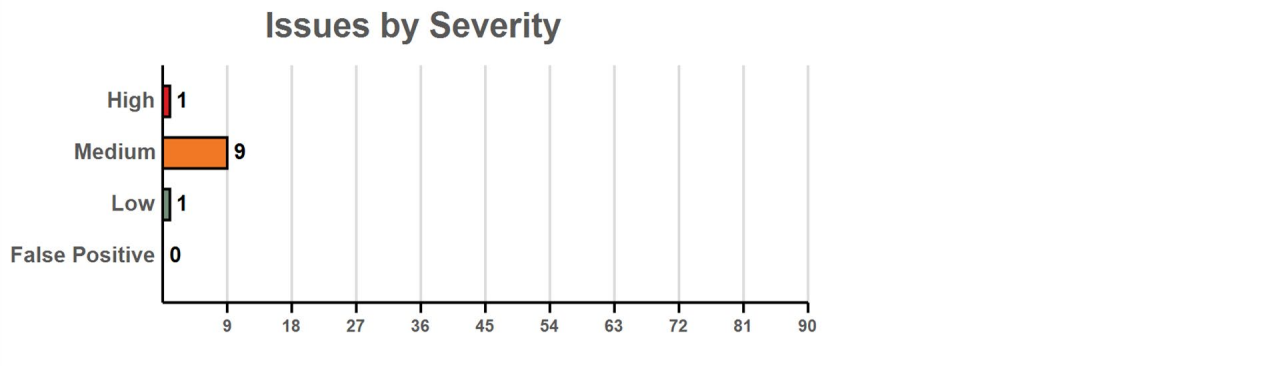


Issue	Count
TCP timestamps	1
OpenSSL TLS DHE_EXPORT LogJam Man in the Middle Security Bypass Vulnerability	1
OpenSSL RSA Temporary Key Handling EXPORT_RSA Downgrade Issue (FREAK)	1
Apache Tomcat XML External Entity Information Disclosure Vulnerability	1
POODLE SSLv3 Protocol CBC ciphers Information Disclosure Vulnerability	1

Issue	Count
Deprecated SSLv2 and SSLv3 Protocol Detection	1
Check for SSL Weak Ciphers	1
Apache Tomcat sort and orderBy Parameters Cross Site Scripting Vulnerabilities	1
Apache Tomcat SecurityManager Security Bypass Vulnerability -June15 (Linux)	1
Apache Tomcat Multiple Vulnerabilities-01 (Nov14)	1
Apache Tomcat Denial Of Service Vulnerability - June15 (Linux)	1

2 - Scan Details

This section details the issues discovered in order of severity. For each issue, the affected nodes are also listed.



2.1 - Apache Tomcat Denial Of Service Vulnerability -June15 (Linux)

H **High**: (CVSS: 7.8)
OID: 1.3.6.1.4.1.25623.1.0.805704
443/tcp (https)

Summary
This host is installed with Apache Tomcat and is prone to denial of service vulnerability.

Affected Nodes
208.32.211.104

Vulnerability Detection Result
Installed version: 6.0.29 Fixed version: 6.0.44

Impact
Successful exploitation will allow remote attackers to conduct denial of service attack. Impact Level: Application

Solution
Upgrade to version 6.0.44 or 7.0.55 or 8.0.9 or later. For updates refer to http://tomcat.apache.org

Vulnerability Insight
The flaw is due to improper handling of cases where an HTTP response occurs before finishing the reading of an entire request body

Vulnerability Detection Method
Get the installed version with the help of detect NVT and check the version is vulnerable or not. Details: Apache Tomcat Denial Of Service Vulnerability -June15 (Linux) (OID: 1.3.6.1.4.1.25623.1.0.805704) Version used: $Revision: 1355 $

Product Detection Result
Product: cpe:/a:apache:tomcat:6.0.29 Method: Apache Tomcat Version Detection (OID: 1.3.6.1.4.1.25623.1.0.800371)

References
http://tomcat.apache.org/security-6.html, http://tomcat.apache.org/security-7.html, http://openwall.com/lists/oss-security/2015/04/10/1

2.2 - Apache Tomcat SecurityManager Security Bypass Vulnerability -June15 (Linux)

Medium: (CVSS: 5)
OID: 1.3.6.1.4.1.25623.1.0.805701
443/tcp (https)

Summary
This host is installed with Apache Tomcat and is prone to security bypass vulnerability.

Affected Nodes
208.32.211.104

Vulnerability Detection Result
Installed version: 6.0.29 Fixed version: 6.0.44

Impact
Successful exploitation will allow remote attackers to bypass certain authentication and obtain sensitive information. Impact Level: Application

Solution
Upgrade to version 6.0.44 or 7.0.58 or 8.0.16 or later. For updates refer to http://tomcat.apache.org

Vulnerability Insight
The flaw is due to the Expression Language does not properly consider the possibility of an accessible interface implemented by an inaccessible class.

Vulnerability Detection Method
Get the installed version with the help of detect NVT and check the version is vulnerable or not. Details: Apache Tomcat SecurityManager Security Bypass Vulnerability -June15 (Linux) (OID: 1.3.6.1.4.1.25623.1.0.805701) Version used: $Revision: 1355 $

Product Detection Result
Product: cpe:/a:apache:tomcat:6.0.29 Method: Apache Tomcat Version Detection (OID: 1.3.6.1.4.1.25623.1.0.800371)

References
http://tomcat.apache.org/security-6.html, http://tomcat.apache.org/security-7.html, http://openwall.com/lists/oss-security/2015/04/10/1

2.3 - Apache Tomcat Multiple Vulnerabilities-01 (Nov14)

Medium: (CVSS: 5)
OID: 1.3.6.1.4.1.25623.1.0.805018
443/tcp (https)

Summary
This host is running Apache Tomcat and is prone to multiple vulnerabilities.

Affected Nodes
208.32.211.104

Vulnerability Detection Result
Vulnerability was detected according to the Vulnerability Detection Method.

Impact
Successful exploitation will allow remote attackers to cause a denial of service (resource consumption), bypass security-manager restrictions and read arbitrary files, conduct HTTP request smuggling attacks via a crafted Content-Length HTTP header. Impact Level: Application

Solution
Upgrade to version 6.0.40, 7.0.53, 8.0.4 or later. For updates refer to refer http://tomcat.apache.org

Vulnerability Insight
Multiple flaws are due to, - An Integer overflow in the parseChunkHeader function in java/org/apache/coyote/http11/filters/ChunkedInputFilter.java - The java/org/apache/catalina/servlets/DefaultServlet.java in the default servlet in does not properly restrict XSLT stylesheets. - Integer overflow in java/org/apache/tomcat/util/buf/Ascii.java in when operated behind a reverse proxy

Vulnerability Detection Method

Get the installed version with the help of detect NVT and check the version is vulnerable or not. Details: Apache Tomcat Multiple Vulnerabilities-01 (Nov14) (OID: 1.3.6.1.4.1.25623.1.0.805018) Version used: $Revision: 1403 $

Product Detection Result
Product: cpe:/a:apache:tomcat:6.0.29 Method: Apache Tomcat Version Detection (OID: 1.3.6.1.4.1.25623.1.0.800371)

References
http://secunia.com/advisories/60729, http://tomcat.apache.org/security-8.html

2.4 - OpenSSL TLS DHE_EXPORT LogJam Man in the Middle Security Bypass Vulnerability

M **Medium**: (CVSS: 4.3)
OID: 1.3.6.1.4.1.25623.1.0.805188
443/tcp (https)

Summary
This host is installed with OpenSSL and is prone to man in the middle attack.

Affected Nodes
208.32.211.104

Vulnerability Detection Result
DHE_EXPORT cipher suites supported by the remote server: TLSv1.0: TLS_DHE_RSA_EXPORT_WITH_DES40_CBC_SHA (0014) TLSv1.1: TLS_DHE_RSA_EXPORT_WITH_DES40_CBC_SHA (0014) TLSv1.2: TLS_DHE_RSA_EXPORT_WITH_DES40_CBC_SHA (0014)

Impact
Successful exploitation will allow a man-in-the-middle attacker to downgrade the security of a TLS session to 512-bit export-grade cryptography, which is significantly weaker, allowing the attacker to more easily break the encryption and monitor or tamper with the encrypted stream. Impact Level: Application

Solution
Remove support for DHE_EXPORT cipher suites from the service or Update to version 1.0.2b or 1.0.1n or later, For updates refer to https://www.openssl.org

Vulnerability Insight
Flaw is triggered when handling Diffie-Hellman key exchanges defined in the DHE_EXPORT cipher

Vulnerability Detection Method
Send a crafted 'Client Hello' request and check the servers response. Details: OpenSSL TLS 'DHE_EXPORT' LogJam Man in the Middle Security Bypass Vulnerabil... (OID: 1.3.6.1.4.1.25623.1.0.805188) Version used: $Revision: 1271 $

References
https://weakdh.org, https://weakdh.org/imperfect-forward-secrecy.pdf, http://openwall.com/lists/oss-security/2015/05/20/8, https://blog.cloudflare.com/logjam-the-latest-tls-vulnerability-explained, https://www.openssl.org/blog/blog/2015/05/20/logjam-freak-upcoming-changes

2.5 - OpenSSL RSA Temporary Key Handling EXPORT_RSA Downgrade Issue (FREAK)

M **Medium**: (CVSS: 4.3)
OID: 1.3.6.1.4.1.25623.1.0.805142
443/tcp (https)

Summary
This host is installed with OpenSSL and is prone to man in the middle attack.

Affected Nodes
208.32.211.104

Vulnerability Detection Result
EXPORT_RSA cipher suites supported by the remote server: SSLv3: TLS_DHE_RSA_EXPORT_WITH_DES40_CBC_SHA (0014) SSLv3: TLS_RSA_EXPORT_WITH_DES40_CBC_SHA (0008) SSLv3: TLS_RSA_EXPORT_WITH_RC4_40_MD5 (0003) TLSv1.0: TLS_DHE_RSA_EXPORT_WITH_DES40_CBC_SHA (0014) TLSv1.0: TLS_RSA_EXPORT_WITH_DES40_CBC_SHA (0008) TLSv1.0: TLS_RSA_EXPORT_WITH_RC4_40_MD5 (0003) TLSv1.1: TLS_DHE_RSA_EXPORT_WITH_DES40_CBC_SHA (0014) TLSv1.1: TLS_RSA_EXPORT_WITH_DES40_CBC_SHA (0008) TLSv1.1: TLS_RSA_EXPORT_WITH_RC4_40_MD5 (0003) TLSv1.2: TLS_DHE_RSA_EXPORT_WITH_DES40_CBC_SHA (0014) TLSv1.2: TLS_RSA_EXPORT_WITH_DES40_CBC_SHA (0008) TLSv1.2: TLS_RSA_EXPORT_WITH_RC4_40_MD5 (0003)

Impact
Successful exploitation will allow remote attacker to downgrade the security of a session to use EXPORT_RSA ciphers, which are significantly weaker than non-export ciphers. This may allow a man-in-the-middle attacker to more easily break the encryption and monitor or tamper with the encrypted stream. Impact Level: Application

Solution
Remove support for EXPORT_RSA cipher suites from the service. Update to version 0.9.8zd or 1.0.0p or 1.0.1k or later For updates refer to https://www.openssl.org

Vulnerability Insight
Flaw is due to improper handling RSA temporary keys in a non-export RSA key exchange ciphersuite.

Vulnerability Detection Method
Send a crafted 'Client Hello' request and check the servers response. Details: OpenSSL RSA Temporary Key Handling EXPORT_RSA Downgrade Issue (FREAK) (OID: 1.3.6.1.4.1.25623.1.0.805142) Version used: $Revision: 1142 $

References
https://freakattack.com, http://osvdb.org/116794, http://secpod.org/blog/?p=3818, http://blog.cryptographyengineering.com/2015/03/attack-of-week-freak-or-factoring-nsa.html

2.6 - Apache Tomcat XML External Entity Information Disclosure Vulnerability

M **Medium**: (CVSS: 4.3)
OID: 1.3.6.1.4.1.25623.1.0.805019
443/tcp (https)

Summary
This host is running Apache Tomcat and is prone to information disclosure vulnerability.

Affected Nodes
208.32.211.104

Vulnerability Detection Result
Vulnerability was detected according to the Vulnerability Detection Method.

Impact
Successful exploitation will allow remote attackers to read arbitrary files via a crafted web application that provides an XML external entity declaration in conjunction with an entity reference. Impact Level: Application

Solution
Upgrade to version 6.0.40, 7.0.54, 8.0.6 or later. For updates refer to refer http://tomcat.apache.org

Vulnerability Insight
The flaw is due to an application does not properly constrain the class loader that accesses the XML parser used with an XSLT stylesheet

Vulnerability Detection Method
Get the installed version with the help of detect NVT and check the version is vulnerable or not. Details: Apache Tomcat XML External Entity Information Disclosure Vulnerability (OID: 1.3.6.1.4.1.25623.1.0.805019) Version used: $Revision: 1403 $

Product Detection Result
Product: cpe:/a:apache:tomcat:6.0.29 Method: Apache Tomcat Version Detection (OID:

1.3.6.1.4.1.25623.1.0.800371)

References
http://secunia.com/advisories/59732, http://tomcat.apache.org/security-7.html

2.7 - POODLE SSLv3 Protocol CBC ciphers Information Disclosure Vulnerability

Medium: (CVSS: 4.3)
OID: 1.3.6.1.4.1.25623.1.0.802087
443/tcp (https)

Summary
This host is installed with OpenSSL and is prone to information disclosure vulnerability.

Affected Nodes
208.32.211.104

Vulnerability Detection Result
Vulnerability was detected according to the Vulnerability Detection Method.

Impact
Successful exploitation will allow a man-in-the-middle attackers gain access to the plain text data stream. Impact Level: Application

Solution
Vendor released a patch to address this vulnerabiliy, For updates contact vendor or refer to https://www.openssl.org NOTE: The only correct way to fix POODLE is to disable SSL v3.0

Vulnerability Insight
The flaw is due to the block cipher padding not being deterministic and not covered by the Message Authentication Code

Vulnerability Detection Method
Send a SSLv3 request and check the response. Details: POODLE SSLv3 Protocol CBC ciphers Information Disclosure Vulnerability (OID: 1.3.6.1.4.1.25623.1.0.802087) Version used: $Revision: 1152 $

References
http://osvdb.com/113251, https://www.openssl.org/~bodo/ssl-poodle.pdf, https://www.imperialviolet.org/2014/10/14/poodle.html, https://www.dfranke.us/posts/2014-10-14-how-poodle-happened.html, http://googleonlinesecurity.blogspot.in/2014/10/this-poodle-bites-exploiting-ssl-30.html

2.8 - Deprecated SSLv2 and SSLv3 Protocol Detection

Medium: (CVSS: 4.3)
OID: 1.3.6.1.4.1.25623.1.0.111012
443/tcp (https)

Summary
It was possible to detect the usage of the deprecated SSLv2 and/or SSLv3 protocol on this system.

Affected Nodes
208.32.211.104

Vulnerability Detection Result
In addition to TLSv1+ the service is also providing the deprecated SSLv3 protocol and supports one or more ciphers.

Impact
An attacker might be able to use the known cryptographic flaws to eavesdrop the connection between clients and the service to get access to sensitive data transfered within the secured connection.

Solution
It is recommended to disable the deprecated SSLv2 and/or SSLv3 protocols in favor of the TLSv1+ protocols. Please see the references for more information.

Vulnerability Insight

The SSLv2 and SSLv3 protocols containing known cryptographic flaws.

Vulnerability Detection Method
Check the used protocols of the services provided by this system. Details: Deprecated SSLv2 and SSLv3 Protocol Detection (OID: 1.3.6.1.4.1.25623.1.0.111012) Version used: $Revision: 1183 $

References
https://www.enisa.europa.eu/activities/identity-and-trust/library/deliverables/algorithms-key-sizes-and-parameters-report, https://bettercrypto.org/

2.9 - Check for SSL Weak Ciphers

Medium: (CVSS: 4.3)
OID: 1.3.6.1.4.1.25623.1.0.103440
443/tcp (https)

Summary
This routine search for weak SSL ciphers offered by a service.

Affected Nodes
208.32.211.104

Vulnerability Detection Result
Weak ciphers offered by this service: SSL3_RSA_RC4_40_MD5 SSL3_RSA_RC4_128_MD5 SSL3_RSA_RC4_128_SHA SSL3_RSA_DES_40_CBC_SHA SSL3_RSA_DES_64_CBC_SHA SSL3_EDH_RSA_DES_40_CBC_SHA SSL3_EDH_RSA_DES_64_CBC_SHA TLS1_RSA_RC4_40_MD5 TLS1_RSA_RC4_128_MD5 TLS1_RSA_RC4_128_SHA TLS1_RSA_DES_40_CBC_SHA TLS1_RSA_DES_64_CBC_SHA TLS1_EDH_RSA_DES_40_CBC_SHA TLS1_EDH_RSA_DES_64_CBC_SHA

Solution
The configuration of this services should be changed so that it does not support the listed weak ciphers anymore.

Vulnerability Insight
These rules are applied for the evaluation of the cryptographic strength: - Any SSL/TLS using no cipher is considered weak. - All SSLv2 ciphers are considered weak due to a design flaw within the SSLv2 protocol. - RC4 is considered to be weak. - Ciphers using 64 bit or less are considered to be vulnerable to brute force methods and therefore considered as weak. - 1024 bit RSA authentication is considered to be insecure and therefore as weak. - CBC ciphers in TLS < 1.2 are considered to be vulnerable to the BEAST or Lucky 13 attacks - Any cipher considered to be secure for only the next 10 years is considered as medium - Any other cipher is considered as strong

Vulnerability Detection Method
Details: Check for SSL Weak Ciphers (OID: 1.3.6.1.4.1.25623.1.0.103440) Version used: $Revision: 733 $

2.10 - Apache Tomcat sort and orderBy Parameters Cross Site Scripting Vulnerabilities

Medium: (CVSS: 4.3)
OID: 1.3.6.1.4.1.25623.1.0.103032
443/tcp (https)

Summary
Apache Tomcat is prone to multiple cross-site scripting vulnerabilities because it fails to properly sanitize user-supplied input.

Affected Nodes
208.32.211.104

Vulnerability Detection Result
Vulnerability was detected according to the Vulnerability Detection Method.

Impact
An attacker may leverage these issues to execute arbitrary script code in the browser of an unsuspecting user in the context of the affected site. This may let the attacker steal cookie-based authentication credentials and launch other attacks.

Solution
Updates are available please see the references for more information.

Vulnerability Detection Method
Details: Apache Tomcat 'sort' and 'orderBy' Parameters Cross Site Scripting Vulnerabi... (OID: 1.3.6.1.4.1.25623.1.0.103032) Version used: $Revision: 1224 $

Product Detection Result
Product: cpe:/a:apache:tomcat:6.0.29 Method: Apache Tomcat Version Detection (OID: 1.3.6.1.4.1.25623.1.0.800371)

References
https://www.securityfocus.com/bid/45015, http://tomcat.apache.org/security-6.html, http://tomcat.apache.org/security-7.html, http://tomcat.apache.org/security-6.html, http://tomcat.apache.org/security-7.html, http://jakarta.apache.org/tomcat/, http://www.securityfocus.com/archive/1/514866

2.11 - TCP timestamps

L **Low**: (CVSS: 2.6)
OID: 1.3.6.1.4.1.25623.1.0.80091

Summary
The remote host implements TCP timestamps and therefore allows to compute the uptime.

Affected Nodes
208.32.211.104

Vulnerability Detection Result
It was detected that the host implements RFC1323. The following timestamps were retrieved with a delay of 1 seconds in-between: Paket 1: 1265113531 Paket 2: 1265114641

Impact
A side effect of this feature is that the uptime of the remote host can sometimes be computed.

Solution
To disable TCP timestamps on linux add the line 'net.ipv4.tcp_timestamps = 0' to /etc/sysctl.conf. Execute 'sysctl -p' to apply the settings at runtime. To disable TCP timestamps on Windows execute 'netsh int tcp set global timestamps=disabled' Starting with Windows Server 2008 and Vista, the timestamp can not be completely disabled. The default behavior of the TCP/IP stack on this Systems is, to not use the Timestamp options when initiating TCP connections, but use them if the TCP peer that is initiating communication includes them in their synchronize (SYN) segment. See also: http://www.microsoft.com/en-us/download/details.aspx?id=9152

Vulnerability Insight
The remote host implements TCP timestamps, as defined by RFC1323.

Vulnerability Detection Method
Special IP packets are forged and sent with a little delay in between to the target IP. The responses are searched for a timestamps. If found, the timestamps are reported. Details: TCP timestamps (OID: 1.3.6.1.4.1.25623.1.0.80091) Version used: $Revision: 787 $

References
http://www.ietf.org/rfc/rfc1323.txt