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SSL Report: mishmash.colab.duke.edu (67.159.77.222)

Assessed on: Sat, 01 Mar 2025 18:24:37 UTC | [Hide](#) | [Clear cache](#)

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Summary

Overall Rating

A

Certificate

Protocol Support

Key Exchange

Cipher Strength

020406080100

Visit our [documentation page](#) for more information, configuration guides, and books. Known issues are documented [here](#).

This server supports TLS 1.3.

Certificate #1: RSA 2048 bits (SHA384withRSA)



Server Key and Certificate #1

Subject	mishmash.colab.duke.edu
	Fingerprint SHA256: d16501b5c57f558dcd3d7f1d8e83aa21eb23cd0b643b30ce93d403b24f1e238a
	Pin SHA256: sWXcC+R1qimlPEFD5WzhOp/U9UQ3AA1NJFOdTzXyKKU=
Common names	mishmash.colab.duke.edu
Alternative names	mishmash.colab.duke.edu
Serial Number	009f769305db1f08f13108d6dff8d0ad88
Valid from	Mon, 03 Feb 2025 00:00:00 UTC
Valid until	Sun, 04 May 2025 23:59:59 UTC (expires in 2 months and 3 days)
Key	RSA 2048 bits (e 65537)
Weak key (Debian)	No
Issuer	InCommon RSA Server CA 2
	AIA: http://crl.sectigo.com/InCommonRSAServerCA2.crl
Signature algorithm	SHA384withRSA
Extended Validation	No
Certificate Transparency	Yes (certificate)
OCSP Must Staple	No
Revocation information	CRL, OCSP
	CRL: http://crl.sectigo.com/InCommonRSAServerCA2.crl
	OCSP: http://ocsp.sectigo.com
Revocation status	Good (not revoked)
DNS CAA	No (more info)
Trusted	Yes
	Mozilla Apple Android Java Windows



Additional Certificates (if supplied)

Certificates provided	4 (5742 bytes)
Chain issues	Contains anchor

Additional Certificates (if supplied)

#2


Subject	InCommon RSA Server CA 2 Fingerprint SHA256: 87e01cc4dd0c9d92a3dbd49092ff13f9cd387445cdc57e5b984e1b7721b5b029 Pin SHA256: nIUvrOVzCyKOqY+U4sofEeIMk94Dt/WuMgaesi8NITk=
Valid until	Mon, 15 Nov 2032 23:59:59 UTC (expires in 7 years and 8 months)
Key	RSA 3072 bits (e 65537)
Issuer	USERTrust RSA Certification Authority
Signature algorithm	SHA384withRSA

#3

Subject	USERTrust RSA Certification Authority Fingerprint SHA256: 68b9c761219a5b1f0131784474665db61bbdb109e00f05ca9f74244ee5f5f52b Pin SHA256: x4QzPSC810K5/cMjb05Qm4k3Bw5ZBn4ITdO/nEW/Td4=
Valid until	Sun, 31 Dec 2028 23:59:59 UTC (expires in 3 years and 9 months)
Key	RSA 4096 bits (e 65537)
Issuer	AAA Certificate Services
Signature algorithm	SHA384withRSA


#4

Subject	AAA Certificate Services In trust store Fingerprint SHA256: d7a7a0fb5d7e2731d771e9484ebcdef71d5f0c3e0a2948782bc83ee0ea699ef4 Pin SHA256: vRU+17BDT2IGsXvOi76E7TQMCTLXAqj0+jGPdW7L1vM=
Valid until	Sun, 31 Dec 2028 23:59:59 UTC (expires in 3 years and 9 months)
Key	RSA 2048 bits (e 65537)
Issuer	AAA Certificate Services Self-signed
Signature algorithm	SHA1withRSA Weak, but no impact on root certificate

[Certification Paths](#)


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Configuration



Protocols

TLS 1.3	Yes
TLS 1.2	Yes
TLS 1.1	No
TLS 1.0	No
SSL 3	No
SSL 2	No



Cipher Suites

TLS 1.3 (server has no preference)

TLS_AES_128_GCM_SHA256 (0x1301)	ECDH x25519 (eq. 3072 bits RSA) FS	128
TLS_AES_256_GCM_SHA384 (0x1302)	ECDH x25519 (eq. 3072 bits RSA) FS	256
TLS_CHACHA20_POLY1305_SHA256 (0x1303)	ECDH x25519 (eq. 3072 bits RSA) FS	256

TLS 1.2 (server has no preference)

TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256 (0xc02f)	ECDH secp521r1 (eq. 15360 bits RSA) FS	128
TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256 (0xcca8)	ECDH secp521r1 (eq. 15360 bits RSA) FS	256

Handshake Simulation

Android 4.4.2	RSA 2048 (SHA384)	TLS 1.2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp521r1	FS
Android 5.0.0	RSA 2048 (SHA384)	TLS 1.2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp521r1	FS
Android 6.0	RSA 2048 (SHA384)	TLS 1.2 > http/1.1	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
Android 7.0	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256	ECDH x25519	FS
Android 8.0	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256	ECDH x25519	FS
Android 8.1	-	TLS 1.3	TLS_CHACHA20_POLY1305_SHA256	ECDH x25519	FS
Android 9.0	-	TLS 1.3	TLS_CHACHA20_POLY1305_SHA256	ECDH x25519	FS
BingPreview Jan 2015	RSA 2048 (SHA384)	TLS 1.2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp521r1	FS
Chrome 49 / XP SP3	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
Chrome 69 / Win 7 R	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH x25519	FS
Chrome 70 / Win 10	-	TLS 1.3	TLS_AES_128_GCM_SHA256	ECDH x25519	FS
Chrome 80 / Win 10 R	-	TLS 1.3	TLS_AES_128_GCM_SHA256	ECDH x25519	FS
Firefox 31.3.0 ESR / Win 7	RSA 2048 (SHA384)	TLS 1.2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
Firefox 47 / Win 7 R	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
Firefox 49 / XP SP3	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
Firefox 62 / Win 7 R	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH x25519	FS
Firefox 73 / Win 10 R	-	TLS 1.3	TLS_AES_128_GCM_SHA256	ECDH x25519	FS
Googlebot Feb 2018	RSA 2048 (SHA384)	TLS 1.2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH x25519	FS
IE 11 / Win 7 R	Server sent fatal alert: handshake_failure				
IE 11 / Win 8.1 R	Server sent fatal alert: handshake_failure				
IE 11 / Win Phone 8.1 R	Server sent fatal alert: handshake_failure				
IE 11 / Win Phone 8.1 Update R	Server sent fatal alert: handshake_failure				
IE 11 / Win 10 R	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
Edge 15 / Win 10 R	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH x25519	FS
Edge 16 / Win 10 R	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH x25519	FS
Edge 18 / Win 10 R	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH x25519	FS
Edge 13 / Win Phone 10 R	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
Java 8u161	RSA 2048 (SHA384)	TLS 1.2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
Java 11.0.3	-	TLS 1.3	TLS_AES_128_GCM_SHA256	ECDH secp256r1	FS
Java 12.0.1	-	TLS 1.3	TLS_AES_128_GCM_SHA256	ECDH secp256r1	FS
OpenSSL 1.0.1l R	RSA 2048 (SHA384)	TLS 1.2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp521r1	FS
OpenSSL 1.0.2s R	RSA 2048 (SHA384)	TLS 1.2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
OpenSSL 1.1.0k R	RSA 2048 (SHA384)	TLS 1.2	TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256	ECDH x25519	FS
OpenSSL 1.1.1c R	-	TLS 1.3	TLS_AES_256_GCM_SHA384	ECDH x25519	FS
Safari 6 / iOS 6.0.1	Server sent fatal alert: handshake_failure				
Safari 7 / iOS 7.1 R	Server sent fatal alert: handshake_failure				
Safari 7 / OS X 10.9 R	Server sent fatal alert: handshake_failure				
Safari 8 / iOS 8.4 R	Server sent fatal alert: handshake_failure				
Safari 8 / OS X 10.10 R	Server sent fatal alert: handshake_failure				
Safari 9 / iOS 9 R	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
Safari 9 / OS X 10.11 R	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
Safari 10 / iOS 10 R	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
Safari 10 / OS X 10.12 R	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
Safari 12.1.2 / MacOS 10.14.6 Beta R	-	TLS 1.3	TLS_CHACHA20_POLY1305_SHA256	ECDH x25519	FS
Safari 12.1.1 / iOS 12.3.1 R	-	TLS 1.3	TLS_CHACHA20_POLY1305_SHA256	ECDH x25519	FS
Apple ATS 9 / iOS 9 R	RSA 2048 (SHA384)	TLS 1.2 > h2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp256r1	FS
Yahoo Slurp Jan 2015	RSA 2048 (SHA384)	TLS 1.2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp384r1	FS
YandexBot Jan 2015	RSA 2048 (SHA384)	TLS 1.2	TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	ECDH secp521r1	FS


Not simulated clients (Protocol mismatch)



Handshake Simulation

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- (1) Clients that do not support Forward Secrecy (FS) are excluded when determining support for it.
- (2) No support for virtual SSL hosting (SNI). Connects to the default site if the server uses SNI.
- (3) Only first connection attempt simulated. Browsers sometimes retry with a lower protocol version.
- (R) Denotes a reference browser or client, with which we expect better effective security.
- (All) We use defaults, but some platforms do not use their best protocols and features (e.g., Java 6 & 7, older IE).
- (All) Certificate trust is not checked in handshake simulation, we only perform TLS handshake.**



Protocol Details	
Secure Renegotiation	Supported
Secure Client-Initiated Renegotiation	No
Insecure Client-Initiated Renegotiation	No
BEAST attack	Mitigated server-side (more info)
POODLE (SSLv3)	No, SSL 3 not supported (more info)
POODLE (TLS)	No (more info)
Zombie POODLE	No (more info)
GOLDENDOODLE	No (more info)
OpenSSL 0-Length	No (more info)
Sleeping POODLE	No (more info)
Downgrade attack prevention	Yes, TLS_FALLBACK_SCSV supported (more info)
SSL/TLS compression	No
RC4	No
Heartbeat (extension)	No
Heartbleed (vulnerability)	No (more info)
Ticketbleed (vulnerability)	No (more info)
OpenSSL CCS vuln. (CVE-2014-0224)	No (more info)
OpenSSL Padding Oracle vuln. (CVE-2016-2107)	No (more info)
ROBOT (vulnerability)	No (more info)
Forward Secrecy	Yes (with most browsers) ROBUST (more info)
ALPN	Yes h2 http/1.1
NPN	No
Session resumption (caching)	Yes
Session resumption (tickets)	No
OCSP stapling	No
Strict Transport Security (HSTS)	No
HSTS Preloading	Not in: Chrome Edge Firefox IE
Public Key Pinning (HPKP)	No (more info)
Public Key Pinning Report-Only	No
Public Key Pinning (Static)	No (more info)
Long handshake intolerance	No
TLS extension intolerance	No
TLS version intolerance	No
Incorrect SNI alerts	No
Uses common DH primes	No, DHE suites not supported
DH public server param (Ys) reuse	No, DHE suites not supported
ECDH public server param reuse	No
Supported Named Groups	secp256r1, secp384r1, secp521r1, x25519, x448 (Server has no preference)
SSL 2 handshake compatibility	No
0-RTT enabled	No

1 <https://mishmash.colab.duke.edu/> (HTTP/1.1 200 OK)



Miscellaneous

Test date	Sat, 01 Mar 2025 18:23:37 UTC
Test duration	60.552 seconds
HTTP status code	200
HTTP server signature	nginx/1.27.3
Server hostname	vcm-45222.vm.duke.edu

SSL Report v2.3.1