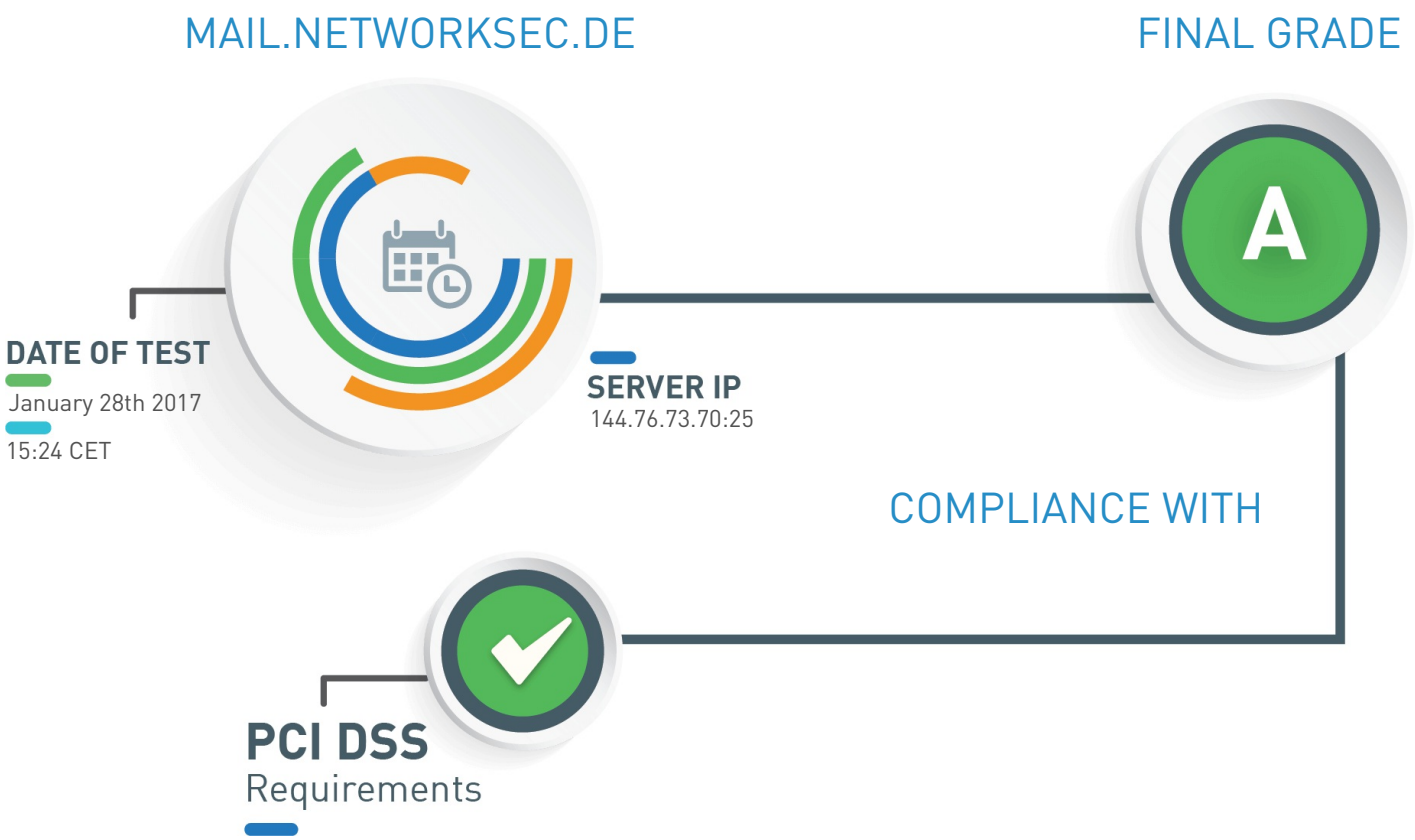
SSL Server Security Test of mail.networksec.de

Test SSL/TLS implementation of any service on any port for compliance with PCI DSS requirements, HIPAA guidance and NIST guidelines.



Assessment Executive Summary

The tested service does not seem to be an HTTPS service.	Information
The server configuration seems to be good, but is not entirely compliant with NIST guidelines and HIPAA guidance.	Information
The server prefers cipher suites supporting Perfect-Forward-Secrecy.	Good configuration

SSL Certificate Overview

RSA CERTIFICATE INFORMATION

Trusted	Yes
Common Name	networksec.de
Key Type/Size	RSA 2048 bits
Signature Algorithm	sha256WithRSAEncryption
Subject Alternative Names	DNS:isp.nwsec.de, DNS:mail.networksec.de, DNS:networksec.de
Transparency	No
Extended Validation	No
CRL	No
OCSP	http://ocsp.int-x3.letsencrypt.org/
OCSP Must-Staple	No
Supports OCSP Stapling	No
Valid From	January 22nd 2017, 04:16 CET
Valid To	April 22nd 2017, 05:16 CEST

CERTIFICATE CHAIN

networksec.de — Server certificate

Key Type/Size	RSA 2048 bits
Signature Algorithm	sha256WithRSAEncryption
SHA256	7b9e57c747aa68464fb4fa52896f02c34b26bc1dbdc4b05cbabe1a2941004d03
PIN	ddAoHcAMuEI5m6dDVEydIlk2Ytx9+SOLav/ypmTStqw=
Expires in	84 days

Let's Encrypt Authority X3 — Intermediate CA

Key Type/Size	RSA 2048 bits
Signature Algorithm	sha256WithRSAEncryption
SHA256	de6da669c1368f77b7e9d695474ed9aa592423603bbbe6a546b8bd3c90c2f2fb
PIN	YLh1dUR9y6Kja30RrAn7JKnbQG/uEtLMkBgFF2Fuihg=
Expires in	1,509 days

DST Root CA X3 — Self-signed, Root CA

Key Type/Size	RSA 2048 bits
Signature Algorithm	sha1WithRSAEncryption
SHA256	42444fdb056ee97612747572e390e7027719cf6a4441cd54fc2999265af24f71
PIN	Vjs8r4z+80wjNcr1YKepWQboSIRi63WsWXhIMN+eWys=
Expires in	1,706 days

Test For Compliance With PCI DSS Requirements

Reference: PCI DSS 3.1 - Requirements 2.3 and 4.1

CERTIFICATES ARE TRUSTED

All the certificates provided by the server are trusted. Good configuration

SUPPORTED CIPHERS

List of all cipher suites supported by the server:

TLSV1.2

TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	Good configuration
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256	Good configuration
TLS_DHE_RSA_WITH_AES_256_GCM_SHA384	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA256	Good configuration
TLS_DHE_RSA_WITH_AES_128_GCM_SHA256	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA256	Good configuration

TLSV1.1

TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA	Good configuration

TLSV1.0

TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA	Good configuration

SUPPORTED PROTOCOLS

List of all SSL/TLS protocols supported by the server:

TLSv1.0	Deprecated. Dropped in June 2018
TLSv1.1	Good configuration
TLSv1.2	Good configuration

DIFFIE-HELLMAN PARAMETER SIZE

Diffie-Hellman parameter size: 2048 bits Good configuration

SUPPORTED ELLIPTIC CURVES

List of all elliptic curves supported by the server:

P-256 (prime256v1) (256 bits) Good configuration

POODLE OVER TLS

The server is not vulnerable to POODLE over TLS. Not vulnerable

CVE-2016-2107

The server is not vulnerable to OpenSSL padding-oracle flaw (CVE-2016-2107). Not vulnerable

SERVER DOES NOT SUPPORT CLIENT-INITIATED INSECURE RENEGOTIATION

The server does not support client-initiated insecure renegotiation. Good configuration

HEARTBLEED

The server version of OpenSSL is not vulnerable to Heartbleed attack. Not vulnerable

Test For Compliance With HIPAA

Reference: HIPAA of 1996, Guidance Specifying the Technologies and Methodologies that Render Protected Health Information Unusable, Unreadable, or Indecipherable to Unauthorized Individuals.

X509 CERTIFICATES ARE IN VERSION 3

All the X509 certificates provided by the server are in version 3. Good configuration

SERVER DOES NOT SUPPORT OCSP STAPLING

The server does not support OCSP stapling for its RSA certificate. Its support allows better verification of the certificate validation status. Non-compliant with HIPAA guidance

SUPPORTED PROTOCOLS

List of all SSL/TLS protocols supported by the server:

TLSv1.0	Good configuration
TLSv1.1	Good configuration
TLSv1.2	Good configuration

SUPPORTED CIPHERS

List of all cipher suites supported by the server:

TLSV1.2

TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	Good configuration
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256	Good configuration
TLS_DHE_RSA_WITH_AES_256_GCM_SHA384	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA256	Good configuration
TLS_DHE_RSA_WITH_AES_128_GCM_SHA256	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA256	Good configuration

TLSV1.1

TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA	Good configuration

TLSV1.0

TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA	Good configuration

DIFFIE-HELLMAN PARAMETER SIZE

Diffie-Hellman parameter size: 2048 bits — Good configuration

SUPPORTED ELLIPTIC CURVES

List of all elliptic curves supported by the server:

P-256 (prime256v1) (256 bits) — Good configuration

TLSV1.1 SUPPORTED

The server supports TLSv1.1 which is mandatory to comply with HIPAA guidance. — Good configuration

TLSV1.2 SUPPORTED

The server supports TLSv1.2 which is the only SSL/TLS protocol that currently has no known flaws or exploitable weaknesses. — Good configuration

MISSING MANDATORY CIPHERS

The support of these ciphers is mandatory according to HIPAA guidance:

TLSV1.2

TLS_RSA_WITH_AES_128_CBC_SHA	Non-compliant with HIPAA guidance
TLS_RSA_WITH_AES_128_GCM_SHA256	Non-compliant with HIPAA guidance

TLSV1.1

TLS_RSA_WITH_3DES_EDE_CBC_SHA	Non-compliant with HIPAA guidance
TLS_RSA_WITH_AES_128_CBC_SHA	Non-compliant with HIPAA guidance

TLSV1.0

TLS_RSA_WITH_3DES_EDE_CBC_SHA	Non-compliant with HIPAA guidance
TLS_RSA_WITH_AES_128_CBC_SHA	Non-compliant with HIPAA guidance

EC_POINT_FORMAT EXTENSION

The server supports the EC_POINT_FORMAT TLS extension. — Good configuration

Test For Compliance With NIST Guidelines

Reference: NIST Special Publication 800-52 Revision 1 - Section 3

X509 CERTIFICATES ARE IN VERSION 3

All the X509 certificates provided by the server are in version 3.

Good configuration

SERVER DOES NOT SUPPORT OCSP STAPLING

The server does not support OCSP stapling for its RSA certificate. Its support allows better verification of the certificate validation status.

Non-compliant with NIST guidelines

SUPPORTED CIPHERS

List of all cipher suites supported by the server:

TLSV1.2

TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	Good configuration
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256	Good configuration
TLS_DHE_RSA_WITH_AES_256_GCM_SHA384	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA256	Good configuration
TLS_DHE_RSA_WITH_AES_128_GCM_SHA256	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA256	Good configuration

TLSV1.1

TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA	Good configuration

TLSV1.0

TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA	Good configuration

SUPPORTED PROTOCOLS

List of all SSL/TLS protocols supported by the server:

TLSv1.0	Good configuration
TLSv1.1	Good configuration
TLSv1.2	Good configuration

DIFFIE-HELLMAN PARAMETER SIZE

Diffie-Hellman parameter size: 2048 bits — Good configuration

SUPPORTED ELLIPTIC CURVES

List of all elliptic curves supported by the server:

P-256 (prime256v1) (256 bits) — Good configuration

TLSV1.1 SUPPORTED

The server supports TLSv1.1 which is mandatory to comply with NIST guidelines. — Good configuration

TLSV1.2 SUPPORTED

The server supports TLSv1.2 which is the only SSL/TLS protocol that currently has no known flaws or exploitable weaknesses. — Good configuration

MISSING MANDATORY CIPHERS

The support of these ciphers is mandatory according to NIST guidelines:

TLSV1.2

TLS_RSA_WITH_AES_128_CBC_SHA	Non-compliant with NIST guidelines
TLS_RSA_WITH_AES_128_GCM_SHA256	Non-compliant with NIST guidelines

TLSV1.1

TLS_RSA_WITH_3DES_EDE_CBC_SHA	Non-compliant with NIST guidelines
TLS_RSA_WITH_AES_128_CBC_SHA	Non-compliant with NIST guidelines

TLSV1.0

TLS_RSA_WITH_3DES_EDE_CBC_SHA	Non-compliant with NIST guidelines
TLS_RSA_WITH_AES_128_CBC_SHA	Non-compliant with NIST guidelines

EC_POINT_FORMAT EXTENSION

The server supports the EC_POINT_FORMAT TLS extension. — Good configuration

Test For Industry Best-Practices

CERTIFICATES DO NOT PROVIDE EV

The RSA certificate provided is NOT an Extended Validation (EV) certificate. Information

SERVER HAS CIPHER PREFERENCE

The server enforces cipher suites preference. Good configuration

SERVER PREFERRED CIPHER SUITES

Preferred cipher suite for each protocol supported (except SSLv2). Expected configuration are ciphers allowed by PCI DSS and enabling PFS:

TLSv1.0	TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLSv1.1	TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLSv1.2	TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384	Good configuration

SERVER PREFERS CIPHER SUITES PROVIDING PFS

For TLS family of protocols, the server prefers cipher suite(s) providing Perfect Forward Secrecy (PFS). Good configuration

TLS_FALLBACK_SCSV

The server supports TLS_FALLBACK_SCSV extension for protocol downgrade attack prevention. Good configuration

SERVER SUPPORTS CLIENT-INITIATED SECURE RENEGOTIATION

The server supports a client-initiated secure renegotiation that may be unsafe and allow Denial of Service attacks. Misconfiguration or weakness

SERVER-INITIATED SECURE RENEGOTIATION

The server supports secure server-initiated renegotiation. Good configuration

SERVER DOES NOT SUPPORT TLS COMPRESSION

TLS compression is not supported by the server. Good configuration