

How to Use dig/nslookup to find SPF, DKIM and DMARC Records for a Domain?

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Introduction

This document describes how to use `dig/nslookup` to find SPF, DKIM, and DMARC records for a domain on Email Security Appliance (ESA) and Cloud Email Security (CES).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- ESA on Async OS 10.0 or later
- Administrative access to the appliance

Components Used

The information in this document is based on all supported ESA hardware models and virtual appliances on Async OS 10.0 or later.

In order to verify the version information of the appliance from the CLI, enter the version command. In the GUI, navigate to **Monitor > System Status**.

Both `nslookup` and `dig` commands are supported on current ESA/CES Async OS releases. These commands can be executed through SSH/CLI access to the appliance.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Sample outputs provided are for domains `cisco.com` and `gmail.com`, similar commands can be used for other domains as well.

SPF

SPF lookups can be performed with these formats:

- nslookup domain txt
- dig domain txt

Note: Substitute the word **domain** with the appropriate domain you would like to look up.

For domains with multiple TXT records published, **nslookup** can fail to list SPF records. In such instances, **dig** must be used instead.

This is shown in the example outputs here for **cisco.com**.

```
(Machine lab.esa.com)> nslookup cisco.com txt
TXT="google-site-verification=qPS9ZkoQ-OglrBrM1_N7z-tNJNy2BVxE8lw6SB2iFdk"
TTL=21m 8s
```

```
(Machine lab.esa.com)> dig cisco.com txt
;; Warning: Message parser reports malformed message packet.
;; Truncated, retrying in TCP mode. ; <<>> DiG 9.11.2 <<>> cisco.com TXT
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 20648
;; flags: qr rd ra; QUERY: 1, ANSWER: 25, AUTHORITY: 0, ADDITIONAL: 0 ;; QUESTION SECTION:
;cisco.com. IN TXT ;; ANSWER SECTION:
cisco.com. 1782 IN TXT "fastly-domain-delegation-w049tcm0w48ds-341317-20210209"
cisco.com. 1782 IN TXT "v=spf1 redirect=spf._spf.cisco.com"
cisco.com. 1782 IN TXT "MS=ms35724259"
cisco.com. 1782 IN TXT "amazonses:QbUv5pPHGQxRy1vKA0J7Y/biE9oR6MTxOTI1bZIfjsw="
cisco.com. 1782 IN TXT "fastly-domain-delegation-e9a758d22183504af2d5ab4d9a9853da-20210127"
cisco.com. 1782 IN TXT "QuoVadis=94d4ae74-ecd5-4a33-975e-a0d7f546c801"
cisco.com. 1782 IN TXT "atlassian-domain-
verification=672RcADvt8BPqsb9gCN2ZC5DoTAhUT8abC1blyKQxi/MHMaGoA/BuvjFMaWRtgD7"
cisco.com. 1782 IN TXT "google-site-verification=9M1QU9MMQ1jHLMUKONKe6QzZ-ZIGRv0BCD1_rY1Zdmc"
cisco.com. 1782 IN TXT "SFMC-o7HX74BQ79k7glpt_qjlF2vmZ09DpqLtYxKLwg87"
cisco.com. 1782 IN TXT "926723159-3188410"
cisco.com. 1782 IN TXT "docuSign=95052c5f-a421-4594-9227-02ad2d86dfbe"
cisco.com. 1782 IN TXT "amazonses:7LyikZmpuGja4+KbA4xX31N69yajYKLkHH4QJcWnuwo="
cisco.com. 1782 IN TXT "google-site-verification=qPS9ZkoQ-OglrBrM1_N7z-tNJNy2BVxE8lw6SB2iFdk"
cisco.com. 1782 IN TXT
"zpSH7Ye/seY61hH8+Rq5Kb+ZJ9hDa+qeFBaD/6sPAAg+2POkGdP0byHb1pFVK9uZgYF2AIosUSZq4MB17oydQ=="
cisco.com. 1782 IN TXT
"duo_sso_verification=AxenLdoqIXzjl2RJzE1BlOfkawDbDFlnbyvjAt8vcjKHBkvYwEMySDRk5QmBd66v"
cisco.com. 1782 IN TXT "facebook-domain-verification=1zoxo8z7t013gpruxmhc8dkerq47vh"
cisco.com. 1782 IN TXT "google-site-verification=lw5eqPMJI4VrLc28YW-JBkqA-FDNVnhFCXQVDVfQzTo"
cisco.com. 1782 IN TXT "facebook-domain-verification=qr2nigspzrpa96jlnD9criovuuwino"
cisco.com. 1782 IN TXT "apple-domain-verification=q0InipPgso3W8cmK"
cisco.com. 1782 IN TXT "identrust_validate=JnSSfW+y58dEQju6mVBe8lu1MGFepXI50P27OE1ZZQmL"
cisco.com. 1782 IN TXT "onetrust-domain-verification=20345dd0c33946f299f14c1498b41f67"
cisco.com. 1782 IN TXT "mixpanel-domain-verify=2c6cb1aa-a3fb-44b9-ad10-d6b744109963"
cisco.com. 1782 IN TXT "identrust_validate=Wns4/AOM0Ij2kQCQhzvNbMcoBzxItOa+4407KF061Ip3"
cisco.com. 1782 IN TXT "docuSign=5e18de8e-36d0-4a8e-8e88-b7803423fa2f"
cisco.com. 1782 IN TXT "amazonses:mX+y1Qj+fJAFh9pr03yIR7YvjKZ1b0o5ABegqM/5pvI=" ;; Query time: 0
msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: Tue Feb 23 06:03:28 GMT 2021
;; MSG SIZE rcvd: 1756
```

```
(Machine lab.esa.com)> nslookup gmail.com txt
TXT="v=spf1 redirect=_spf.google.com"
TTL=30m
```

```
(Machine lab.esa.com)> dig gmail.com txt
```

```
; <<>> DiG 9.11.2 <<>> gmail.com TXT
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 14807
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 0 ;; QUESTION SECTION:
;gmail.com. IN TXT ;; ANSWER SECTION:
gmail.com. 1800 IN TXT "v=spf1 redirect=_spf.google.com"
gmail.com. 1800 IN TXT "globalsign-smime-dv=CDYX+XFHUw2wml6/Gb8+59BsH31KzUr6c1l2BPvqKX8=" ;;
Query time: 85 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: Tue Feb 23 06:05:38 GMT 2021
;; MSG SIZE rcvd: 148
```

DKIM

DKIM lookups can be performed with these formats:

- nslookup selector._domainkey.domain txt
- dig selector._domainkey.domain txt

Note: Substitute the words **selector** and **domain** with the DKIM selector and domain you would like to look up.

```
(Machine lab.esa.com)> nslookup iport._domainkey.cisco.com txt
TXT="v=DKIM1;
p=MIGfMA0GCSqGSIb3DQEBAQUAA4GNADCBiQKBgQCctxGhJnvNpdcQLJM6a/0otvdpzFIJuo73OYFuw6/8bXcf8/p5JG/iME
1r9fUlrNZs3kMn9ZdPYvTyRbyZ0UyMrsM3ZN2JAIop3M7sitqHgp8pbORFgQyZxq+L23I2cELq+qw
tbanjWJzEPPvVrvbuz9QL8Cuts+V5N5ldq8L/lwIDAQAB;"
TTL=1d
```

```
(Machine lab.esa.com)> dig iport._domainkey.cisco.com txt
```

```
; <<>> DiG 9.11.2 <<>> iport._domainkey.cisco.com TXT
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 21671
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 0 ;; QUESTION SECTION:
;iport._domainkey.cisco.com. IN TXT ;; ANSWER SECTION:
iport._domainkey.cisco.com. 86400 IN TXT "v=DKIM1;
p=MIGfMA0GCSqGSIb3DQEBAQUAA4GNADCBiQKBgQCctxGhJnvNpdcQLJM6a/0otvdpzFIJuo73OYFuw6/8bXcf8/p5JG/iME
1r9fUlrNZs3kMn9ZdPYvTyRbyZ0UyMrsM3ZN2JAIop3M7sitqHgp8pbORFgQyZxq+L23I2cELq+qw
tbanjWJzEPPvVrvbuz9QL8Cuts+V5N5ldq8L/lwIDAQAB;"
;; Query time: 2 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: Tue Feb 23 06:41:31 GMT 2021
;; MSG SIZE rcvd: 285
```

```
(Machine lab.esa.com)> dig 20161025._domainkey.gmail.com TXT
```

```
; <<>> DiG 9.11.2 <<>> 20161025._domainkey.gmail.com TXT
```

```
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 11798
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 0 ;; QUESTION SECTION:
20161025._domainkey.gmail.com. IN TXT ;; ANSWER SECTION:
20161025._domainkey.gmail.com. 1800 IN TXT "k=rsa;
p=MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAviPGBk4ZB64UfSqWyAicdR7lodhytae+EYRQVtKDhM+1mXjEqR
tP/pDT3sBhazkMA48n2k5NJUyMEo08nc2r6sUA+/Dom5jRBZp6qDKJOWjJ5R/OpHamlRG+YRJQQR"
"tqEgSiJWG7h7efGYWmh4URhFM9k9+rmG/CwCgwx7Et+c8OMlngaLl04/bPmfjpdEyLWyNimk761CX6KymzYiRDnz1MOJOJ7
OzFaS4PFfbVLn0m5mf0HVntBpPwWuCNvaFVflUYxEyblbB6h/oWOPGbzoSgtRA47SHV53SwZjIsVpb
q4LxUW9IxAEWyzGcSgZ4n5Q8X8TndowsDUzocPFghdwIDAQAB"
;; Query time: 174 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: Tue Feb 23 06:45:01 GMT 2021
;; MSG SIZE rcvd: 462
```

```
(Machine lab.esa.com)> nslookup 20161025._domainkey.gmail.com TXT
TXT="k=rsa;
p=MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAviPGBk4ZB64UfSqWyAicdR7lodhytae+EYRQVtKDhM+1mXjEqR
tP/pDT3sBhazkMA48n2k5NJUyMEo08nc2r6sUA+/Dom5jRBZp6qDKJOWjJ5R/OpHamlRG+YRJQQR"
"tqEgSiJWG7h7efGYWmh4URhFM9k9+rmG/CwCgwx7Et+c8OMlngaLl04/bPmfjpdEyLWyNimk761CX6KymzYiRDnz1MOJOJ7
OzFaS4PFfbVLn0m5mf0HVntBpPwWuCNvaFVflUYxEyblbB6h/oWOPGbzoSgtRA47SHV53SwZjIsVpb
q4LxUW9IxAEWyzGcSgZ4n5Q8X8TndowsDUzocPFghdwIDAQAB"
TTL=30m
```

DMARC

DMARC lookups can be performed with these formats:

- nslookup _dmarc.domain txt
- dig _dmarc.domain txt

Note: Substitute the word domain with the domain you would like to look up.

```
(Machine lab.esa.com)> nslookup _dmarc.cisco.com txt
TXT="v=DMARC1; p=quarantine; pct=0; fo=1; ri=3600; rua=mailto:cisco@rua.agari.com;
ruf=mailto:cisco@ruf.agari.com"
TTL=30m
```

```
(Machine lab.esa.com)> dig txt _dmarc.cisco.com
; <<>> DiG 9.11.2 <<>> _dmarc.cisco.com TXT
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 24522
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 0 ;; QUESTION SECTION:
_dmarc.cisco.com. IN TXT ;; ANSWER SECTION:
_dmarc.cisco.com. 1800 IN TXT "v=DMARC1; p=quarantine; pct=0; fo=1; ri=3600;
rua=mailto:cisco@rua.agari.com; ruf=mailto:cisco@ruf.agari.com"
;; Query time: 2 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: Tue Feb 23 06:34:15 GMT 2021
;; MSG SIZE rcvd: 155
```

```
(Machine lab.esa.com)> nslookup _dmarc.gmail.com txt
TXT="v=DMARC1; p=none; sp=quarantine; rua=mailto:mailauth-reports@google.com"
TTL=30m
```

```
(Machine lab.esa.com)> dig _dmarc.gmail.com txt
```

```
; <<>> DiG 9.11.2 <<>> _dmarc.gmail.com TXT
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 28370
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 0 ;; QUESTION SECTION:
;_dmarc.gmail.com. IN TXT ;; ANSWER SECTION:
_dmarc.gmail.com. 1800 IN TXT "v=DMARC1; p=none; sp=quarantine; rua=mailto:mailauth-
reports@google.com"
;; Query time: 85 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: Tue Feb 23 06:35:18 GMT 2021
;; MSG SIZE rcvd: 118
```

Related Information

- [Cisco Email Security Appliance - End-User Guides](#)
- [Technical Support & Documentation - Cisco Systems](#)