

Sample Configuration for Authentication in OSPF

Contents

[Network Diagram Configurations for Plain Text Authentication](#)

[Debug and Verification Tips](#)

[Configurations for MD5 Authentication](#)

[Debug and Verification Tips](#)

[Related Information](#)

This document shows sample configurations for OSPF authentication. OSPF supports both plain text and MD5 authentication. When you configure authentication, you must configure an entire area with same type of authentication. Starting in Cisco IOS® 12.0.8, authentication is supported on a per-interface basis, as mentioned in [RFC 2328](#), Appendix D. This feature was added in bug CSCdk33792. If you are a [registered CCO user](#) and you have logged in, you can view the bug details:

Let's take the following network as an example.

Network Diagram

Configurations for Plain Text Authentication

Plain text authentication is useful in performing OSPF re-configuration, rather than for security. Plain text authentication passwords don't have to be the same throughout an area, but they must be same between neighbors.

R4-4K	R1-7010
<pre>interface Loopback0 ip address 70.70.70.70 255.255.255.255 ! interface Serial2 ip address 192.16.64.2 255.255.255.0 ip ospf authentication-key kal ! router ospf 10 network 192.16.64.0 0.0.0.255 area 0 network 70.0.0.0 0.255.255.255 area 0 area 0 authentication</pre>	<pre>interface Loopback0 ip address 17 2.16.10.36 255.255.255.240 ! interface Serial1/0 ip address 192.16.64.1 255.255.255.0 ip ospf authentication-key kal ! router ospf 10 network 172.16.0.0 0.0.255.255 area 0 network 192.16.64.0 0.0.0.255 area 0 area 0 authentication</pre>

Debug and Verification Tips

Here's debug output for R1-7010:

R1-7010#**debug ip ospf adj**

```
OSPF: Receive dbd from 70.70.70.70 seq 0x14B
OSPF: 2 Way Communication to neighbor 70.70.70.70
OSPF: send DBD packet to 192.16.64.2 seq 0x1797
OSPF: Receive dbd from 70.70.70.70 seq 0x1797
OSPF: NBR Negotiation Done We are the MASTER
OSPF: send DBD packet to 192.16.64.2 seq 0x1798
OSPF: Database request to 70.70.70.70
OSPF: sent LS REQ packet to 192.16.64.2, length 12
```

Help us help you.

Please rate this document.

Excellent
Good
Average
Fair
Poor

This document solved my problem.

Yes
No
Just browsing

Suggestions for improvement:

(256 character limit)

Optional contact information:

Name:

Email:

```

OSPF: Receive dbd from 70.70.70.70 seq 0x1798
OSPF: send DBD packet to 192.16.64.2 seq 0x1799
OSPF: Receive dbd from 70.70.70.70 seq 0x1799
OSPF: Exchange Done with neighbor 70.70.70.70
OSPF: Synchronized with neighbor 70.70.70.70, state:FULL
OSPF: Build router LSA, router ID 172.16.13.1

```

```
R1-7010#show ip ospf neighbor
```

```

Neighbor ID    Pri  State           Dead Time   Address        Interface
70.70.70.70    1   FULL/-         00:00:36   192.16.64.2   Serial1/0

```

```
R1-7010#show ip route
```

```

O    70.70.70.70 [110/65] via 192.16.64.2, 00:01:27, Serial1/0
C    192.16.64.0/24 is directly connected, Serial1/0

```

Configurations for MD5 Authentication

Message Digest 5 (MD5) authentication provides higher security than plain text authentication. Like plain text authentication, passwords don't have to be the same throughout an area, but they do need to be same between neighbors. MD5 authentication uses a key ID that allows the router to reference multiple passwords, making password migration easier and more secure. For example, to migrate from one password to another, configure a password under a different key ID and then remove the first key.

R4-4K	R1-7010
<pre> interface Loopback0 ip address 70.70.70.70 255.255.255.255 ! interface Serial2 ip address 192.16.64.2 255.255.255.0 ip ospf message-digest-key 1 md5 kal ! router ospf 10 network 192.16.64.0 0.0.0.255 area 0 network 70.0.0.0 0.255.255.255 area 0 area 0 authentication message-digest </pre>	<pre> interface Loopback0 ip address 172.16.10.36 255.255.255.240 ! interface Serial1/0 ip address 192.16.64.1 255.255.255.0 ip ospf message-digest-key 1 md5 kal ! router ospf 10 network 172.16.0.0 0.0.255.255 area 0 network 192.16.64.0 0.0.0.255 area 0 area 0 authentication message-digest </pre>

Debug and Verification Tips

```
R1-7010#debug ip ospf adj
```

```

OSPF: Send with youngest Key 1
OSPF: Receive dbd from 70.70.70.70 seq 0xEDC
OSPF: 2 Way Communication to neighbor 70.70.70.70
OSPF: send DBD packet to 192.16.64.2 seq 0x9A3
OSPF: Send with youngest Key 1
OSPF: Receive dbd from 70.70.70.70 seq 0x9A3
OSPF: NBR Negotiation Done We are the MASTER
OSPF: send DBD packet to 192.16.64.2 seq 0x9A4
OSPF: Send with youngest Key 1
OSPF: Send with youngest Key 1
OSPF: Database request to 70.70.70.70
OSPF: sent LS REQ packet to 192.16.64.2, length 12
OSPF: Receive dbd from 70.70.70.70 seq 0x9A4
OSPF: send DBD packet to 192.16.64.2 seq 0x9A5
OSPF: Send with youngest Key 1
OSPF: Send with youngest Key 1
OSPF: Receive dbd from 70.70.70.70 seq 0x9A5
OSPF: Exchange Done with neighbor 70.70.70.70
OSPF: Synchronized with neighbor 70.70.70.70, state:FULL
OSPF: Build router LSA, router ID 172.16.13.1

```

```
R1-7010#show ip ospf neighbor
```

```

Neighbor ID    Pri  State           Dead Time   Address        Interface
70.70.70.70    1   FULL/-         00:00:38   192.16.64.2   Serial1/0

```

```
R1-7010#show ip route
```

```

O    70.70.70.70 [110/65] via 192.16.64.2, 00:00:59, Serial1/0
C    192.16.64.0/24 is directly connected, Serial1/0

```

Related Information

- [IP Routing Top Issues](#)
 - [OSPF Support Page](#)
 - [More OSPF Technical Tips](#)
 - [More Routing Protocol Technical Tips](#)
-

[Cisco Systems TAC Certified](#)

Home	What's New	How to Buy	Login	Register	Feedback	Search	Map/Help
----------------------	----------------------------	----------------------------	-----------------------	--------------------------	--------------------------	------------------------	--------------------------

All contents are Copyright © 1992--2001 Cisco Systems Inc. All rights reserved. [Important Notices](#) and [Privacy Statement](#).