



# OSPF Forwarding Address Suppression in Translated Type-5 LSAs

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The OSPF Forwarding Address Suppression in Translated Type-5 LSAs feature causes a not-so-stubby area (NSSA) area border router (ABR) to translate Type-7 link state advertisements (LSAs) to Type-5 LSAs, but use the address 0.0.0.0 for the forwarding address instead of that specified in the Type-7 LSA. This feature causes routers that are configured not to advertise forwarding addresses into the backbone to direct forwarded traffic to the translating NSSA ABRs.

## History for the OSPF Forwarding Address Suppression in Translated Type-5 LSAs Feature

### Feature History

Release	Modification
12.2(15)T	This feature was introduced.
12.2(18)S	This feature was integrated into Cisco IOS Release 12.2(18)S.
12.2(27)SBC	This feature was integrated into Cisco IOS Release 12.2(27)SBC.

## Finding Support Information for Platforms and Cisco IOS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at <http://www.cisco.com/go/fn>. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.



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## Prerequisites for OSPF Forwarding Address Suppression in Translated Type-5 LSAs

This document presumes you have OSPF configured on the networking device; it does not document other steps to configure OSPF.

## Information About OSPF Forwarding Address Suppression in Translated Type-5 LSAs

Before you configure the OSPF Forwarding Address Suppression in Translated Type-5 LSAs feature, you should understand the following concepts:

- [Benefits of OSPF Forwarding Address Suppression in Translated Type-5 LSAs, page 2](#)
- [When to Suppress OSPF Forwarding Address in Translated Type-5 LSAs, page 2](#)

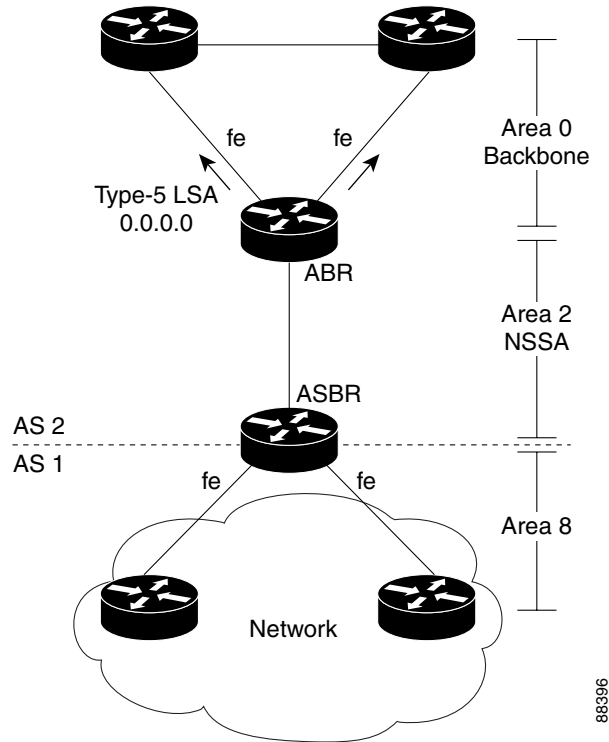
## Benefits of OSPF Forwarding Address Suppression in Translated Type-5 LSAs

The OSPF Forwarding Address Suppression in Translated Type-5 LSAs feature causes an NSSA ABR to translate Type-7 LSAs to Type-5 LSAs, but use the 0.0.0.0 as the forwarding address instead of that specified in the Type-7 LSA. This feature causes routers that are configured not to advertise forwarding addresses into the backbone to direct forwarded traffic to the translating NSSA ASBRs.

## When to Suppress OSPF Forwarding Address in Translated Type-5 LSAs

In [Figure 1](#), it would be advantageous to filter Area 2 addresses from Area 0 to minimize the number of routes introduced into the backbone (Area 0). However, using the **area range** command to consolidate and summarize routes at the area boundary—filtering the Area 2 addresses—will not work because the Area 2 addresses include forwarding addresses for Type-7 LSAs that are generated by the ASBR. If these Type-7 LSA forwarding addresses have been filtered out of Area 0, the backbone routers cannot reach the prefixes advertised in the translated Type-5 LSAs (autonomous system external LSAs).

Figure 1 OSPF Forwarding Address Suppression in Translated Type-5 LSAs



This problem is solved by suppressing the forwarding address on the ABR so that the forwarding address is set to 0.0.0.0 in the Type-5 LSAs that were translated from Type-7 LSAs. A forwarding address set to 0.0.0.0 indicates that packets for the external destination should be forwarded to the advertising OSPF router, in this case, the translating NSSA ABR.

Before configuring this feature, consider the following caution.



**Caution**

Configuring this feature causes the router to be noncompliant with RFC 1587. Also, suboptimal routing might result because there might be better paths to reach the destination's forwarding address. This feature should not be configured without careful consideration and not until the network topology is understood.

## How to Suppress OSPF Forwarding Address in Translated Type-5 LSAs

This section contains the following procedure:

- [Suppressing OSPF Forwarding Address in Translated Type-5 LSAs, page 3](#)

### Suppressing OSPF Forwarding Address in Translated Type-5 LSAs

This task describes how to suppress OSPF forwarding address in translated Type-5 LSAs. Before configuring this feature, consider the following caution.

**Caution**

Configuring this feature causes the router to be noncompliant with RFC 1587. Also, suboptimal routing might result because there might be better paths to reach the destination's forwarding address. This feature should not be configured without careful consideration and not until the network topology is understood.

**SUMMARY STEPS**

1. **enable**
2. **configure terminal**
3. **router ospf process-id**
4. **area area-id nssa translate type7 suppress-fa**
5. **end**

**DETAILED STEPS**

	<b>Command or Action</b>	<b>Purpose</b>
<b>Step 1</b>	<b>enable</b>  <b>Example:</b> Router> enable	Enables higher privilege levels, such as privileged EXEC mode. <ul style="list-style-type: none"> <li>• Enter your password if prompted.</li> </ul>
<b>Step 2</b>	<b>configure terminal</b>  <b>Example:</b> Router# configure terminal	Enters global configuration mode.
<b>Step 3</b>	<b>router ospf process-id</b>  <b>Example:</b> Router(config)# router ospf 1	Enables OSPF routing and enters router configuration mode. <ul style="list-style-type: none"> <li>• The <i>process-id</i> argument identifies the OSPF process.</li> </ul>
<b>Step 4</b>	<b>area area-id nssa translate type7 suppress-fa</b>  <b>Example:</b> Router(config-router)# area 10 nssa translate type7 suppress-fa	Configures an area as a not-so-stubby-area (NSSA) and suppresses the forwarding address in translated Type-7 LSAs.
<b>Step 5</b>	<b>end</b>  <b>Example:</b> Router(config-router)# end	Exits configuration mode and returns to privileged EXEC mode.

# Configuration Examples for OSPF Forwarding Address Suppression in Translated Type-5 LSAs

This section provides the following configuration example:

- [Suppressing OSPF Forwarding Address in Translated Type-5 LSAs: Example, page 5](#)

## Suppressing OSPF Forwarding Address in Translated Type-5 LSAs: Example

This example suppresses the forwarding address in translated Type-5 LSAs:

```
interface ethernet 0
 ip address 10.93.1.1 255.255.255.0
 ip ospf cost 1
!
interface ethernet 1
 ip address 10.94.1.1 255.255.255.0
!
router ospf 1
 network 10.93.0.0 0.0.255.255 area 0.0.0.0
 network 10.94.0.0 0.0.255.255 area 10
 area 10 nssa translate type7 suppress-fa
```

## Additional References

For additional information related to OSPF, see the following sections:

- [Related Documents, page 6](#)
- [Standards, page 6](#)
- [MIBs, page 6](#)
- [RFCs, page 6](#)
- [Technical Assistance, page 6](#)

## Related Documents

Related Topic	Document Title
OSPF commands	<i>Cisco IOS IP Routing Protocols Command Reference</i>

## Standards

Standards	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

## MIBs

MIBs	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: <a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a>

## RFCs

RFCs	Title
Configuring the OSPF Forwarding Address Suppression in Translated Type-5 LSAs feature causes the router to be noncompliant with RFC 1587.	<i>The OSPF NSSA Option</i>

## Technical Assistance

Description	Link
The Cisco Technical Support website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	<a href="http://www.cisco.com/techsupport">http://www.cisco.com/techsupport</a>

# Command Reference

The following commands are introduced or modified in the feature or features documented in this module. For information about these commands, see the *Cisco IOS IP Routing Protocols Command Reference* at [http://www.cisco.com/en/US/docs/ios/iproute/command/reference/irp\\_book.html](http://www.cisco.com/en/US/docs/ios/iproute/command/reference/irp_book.html). For information about all Cisco IOS commands, go to the Command Lookup Tool at <http://tools.cisco.com/Support/CLILookup> or to the *Cisco IOS Master Commands List*.

- **area nssa translate**
- **show ip ospf**

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