

NAT Optimized SIP Media Path with SDP

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The NAT Optimized SIP Media Path with SDP feature allows the creation of a shorter path for Session Initiation Protocol (SIP) media channels by distributing endpoint IP addressing information with Session Description Protocol (SDP) of SIP messages. This feature allows endpoints to communicate directly by using standard routing and eliminates the need for them to traverse through upstream NAT routers.

The Message Digest 5 (MD5) algorithm is supported.

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Finding Feature Information

Your software release may not support all the features documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the Feature Information Table at the end of this document.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Information About the NAT Optimized SIP Media Path with SDP Feature

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Americas Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

Restrictions for NAT Optimized SIP Media Path with SDP

SIP messages may or may not have SDP. This feature processes SIP messages with SDP only. If a call exchange with SDP is certain to occur, this feature should be used.

Use the “NAT - Optimized SIP Media without SPD” feature for SIP messages without SPD. This feature processes all packets sent through the NAT-enabled router but is more CPU intensive than processing SIP messages with SPD.

Benefits of NAT Optimized SIP Media Path with SDP

- The media path can be shortened, decreasing voice delay.
- More control of voice policy is possible because the media path is closer to the customer domain and not deep within the service provider cloud.

NAT Optimized SIP Media Path with SDP Feature Design

The NAT Optimized SIP Media Path with SDP feature provides the ability to optimize the media path taken by a SIP VoIP session when NAT is used. NAT forces the VoIP traffic to take at least one extra hop in the network, which usually results in several additional hops being added to the path between two IP hosts.

Cisco IOS NAT will add the relevant translation information per SIP session within the SIP protocol messages. The SIP Application Layer Gateway support within Cisco IOS NAT will extract this translation information from the SIP packets and create NAT table entries.

The “piggybacking” of NAT translation information within the SIP call flows, the design of how users interact with the application when they talk to it, will allow the media path of a SIP VoIP session between two calling parties to take the optimized routing path between each other.

How to Configure NAT Optimized SIP Media Path with SDP

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Configuring a NAT Optimized SIP Media Path with SDP Messages Including MD5 Authentication

Perform this task to configure SDP messages with a NAT optimized SIP Media path including MD5 authentication.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip nat piggyback-support sip-alg sdp-only router** *router-id* **md5 -authentication** *md5-authentication-key*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**ip nat piggyback-support sip-alg sdp-only router** *router-id* **md5 -authentication** *md5-authentication-key* **Example:** `Router(config)# ip nat piggyback-support sip-alg sdp-only router 100 md5-authentication md5-key`	Enables SDP messages with a NAT optimized SIP Media path including MD5 authentication.

Configuring a NAT Optimized SIP Media Path with SDP Messages Without MD5 Authentication

Perform this task to configure SDP messages with a NAT optimized SIP Media path without MD5 authentication.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip nat piggyback-support sip-alg sdp-only router** *router-id*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**ip nat piggyback-support sip-alg sdp-only router** *router-id* **Example:** `Router(config)# ip nat piggyback-support sip-alg sdp-only router 100`	Enables SDP messages with a NAT optimized SIP Media path without MD5 authentication.

Configuration Examples for NAT Optimized SIP Media Path with SDP

• Configuring a NAT Optimized SIP Media Path with SDP Including MD5 Authentication Example, page 4
• Configuring a NAT Optimized SIP Media Path with SDP Without MD5 Authentication Example, page 5

Configuring a NAT Optimized SIP Media Path with SDP Including MD5 Authentication Example

The following example shows how to configure a NAT optimized SIP media path with SDP including MD5 authentication:

```
ip nat piggyback-support sip-alg sdp-only router 100 md5-authentication md5-key
```

Configuring a NAT Optimized SIP Media Path with SDP Without MD5 Authentication Example

The following example shows how to configure a NAT optimized SIP media path with SDP without MD5 authentication:

```
ip nat piggyback-support sip-alg sdp-only router 100
```

Additional References

Related Documents

Related Topic	Document Title
NAT commands: complete command syntax, command mode, command history, defaults, usage guidelines, and examples	*Cisco IOS IP Addressing Services Command Reference*
NAT Optimized SIP Media Path without SDP configuration tasks and conceptual information	"NAT - Optimized SIP Media without SPD" module

Standards

Standard	Title
None	--

MIBs

MIB	MIBs Link
None	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFC	Title
None	--

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for NAT Optimized SIP Media Path with SDP

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 1 Feature Information for <Phrase Based on Module Title>

Feature Name	Releases	Feature Information
NAT Optimized SIP Media Path with SDP	12.4(2)T	The NAT Optimized SIP Media Path with SDP feature allows the creation of a shorter path for Session Initiation Protocol (SIP) media channels by distributing endpoint IP addressing information with Session Description Protocol (SDP) of SIP messages. This feature allows endpoints to communicate directly by using standard routing and eliminates the need for them to traverse through upstream NAT routers.

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