Nano CUBE - INFO DTMF Relay

The INFO dual-tone multi-frequency (DTMF) relay feature in Nano CUBE provides support for INFO-INFO DTMF relay. This support will enable passing through INFO requests with single DTMF digit information in the Content Body (0- 9, *, #, a, b, c, d) to the peer.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and 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.

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.

Restrictions for INFO DTMF Relay

- Only INFO-INFO is supported. Other interworking modes such as INFO-KPML and INFO-NOTIFY are not supported.
- Only one digit can be sent per INFO message. If there are more then one digits in the “Signal=” line from the incoming INFO, only the first digit is accepted.

Information About INFO DTMF Relay

The INFO DTMF relay feature is enabled on the NanoCUBE when both the inbound and outbound SIP dial peers are configured using DTMF-relay SIP-INFO configuration and negotiated end-to-end using the Allow and Accept headers.

When the NanoCUBE provisioned with SIP-INFO DTMF Relay option receives an INVITE/200 OK (for INVITE) with the Allow header containing INFO and Accept header containing “application/dtmf-relay”, it advertises its support for INFO DTMF relay using the Allow header and notifies the incoming call leg that INFO DTMF Relay has been negotiated by forwarding the Accept header. If the remote endpoint does not advertise its support for INFO DTMF Relay, the DTMF negotiation proceeds with the consideration that INFO is not one of the supported methods, and another common method will be negotiated. If nothing else matches between the two legs, DTMF negotiation will fallback to in-band mode.

How to Configure INFO DTMF Relay

Configuring INFO-INFO DTMF Relay Passthrough

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **dial-peer voice** *tag* **voip**
4. **dtmf-relay sip-info**
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.

	Command or Action	Purpose
Step 3	**dial-peer voice** *tag* **voip** **Example:** `Device(config)# dial-peer voice 300 voip`	Enters dial peer voice configuration mode.
Step 4	**dtmf-relay sip-info** **Example:** `Device(config-dial-peer)# dtmf-relay sip-info`	Configures the INFO-INFO DTMF relay passthrough (via SIP-INFO messages) on the inbound and outbound dial peer.
Step 5	**end** **Example:** `Device(config-dial-peer)# end`	Returns to privileged EXEC mode.

Verifying INFO DTMF Relay

Perform this task to verify the configuration for the INFO-INFO DTMF Relay Passthrough. The **show** commands can be entered in any order.

SUMMARY STEPS

1. **enable**
2. **show sip-ua statistics**
3. **show sip-ua calls dtmf-relay sip-info**
4. **show sip-ua history dtmf-relay sip-info**

DETAILED STEPS

Step 1 **enable**
Enables privileged EXEC mode.

Example:
`Device>` **enable**

Step 2 **show sip-ua statistics**
Displays response, traffic, and retry Session Initiation Protocol (SIP) statistics.

Example:

```
Device# show sip-ua statistics

SIP Response Statistics (Inbound/Outbound)
    Informational:
     Trying 1/1, Ringing 0/0,
     Forwarded 0/0, Queued 0/0,
     SessionProgress 0/1
    Success:
     OkInvite 0/1, OkBye 1/0,
     OkCancel 0/0, OkOptions 0/0,
     OkSubscibe 0/0, OkNotify 0/0,
     OkInfo 0/1, 202Accepted 0/0
     OkRegister 12/49
    Redirection (Inbound only except for MovedTemp(Inbound/Outbound)) :
      MultipleChoice 0, MovedPermanently 0,
      MovedTemporarily 0/0, UseProxy 0,
      AlternateService 0
      Client Error:
      BadRequest 0/0, Unauthorized 0/0,
      PaymentRequired 0/0, Forbidden 0/0,
      NotFound 0/0, MethodNotAllowed 0/0,
      NotAcceptable 0/0, ProxyAuthReqd 0/0,
      ReqTimeout 0/0, Conflict 0/0, Gone 0/0,
      ReqEntityTooLarge 0/0, ReqURITooLarge 0/0,
      UnsupportedMediaType 0/0, BadExtension 0/0,
      TempNotAvailable 0/0, CallLegNonExistent 0/0,
      LoopDetected 0/0, TooManyHops 0/0,
      AddrIncomplete 0/0, Ambiguous 0/0,
      BusyHere 0/0, RequestCancel 0/0,
      NotAcceptableMedia 0/0, BadEvent 0/0,
      SETooSmall 0/0
     Server Error:
      InternalError 0/0, NotImplemented 0/0,
      BadGateway 0/0, ServiceUnavail 0/0,
      GatewayTimeout 0/0, BadSipVer 0/0,
      PreCondFailure 0/0
     Global Failure:
      BusyEverywhere 0/0, Decline 0/0,
      NotExistAnywhere 0/0, NotAcceptable 0/0
      Miscellaneous counters:
      RedirectRspMappedToClientErr 0
SIP Total Traffic Statistics (Inbound/Outbound)
      Invite 0/0, Ack 0/0, Bye 0/0,
      Cancel 0/0, Options 0/0,
      Prack 0/0, Comet 0/0,
      Subscribe 0/0, NOTIFY 0/0,
      Refer 0/0, Info 0/0
      Register 49/16
Retry Statistics
      Invite 0, Bye 0, Cancel 0, Response 0,
      Prack 0, Comet 0, Reliable1xx 0, Notify 0
      Register 4, Subscribe 0
SDP application statistics:
Parses: 0, Builds 0
Invalid token order: 0, Invalid param: 0
Not SDP desc: 0, No resource: 0
Last time SIP Statistics were cleared: <never>
```

Step 3 **show sip-ua calls dtmf-relay sip-info**

Displays active SIP calls with INFO DTMF Relay mode.

Example:

```
Device# show sip-ua calls dtmf-relay sip-info

Total SIP call legs:2, User Agent Client:1, User Agent Server:1
```

```
SIP UAC CALL INFO
Call 1
SIP Call ID                : 9598A547-5C1311E2-8008F709-2470C996@172.27.161.122
   State of the call       : STATE_ACTIVE (7)
   Calling Number          : sipp
   Called Number           : 3269011111
   CC Call ID              : 2
No.         Timestamp         Digit           Duration
=========================================================
0    01/12/2013 17:23:25.615  2                   250
1    01/12/2013 17:23:25.967  5                   300
2    01/12/2013 17:23:26.367  6                   300

Call 2
SIP Call ID                : 1-29452@172.25.208.177
   State of the call       : STATE_ACTIVE (7)
   Calling Number          : sipp
   Called Number           : 3269011111
   CC Call ID              : 1
No.         Timestamp         Digit           Duration
=========================================================
0    01/12/2013 17:23:25.615  2                   250
1    01/12/2013 17:23:25.967  5                   300
2    01/12/2013 17:23:26.367  6                   300

   Number of SIP User Agent Client(UAC) calls: 2

SIP UAS CALL INFO
Call 1
SIP Call ID                : 1-29452@172.25.208.177
   State of the call       : STATE_ACTIVE (7)
   Calling Number          : sipp
   Called Number           : 3269011111
   CC Call ID              : 1
No.         Timestamp         Digit           Duration
=========================================================
0    01/12/2013 17:23:25.615  2                   250
1    01/12/2013 17:23:25.967  5                   300
2    01/12/2013 17:23:26.367  6                   300

Call 2
SIP Call ID                : 9598A547-5C1311E2-8008F709-2470C996@172.27.161.122
   State of the call       : STATE_ACTIVE (7)
   Calling Number          : sipp
   Called Number           : 3269011111
   CC Call ID              : 2
No.         Timestamp         Digit           Duration
=========================================================
0    01/12/2013 17:23:25.615  2                   250
1    01/12/2013 17:23:25.967  5                   300
2    01/12/2013 17:23:26.367  6                   300

   Number of SIP User Agent Server(UAS) calls: 2
```

Step 4 **show sip-ua history dtmf-relay sip-info**

Displays SIP call history with specific DTMF Relay mode.

Example:

```
Device# show sip-ua history dtmf-relay sip-info

Call 1
SIP Call ID          : 1-29452@172.25.208.177
Calling Number       : sipp
Called Number        : 3269011111
CC Call ID           : 1
DTMF Relay Mode      : sip-info
```

```
No.      Timestamp               Digit         Duration
=========================================================
0    01/12/2013 17:23:25.615  2    250
1    01/12/2013 17:23:25.967  5    300
2    01/12/2013 17:23:26.367  6    300
Call 2
SIP Call ID          : 9598A547-5C1311E2-8008F709-2470C996@172.27.161.122
Calling Number       : sipp
Called Number        : 3269011111
CC Call ID           : 2
DTMF Relay Mode      : sip-info

No.      Timestamp               Digit         Duration
=========================================================
0    01/12/2013 17:23:25.615  2    250
1    01/12/2013 17:23:25.967  5    300
2    01/12/2013 17:23:26.367  6    300
```

Configuration Examples for INFO DTMF Relay

Example: Configuring INFO DTMF Relay Passthrough

```
Device> enable
Device# configure terminal
Device(config)# dial-peer voice 300 voip
Device(config-dial-peer)# dtmf-relay sip-info
Device(config-dial-peer)# end
```

Feature Information for INFO DTMF Relay

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 INFO DTMF Relay

Feature Name	Releases	Feature Information
Nano CUBE (INFO DTMF Relay)	15.3(3)M	The INFO dual-tone multi-frequency (DTMF) relay feature in Nano CUBE provides support for INFO-INFO DTMF relay. This support will enable passing through INFO requests with single DTMF digit information in the Content Body (0-9, *, #, a, b, c, d) to the peer.