

DSP High Availability Support

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DSP High Availability Support

Cisco Unified Border Element (CUBE) DSP High Availability support for SIP-to-SIP calls is added for Box-to-Box and Inbox configurations. Earlier, calls that required DSP resources were not checkpointed. As a result, both the media and signaling sessions were not preserved after switchover resulting in call failure.

Note DSP HA is supported only for SIP-to-SIP calls.

Feature Information

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 DSP HA Support on CUBE

Feature Name	Releases	Feature Information
DSP HA Support on CUBE	Baseline Fuctionality	Provides DSP High availability support for SIP-to-SIP calls on Box-to-Box and Inbox redundancies.

Prerequisites for DSP High Availability

- LTI Transcoding
- DSP HA is supported only on the following routers and its corresponding modules:
  - Cisco ISR G2 series (PVDM3)
  - Cisco ASR 1000 series (SPA-DSP)
  - Cisco ISR 4000 series (PVDM4)
  - Cisco Catalyst 8200 Edge series
  - Cisco Catalyst 8300 Edge series
- The same type and capacity DSP modules must be used in the Active and Standby CUBE devices (box-to-box)
- The DSP modules must be installed in the same slot and subslot in the Active and Standby CUBE devices (box-to-box)
- The Active and Standby CUBE devices must have the same DSPFARM configurations (box-to-box)

Features Supported with DSP High Availability

- Transcoding with Supplementary Services
- Voice Class Codec
- G.711 in-band -> RFC2833 (RTP-NTE) DTMF interworking variant
- SRTP-RTP Interworking (ISR-G2 only)
- Fax calls with transcoder invoked for codec mis-match

Restrictions for DSP High Availability

- Media flow-around calls are not supported.
- SDP passthrough calls are not supported.
- Audio Transrating is not supported.
- Call Progress Analysis is not supported.
- Dolby Noise Reduction (NR) and Acoustic Shock Protection (ASP) are not supported.
- All SCCP-based media resources (Conference bridge, Transcoding, HW MTP, and SW MTP) are not supported with Cisco Unified Border Element High Availability.

Tips to Troubleshoot

You can use the following debug commands to troubleshoot DSP HA:

- debug voip dsmp all
- debug voip dsm all
- debug ccsip message
- debug voip ipipgw
- debug voip ipipgw high-availability
- debug voip high-availability all
- debug media resource provisioning all
- debug dsp-resource-manager flex dspfarm
- debug dsp-resource-manager flex function
- debug dsp-resource-manager flex error

Configuration Examples for DSP HA

Active Configuration

```
----------------
voice-card 0
 dsp services dspfarm

dspfarm profile 2 transcode universal
 codec g711ulaw
 codec g711alaw
 codec g729ar8
 codec g729abr8
 maximum sessions 100
 associate application CUBE
```

Standby Configuration

```
-----------------
voice-card 0
 dsp services dspfarm

dspfarm profile 2 transcode universal
 codec g711ulaw
 codec g711alaw
 codec g729ar8
 codec g729abr8
 maximum sessions 100
 associate application CUBE
```

The following example shows the DSP HA output for the active and standby configurations:

```
On Active:

Mang-Active#show dspfarm dsp active
SLOT   DSP VERSION  STATUS CHNL USE   TYPE    RSC_ID BRIDGE_ID PKTS_TXED PKTS_RXED

0            13    39.0.0          UP         1      USED  xcode     1           16558
         3005     3007
0            13    39.0.0          UP         1      USED  xcode     1           16559
         3004     3005

Total number of DSPFARM DSP channel(s) 1

On Standby:

Mang-Standby#show dspfarm dsp active
SLOT   DSP VERSION  STATUS CHNL USE   TYPE    RSC_ID BRIDGE_ID PKTS_TXED PKTS_RXED

0           13    39.0.0         UP            1     USED   xcode      1         16558
         0        0
0           13    39.0.0         UP            1     USED   xcode      1         16559
         0        0

Total number of DSPFARM DSP channel(s) 1
```