



DSP-Based Functionality on the Cisco UBE Enterprise Including Transcoding and Transrating

The DSP-Based Functionality on the Cisco UBE (Enterprise) Including Transcoding and Transrating of dspfarm feature provides transcoding support for DSPs that are located on the same box as the Cisco ASR.

- [Finding Feature Information, page 1](#)
- [Prerequisites for DSP-Based Functionality on the Cisco UBE Enterprise Including Transcoding and Transrating, page 2](#)
- [Restrictions for DSP-Based Functionality on the Cisco UBE Enterprise Including Transcoding and Transrating, page 2](#)
- [Information About DSP-Based Functionality on Cisco UBE Enterprise Including Transcoding and Transrating, page 2](#)
- [How to Configure DSP-Based Functionality on Cisco UBE Enterprise Including Transcoding and Transrating, page 3](#)
- [Feature Information for DSP-based functionality on Cisco UBE Enterprise including Transcoding and Transrating, page 5](#)

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 at the end of this module.

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.

Prerequisites for DSP-Based Functionality on the Cisco UBE Enterprise Including Transcoding and Transrating

- To enable this feature, you must have Cisco IOS XE Release 3.2S or a later release installed and running on your Cisco ASR 1000 Series Router.

Restrictions for DSP-Based Functionality on the Cisco UBE Enterprise Including Transcoding and Transrating

- Out-of-box transcoding is not supported.
- Cisco Unified Communications Manager transcoding is not supported.
- Transcoding calls are not check-pointed, when failover happens, these calls will not be persevered. The expected behavior is for the SPA card to reset the DSPs and start the firmware download.

Information About DSP-Based Functionality on Cisco UBE Enterprise Including Transcoding and Transrating

To configure transcoding on the Cisco UBE it was required that architecture a Cisco Unified Communications Manager was required to setup the transcoding streams through SCCP protocol for both inbox and out-of-box transcoding. The result is a significant amount of overhead for the inbox transcoding case with SCCP messaging and additional 2 RTPSPI and VOIP RTP ports associated with the SCCP transcoding call leg. The DSP-based functionality feature avoids addition resource overhead for inbox transcoding by having DSMP streams setup via VOIP FPI by the SPI legs bypassing the requirement for SCCP client, SCCP server and RTPSPI streams for inbox transcoding. The transcoding conversion in the Cisco UBE (Enterprise) is completed in the Ucode library. The DSP farm profile guarantees the configured resources for the most complex codec that is configured.

DTMF interoperability for transcoding calls is supported for the following call flows:

- RFC2833 <—> OOB
- RFC2833 <—> RFC2833
- Inband Tone <—> RFC2833

**Note**

Inband <—> OOB is not supported currently by the CUBE (Enterprise).

How to Configure DSP-Based Functionality on Cisco UBE Enterprise Including Transcoding and Transrating

To configure DSP-Based Functionality on the Cisco UBE (Enterprise) Including Transcoding and Transrating perform the following steps:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **dspfarm profile**
 - Cisco Unified Border Element
 - Cisco Unified Border Element (Enterprise)
4. **codec** {*codec-type* | **pass-through**}
5. **maximum sessions** *number*
6. **associate application** {**cube** | **sbc** | **sccp**}
7. **no shutdown**
8. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	dspfarm profile <ul style="list-style-type: none"> • Cisco Unified Border Element • Cisco Unified Border Element (Enterprise) Example: dspfarm profile <i>profile-identifier</i> { conference mtp transcode [security] } Device(config)# dspfarm profile 1 transcode security	Enters the DSP farm profile configuration mode and defines a profile for digital signal processor (DSP) farm services. Note SRTP support on the Cisco Unified Border Element is provided via a transcoding profile. SRTP support on the Cisco Unified Border Element (Enterprise) is provided through library.

	Command or Action	Purpose
	<p>Example: dspfarm profile<i>profile-identifier</i> transcode Device# dspfarm profile 2 transcode</p>	
Step 4	<p>codec {<i>codec-type</i> pass-through}</p> <p>Example: Device (config-dspfarm-profile)# codec g711ulaw</p>	<p>Specifies the codecs supported by a DSP farm profile. Repeat this step for each codec supported by the profile.</p> <p>Note Hardware MCPO support only G.711 a-law and G.711 u-law. If you configure a profile as a hardware MTP, and you want to change the codec to other than G.711, you must first remove the hardware MTP by using the no maximum sessions hardware command.</p> <p>Note Only one codec is supported for each MTP profile. To support multiple codecs, you must define a separate MTP profile for each codec.</p>
Step 5	<p>maximum sessions <i>number</i></p> <p>Example: Device (config-dspfarm-profile)# maximum sessions 768</p>	<p>Specifies the maximum number of sessions that are supported by the profile.</p> <ul style="list-style-type: none"> <i>number</i> --Range is determined by the available registered DSP resources. Default is 0. <p>Note The hardware and software keywords apply only to MTP profiles.</p>
Step 6	<p>associate application {cube sbc sccp}</p> <p>Example: Device (config-dspfarm-profile)# associate application cube</p>	<p>Associates the application to the DSP profile.</p>
Step 7	<p>no shutdown</p> <p>Example: Device (config-dspfarm-profile)# no shutdown</p>	<p>Enables the profile, allocates DSP farm resources, and associates the application.</p>
Step 8	<p>exit</p> <p>Example: Device (config-dspfarm-profile)# exit</p>	<p>Exits DSP farm profile configuration mode.</p>

Verifying DSP Farm Configuration

To verify DSP-based functionality on Cisco UBE (Enterprise) including Transcoding and Transrating of dspfarm feature use the following commands:

- **show voice dsp group** — Displays the DSP resource allocation, the total number of credits, and number of credits and channels in use.
- **show dspfarm dsp** — Display the dsps allocated to the dspfarm.
- **show dspfarm dsp stats** — Displays statistics for each dsp session.

Feature Information for DSP-based functionality on Cisco UBE Enterprise including Transcoding and Transrating

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-based functionality on Cisco UBE including Transcoding and Transrating

Feature Name	Releases	Feature Information
DSP Based Functionality on the Cisco UBE (Enterprise) Including Transcoding and Transrating	Cisco IOS XE Release 3.2S	Provides transcoding support for DSPs that are located on the same box as the Cisco UBE (Enterprise). The following commands were modified: associate application , codec , and dspfarm profile .

