



## Context Attribute Descriptor Support

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A context attribute descriptor is an H.248 feature used on a context rather than a termination to specify properties (defined in packages) that apply to the context as a whole. If resources are available, the DBE processes all Megaco requests in the order of arrival, regardless of priority and emergency indicators. The context attribute descriptor feature is used when there are limited resources and a priority or emergency call can not be processed due to lack of available flows. In these circumstances, an existing call with lower priority is torn down, and a call with the context attribute of high priority takes precedence.

The priority and emergency indicators can also be used by the MPF stub to determine which calls get forwarding resources. The Add, Modify, Subtract and Audit behavior remains unchanged from the current call processing. Calls marked with the Emergency context attribute are given priority over the regular calls and calls with priority attribute set. Following the ITU-T E.106: "International Emergency Preference Scheme (IEPS) for disaster relief operations" standards, the presence of the IEPS token is not used to pre-empt other calls. The flags currently supported are PR (Priority), EG (Emergency), and EGO (Emergency Off). The current default is EGO.



### Note

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Currently the SBC does not support IEPS in Cisco CRS-1.

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### Feature History for Context Attribute Descriptor Support

| Release       | Modification   |
|---------------|--|
| Release 3.5.1 | This feature was introduced on the Cisco XR 12000 Series Router and Cisco CRS-1. |
| Release 3.6.0 | No modification.   |

## Contents

This module contains the following sections:

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## Restrictions for Context Attribute Descriptor Support

- When the IEPS feature is turned ON (the current default is OFF), IEPS supersedes the Priority context attribute. All calls with the IEPS property are considered to be of equal priority and there is no further prioritization.
- The IEPS property may not be used over an H.248.1 v2 or v1 associations. But calls with IEPS tokens are accepted and processed regardless of the version.
- Calls with emergency tokens are processed and accepted regardless of the H.248.1 version.
- If you use the Emergency flag (EG instead of EGO), a context with EG is always higher priority than a context with EGO, but among EG contexts, the same PR mapping applies.

## Information About Context Attribute Descriptor Support

The following are the attributes of a context:

- ContextID. When a context is created, it is assigned a unique ID number.
- The Topology Descriptor (who hears and sees whom). The topology of a context describes the flow of media between the terminations within a context. In contrast, the Mode Property of a termination ("SendOnly"/"RecvOnly") describes the flow of the media at the egress/ingress of the media gateway.
- The Priority. The priority is used for a context in order to provide the MG with information about a precedence handling for a context. The MGC can also use the priority to control autonomously the traffic precedence in the MG in a smooth way in certain situations (for example, restart), when multiple contexts must be handled simultaneously. 0 is the lowest priority and 15 is the highest. H.248 priority values map to the MG internal priority values in the following way:

| H.248 Priority Value | MG Internal Priority Value |
|----------------------|----------------------------|
| 0                    | 0                          |
| 1,2                  | 2                          |
| 3,4,5                | 5                          |
| 6,7,8                | 8                          |
| 9,10                 | 10                         |
| 11,12                | 12                         |
| 13,14,15             | 15                         |

Restrictions for Priority flags (PR):

- PR has the range of 0 to 15 where 0 is the lowest and 15 the highest priority
- PR=1 and PR=2 share the same level of priority
- PR=3, PR=4, and PR=5 share the same level of priority
- PR=6, PR=7, and PR=8 share the same level of priority
- PR=9 and PR=10 share the same level of priority
- PR=11 and PR=12 share the same level of priority

- PR=13, PR=14, and PR=15 share the same level of priority

Below is the table of Priority mapping. The "Call priority" is displayed in the output of the **media-flow-stats** command. PR Call Priority mapping:

- 0 Unspecified
- 1 Routine
- 2 Routine
- 3 Priority
- 4 Priority
- 5 Priority
- 6 Immediate
- 7 Immediate
- 8 Immediate
- 9 Flash
- 10 Flash
- 11 Flash\_Override
- 12 Flash\_Override
- 13 Critical
- 14 Critical
- 15 Critical

For example:

```
RP/0/RP0/CPU0:SBC-CRS-16(config-sbc-dbe)#do sh serv sbc crs16 dbe media-flow-s$
SBC Service "crs16"
```

```
Media Flow:
State of Media Flow:           Allocated
Call Established time:         Tue Aug 14 14:25:29.589 2007
Call Priority:                 Unspecified      <===== the PR=0
ContextID:                    1
StreamID:                    1
Class of service:             Voice
Side A:
  Name:                        cisco/voice/gn/0/1/0/1/ac/1
  No media timeout remaining:  0 s
  Reserved Bandwidth:         9450 (bytes/second)
  Status:                     In Service
  VRF Name:
  Local Address:              88.116.1.101
  Local Port:                 16384
  Remote Address:             200.200.200.136
  Remote Port:                17384
  RTP Packets Received:       0
  RTP Packets Sent:           0
  RTP Packets Discarded:      0
  RTP Data Received:          0 (bytes)
  RTP Data Sent:              0 (bytes)
  RTP Data Discarded:         0 (bytes)
  RTCP Packets Sent:          Not known
  RTCP Packets Received:      Not known
  RTCP Packets Lost:          Not known
  Gm Discarded Packets:       0
  DTMF Interworking:          No
```

```

Media Flowing: No
Affected by Routing Error: No
Unexpected SrcAddr Packets: No
Billing ID: 0x0000000000000000000000000000000000000000000000000000000000000000
Media directions allowed: sendrecv
Side B:
Name: cisco/voice/gn/0/1/0/1/bb/2
No media timeout remaining: 0 s
Reserved Bandwidth: 9450 (bytes/second)
Status: In Service
VRF Name:
Local Address: 88.116.1.101
Local Port: 16388
Remote Address: 200.200.200.136
Remote Port: 22384
RTP Packets Received: 0
RTP Packets Sent: 0
RTP Packets Discarded: 0
RTP Data Received: 0 (bytes)
RTP Data Sent: 0 (bytes)
RTP Data Discarded: 0 (bytes)
RTCP Packets Sent: Not known
RTCP Packets Received: Not known
RTCP Packets Lost: Not known
Gm Discarded Packets: 0
DTMF Interworking: No
Media Flowing: No
Affected by Routing Error: No
Unexpected SrcAddr Packets: No
Billing ID: 0x0000000000000000000000000000000000000000000000000000000000000000
Media directions allowed: sendrecv

```

- An indicator for an emergency call is also provided to allow a preference handling in the MG.
- An indicator for an IEPS call is provided to allow the features and techniques of E.106 to be achieved.

The Ia profile requires the support for the following attributes:

- Emergency Indicator
- Priority Indicator

The SBC now also supports the Emergency and IEPS Indicator for both Ia and Cisco profiles. The Priority Indicator has been already supported in the SBC. IEPS feature is turned OFF by default. The DBE accepts the IEPS indicator. The DBE's default behavior is to ignore this indicator.

## Additional References

The following sections provide references related to context attribute descriptor support.

## Related Documents

| Related Topic                         | Document Title                    |
|---------------------------------------|-----------------------------------|
| Cisco IOS XR master command reference | Cisco IOS XR Master Commands List |

| Related Topic  | Document Title  |
|--|---|
| Cisco IOS XR SBC interface configuration commands  | <i>Cisco IOS XR Session Border Controller Command Reference</i> |
| Initial system bootup and configuration information for a router using the Cisco IOS XR Software | <i>Cisco IOS XR Getting Started Guide</i>                       |
| Cisco IOS XR command modes   | <i>Cisco IOS XR Command Mode Reference</i>                      |

## Standards

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

## MIBs

| MIBs | MIBs Link  |
|------|--|
| —    | To locate and download MIBs using Cisco IOS XR software, use the Cisco MIB Locator found at the following URL and choose a platform under the Cisco Access Products menu:<br><a href="http://cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml">http://cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml</a> |

## 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> |

