Table 160 – GetAudioEncoderConfiguration command

GetAudioEncoderConfiguration	Request-Response
Message name	Description
GetAudioEncoderConfiguration-Request	*This message contains the token of the requested audio encoder configuration.* tt:ReferenceToken ConfigurationToken [1][1]
GetAudioEncoderConfiguration-Response	*This message contains the requested AudioEncoderConfiguration with the matching token.* tt:AudioEncoderConfiguration Configuration [1][1]
Fault codes	Description
env:Sender ter:InvalidArgVal ter:NoConfig	*The configuration does not exist.*
env:Receiver ter:ActionNotSupported ter:AudioNotSupported	*NVT does not support audio.*

11.8.3 Get compatible audio encoder configurations

This operation requests all audio encoder configurations of the NVT that are compatible with a certain media profile. Each of the returned configurations shall be a valid input parameter for the AddAudioEncoderConfiguration command on the media profile. The result varies depending on the capabilities, configurations and settings in the device. An NVT that supports audio streaming from NVT to client shall support listing of compatible (with a specific profile) audio encoder configurations through the GetCompatibleAudioEncoderConfigurations command (see Table 161).

Table 161 – GetCompatibleAudioEncoderConfigurations command

GetCompatibleAudioEncoderConfigurations	Request-Response
Message name	Description
GetCompatibleAudioEncoder-ConfigurationsRequest	*Contains the token of an existing media profile.* tt:ReferenceToken ProfileToken [1][1]
GetCompatibleAudioEncoder-ConfigurationsResponse	*Contains a list of audio encoder configurations that are compatible with the given media profile.* tt:AudioEncoderConfiguration Configurations [0][unbounded]
Fault codes	Description
env:Sender ter:InvalidArgVal ter:NoProfile	*The requested profile token ProfileToken does not exist.*
env:Receiver ter:ActionNotSupported ter:AudioNotSupported	*NVT does not support audio.*

11.8.4 Get audio encoder configuration options

This operation returns the available options when the audio encoder parameters are reconfigured. An NVT that supports audio streaming from NVT to client shall support the listing of available audio encoder parameter options (for a given profile and configuration) through the GetAudioEncoderConfigurationOptions command (see Table 162).

Table 162 – GetAudioEncoderConfigurationOptions command

GetAudioEncoderConfigurationOptions	Request-Response
Message name	Description
GetAudioEncoderConfiguration-OptionsRequest	This message contains optional tokens of an audio encoder configuration and a media profile. ConfigurationToken specifies an existing configuration that the options are intended for. *ProfileToken specifies an existing media profile that the options shall be compatible with.* tt:ReferenceToken ConfigurationToken [0][1] tt:ReferenceToken ProfileToken [0][1]
GetAudioEncoderConfiguration-OptionsResponse	*This message contains the audio configuration options. If a audio encoder configuration is specified, the options shall concern that particular configuration. If a media profile is specified, the options shall be compatible with that media profile. If no tokens are specified, the options shall be considered generic for the device.* tt:AudioEncoderConfigurationOptions Options [1][1]
Fault codes	Description
env:Sender ter:InvalidArgVal ter:NoProfile	*The requested profile token does not exist.*
env:Sender ter:InvalidArgVal ter:NoConfig	*The requested configuration does not exist.*
env:Receiver ter:ActionNotSupported ter:AudioNotSupported	*NVT does not support audio.*

11.8.5 Modify audio encoder configurations

This operation modifies an audio encoder configuration. The ForcePersistence flag indicates if the changes shall remain after reboot of the NVT. Changes in the Multicast settings shall always be persistent. Running streams using this configuration may be immediately updated according to the new settings. The changes are not guaranteed to take effect unless the client requests a new stream URI and restarts any affected streams. NVC methods for changing a running stream are out of scope for this standard. An NVT that supports audio streaming from NVT to client shall support the configuration of audio encoder parameters through the SetAudioEncoderConfiguration command (see Table 163).

Table 163 – SetAudioEncoderConfiguration command

SetAudioEncoderConfiguration	Request-Response
Message name	Description
SetAudioEncoderConfiguration-Request	*The Configuration element contains the modified audio encoder configuration. The configuration shall exist in the NVT.* *The ForcePersistence element determines if the configuration changes shall be stored and remain after reboot. If true, changes shall be persistent. If false, changes MAY revert to previous values after reboot.* tt:AudioEncoderConfiguration Configuration [1][1] xs:boolean ForcePersistence [1][1]
SetAudioEncoderConfiguration-Response	*This message is empty.*
Fault codes	Description
env:Sender ter:InvalidArgVal ter:NoConfig	*The configuration does not exist.*
env:Sender ter:InvalidArgVal ter:ConfigModify	*The configuration parameters are not possible to set.*
env:Receiver ter:Action ter:ConfigurationConflict	*The new settings conflicts with other uses of the configuration.*
env:Receiver ter:ActionNotSupported ter:AudioNotSupported	*NVT does not support audio.*

11.9 Video analytics configuration

VideoAnalyticsConfiguration contains parameters for an *analytics engine* and a *rule engine* (see 4.12). Thereby, the analytics engine consists of multiple modules which can be managed by the analytics module part of the analytics service. Similarly, the rule engine consists of

multiple rules which can be managed by the rule engine part of the analytics service. The subsequent commands are introduced to handle complete video analytics configuration in an atomic way. For instance, the ModifyVideoAnalyticsConfiguration command changes analytics and rule engine configuration in an atomic operation. When a video analytics configuration is present in a profile, the metadata configuration can activate the streaming of the scene description within the RTP streams (see 11.10).

A device MAY NOT allow referencing the very same VideoAnalyticsConfiguration from multiple media profiles with different VideoSourceConfigurations. If the device allows it, it shall generate individual scene descriptions for each profile, since the coordinate system of a scene description relates to a specific VideoSourceConfiguration. Also masking and geometrical rules relate to the coordinate system of the VideoSourceConfiguration. This MAY require separate processing of the whole video analytics for each VideoSourceConfiguration, even if they refer to the very same VideoSource.

Since the options of a VideoAnalyticsConfiguration are dynamic and often vendor specific, they can only be retrieved via the video analytics service.

11.9.1 Get video analytics configurations

This operation lists all video analytics configurations of a device. This command lists *all* configured video analytics in a device. The client need not know anything apriori about the video analytics in order to use the command. A device that supports video analytics shall support the listing of available video analytics configuration through the GetVideoAnalyticsConfigurations command (see Table 164).

Table 164 – GetVideoAnalyticsConfigurations command

GetVideoAnalyticsConfigurations		Request-Response
Message name	Description	
GetVideoAnalyticsConfigurations-Request	*This message is empty.*	
GetVideoAnalyticsConfigurations-Response	*This message contains a list of* all *existing video analytics configurations in the device.* tt:VideoAnalyticsConfiguration Configurations [0][unbounded]	
Fault codes	Description	
env:Sender ter:ActionNotSupported ter:VideoAnalyticsNot-Supported	*Device does not support video analytics.*	

11.9.2 Get video analytics configuration

The GetVideoAnalyticsConfiguration command fetches the video analytics configuration if the video analytics token is known. A device that supports video analytics shall support the listing of a specific video analytics configuration through the GetVideoAnalyticsConfiguration command (see Table 165).

Table 165 – GetVideoAnalyticsConfiguration command

GetVideoAnalyticsConfiguration	Request-Response
Message name	Description
GetVideoAnalyticsConfiguration-Request	*This message contains the token of an existing video analytics configuration.* tt:ReferenceToken ConfigurationToken [1][1]
GetVideoAnalyticsConfiguration-Response	*This message contains the requested video analytics configuration.* tt:VideoAnalyticsConfiguration Configuration [1][1]
Fault codes	Description
env:Sender ter:InvalidArgVal ter:NoConfig	*The requested configuration indicated with ConfigurationToken does not exist.*
env:Sender ter:ActionNotSupported ter:VideoAnalyticsNot-Supported	*The device does not support video analytics.*

11.9.3 Get compatible video analytics configurations

This operation requests all video analytic configurations of the device that are compatible with a certain media profile. Each of the returned configurations shall be a valid input parameter for the AddVideoAnalyticsConfiguration command on the media profile. The result varies depending on the capabilities, configurations and settings in the device. A device that supports video analytics shall support the listing of compatible (with a specific profile) video analytics configuration through the GetCompatibleVideoAnalyticsConfigurations command (see Table 166).

Table 166 – GetCompatibleVideoAnalyticsConfigurations command

GetCompatibleVideoAnalyticsConfigurations	Request-Response
Message name	Description
GetCompatibleVideoAnalytics-ConfigurationsRequest	*Contains the token of an existing media profile.* tt:ReferenceToken ProfileToken [1][1]
GetCompatibleVideoAnalytics-ConfigurationsResponse	*Contains a list of video analytics configurations that are compatible with the given media profile.* tt:VideoAnalyticsConfiguration Configurations [0][unbounded]
Fault codes	Description
env:Sender ter:InvalidArgVal ter:NoProfile	*The requested profile token ProfileToken does not exist.*
env:Sender ter:ActionNotSupported ter:VideoAnalyticsNot-Supported	*The device does not support video analytics.*

11.9.4 Modify a video analytics configuration

A video analytics configuration is modified using this command. The ForcePersistence flag indicates if the changes shall remain after reboot of the device or not. Running streams using this configuration shall be immediately updated according to the new settings. Otherwise inconsistencies can occur between the scene description processed by the rule engine and the notifications produced by analytics engine and rule engine which reference the very same video analytics configuration token. A device that supports video analytics shall support the configuration of video analytics parameters through the SetVideoAnalyticsConfiguration command (see Table 167).

Table 167 – SetVideoAnalyticsConfiguration command

SetVideoAnalyticsConfiguration	Request-Response
Message name	**Description**
SetVideoAnalyticsConfiguration-Request	*The Configuration element contains the modified video analytics configuration. The configuration shall exist in the device.* *The ForcePersistence element determines if the configuration changes shall be stored and remain after reboot. If true, changes shall be persistent. If false, changes MAY revert to previous values after reboot.* tt:VideoAnalyticsConfiguration Configuration [1][1] xs:boolean ForcePersistence [1][1]
SetVideoAnalyticsConfiguration-Response	*This message is empty.*
Fault codes	**Description**
env:Sender ter:InvalidArgs ter:NoConfig	*The configuration does not exist.*
env:Sender ter:InvalidArgVal ter:ConfigModify	*The configuration parameters are not possible to set.*
env:Receiver ter:Action ter:ConfigurationConflict	*The new settings conflicts with other uses of the configuration.*
env:Sender ter:ActionNotSupported ter:VideoAnalyticsNot-Supported	*The device does not support video analytics.*

11.10 Metadata configuration

A MetadataConfiguration contains parameters for selecting the data to include in the metadata stream. The choices include PTZ status, PTZ position, events as defined by a subscription and analytics data. The event subscription data is described in 15.5. The analytics parameters define which data to include from the analytics engine part of the profile, see 0.

The structure also contains multicast parameters used to configure and control multicast of the metadata stream. A session timeout parameter defines the session timeout (see 0)

If a MetadataConfiguration is used inside a profile its UseCount parameter is increased to indicate that changing this configuration could affect other users.

11.10.1 Get metadata configurations

This operation lists all *existing* metadata configurations. The client need not know anything apriori about the metadata in order to use the command. A NVT or another device that supports metadata streaming shall support the listing of existing metadata configurations through the GetMetadataConfigurations command (see Table 168).

Table 168 – GetMetadataConfigurations command

GetMetadataConfigurations	Request-Response
Message name	Description
GetMetadataConfigurations-Request	*This message is empty.*
GetMetadataConfigurations-Response	*This message contains a list of* all *existing metadata configurations in the device.* tt:MetadataConfiguration Configurations [0][unbounded]
Fault codes	Description
	No command specific faults!

11.10.2 Get metadata configuration

The GetMetadataConfiguration command fetches the metadata configuration if the metadata token is known. A NVT or another device that supports metadata streaming shall support the listing of a specific metadata configuration through the GetMetadataConfiguration command (see Table 169).

Table 169 – GetMetadataConfiguration command

GetMetadataConfiguration	Request-Response
Message name	Description
GetMetadataConfiguration-Request	*This message contains the token of an existing metadata configuration.* tt:ReferenceToken ConfigurationToken [1][1]
GetMetadataConfiguration-Response	*This message contains the requested metadata configuration.* tt:MetadataConfiguration Configuration [1][1]
Fault codes	Description
env:Sender ter:InvalidArgVal ter:NoConfig	*The requested configuration indicated with ConfigurationToken does not exist.*

11.10.3 Get compatible metadata configurations

This operation requests all the metadata configurations of the device that are compatible with a certain media profile. Each of the returned configurations shall be a valid input parameter for the AddMetadataConfiguration command on the media profile. The result varies depending on the capabilities, configurations and settings in the device. A NVT or other device that supports metadata streaming shall support the listing of compatible (with a specific profile) metadata configuration through the GetCompatibleMetadataConfigurations command (see Table 170).