

# MRF H.248 Link Unavailable

## Virtual Multimedia Resource Function

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### Operating Instructions

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MRF H.248 Link Unavailable



# 1 Overview

This instruction concerns alarm handling.

## 1.1 MRF H.248 Link Unavailable Alarm Description

The alarm is a primary alarm. The alarm is issued either by the *MrfH248Interface* Managed Object (MO) or the *SctpEndpoint* MO. The severity of the alarm is Major.

An alarm is issued when the H.248 control link signaling between MTAS and vMRF has failed to function.

In case an already established SCTP transport link loss is detected, a 30-second timer is started. If the link recovers before the timer expires, the MRF H.248 Link Recovered after Temporary Outage event is reported, and the timer is cancelled. If the link does not recover before the timer ends, the alarm is raised.

If the fault is at the local endpoint and no SCTP connection can be opened towards MTAS, the alarm is issued by the *SctpEndpoint*. If the SCTP connection is established and the fault is in the network or in MTAS, the alarm is issued by the *MrfH248Interface* MO. Traffic is impacted on each VM that is connected to the faulty MTAS.

The possible alarm causes and fault locations are explained in the table below.

Table 1 Alarm Causes

Alarm Cause	Description	Fault Reason <sup>(1)</sup>	Fault Location	Impact
SCTP association is down	SCTP transport layer cannot transfer the H.248 messages	Faulty SCTP configuration	vMRF	No new sessions can be set up on the affected link(s) while the alarm is active. Ongoing calls are not impacted.
		SCTP transport unavailable	Network MTAS	
No ServiceChange response is received from MTAS	H.248 layer connectivity failure between MTAS and vMRF	Timeout for ServiceChange transaction reply	MTAS	No new sessions can be set up on the affected link(s) while the alarm is active. Ongoing calls are not impacted.



Alarm Cause	Description	Fault Reason <sup>(1)</sup>	Fault Location	Impact
Protocol negotiation failed	There is a functional incompatibility between MTAS and vMRF	H.248 profile mismatch, or H.248 version mismatch, or H.248 error code received from MTAS	MTAS vMRF	No new sessions can be set up on the affected link(s) while the alarm is active. Ongoing calls are not impacted.

(1) Fault reason is described in the additional info field of the alarm and it is used when analyzing the alarm.

**Note:** The H.248 protocol negotiation failure can occur as a result of the maintenance activity.

If the alarm is not solved, all H.248 communication between MTAS and vMRF stays down. The alarm is ceased automatically if it was raised due to timeout while waiting for ServiceChange reply and ServiceChange reply is received from MTAS, or if the *MrfH248Interface* MO is locked during the procedure, in which case all traffic towards the MTAS will stop.

The alarm attributes are listed and explained in [Table 2](#).

Table 2 Alarm Attributes

Attribute Name	Attribute Value
Major Type	193
Minor Type	5308419
Managed Object Class	<i>MrfH248Interface</i> <i>SctpEndpoint</i>
Managed Object Instance	ManagedElement=1,MediaResourceFunction=1,MrfH248Control=1,MrfH248Interface=<MrfH248InterfaceId>  ManagedElement=1,Transport=1,SctpEndpoint=<SctpEndpointId>
Specific Problem	MRF H.248 Link Unavailable
Event Type	communicationsAlarms (2)
Probable Cause	CommunicationsProtocolError (305)
Additional Text	<reason> <sup>(1)</sup> ; uuid:<uuid> <sup>(2)</sup>
Perceived Severity	major (4)

(1) <reason> is one of the fault reasons from [Table 1](#).



*(2) If the alarm is issued by the SctpEndpoint MO, <uuid> is the identity of the Virtual Machine from which the alarm is issued.*



## 2 Procedure

The following procedure describes how to cease a MRF H.248 Link Unavailable alarm.

### 2.1 Analyzing the Alarm

#### Steps

1. See details for the alarm MRF H.248 Link Unavailable. Check the additional info field of the alarm.
  - If the additional info includes `Faulty SCTP configuration` or `SCTP transport unavailable`, continue to [Clear an Alarm when SCTP Association Is Down](#) on page 4.
  - If the additional info includes `Timeout for ServiceChange transaction reply`, continue to [Clear an Alarm when No ServiceChange Response Is Received from MTAS](#) on page 6.
  - If the additional info includes `H.248 version mismatch`, `H.248 profile mismatch`, or `Error code received from MTAS` continue to [Clear an Alarm when Protocol Negotiation Failed](#) on page 6.

### 2.2 Clear an Alarm when SCTP Association Is Down

#### Steps

1. Identify the issuing MO of the alarm.
2. Based on the issuing MO, continue with one of the following sections:
  - `SctpEndpoint`: [Local Endpoint Configuration Fault](#) on page 4
  - `MrfH248Interface`: [Remote Endpoint Configuration Fault](#) on page 5

#### 2.2.1 Local Endpoint Configuration Fault



## Steps

1. Check the `localIpAddress` attribute of the *SctpEndpoint* MO. If the attribute has no IP address, check the DHCP server to see if it allocates a proper IP address.
  2. Check the `signalingLocalPort` attribute of the *MrfH248Control* MO. The value specifies the local SCTP port used towards MTAS for every *SctpEndpoint* MO.
  3. Reconfigure the `signalingLocalPort` attribute of the *MrfH248Control* MO if needed. To do this, lock all the associated *MrfH248Interface* MOs before the procedure, by setting the value of the attribute, `administrativeState` to `locked`. Unlock them after the reconfiguration, by setting the value of the attribute, `administrativeState` to `unlocked`.
    - If the alarm has ceased, continue to [Perform Concluding Routines](#) on page 6.
    - If the alarm is still active, continue with the next step.
- Note:** By locking the *MrfH248Interface* MO, the alarm will be automatically ceased and all traffic towards the MTAS will stop.
4. If the alarm remains, consult the next level of maintenance support. Further actions are outside the scope of this instruction. Continue to [Perform Concluding Routines](#) on page 6.

## 2.2.2

### Remote Endpoint Configuration Fault

## Steps

1. Check the `remotePortNumber` and `remoteIpAddress` attributes of the *MrfH248Interface* MO. These are restricted values and cannot be reconfigured without deleting and recreating the MO.
  2. Ensure that the IP address and port defined in the vMRF VNF match with IP address and port defined in the MTAS. If the alarm has ceased, continue to [Perform Concluding Routines](#) on page 6.
  3. To reconfigure the attributes mentioned in [Step 1](#), the *MrfH248Interface* MO must be locked, deleted, and created again. If the alarm has ceased, continue to [Perform Concluding Routines](#) on page 6.
- Note:** By locking the *MrfH248Interface* MO, the alarm will be automatically ceased and all traffic towards MTAS will stop.
4. If the alarm is issued again, consult the next level of maintenance support. Further actions are outside the scope of this instruction. Continue to [Perform Concluding Routines](#) on page 6.



## 2.3 Clear an Alarm when No ServiceChange Response Is Received from MTAS

### Steps

1. Ensure that the IP address and port defined in the vMRF VNF match with IP address and port defined in MTAS. If the alarm has ceased, continue to [Perform Concluding Routines](#) on page 6.
2. If the alarm remains, consult the next level of maintenance support. Further actions are outside the scope of this instruction. Continue to [Perform Concluding Routines](#) on page 6.

## 2.4 Clear an Alarm when Protocol Negotiation Failed

### Steps

1. If the additional info indicated a H.248 profile or version mismatch, confirm that the MTAS has the correct H.248 version.
2. If the additional info described a H.248 error code received from MTAS, contact the MTAS operators with the error code.
3. After all possible procedures on MTAS side are done, view the currently active alarms in the alarm list.
4. If the alarm is still active, lock the *MrfH248Interface* MO that issued the alarm. To do this, select the MO and set the value of the attribute, `administrativeState` to `locked`.
5. Unlock the *MrfH248Interface* MO. To do this, select the MO and set the value of the attribute, `administrativeState` to `unlocked`. Continue to [Perform Concluding Routines](#) on page 6.  
  
**Note:** By locking the *MrfH248Interface* MO, the alarm will be automatically ceased and all traffic towards MTAS will stop.
6. If the alarm is raised again, consult the next level of maintenance support. Further actions are outside the scope of this instruction. Continue to [Perform Concluding Routines](#) on page 6.

## 2.5 Perform Concluding Routines

### Steps

1. Make a report.



2. The job is completed.