

### Specification of probableCause strings

The following probableCause strings (in capital letters) are pre-defined:

probableCause	Description
"UNIDENTIFIED"	For alarms that do not match any other string below. EMS shall in this case fill out the additional text field as much as possible.
"ACT"	link activation fault
"AIS"	alarm indication signal
"AMS"	Alternate modulation signal
"ATPC_FAIL"	This indication should report the internal failures of the Automatic Transmitted Power Control function.
"AU-AIS"	AU alarm indication signal
"BER_SD"	signal degrade (includes receiver degrade)
"BER_SF"	signal fail (includes receiver failure and excessive BER)
"BLOCKED_FE"	When the FE reports that it is blocked. Note: Used in IMA Group FTP on LR_Fragment's adaptation function.
"BPM"	DVB Bandwidth Provision Mismatch
"CFG_ABORT"	When the FE tries to use unacceptable configuration parameters. Note: Used in IMA Group FTP on LR_Fragment's adaptation function.
"CFG_ABORT_FE"	When the FE reports unacceptable configuration parameters. Note: Used in IMA Group FTP on LR_Fragment's adaptation function.
"CSF"	Client Signal Fail
"DCC_FAILURE"	Data Communication Channel Failure
"DEMODULATION_FAIL"	This indication shall report the internal failures of the demodulation function affecting the demodulated signal.
"EMS"	EMS system alarm
"EMS_ALM_LOSS"	The 1st notification that the EMS may supply after 1 or more notifications for protection switch, TCA, alarm, or file transfer status have been discarded by the EMS while other events have not been discarded.
"EMS_LIFECYCLE_LOSS"	The 1st notification that an EMS may supply after 1 or more events of type OC/OD/AVC/SC/RC have been discarded by the EMS.
"EMS_ALM_AND_LIFECYCLE_LOSS"	The 1st notification that an EMS may supply after 1 or more notifications for protection switch, TCA, alarm, or file transfer status, and 1 or more events of type OC/OD/AVC/SC/RC have been discarded by the EMS.
"EQPT"	equipment alarm
"ENV"	Environmental/external cause This value can be used for telemetry interfaces, in cases where an EMS controls some devices which are able to monitor raw electrical contacts, e.g. properties of door contacts, fire detectors, batteries etc. Although these devices are not transmission related they report their states via particular (so called telemetry) interfaces of MEs to the EMS.

probableCause	Description
	To provide maximum information, a particular telemetry interface alarm may (optionally) be represented by an NT_ALARM notification with <u>objectName</u> = (("EMS", <EMSName>), ("ME", <MENName>), ("AID", <TIFName>)) <u>probableCause</u> = "ENV" <u>probableCauseQualifier</u> = <DeviceAlarm> where <MENName> is the ME with the telemetry interface, <TIFName> is the telemetry interface within that ME and <DeviceAlarm> is the ID of a single alarm which that interface may report.
"FF"	fragmentation fail
"FOP_APS"	failure of APS protocol
"INSUFF_LINKS"	When less than PTx transmit or PRx receive links are Active (see "MinNumTxLinks" and "MinNumRxLinks"). Note: Used in IMA Group FTP on LR_Fragment's adaptation function.
"INSUFF_LINKS_FE"	When the FE reports that less than PTx transmit or less than PRx receive links are Active. Note: Used in IMA Group FTP on LR_Fragment's adaptation function.
"LCD"	loss of cell delineation (from TC Adapter part of ATM NI)
"LCD-I"	loss of cell delineation interleaved
"LCD-F"	loss of cell delineation fast
"LCS"	DVB Loss of Codeword Synchronization
"LIF"	Persistence of a LIF (Loss of IMA Frame) defect at the NE. Note: Used in IMA Link CTP on physical layer (e.g., E1, DS1, VC-12, SHDSL).
"LOA"	loss of alignment
"LOC"	loss of carrier
"LODS"	Persistence of a LODS (Link Out of Delay Synchronization) defect at the NE. Note: Used in IMA Link CTP on physical layer (e.g., E1, DS1, VC-12, SHDSL).
"LOF"	loss of frame (when distinguished from LOS)
"LOL"	loss of link
"LOM"	loss of multiframe (SDH only, since not an alarm in GR-253)
"LOP"	loss of pointer
"LOPC"	loss of partial capacity
"LOS"	loss of signal
"LOSW"	loss of sync word
"LOTC"	loss of total capacity
"LPR"	loss of power
"LSQ"	loss of signal quality
"MODULATION_FAIL"	This indication shall report the internal failures of the modulation function affecting the modulated signal, and the loss of incoming

probableCause	Description
	data to the modulation function.
"MS-AIS"	MS alarm indication signal
"NCD-I"	no cell delineation interleaved
"NCD-F"	no cell delineation fast
"OSC-AIS"	Optical Supervisory Channel alarm indication signal
"OSC_BER_SF"	Optical Supervisory Channel signal fail/RX fail/excessive BER
"OSC_FERF"	Optical Supervisory Channel Far End Receive Failure
"OSC_LOF"	Optical Supervisory Channel Loss of Frame
"OSC_LOS"	Optical Supervisory Channel Loss of Signal
"OSC_SD"	Optical Supervisory Channel signal degrade
"PLM"	payload label mismatch (when reported as an alarm)
"RAI"	remote alarm indication (also used to report sometimes reported as RDI or RFI) RDI (Remote Defect Indication) used in IMA Link CTP on physical layer (e.g., E1, DS1, VC-12, SHDSL). RFI-IMA (Remote Failure Indication via IMA reported inside ICP cells) used in IMA Link CTP on LR_Fragment's termination function.
<del>"RDI"</del>	
<del>"RFI"</del>	
"RX_FAIL"	This indication should report the internal failures of the RX-function affecting the received signal.
"RX_MIS_CONNECT" (conditional)	When the Rx link is detected as mis-connected. This is reported when the IMA unit has determined that the Rx link is not connected to the same FE IMA unit as the other Rx links in the group. The detection is implementation-specific. Note: Used in IMA Link CTP on LR_Fragment's termination function.
"RX_UNUSABLE_FE"	When the FE reports Rx-Unusable. Note: Used in IMA Link CTP on LR_Fragment's termination function.
"SECURITY_VIOLATION"	security violation
"SQL"	loss of sequence
"SSF"	server signal fail
"STARTUP_FE"	When the FE is starting-up (the declaration of this failure alarm may be delayed to ensure the FE remains in Start-up). Note: Used in IMA Group FTP on LR_Fragment's adaptation function.
"TCF"	transport connection (e.g. subnetworkConnection or topologicalLink) failure of unknown origin
"TCFE"	external transport connection (e.g. subnetworkConnection or topologicalLink) failure
"TCFI"	internal transport connection (e.g. subnetworkConnection or topologicalLink) failure
"TCM-AIS"	Tandem Connection Sink - Incoming Alarm Indication Signal
"TCM-LOS"	Tandem Connection Sink - Loss of Tandem Connection Signal

probableCause	Description
"TCM-OAI"	Tandem Connection Sink - Outgoing Defect Indication ( same / similar to Alarm Indication)
"TCM-RAI"	Tandem Connection Sink - Remote Defect Indication ( same / similar to Alarm Indication)
"TCM-SD"	Tandem Connection Sink - Signal Degrade
"TCM-SSF"	Tandem Connection Sink - Server Signal Fail
"TCM-TIM"	Tandem Connection Sink - Trace Identifier Mismatch
"TCM-UNEQ"	Tandem Connection Sink - Unequipped
"TCM_LEVEL<n>_LCK"	Tandem Connection Level <n> - Locked
"TCM_LEVEL<n>_LOS"	Tandem Connection Level <n> - Loss of Tandem Connection
"TCM_LEVEL<n>_OCI"	Tandem Connection Level <n> - Open Connection Indication
"TCM_LEVEL<n>_RAI"	Tandem Connection Level <n> - Backward Defect Indication (Remote Alarm Indication)
"TCM_LEVEL<n>_SD"	Tandem Connection Level <n> - Signal Degrade
"TCM_LEVEL<n>_SSF"	Tandem Connection Level <n> - Server Signal Fail
"TCM_LEVEL<n>_TIM"	Tandem Connection Level <n> - Trace Identifier Mismatch
"TIM"	trace identifier mismatch (when reported as an alarm)
"TIMING_SYNCH"	When the FE transmit clock mode is different than the NE transmit clock mode. Note: Used in IMA Group FTP on LR_Fragment's adaptation function.
"TSD"	trail signal degrade
"TSF"	trail signal fail
"TU-AIS"	TU alarm indication signal
"TX_DEGRADE"	transmitter degrade, including laser degrade
"TX_FAIL"	transmitter failure, including laser failure
"TX_MIS_CONNECT" (conditional)	When the Tx link is detected as mis-connected. This is reported when the IMA unit has determined that the Tx link is not connected to the same FE IMA unit as the other Tx links in the group. The detection is implementation-specific. Note: Used in IMA Link CTP on LR_Fragment's termination function.
"TX_UNUSABLE_FE"	When the FE reports Tx-Unusable. Note: Used in IMA Link CTP on LR_Fragment's termination function.
"UAT"	Unavailable Time
"UNEQ"	payload unequipped
"VC-AIS"	VCL/VCC TP Alarm Indication Signal
"VC-RDI"	VCL/VCC TP Remote Defect Indication
"VP-AIS"	VPL/VPC TP Alarm Indication Signal
"VP-RDI"	VPL/VPC TP Remote Defect Indication
"XPIC_FAIL"	This indication should report the internal failures of the Cross Polar Interference Canceller function.

&lt;n&gt; = 1 | 2 | 3 | 4 | 5 | 6

Any extension to the list defined here will be agreed upon through a formal process.

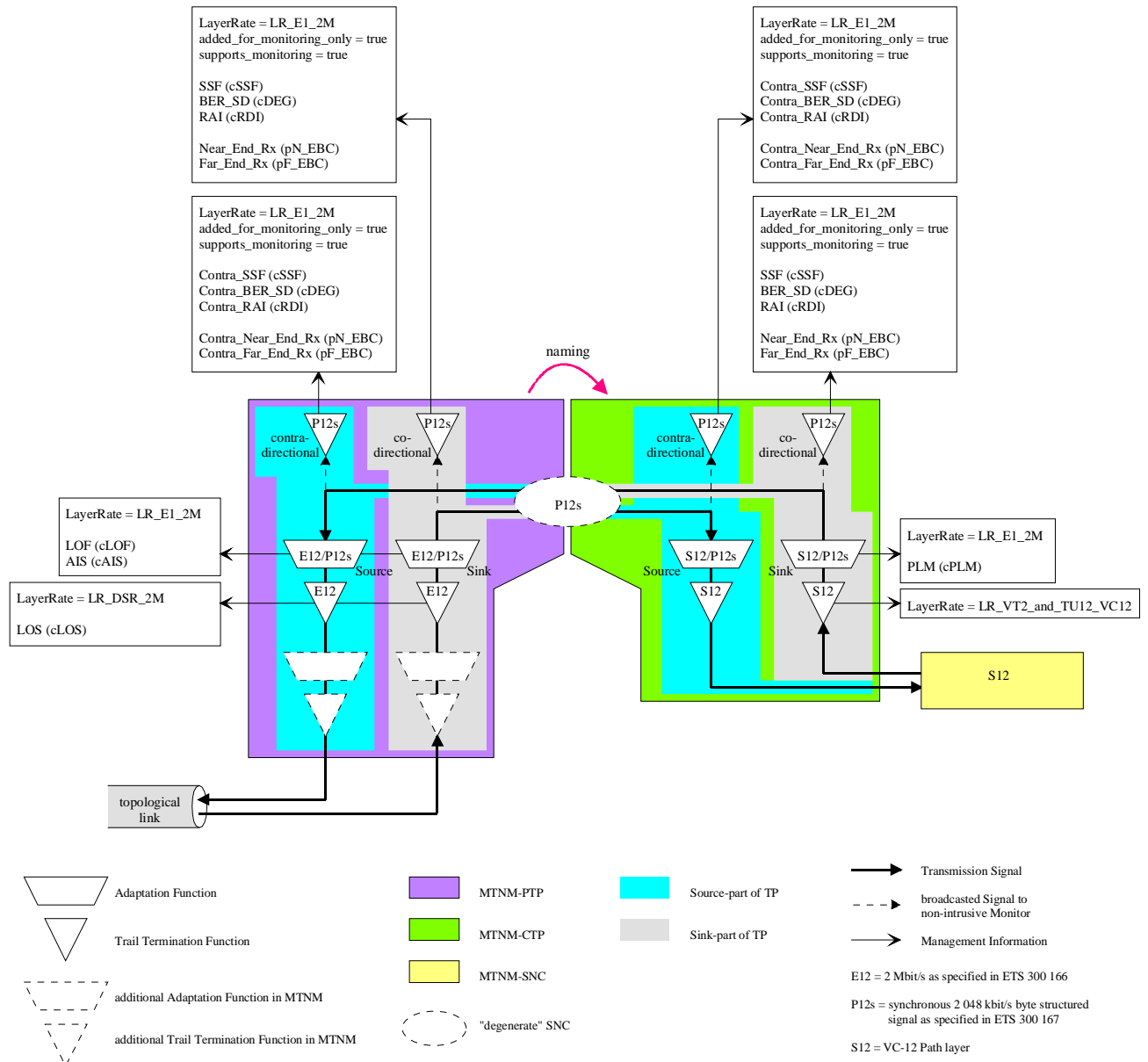
ProbableCauses added for Version 3.0 are in blue.

**Note:**

All probable causes defined in the table above identify alarms detected on the signal which is related to the **sink** atomic function. For alarms detected on the signal which is related to the **source** atomic function, the prefix "Contra\_" has to be used in the Name of the probable cause.

e.g. SSF → **Contra\_SSF** or TCM\_AIS → **Contra\_TCM\_AIS**

See following diagram depicting a 2 Mbit/s port as an example:



In addition it is also possible, that **one** Termination Point is physically located in **two** distinct located network elements (refer to DSL modelling as an example). This TP may detect the same probable cause in the local and in the remote network element.

In order to differentiate these two probable causes, an additional prefix "RU\_" (RU for Remote Unit) has to be used in the Name of the probable cause.

e.g. SSF → **RU\_SSF** or Contra\_TCM\_AIS → **RU\_Contra\_TCM\_AIS**