

TR-352

Multi-wavelength PON Inter-Channel-Termination Protocol (ICTP) Specification

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Issue History

| Issue Number | Approval Date | Release Date | Issue Editor | Changes |
|-----------------------|-------------------|-------------------|-------------------------------|---|
| 1 | 13 March 2017 | 10 May 2017 | Marta Seda Denis Khotimsky | Original |
| 2 | 22 September 2020 | 22 September 2020 | Marta Seda Denis Khotimsky | Corrections and new functionality as described in the Executive Summary |
| 2 Corrigendum 1 | 14 October 2021 | 14 October 2021 | Marta Seda Denis Khotimsky | Corrections to Table E-1, E-8 |

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Table E-1 / Table 1-1– NGPON2 Broadband Forum Informational Elements

| Templates | ElementID | Name | Data Type | Description |
|---------------------------------|------------------|-------------------|------------------|--|
| Common IE to all IPFIX Services | 1 | ng2sys-ID | Unsigned-32 | G.989.3 NG2Sys ID (20 bits) |
| Common IE to all IPFIX Services | 2 | src-ct-id | Unsigned-32 | The identifier of the individual CT issuing the ICTP message, represented by the TC layer PON-ID of the sender CT. For PON-ID definition, see Clause 6.1.5.3 of ITU-T G.989 [2] and Clause C.6.1.5.3 of G.9807.1 [6]. |
| Common IE to all IPFIX Services | 3 | dst-ct-id | Unsigned-32 | The DST-CT-ID is the identifier of the individual CT receiving the ICTP message represented by the TC layer PON-ID of recipient CT. For PON-ID definition, see Clause 6.1.5.3 of ITU-T G.989 [2] and Clause C.6.1.5.3 of G.9807.1 [6]. |
| Common IE to all IPFIX Services | 4 | onu-identifier | Unsigned-16 | G.989.3 Clause 6.1.5.6 defines the ONU-ID as a 10-bit identifier |
| Common IE to all IPFIX Services | 5 | onu-serial-number | Unsigned-64 | G.989.3 Clause 11.2.6.1 ONU Serial Number. It is comprised of: Vendor-ID (4 bytes) and the VSSN (4-byte unsigned integer) |
| Common IE to all IPFIX Services | 6 | xgem-port-id | Unsigned-16 | G.989.3 Clause 6.1.5.8 defines the XGEM Port-ID as a 16-bit integer |

Table E-8 / Table 9-8 – ICTP IPFIX Semantics

| Element -ID * | Name * | * Abstract Data Type | * Data Type Semantics | * Status | Description * | Units * | Range * |
|---------------|-------------------|----------------------|-----------------------|----------|--|---------|---------|
| 0 | Reserved | | | | Reserved | | |
| 1 | ng2sys-id | Unsigned-32 | identifier | current | G.989.3 NG2SYS ID (20 bits) | none | none |
| 2 | src-ct-id | Unsigned-32 | identifier | current | The identifier of the individual CT issuing the ICTP message, represented by the TC layer PON-ID of the sender CT. For PON-ID definition, see Clause 6.1.5.3 of ITU-T G.989.3 [2] and Clause C.6.1.5.3 of G.9807.1 [6]. | none | none |
| 3 | dst-ct-id | Unsigned-32 | identifier | current | The DST-CT-ID is the identifier of the individual CT receiving the ICTP message represented by the TC layer PON-ID of recipient CT. For PON-ID definition, see Clause 6.1.5.3 of ITU-T G.989.3 [2] and Clause C.6.1.5.3 of G.9807.1 [6]. | none | none |
| 4 | onu-identifier | Unsigned-16 | identifier | current | G.989.3 Clause 6.1.5.6 defines the ONU-ID as a 10-bit identifier | none | none |
| 5 | onu-serial-number | Unsigned-64 | default | current | G.989.3 Clause 11.2.6.1 ONU Serial Number. It is comprised of Vendor-ID (4 bytes) and the VSSN (4- | none | none |

| Element -ID * | Name * | * Abstract Data Type | * Data Type Semantics | * Status | Description * | Units * | Range * |
|---------------|--------------------------|----------------------|-----------------------|----------|---|---------|---------|
| | | | | | byte unsigned integer) | | |
| 6 | xgem-port-id | Unsigned-16 | identifier | current | G.989.3 Clause 6.1.5.8 defines the XGEM Port-ID as a 16-bit integer | none | none |
| 7 | ipv4-address-gateway | ipv4Address | default | current | The IPv4 Access Router Gateway address. | none | none |
| 8 | ipv6-address-gateway | ipv6Address | default | current | The IPv6 Access Router Gateway address. | none | none |
| 9 | dhcpv4-server | ipv4Address | default | current | DHCPv4 Server Address | none | none |
| 10 | dhcpv6-server | ipv6Address | default | current | DHCPv6 Server Address | none | none |
| 11 | expiration | Unsigned32 | default | current | DHCP Expiry (seconds) | none | none |
| 12 | Is-static | boolean | default | current | Is static address | none | none |
| 13 | pppoe-session-identifier | unsigned16 | identifier | current | RFC 2516 defines the session ID for Discovery packets. The value is fixed for a given PPP session. The Ethernet Source and Destination Address uniquely identify a PPPoE session. | none | none |
| 14 | client-mac-address | macAddress | default | current | Subscriber MAC address for this flow | none | none |
| 15 | bras-mac-address | macAddress | default | current | BRAS MAC address for this flow. | none | none |
| 16 | sflag | Unsigned16 | default | current | Session status flag bitmaps: bit 0: indicates that BNG sent a PPP_MAX_PAYLOAD tag Bit 1: indicates that the inactivity timer is pending Bit 2: indicates that the IWF timer is pending Bit 3: indicates not to send | none | none |

| Element -ID * | Name * | * Abstract Data Type | * Data Type Semantics | * Status | Description * | Units * | Range * |
|----------------------|-----------------------------|-----------------------------|------------------------------|-----------------|--|----------------|----------------|
| | | | | | PADT on terminate | | |
| 17 | birthtime | dateTimeSeconds | default | current | Birth Time for the PPPoE Session | seconds | none |
| 18 | querier-source-ipv4-address | ipv4Address | default | current | The Querier IPv4 source address | none | none |
| 19 | querier-source-ipv6-address | ipv6Address | default | current | The Querier IPv6 source address | none | none |
| 20 | querier-uptime | dateTimeSeconds | | current | The time since mgmdRouterInterfaceQuerier was last changed | seconds | none |
| 21 | host-reporter-ipv4-address | ipv4Address | default | current | The host reporter IPv4 source address | none | none |
| 22 | host-reporter-ipv6-address | ipv6Address | default | current | The host reporter IPv6 source address | none | none |
| 23 | group-ipv4-address | ipv4Address | default | current | The multicast group address | none | none |
| 24 | group-ipv6-address | ipv6Address | default | current | The multicast group address | none | none |
| 25 | entity-class | Unsigned-16 | default | current | G.988 Entity Class | none | none |
| 26 | entity-instance | Unsigned-16 | default | current | G.988 Entity Instance | none | none |
| 27 | attribute-mask | Unsigned-16 | default | current | G.988 Attribute Mask | none | none |
| 28 | attribute-values | octetarray | default | current | G.988 Attribute Value | none | none |

| Element -ID * | Name * | * Abstract Data Type | * Data Type Semantics | * Status | Description * | Units * | Range * |
|--------------------------|-------------------------------|---------------------------------|--------------------------------------|---------------------|---------------------------|--------------------|--------------------|
| 29 | table- entity- class | Unsigned-16 | default | current | G.988 Entity Class | none | none |
| 30 | table- entity- instance | Unsigned-16 | default | current | G.988 Entity Instance | none | none |
| 31 | table- attribute- mask | Unsigned-16 | default | current | G.988 Attribute Mask | none | none |
| 32 | array- tablerows | octetarray | default | current | G.988 Array of Table Rows | none | none |
| 33- 32767 | Unassigne d | | | | | | |

End of Broadband Forum Technical Report TR-352