**3GPP TSG-CT WG1 Meeting #129-eC1-212xxx**

**Electronic meeting, 19-23 April 2021 (was C1-212086)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.519** | **CR** | **0024** | **rev** | **2** | **Current version:** | **17.0.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Control of PTP functionality in DS-TT and NW-TT | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Qualcomm Incorporated, Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | IIoT | | | | |  | ***Date:*** | | | 2021-04-19 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **C** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In CR 2549 to TS 23.501 (S2-2102019) approved at SA#91-e, SA2 introduced control of PTP functionality in DS-TT and NW-TT in line with the conclusions for Key Issue #3B in TR 23.700-20.  The stage 3 in TS 24.519 needs to be updated accordingly. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The Ethernet port management list IE and bridge management list IE were updated to add new parameters for control of PTP functionality. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Control of PTP functionality in DS-TT and NW-TT will not be supported in stage 3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 9.2, 9.5B, 9.x (New), 9.y (New) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Revision 1 (CT1#129-e):   * Aligned CR with approved version of SA2 CR | | | | | | | | |

\*\*\* First change \*\*\*

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

[3] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".

[4] 3GPP TS 24.007: "Mobile radio interface signalling layer 3; General aspects".

[5] 3GPP TS 24.501: "Non-Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3".

[5A] 3GPP TS 29.244: "Interface between the Control Plane and the User Plane nodes".

[5B] 3GPP TS 29.512: "5G System; Session Management Policy Control Service; Stage 3".

[6] IEEE Std 802.1AB-2016: "IEEE Standard for Local and metropolitan area networks -- Station and Media Access Control Connectivity Discovery".

[7] IEEE Std 802.1Q-2018: "Standard for Local and metropolitan area networks--Bridges and Bridged Networks".

[8] Void

[9] IEEE Std 802.1Qcc-2018: "Standard for Local and metropolitan area networks - Bridges and Bridged Networks - Amendment: Stream Reservation Protocol (SRP) Enhancements and Performance Improvements".

[10] IEEE Std 802.1CB-2017: "IEEE Standard for Local and metropolitan area networks-Frame Replication and Elimination for Reliability".

[xx] IEEE Std 1588-2019: "IEEE Standard for a Precision Clock Synchronization Protocol for Networked Measurement and Control Systems".

[yy] IEEE Std 802.1AS-2020: "IEEE Standard for Local and metropolitan area networks--Timing and Synchronization for Time-Sensitive Applications".

[zz] ST 2059-2:2015 - SMPTE Standard - "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications".

\*\*\* Next change \*\*\*

## 9.2 Ethernet port management list

The purpose of the Ethernet port management list information element is to transfer from the TSN AF to the DS-TT or NW-TT a list of operations related to Ethernet port management of the DS-TT or NW-TT to be performed at the DS-TT or NW-TT.

The Ethernet port management list information element is coded as shown in figure 9.2.1, figure 9.2.2, figure 9.2.3, figure 9.2.4, figure 9.2.5, and table 9.2.1.

The Ethernet port management list information element has a minimum length of 4 octets and a maximum length of 65535 octets.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Ethernet port management list IEI | | | | | | | | octet 1 |
| Length of Ethernet port management list contents | | | | | | | | octet 2  octet 3 |
| Ethernet port management list contents | | | | | | | | octet 4  octet z |

Figure 9.2.1: Ethernet port management list information element

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Operation 1 | | | | | | | | octet 4  octet a |
| Operation 2 | | | | | | | | octet a+1\*  octet b\* |
| … | | | | | | | | octet b+1\*  …  octet c\* |
| Operation N | | | | | | | | octet c+1\*  octet z\* |

Figure 9.2.2: Ethernet port management list contents

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Operation code | | | | | | | | octet d |

Figure 9.2.3: Operation for operation code set to "00000001"

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Operation code | | | | | | | | octet d |
| Ethernet port parameter name | | | | | | | | octet d+1  octet d+2 |

Figure 9.2.4: Operation for operation code set to "00000010", "00000100", or "00000101"

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Operation code | | | | | | | | octet d |
| Ethernet port parameter name | | | | | | | | octet d+1  octet d+2 |
| Length of Ethernet port parameter value | | | | | | | | octet d+3 octet d+4 |
| Ethernet port parameter value | | | | | | | | octet d+5  octet e |

Figure 9.2.5: Operation for operation code set to "00000011"

Table 9.2.1: Ethernet port management list information element

|  |
| --- |
| Value part of the Ethernet port management list information element (octets 4 to z) |
|  |
| The value part of the Ethernet port management list information element consists of one or several operations. |
|  |
| Operation |
|  |
| Operation code (octet d) |
| Bits  **8 7 6 5 4 3 2 1**  0 0 0 0 0 0 0 0 Reserved  0 0 0 0 0 0 0 1 Get capabilities  0 0 0 0 0 0 1 0 Read parameter  0 0 0 0 0 0 1 1 Set parameter (NOTE)  0 0 0 0 0 1 0 0 Subscribe-notify for parameter |
| 0 0 0 0 0 1 0 1 Unsubscribe for parameter |
| All other values are spare. |
|  |
| Ethernet port parameter name (octets d+1 to d+2) |
|  |
| This field contains the name of the Ethernet port parameter to which the operation applies, encoded as follows:  - 0000H Reserved;  - 0001H txPropagationDelay;  - 0002H Traffic class table;  - 0003H GateEnabled;  - 0004H AdminBaseTime;  - 0005H AdminControlListLength;  - 0006H AdminControlList;  - 0007H AdminCycleTime;  - 0008H Tick granularity;  - 0009H  to Spare  - 003FH  - 0040H lldpV2PortConfigAdminStatusV2;  - 0041H lldpV2LocChassisIdSubtype;  - 0042H lldpV2LocChassisId;  - 0043H lldpV2MessageTxInterval;  - 0044H lldpV2MessageTxHoldMultiplier;  - 0045H  to Spare  - 005FH  - 0060H lldpV2LocPortIdSubtype;  - 0061H lldpV2LocPortId;  - 0062H  to Spare  - 009FH  - 00A0H lldpV2RemChassisIdSubtype;  - 00A1H lldpV2RemChassisId;  - 00A2H lldpV2RemPortIdSubtype;  - 00A3H lldpV2RemPortId;  - 00A4H lldpTTL;  - 00A5H  to Spare  - 00CFH  - 00D0H PSFPMaxStreamFilterInstances;  - 00D1H PSFPMaxStreamGateInstances;  - 00D2H PSFPMaxFlowMeterInstances;  - 00D3H PSFPSupportedListMax;  - 00D4H  to Spare  - 00DFH  - 00E0H Stream filter instance table  - 00E1H Stream gate instance table  - 00E2H Supported PTP instance types  - 00E3H Supported transport types  - 00E4H Supported delay mechanisms  - 00E5H PTP grandmaster capable  - 00E6H gPTP grandmaster capable  - 00E7H Supported PTP profiles  - 00E8H Number of supported PTP instances  - 00E9H PTP instance list  - 00EAH  to Spare  - 7FFFH  - 8000H  to Reserved for deployment specific parameters  - FFFFH |
| Length of Ethernet port parameter value (octets d+3 to d+4) |
|  |
| This field contains the binary encoding of the length of the Ethernet port parameter value |
|  |
| Ethernet port parameter value (octet d+5 to e) |
|  |
| This field contains the value to be set for the Ethernet port parameter.  When the Ethernet port parameter name indicates txPropagationDelay, the Ethernet port parameter value field contains the binary representation of the txPropagationDelay as defined in IEEE Std 802.1Qcc [9], expressed in unit of nanoseconds and multiplied by 216, with the LSB bit included in bit 1 of the first octet. If the txPropagationDelay is too big to be represented, all bits of the Ethernet port parameter value field shall be coded as "1" except the MSB bit. The length of Ethernet port parameter value indicates a value of 8.  When the Ethernet port parameter name indicates Traffic class table, the Ethernet port parameter value field contains the traffic class table as defined in IEEE Std 802.1Q [7], encoded as the value part of the Traffic class information element as specified in clause 9.7.  When the Ethernet port parameter name indicates GateEnabled, the Ethernet port parameter value field contains the value of GateEnabled as defined in IEEE Std 802.1Q [7], with a Boolean value of FALSE encoded as "00000000" and a Boolean value of TRUE encoded as "00000001". The length of Ethernet port parameter value field indicates a value of 1.  When the Ethernet port parameter name indicates AdminBaseTime, the Ethernet port parameter value field contains the value of the administrative base time as specified in IEEE Std 802.1Q [7]. The length of Ethernet port parameter value field indicates a value of 10.  When the Ethernet port parameter name indicates AdminControlListLength, the Ethernet port parameter value field contains the value of the AdminControlListLength as specified in IEEE Std 802.1Q [7]. The length of Ethernet port parameter value field indicates a value of 2.  When the Ethernet port parameter name indicates AdminControlList, the Ethernet port parameter value field contains the concatenation of AdminControlListLength entries, each encoded as a GateControlEntry as specified in IEEE Std 802.1Q [7].  When the Ethernet port parameter name indicates AdminCycleTime, the Ethernet port parameter value field contains the value of the AdminCycleTime as specified in IEEE Std 802.1Q [7]. The length of Ethernet port parameter value field indicates a value of 8.  When the Ethernet port parameter name indicates Tick granularity, the Ethernet port parameter value field contains the value of the Tick granularity as specified in IEEE Std 802.1Q [7]. The length of Ethernet port parameter value field indicates a value of 4.  When the Ethernet port parameter name indicates lldpV2PortConfigAdminStatusV2, the Ethernet port parameter value field contains values of lldpV2PortConfigAdminStatusV2 as specified in IEEE Std 802.1AB [6] clause 9.2.5.1 with value of txOnly encoded as 01H, rxOnly encoded as 02H, txAndRx encoded as 03H, and disabled encoded as 04H. The length of Ethernet port parameter value field indicates a value of 1.  When the Ethernet port parameter name indicates lldpV2LocChassisIdSubtype, the Ethernet port parameter value field contains values of lldpV2LocChassisIdSubtype as specified in IEEE Std 802.1AB [6] clause 8.5.2.2. The length of Ethernet port parameter value field indicates a value of 1.  When the Ethernet port parameter name indicates lldpV2LocChassisId, the Ethernet port parameter value field contains values of lldpV2LocChassisId in the form of an octet string as specified in IEEE Std 802.1AB [6] clause 8.5.2.3. The length of Ethernet port parameter value field indicates the length of the octet string with a maximum value of 255.  When the Ethernet port parameter name indicates lldpV2MessageTxInterval, the Ethernet port parameter value field contains the value of lldpV2MessageTxInterval as specified in IEEE Std 802.1AB [6] table 11-2. The length of Ethernet port parameter value field indicates a value of 2.  When the Ethernet port parameter name indicates lldpV2MessageTxHoldMultiplier, the Ethernet port parameter value field contains the value of lldpV2MessageTxHoldMultiplier as specified in IEEE Std 802.1AB [6] table 11-2. The length of Ethernet port parameter value field indicates a value of 1.  When the Ethernet port parameter name indicates lldpV2LocPortIdSubtype, the Ethernet port parameter value field contains values of lldpV2LocPortIdSubtype as specified in IEEE Std 802.1AB [6] clause 8.5.3.2. The length of Ethernet port parameter value field indicates a value of 1.  When the Ethernet port parameter name indicates lldpV2LocPortId, the Ethernet port parameter value field contains values of lldpV2LocPortId in the form of an octet string as specified in IEEE Std 802.1AB [6] clause 8.5.3.3. The length of Ethernet port parameter value field indicates the length of the octet string with a maximum value of 255.  When the Ethernet port parameter name indicates lldpV2RemChassisIdSubtype, the Ethernet port parameter value field contains values of lldpV2RemChassisIdSubtype as specified in IEEE Std 802.1AB [6] clause 8.5.2.2. The length of Ethernet port parameter value field indicates a value of 1.  When the Ethernet port parameter name indicates lldpV2RemChassisId, the Ethernet port parameter value field contains values of lldpV2RemChassisId in the form of an octet string as specified in IEEE Std 802.1AB [6] clause 8.5.2.3. The length of Ethernet port parameter value field indicates the length of the octet string with a maximum value of 255.  When the Ethernet port parameter name indicates lldpV2RemPortIdSubtype, the Ethernet port parameter value field contains values of lldpV2RemPortIdSubtype as specified in IEEE Std 802.1AB [6] clause 8.5.3.2. The length of Ethernet port parameter value field indicates a value of 1.  When the Ethernet port parameter name indicates lldpV2RemPortId, the Ethernet port parameter value field contains values of lldpV2RemPortId in the form of an octet string as specified in IEEE Std 802.1AB [6] clause 8.5.3.3. The length of Ethernet port parameter value field indicates the length of the octet string with a maximum value of 255.  When the Ethernet port parameter name indicates lldpTTL, the Ethernet port parameter value field contains the value of TTL as specified in IEEE Std 802.1AB [6] clause 8.5.4. The length of Ethernet port parameter value field indicates a value of 2.  When the Ethernet port parameter name indicates PSFPMaxStreamFilterInstances, the Ethernet parameter value field contains the value of MaxStreamFilterInstances as specified in IEEE Std 802.1Q [7] clause 12.31.1.1. The length of Ethernet port parameter value field indicates a value of 4.  When the Ethernet port parameter name indicates PSFPMaxStreamGateInstances, the Ethernet parameter value field contains the value of MaxStreamGateInstances as specified in IEEE Std 802.1Q [7] clause 12.31.1.2. The length of Ethernet port parameter value field indicates a value of 4.  When the Ethernet port parameter name indicates PSFPMaxFlowMeterInstances, the Ethernet parameter value field contains the value of MaxFlowMeterInstances as specified in IEEE Std 802.1Q [7] clause 12.31.1.3. The length of Ethernet port parameter value field indicates a value of 4.  When the Ethernet port parameter name indicates PSFPSupportedListMax, the Ethernet parameter value field contains the value of SupportedListMax as specified in IEEE Std 802.1Q [7] clause 12.31.1.4. The length of Ethernet port parameter value field indicates a value of 4.  When the Ethernet port parameter name indicates Stream filter instance table, the Ethernet port parameter value field contains a Stream filter instance table as defined in 3GPP TS 23.501 [2] table 5.28.3.1-1, encoded as the value part of the Stream filter instance table information element as specified in clause 9.8.  When the Ethernet port parameter name indicates Stream gate instance table, the Ethernet port parameter value field contains a Stream gate instance table as defined in 3GPP TS 23.501 [2] table 5.28.3.1-1, encoded as the value part of the Stream gate instance table information element as specified in clause 9.9.  When the Ethernet port parameter name indicates Supported PTP instance types, the Ethernet port parameter value field contains an enumeration of supported PTP instance types as defined in IEEE Std 1588-2019 [xx] clause 8.2.1.5.5 and IEEE Std 802.1AS [yy] clause 5.4.3, with PTP instance type "Boundary Clock" encoded as "00000001", PTP instance type "peer-to-peer Transparent Clock" encoded as "00000010", PTP instance type "end-to-end Transparent Clock" encoded as "00000011" and PTP instance type "PTP relay instance" encoded as "00000100". The length of Ethernet port parameter value field is set to the number of supported PTP instance types.  When the Ethernet port parameter name indicates Supported transport types, the Ethernet port parameter value field contains an enumeration of supported transport types as defined in IEEE Std 1588-2019 [xx] Annexes C, D and E, with transport type "IPv4" encoded as "00000000", transport type "IPv6" encoded as "00000001" and transport type "Ethernet" encoded as "00000010". The length of Ethernet port parameter value field is set to the number of supported transport types.  When the Ethernet port parameter name indicates Supported PTP delay mechanisms, the Ethernet port parameter value field contains an enumeration of supported delay mechanisms as defined in IEEE Std 1588-2019 [xx] clause 8.2.15.4.4. The length of Ethernet port parameter value field is set to the number of supported delay mechanisms.  When the Ethernet port parameter name indicates PTP grandmaster capable, the Ethernet port parameter value field indicates whether the DS-TT supports acting as a PTP grandmaster, with a Boolean value of FALSE encoded as "00000000" and a Boolean value of TRUE encoded as "00000001". The length of Ethernet port parameter value field indicates a value of 1.  When the Ethernet port parameter name indicates gPTP grandmaster capable, the Ethernet port parameter value field indicates whether the DS-TT supports acting as a gPTP grandmaster, with a Boolean value of FALSE encoded as "00000000" and a Boolean value of TRUE encoded as "00000001". The length of Ethernet port parameter value field indicates a value of 1.  When the Ethernet port parameter name indicates Supported PTP profiles, the Ethernet port parameter value field contains an enumeration of supported PTP profiles' profileNames as defined in IEEE Std 1588-2019 [xx] clause 20.3.3, with the "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications" as defined in ST 2059-2:2015 [zz] encoded as "00000000", and the "IEEE 802.1AS PTP profile for transport of timing" profile as defined in IEEE Std 802.1AS [yy] encoded as "00000001". The length of Ethernet port parameter value field is set to the number of supported PTP profiles.  When the Ethernet port parameter name indicates Number of supported PTP instances, the Ethernet port parameter value field contains the binary encoding of the number of supported PTP instances. The length of Ethernet port parameter value field indicates a value of 2.  When the Ethernet port parameter name indicates PTP instance list, the Ethernet port parameter value field contains a PTP instance list as defined in 3GPP TS 23.501 [2] table 5.28.3.1-1, encoded as the value part of the PTP instance list information element as specified in clause 9.x.  When the hexadecimal encoding of the Ethernet port parameter name is in the "8000H" to "FFFFH" range, the encoding of the Ethernet port parameter value field and the value of the length of Ethernet port parameter value field are deployment-specific. |
|  |
| NOTE: The "Set parameter" operation shall not be applicable for the following Ethernet port parameter names: - 0001H txPropagationDelay; - 0008H Tick granularity; - 00A0H lldpV2RemChassisIdSubtype; - 00A1H lldpV2RemChassisId; - 00A2H lldpV2RemPortIdSubtype; - 00A3H lldpV2RemPortId; - 00A4H lldpTTL; - 00D0H PSFPMaxStreamFilterInstances; - 00D1H PSFPMaxStreamGateInstances; - 00D2H PSFPMaxFlowMeterInstances; and - 00D3H PSFPSupportedListMax. |

\*\*\* Next change \*\*\*

## 9.5B Bridge management list

The purpose of the Bridge management list information element is to transfer from the TSN AF to the NW-TT a list of operations related to Bridge management of the NW-TT to be performed at the NW-TT.

The Bridge management list information element is coded as shown in figure 9.5B.1, figure 9.5B.2, figure 9.5B.3, figure 9.5B.4, figure 9.5B.5, and table 9.5B.1.

The Bridge management list information element has a minimum length of 4 octets and a maximum length of 65530 octets.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Bridge management list IEI | | | | | | | | octet 1 |
| Length of Bridge management list contents | | | | | | | | octet 2  octet 3 |
| Bridge management list contents | | | | | | | | octet 4  octet z |

Figure 9.5B.1: Bridge management list information element

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Operation 1 | | | | | | | | octet 4  octet a |
| Operation 2 | | | | | | | | octet a+1\*  octet b\* |
| … | | | | | | | | octet b+1\*  …  octet c\* |
| Operation N | | | | | | | | octet c+1\*  octet z\* |

Figure 9.5B.2: Bridge management list contents

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Operation code | | | | | | | | octet d |

Figure 9.5B.3: Operation for operation code set to "00000001"

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Operation code | | | | | | | | octet d |
| Bridge parameter name | | | | | | | | octet d+1  octet d+2 |

Figure 9.5B.4: Operation for operation code set to "00000010", "00000100", or "00000101"

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Operation code | | | | | | | | octet d |
| Bridge parameter name | | | | | | | | octet d+1  octet d+2 |
| Length of Bridge parameter value | | | | | | | | octet d+3 octet d+4 |
| Bridge parameter value | | | | | | | | octet d+5  octet e |

Figure 9.5B.5: Operation for operation code set to "00000011"

Table 9.5B.1: Bridge management list information element

|  |
| --- |
| Value part of the Bridge management list information element (octets 4 to z) |
|  |
| The value part of the Bridge management list information element consists of one or several operations. |
|  |
| Operation |
|  |
| Operation code (octet d) |
| Bits  **8 7 6 5 4 3 2 1**  0 0 0 0 0 0 0 0 Reserved  0 0 0 0 0 0 0 1 Get capabilities  0 0 0 0 0 0 1 0 Read parameter  0 0 0 0 0 0 1 1 Set parameter (NOTE 1)  0 0 0 0 0 1 0 0 Subscribe-notify for parameter |
| 0 0 0 0 0 1 0 1 Unsubscribe for parameter |
| All other values are spare. |
|  |
| Bridge parameter name (octets d+1 to d+2) |
|  |
| This field contains the name of the Bridge parameter to which the operation applies, encoded as follows:  - 0000H Reserved;  - 0001H Bridge Address;  - 0002H Spare (NOTE 2)  - 0003H Bridge ID;  - 0004H NW-TT port numbers;  - 0005H  to Spare  - 0009H  - 0010H Spare (NOTE 3)  - 0010H Spare (NOTE 4)  - 0012H Static filtering entries;  - 0013H  to Spare  - 0019H  - 0020H lldpV2PortConfigAdminStatusV2;  - 0021H lldpV2LocChassisIdSubtype;  - 0022H lldpV2LocChassisId;  - 0023H lldpV2MessageTxInterval;  - 0024H lldpV2MessageTxHoldMultiplier;  - 0025H  to Spare  - 004FH  - 0050H DS-TT port neighbor discovery configuration for DS-TT ports  - 0051H Discovered neighbor information for DS-TT ports  - 0052H  to Spare  - 006FH  - 0070H PSFPMaxStreamFilterInstances;  - 0071H PSFPMaxStreamGateInstances;  - 0072H PSFPMaxFlowMeterInstances;  - 0073H PSFPSupportedListMax;  - 0074H Supported PTP instance types  - 0075H Supported transport types  - 0076H Supported delay mechanisms  - 0077H PTP grandmaster capable  - 0078H gPTP grandmaster capable  - 0079H Supported PTP profiles  - 007AH Number of supported PTP instances  - 007BH DS-TT port time synchronization information list  - 007CH  to Spare  - 7FFFH  - 8000H  to Reserved for deployment specific parameters  - FFFFH |
| Length of Bridge parameter value (octets d+3 to d+4) |
|  |
| This field contains the binary encoding of the length of the Bridge parameter value |
|  |
| Bridge parameter value (octet d+5 to e) |
|  |
| This field contains the value to be set for the Bridge parameter.  When the Bridge parameter name indicates Bridge Address, the Bridge parameter value field contains the values of Bridge Address as defined in IEEE Std 802.1Q [7] clause 8.13.8. The length of Bridge parameter value field indicates a value of 6.  When the Bridge parameter name indicates Bridge ID, the Bridge parameter value field contains the values of Bridge Identifier as defined in IEEE Std 802.1Q [7] clause 14.2.5. The length of Bridge parameter value field indicates a value of 8.  When the Bridge parameter name indicates NW-TT port numbers, the Bridge parameter value field contains NW-TT port numbers as defined in 3GPP TS 23.501 [2] table 5.28.3.1-2, encoded as the value part of the NW-TT port numbers information element as specified in clause 9.14.  When the Bridge parameter name indicates Static filtering entries, the Bridge parameter value field contains Static filtering entries as defined in 3GPP TS 23.501 [2] table 5.28.3.1-2, encoded as the value part of the Static filtering entries information element as specified in clause 9.6.  When the Bridge parameter name indicates lldpV2PortConfigAdminStatusV2, the Bridge parameter value field contains values of lldpV2PortConfigAdminStatusV2 as specified in IEEE Std 802.1AB [6] clause 9.2.5.1 with value of txOnly encoded as 01H, rxOnly encoded as 02H, txAndRx encoded as 03H, and disabled encoded as 04H. The length of Bridge parameter value field indicates a value of 1.  When the Bridge parameter name indicates lldpV2LocChassisIdSubtype, the Bridge parameter value field contains values of lldpV2LocChassisIdSubtype as specified in IEEE Std 802.1AB [6] clause 8.5.2.2. The length of Bridge parameter value field indicates a value of 1.  When the Bridge parameter name indicates lldpV2LocChassisId, the Bridge parameter value field contains values of lldpV2LocChassisId in the form of an octet string as specified in IEEE Std 802.1AB [6] clause 8.5.2.3. The length of Bridge parameter value field indicates the length of the octet string with a maximum value of 255.  When the Bridge parameter name indicates lldpV2MessageTxInterval, the Bridge parameter value field contains the value of lldpV2MessageTxInterval as specified in IEEE Std 802.1AB [6] table 11-2. The length of Bridge parameter value field indicates a value of 2.  When the Bridge parameter name indicates lldpV2MessageTxHoldMultiplier, the Bridge parameter value field contains the value of lldpV2MessageTxHoldMultiplier as specified in IEEE Std 802.1AB [6] table 11-2. The length of Bridge parameter value field indicates a value of 1.  When the Bridge parameter name indicates DS-TT port neighbor discovery configuration for DS-TT ports, the Bridge parameter value field contains DS-TT port neighbor discovery configuration for DS-TT ports as defined in 3GPP TS 23.501 [2] table 5.28.3.1-2, encoded as the value part of the DS-TT port neighbor discovery configuration for DS-TT ports information element as specified in clause 9.10.  When the Bridge parameter name indicates Discovered neighbor information for DS-TT ports, the Bridge parameter value field contains Discovered neighbor information for DS-TT ports as defined in 3GPP TS 23.501 [2] table 5.28.3.1-2, encoded as the value part of the Discovered neighbor information for DS-TT ports information element as specified in clause 9.11.  When the Bridge parameter name indicates MaxStreamFilterInstances, the Bridge parameter value field contains the value of PSFPMaxStreamFilterInstances as specified in IEEE Std 802.1Q [7] clause 12.31.1.1. The length of Bridge parameter value field indicates a value of 4.  When the Bridge parameter name indicates PSFPMaxStreamGateInstances, the Bridge parameter value field contains the value of MaxStreamGateInstances as specified in IEEE Std 802.1Q [7] clause 12.31.1.1. The length of Bridge parameter value field indicates a value of 4.  When the Bridge parameter name indicates PSFPMaxFlowMeterInstances, the Bridge parameter value field contains the value of MaxFlowMeterInstances as specified in IEEE Std 802.1Q [7] Table 12-31. The length of Bridge parameter value field indicates a value of 4.  When the Bridge parameter name indicates PSFPSupportedListMax, the Bridge parameter value field contains the value of SupportedListMax as specified in IEEE Std 802.1Q [7] clause 12. 31.1.4. The length of Bridge parameter value field indicates a value of 4.  When the Bridge parameter name indicates Supported PTP instance types, the Bridge parameter value field contains an enumeration of supported PTP instance types as defined in IEEE Std 1588-2019 [xx] clause 8.2.1.5.5 and IEEE Std 802.1AS [yy] clause 5.4.3, with PTP instance type "Boundary Clock" encoded as "00000001", PTP instance type "peer-to-peer Transparent Clock" encoded as "00000010", PTP instance type "end-to-end Transparent Clock" encoded as "00000011" and PTP instance type "PTP relay instance" encoded as "00000100". The length of Bridge parameter value field is set to the number of supported PTP instance types.  When the Bridge parameter name indicates Supported transport types, the Bridge parameter value field contains an enumeration of supported transport types as defined in IEEE Std 1588-2019 [xx] Annexes C, D and E, with transport type "IPv4" encoded as "00000000", transport type "IPv6" encoded as "00000001" and transport type "Ethernet" encoded as "00000010". The length of Bridge parameter value field is set to the number of supported transport types.  When the Bridge parameter name indicates Supported PTP delay mechanisms, the Bridge parameter value field contains an enumeration of supported delay mechanisms as defined in IEEE Std 1588-2019 [xx] clause 8.2.15.4.4. The length of Bridge parameter value field is set to the number of supported delay mechanisms.  When the Bridge parameter name indicates PTP grandmaster capable, the Bridge parameter value field indicates whether the NW-TT supports acting as a PTP grandmaster, with a Boolean value of FALSE encoded as "00000000" and a Boolean value of TRUE encoded as "00000001". The length of Bridge parameter value field indicates a value of 1.  When the Bridge parameter name indicates gPTP grandmaster capable, the Bridge parameter value field indicates whether the NW-TT supports acting as a gPTP grandmaster, with a Boolean value of FALSE encoded as "00000000" and a Boolean value of TRUE encoded as "00000001". The length of Bridge parameter value field indicates a value of 1.  When the Bridge parameter name indicates Supported PTP profiles, the Bridge parameter value field contains an enumeration of supported PTP profiles' profileNames as defined in IEEE Std 1588-2019 [xx] clause 20.3.3, with the "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications" as defined in ST 2059-2:2015 [zz] encoded as "00000000", and the "IEEE 802.1AS PTP profile for transport of timing" profile as defined in IEEE Std 802.1AS [yy] encoded as "00000001". The length of Bridge parameter value field is set to the number of supported PTP profiles.  When the Bridge parameter name indicates Number of supported PTP instances, the Bridge parameter value field contains the binary encoding of the number of supported PTP instances. The length of Bridge parameter value field indicates a value of 2.  When the Bridge parameter name indicates DS-TT port time synchronization information list, the Bridge parameter value field contains a DS-TT port time synchronization information list as defined in 3GPP TS 23.501 [2] table 5.28.3.1-2, encoded as the value part of the DS-TT port time synchronization information list information element as specified in clause 9.y.  When the hexadecimal encoding of the Bridge parameter name is in the "8000H" to "FFFFH" range, the encoding of the Bridge parameter value field and the value of the length of Bridge parameter value field are deployment-specific. |
|  |
| NOTE 1: The "Set parameter" operation shall not be applicable for the following bridge parameter names: - 0001H Bridge Address; - 0003H Bridge ID; - 0004H NW-TT port numbers; - 0051H Discovered neighbor information for DS-TT ports; - 0070H PSFPMaxStreamFilterInstances; - 0071H PSFPMaxStreamGateInstances; - 0072H PSFPMaxFlowMeterInstances; and - 0073H PSFPSupportedListMax.  NOTE 2: Implementations compliant with earlier versions of this release of the specification can interpret these values as signalling the Bridge Name.  NOTE 3: Implementations compliant with earlier versions of this release of the specification can interpret these values as signalling the Chassis ID subtype.  NOTE 4: Implementations compliant with earlier versions of this release of the specification can interpret these values as signalling the Chassis ID. |

\*\*\* Next change \*\*\*

## 9.x PTP instance list

The purpose of the PTP instance list information element is to convey a list of PTP instances as defined 3GPP TS 23.501 [2] table 5.28.3.1-1 and table 5.28.3.1-2.

The PTP instance list information element is coded as shown in figure 9.x.1, figure 9.x.2, figure 9.x.3, figure 9.x.4, and table 9.x.1.

The PTP instance list is a type 6 information element with a minimum length of 3 octets.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| PTP instance list IEI | | | | | | | | octet 1 |
| Length of PTP instance list contents | | | | | | | | octet 2  octet 3 |
| PTP instance 1 | | | | | | | | octet 4\*  octet m\* |
| … | | | | | | | |  |
| PTP instance n | | | | | | | | octet n\*  octet o\* |

Figure 9.x.1: PTP instance list information element

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Length of PTP instance contents | | | | | | | | octet 4  octet 5 |
| PTP instance ID | | | | | | | | octet 6  octet 7 |
| PTP instance parameters list | | | | | | | | octet 8\*  octet m |

Figure 9.x.2: PTP instance

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| PTP instance parameter 1 | | | | | | | | octet 8  octet p |
| PTP instance parameter 2 | | | | | | | | octet p+1  octet q |
| … | | | | | | | |  |
| PTP instance parameter n | | | | | | | | octet r  octet s |

Figure 9.x.3: PTP instance parameters list

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| PTP instance parameter name | | | | | | | | octet 8  octet 9 |
| Length of PTP instance parameter | | | | | | | | octet 10 |
| PTP instance parameter value | | | | | | | | octet 11  octet t |

Figure 9.x.4: PTP instance parameter

Table 9.x.1: PTP instance list

|  |
| --- |
| Value part of the PTP instance list information element (octets 4 to o) |
|  |
| PTP instance list contents (octets 4 to o)  This field consists of zero or more PTP instances. |
|  |
| PTP instance (octets 4 to m) |
|  |
| Length of PTP instance contents (octets 4 to 5)  Length of PTP instance contents contains the length of the value part of PTP instance in octets. |
|  |
| PTP instance ID value (octets 6 to 7)  PTP instance ID value contains the binary encoding of the value of the identifier for the PTP instance. |
|  |
| PTP instance parameter name (octets 8 to 9)  This field contains the name of the PTP instance parameter, encoded as follows:  - 0000H Reserved;  - 0001H PTP profile  - 0002H Transport type  - 0003H Grandmaster enabled  - 0004H Grandmaster on behalf of DS-TT enabled  - 0005H Grandmaster candidate enabled  - 0006H defaultDS.clockIdentity  - 0007H defaultDS.clockQuality.clockClass  - 0008H defaultDS.clockQuality.clockAccuracy  - 0009H defaultDS.clockQuality.offsetScaledLogVariance  - 000AH defaultDS.priority1  - 000BH defaultDS.priority2  - 000CH defaultDS.domainNumber  - 000DH defaultDS.sdoId  - 000EH defaultDS.instanceEnable  - 000FH defaultDS.externalPortConfigurationEnabled  - 0010H defaultDS.instanceType  - 0011H portDS.portIdentity  - 0012H portDS.portState  - 0013H portDS.logMinDelayReqInterval  - 0014H portDS.logAnnounceInterval  - 0015H portDS.announceReceiptTimeout  - 0016H portDS.logSyncInterval  - 0017H portDS.delayMechanism  - 0018H portDS.logMinPdelayReqInterval  - 0019H portDS.versionNumber  - 001AH portDS.minorVersionNumber  - 001BH portDS.delayAssymetry  - 001CH portDS.portEnable  - 001DH timePropertiesDS.currentUtcOffset  - 001EH timePropertiesDS.timeSource  - 001FH externalPortConfigurationPortDS.desiredState  - 0020H defaultDS.timeSource  - 0021H portDS.ptpPortEnabled  - 0022H portDS.isMeasuringDelay  - 0023H portDS.asCapable  - 0024H portDS.meanLinkDelay  - 0025H portDS.meanLinkDelayThresh  - 0026H portDS.neighborRateRatio  - 0027H portDS.initialLogAnnounceInterval  - 0028H portDS.currentLogAnnounceInterval  - 0029H portDS.useMgtSettableLogAnnounceInterval  - 002AH portDS.mgtSettableLogAnnounceInterval  - 002BH portDS.initialLogSyncInterval  - 002CH portDS.currentLogSyncInterval  - 002DH portDS.useMgtSettableLogSyncInterval  - 002EH portDS.mgtSettableLogSyncInterval  - 002FH portDS.syncReceiptTimeout  - 0030H portDS.syncReceiptTimeoutTimeInterval  - 0031H portDS.initialLogPdelayReqInterval  - 0032H portDS.currentLogPdelayReqInterval  - 0033H portDS.useMgtSettableLogPdelayReqInterval  - 0034H portDS.mgtSettableLogPdelayReqInterval  - 0035H portDS.initialLogGptpCapableMessageInterval  - 0036H portDS.currentLogGptpCapableMessageInterval  - 0037H portDS.useMgtSettableLogGptpCapableMessageInterval  - 0038H portDS.mgtSettableLogGptpCapableMessageInterval  - 0039H portDS.initialComputeNeighborRateRatio  - 003AH portDS.currentComputeNeighborRateRatio  - 003BH portDS.useMgtSettableComputeNeighborRateRatio  - 003CH portDS.mgtSettableComputeNeighborRateRatio  - 003DH portDS.initialComputeMeanLinkDelay  - 003EH portDS.currentComputeMeanLinkDelay  - 003FH portDS.useMgtSettableComputeMeanLinkDelay  - 0040H portDS.mgtSettableComputeMeanLinkDelay  - 0041H portDS.allowedLostResponses  - 0042H portDS.allowedFaults  - 0043H portDS.gPtpCapableReceiptTimeout  - 0044H portDS.nup  - 0045H portDS.ndown  - 0046H portDS.oneStepTxOper  - 0047H portDS.oneStepReceive  - 0048H portDS.oneStepTransmit  - 0049H portDS.initialOneStepTxOper  - 004AH portDS.currentOneStepTxOper  - 004BH portDS.useMgtSettableOneStepTxOper  - 004CH portDS.mgtSettableOneStepTxOper  - 004DH portDS.syncLocked  - 004EH portDS.pdelayTruncatedTimestampsArray  - 004FH  to Spare  - FFFFH  When the PTP instance parameter name indicates PTP profile, the PTP instance parameter value field indicates the PTP profile's profileName, with the "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications" as defined in ST 2059-2:2015 [zz] encoded as "00000000", and the "IEEE 802.1AS PTP profile for transport of timing" profile as defined in IEEE Std 802.1AS [yy] encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates Transport type, the PTP instance parameter value field indicates the transport type to use, with transport type "IPv4" encoded as "00000000", transport type "IPv6" encoded as "00000001" and transport type "Ethernet" encoded as "00000010". The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates Grandmaster enabled, the PTP instance parameter value field indicates whether to act as a PTP grandmaster, with "Do not act as grandmaster" encoded as "00000000" and "Act as grandmaster" encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates Grandmaster on behalf of DS-TT enabled, the PTP instance parameter value field indicates whether to act as grandmaster on behalf of a DS-TT port or not if 5GS is determined to be the grandmaster clock, with "Do not act as grandmaster" encoded as "00000000" and "Act as grandmaster" encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates Grandmaster candidate enabled, the PTP instance parameter value field indicates whether a PTP instance of a NW-TT is a grandmaster candidate, with a Boolean value of FALSE encoded as "00000000" and a Boolean value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates defaultDS.clockIdentity, the PTP instance parameter value field contains the defaultDS.clockIdentity as specified in IEEE Std 1588-2019 [xx] clause 8.2.1.2.2 and in IEEE Std 802.1AS [yy] clause 14.2.2. The length of PTP instance parameter value field indicates a value of 8.  When the PTP instance parameter name indicates defaultDS.clockQuality.clockClass, the PTP instance parameter value field contains the defaultDS.clockQuality.clockClass as specified in IEEE Std 1588-2019 [xx] clause 8.2.1.3.1.2 and in IEEE Std 802.1AS [yy] clause 14.2.4.2. The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates defaultDS.clockQuality.clockAccuracy, the PTP instance parameter value field contains the defaultDS.clockQuality.clockAccuracy as specified in IEEE Std 1588-2019 [xx] clause 8.2.1.3.1.3 and in IEEE Std 802.1AS [yy] clause 14.2.4.3. The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates defaultDS.clockQuality.offsetScaledLogVariance, the PTP instance parameter value field contains the defaultDS.clockQuality.offsetScaledLogVariance as specified in IEEE Std 1588-2019 [xx] clause 8.2.1.3.1.4 and in IEEE Std 802.1AS [yy] clause 14.2.4.4. The length of PTP instance parameter value field indicates a value of 4.  When the PTP instance parameter name indicates defaultDS.priority1, the PTP instance parameter value field contains the defaultDS.priority1 as specified in IEEE Std 1588-2019 [xx] clause 8.2.1.4.1 and in IEEE Std 802.1AS [yy] clause 14.2.5. The length of PTP instance parameter value field indicates a value of 4.  When the PTP instance parameter name indicates defaultDS.priority2, the PTP instance parameter value field contains the defaultDS.priority2 as specified in IEEE Std 1588-2019 [xx] clause 8.2.1.4.2 and in IEEE Std 802.1AS [yy] clause 14.2.6. The length of PTP instance parameter value field indicates a value of 4.  When the PTP instance parameter name indicates defaultDS.domainNumber, the PTP instance parameter value field contains the defaultDS.domainNumber as specified in IEEE Std 1588-2019 [xx] clause 8.2.1.4.3 and in IEEE Std 802.1AS [yy] clause 14.2.16. The length of PTP instance parameter value field indicates a value of 4.  When the PTP instance parameter name indicates defaultDS.sdoId, the PTP instance parameter value field contains the defaultDS.sdoId as specified in IEEE Std 1588-2019 [xx] clause 8.2.1.4.5 and in IEEE Std 802.1AS [yy] clause 14.2.4.3. The length of PTP instance parameter value field indicates a value of 4.  When the PTP instance parameter name indicates defaultDS.instanceEnable, the PTP instance parameter value field contains the defaultDS.instanceEnable as specified in IEEE Std 1588-2019 [xx] clause 8.2.1.5.2 and in IEEE Std 802.1AS [yy] clause 14.2.19, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates defaultDS.externalPortConfigurationEnabled, the PTP instance parameter value field contains the defaultDS.externalPortConfigurationEnabled as specified in IEEE Std 1588-2019 [xx] clause 8.2.1.5.3 and in IEEE Std 802.1AS [yy] clause 14.2.18, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates defaultDS.instanceType, the PTP instance parameter value field contains the defaultDS.instanceType as specified in IEEE Std 1588-2019 [xx] clause 8.2.1.5.5. The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "IEEE 802.1AS PTP profile for transport of timing", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.portIdentity, the PTP instance parameter value field contains the portDS.portIdentity as specified in IEEE Std 1588-2019 [xx] clause 8.2.15.2.1 and in IEEE Std 802.1AS [yy] clause 14.8.2. The length of PTP instance parameter value field indicates a value of 10.  When the PTP instance parameter name indicates portDS.portState, the PTP instance parameter value field contains the portDS.portState as specified in IEEE Std 1588-2019 [xx] clause 8.2.15.3.1 and in IEEE Std 802.1AS [yy] clause 14.8.3. The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates portDS.logMinDelayReqInterval, the PTP instance parameter value field contains the portDS.logMinDelayReqInterval as specified in IEEE Std 1588-2019 [xx] clause 8.2.15.3.2. The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "IEEE 802.1AS PTP profile for transport of timing", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.logAnnounceInterval, the PTP instance parameter value field contains the portDS.logAnnounceInterval as specified in IEEE Std 1588-2019 [xx] clause 8.2.15.4.1. The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "IEEE 802.1AS PTP profile for transport of timing", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.announceReceiptTimeout, the PTP instance parameter value field contains the portDS.announceReceiptTimeout as specified in IEEE Std 1588-2019 [xx] clause 8.2.15.4.2 and in IEEE Std 802.1AS [yy] clause 14.8.16. The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates portDS.logSyncInterval, the PTP instance parameter value field contains the portDS.logSyncInterval as specified in IEEE Std 1588-2019 [xx] clause 8.2.15.4.3. The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "IEEE 802.1AS PTP profile for transport of timing", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.delayMechanism, the PTP instance parameter value field contains the portDS.delayMechanism as specified in IEEE Std 1588-2019 [xx] clause 8.2.15.4.4 and in IEEE Std 802.1AS [yy] clause 14.8.5. The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates portDS.logMinPdelayReqInterval, the PTP instance parameter value field contains the portDS.logMinPdelayReqInterval as specified in IEEE Std 1588-2019 [xx] clause 8.2.15.4.5. The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "IEEE 802.1AS PTP profile for transport of timing", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.versionNumber, the PTP instance parameter value field contains the portDS.versionNumber as specified in IEEE Std 1588-2019 [xx] clause 8.2.15.4.6 and in IEEE Std 802.1AS [yy] clause 14.8.42. The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates portDS.minorVersionNumber, the PTP instance parameter value field contains the portDS.minorVersionNumber as specified in IEEE Std 1588-2019 [xx] clause 8.2.15.4.7 and in IEEE Std 802.1AS [yy] clause 14.8.54. The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates portDS.delayAssymetry, the PTP instance parameter value field contains the portDS.delayAssymetry as specified in IEEE Std 1588-2019 [xx] clause 8.2.15.4.8 and in IEEE Std 802.1AS [yy] clause 14.8.10. The length of PTP instance parameter value field indicates a value of 8.  When the PTP instance parameter name indicates portDS.portEnable, the PTP instance parameter value field contains the portDS.portEnable as specified in IEEE Std 1588-2019 [xx] clause 8.2.15.5.1. with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "IEEE 802.1AS PTP profile for transport of timing", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates timePropertiesDS.currentUtcOffset, the PTP instance parameter value field contains the timePropertiesDS.currentUtcOffset as specified in IEEE Std 1588-2019 [xx] clause 8.2.4.2 and in IEEE Std 802.1AS [yy] clause 14.5.2. The length of PTP instance parameter value field indicates a value of 2.  When the PTP instance parameter name indicates timePropertiesDS.timeSource, the PTP instance parameter value field contains the timePropertiesDS.timeSource as specified in IEEE Std 1588-2019 [xx] clause 8.2.4.9. The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "IEEE 802.1AS PTP profile for transport of timing", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates externalPortConfigurationPortDS.desiredState, the PTP instance parameter value field contains the externalPortConfigurationPortDS.desiredState as specified in IEEE Std 1588-2019 [xx] clause 15.5.3.7.15.1 and in IEEE Std 802.1AS [yy] clause 14.12.2. The length of PTP instance parameter value field indicates a value of 1.  When the PTP instance parameter name indicates defaultDS.timeSource, the PTP instance parameter value field contains the defaultDS.timeSource as specified in IEEE Std 802.1AS [yy] clause 14.2.14. The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.ptpPortEnabled, the PTP instance parameter value field contains the portDS.ptpPortEnabled as specified in IEEE Std 802.1AS [yy] clause 14.8.4, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.isMeasuringDelay, the PTP instance parameter value field contains the portDS.isMeasuringDelay as specified in IEEE Std 802.1AS [yy] clause 14.8.6, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.asCapable, the PTP instance parameter value field contains the portDS.asCapable as specified in IEEE Std 802.1AS [yy] clause 14.8.7, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.meanLinkDelay, the PTP instance parameter value field contains the portDS.meanLinkDelay as specified in IEEE Std 802.1AS [yy] clause 14.8.8. The length of PTP instance parameter value field indicates a value of 12. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.meanLinkDelayThresh, the PTP instance parameter value field contains the portDS.meanLinkDelayThresh as specified in IEEE Std 802.1AS [yy] clause 14.8.9. The length of PTP instance parameter value field indicates a value of 12. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.neighborRateRatio, the PTP instance parameter value field contains the portDS.neighborRateRatio as specified in IEEE Std 802.1AS [yy] clause 14.8.11. The length of PTP instance parameter value field indicates a value of 8. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.initialLogAnnounceInterval, the PTP instance parameter value field contains the portDS.initialLogAnnounceInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.12. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.currentLogAnnounceInterval, the PTP instance parameter value field contains the portDS.currentLogAnnounceInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.13. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.useMgtSettableLogAnnounceInterval, the PTP instance parameter value field contains the portDS.useMgtSettableLogAnnounceInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.14, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.mgtSettableLogAnnounceInterval, the PTP instance parameter value field contains the portDS.mgtSettableLogAnnounceInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.15. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.initialLogSyncInterval, the PTP instance parameter value field contains the portDS.initialLogSyncInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.17. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.currentLogSyncInterval, the PTP instance parameter value field contains the portDS.currentLogSyncInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.18. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.useMgtSettableLogSyncInterval, the PTP instance parameter value field contains the x portDS.useMgtSettableLogSyncInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.19, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.mgtSettableLogSyncInterval, the PTP instance parameter value field contains the portDS.mgtSettableLogSyncInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.20. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.syncReceiptTimeout, the PTP instance parameter value field contains the portDS.syncReceiptTimeout as specified in IEEE Std 802.1AS [yy] clause 14.8.21. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.syncReceiptTimeoutTimeInterval, the PTP instance parameter value field contains the portDS.syncReceiptTimeoutTimeInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.22. The length of PTP instance parameter value field indicates a value of 12. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.initialLogPdelayReqInterval, the PTP instance parameter value field contains the portDS.initialLogPdelayReqInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.23. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.currentLogPdelayReqInterval, the PTP instance parameter value field contains the portDS.currentLogPdelayReqInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.24. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.useMgtSettableLogPdelayReqInterval, the PTP instance parameter value field contains the portDS.useMgtSettableLogPdelayReqInterval x as specified in IEEE Std 802.1AS [yy] clause 14.8.25, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.mgtSettableLogPdelayReqInterval, the PTP instance parameter value field contains the portDS.mgtSettableLogPdelayReqInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.26. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.initialLogGptpCapableMessageInterval, the PTP instance parameter value field contains the portDS.initialLogGptpCapableMessageInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.27. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.currentLogGptpCapableMessageInterval, the PTP instance parameter value field contains the portDS.currentLogGptpCapableMessageInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.28. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.useMgtSettableLogGptpCapableMessageInterval, the PTP instance parameter value field contains the portDS.useMgtSettableLogGptpCapableMessageInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.29, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.mgtSettableLogGptpCapableMessageInterval, the PTP instance parameter value field contains the portDS.mgtSettableLogGptpCapableMessageInterval as specified in IEEE Std 802.1AS [yy] clause 14.8.30. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.initialComputeNeighborRateRatio, the PTP instance parameter value field contains the portDS.initialComputeNeighborRateRatio as specified in IEEE Std 802.1AS [yy] clause 14.8.31. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.currentComputeNeighborRateRatio, the PTP instance parameter value field contains the portDS.currentComputeNeighborRateRatio as specified in IEEE Std 802.1AS [yy] clause 14.8.32. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.useMgtSettableComputeNeighborRateRatio, the PTP instance parameter value field contains the portDS.useMgtSettableComputeNeighborRateRatio as specified in IEEE Std 802.1AS [yy] clause 14.8.33, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.mgtSettableComputeNeighborRateRatio, the PTP instance parameter value field contains the portDS.mgtSettableComputeNeighborRateRatio as specified in IEEE Std 802.1AS [yy] clause 14.8.34. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.initialComputeMeanLinkDelay, the PTP instance parameter value field contains the portDS.initialComputeMeanLinkDelay as specified in IEEE Std 802.1AS [yy] clause 14.8.35. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.currentComputeMeanLinkDelay, the PTP instance parameter value field contains the portDS.currentComputeMeanLinkDelay x as specified in IEEE Std 802.1AS [yy] clause 14.8.36. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.useMgtSettableComputeMeanLinkDelay, the PTP instance parameter value field contains the portDS.useMgtSettableComputeMeanLinkDelay as specified in IEEE Std 802.1AS [yy] clause 14.8.37. with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.mgtSettableComputeMeanLinkDelay, the PTP instance parameter value field contains the portDS.mgtSettableComputeMeanLinkDelay as specified in IEEE Std 802.1AS [yy] clause 14.8.38. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.allowedLostResponses, the PTP instance parameter value field contains the portDS.allowedLostResponses as specified in IEEE Std 802.1AS [yy] clause 14.8.39. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile type set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.allowedFaults, the PTP instance parameter value field contains the portDS.allowedFaults as specified in IEEE Std 802.1AS [yy] clause 14.8.40. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.gPtpCapableReceiptTimeout, the PTP instance parameter value field contains the portDS.gPtpCapableReceiptTimeout as specified in IEEE Std 802.1AS [yy] clause 14.8.41. The length of PTP instance parameter value field indicates a value of 4. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.nup, the PTP instance parameter value field contains the portDS.nup as specified in IEEE Std 802.1AS [yy] clause 14.8.43. The length of PTP instance parameter value field indicates a value of 8. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.ndown, the PTP instance parameter value field contains the portDS.ndown as specified in IEEE Std 802.1AS [yy] clause 14.8.44. The length of PTP instance parameter value field indicates a value of 64. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.oneStepTxOper, the PTP instance parameter value field contains the portDS.oneStepTxOper as specified in IEEE Std 802.1AS [yy] clause 14.8.45, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.oneStepReceive, the PTP instance parameter value field contains the portDS.oneStepReceive as specified in IEEE Std 802.1AS [yy] clause 14.8.46, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.oneStepTransmit, the PTP instance parameter value field contains the portDS.oneStepTransmit as specified in IEEE Std 802.1AS [yy] clause 14.8.47, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.initialOneStepTxOper, the PTP instance parameter value field contains the portDS.initialOneStepTxOper as specified in IEEE Std 802.1AS [yy] clause 14.8.48, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.currentOneStepTxOper, the PTP instance parameter value field contains the portDS.currentOneStepTxOper as specified in IEEE Std 802.1AS [yy] clause 14.8.49, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.useMgtSettableOneStepTxOper, the PTP instance parameter value field contains the portDS.useMgtSettableOneStepTxOper as specified in IEEE Std 802.1AS [yy] clause 14.8.50, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.mgtSettableOneStepTxOper, the PTP instance parameter value field contains the portDS.mgtSettableOneStepTxOper as specified in IEEE Std 802.1AS [yy] clause 14.8.51, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.syncLocked, the PTP instance parameter value field contains the portDS.syncLocked as specified in IEEE Std 802.1AS [yy] clause 14.8.52, with a value of FALSE encoded as "00000000" and a value of TRUE encoded as "00000001". The length of PTP instance parameter value field indicates a value of 1. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter.  When the PTP instance parameter name indicates portDS.pdelayTruncatedTimestampsArray, the PTP instance parameter value field contains the portDS.pdelayTruncatedTimestampsArray as specified in IEEE Std 802.1AS [yy] clause 14.8.53. The length of PTP instance parameter value field indicates a value of 24. If this PTP instance parameter is received for a PTP instance with PTP profile set to "SMPTE Profile for Use of IEEE-1588 Precision Time Protocol in Professional Broadcast Applications", the receiver shall ignore the PTP instance parameter. |
|  |

\*\*\* Next change \*\*\*

## 9.y DS-TT port time synchronization information list

The purpose of the DS-TT port time synchronization information list information element is to convey a list of DS-TT ports and associated time synchronization information as defined in 3GPP TS 23.501 [2] table 5.28.3.1-2.

The DS-TT port time synchronization information list information element is coded as shown in figure 9.y.1, figure 9.y.2, and table 9.y.1.

The DS-TT port time synchronization information list is a type 6 information element with a minimum length of 3 octets.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| DS-TT port time synchronization information list IEI | | | | | | | | octet 1 |
| Length of DS-TT port time synchronization information list contents | | | | | | | | octet 2  octet 3 |
| DS-TT port time synchronization information 1 | | | | | | | | octet 4\*  octet m\* |
| … | | | | | | | |  |
| DS-TT port time synchronization information n | | | | | | | | octet n\*  octet o\* |

Figure 9.y.1: DS-TT port time synchronization information list information element

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Length of DS-TT port time synchronization information contents | | | | | | | | octet 4  octet 5 |
| DS-TT port number | | | | | | | | octet 6  octet 7 |
| PTP instance list | | | | | | | | octet 8\*  octet m\* |

Figure 9.y.2: DS-TT port time synchronization information

Table 9.y.1: DS-TT port time synchronization information list

|  |
| --- |
| Value part of the DS-TT time synchronization information list information element (octets 4 to o) |
|  |
| DS-TT time synchronization information list contents (octets 4 to o)  This field consists of zero or more DS-TT time synchronization information. |
|  |
| DS-TT time synchronization information (octets 4 to m) |
|  |
| Length of DS-TT time synchronization information contents (octets 4 to 5)  Length of DS-TT time synchronization information contents contains the length of the value part of DS-TT time synchronization information in octets. |
|  |
| DS-TT port number (octets 6 to 7)  DS-TT port number contains the binary encoding of the DS-TT port number to which the time synchronization information applies.  PTP instance list (octets 8 to m)  The PTP instance list field contains a PTP instance list as defined in 3GPP TS 23.501 [2] table 5.28.3.1-1 and table 5.28.3.1-2, encoded as the value part of the PTP instance list information element as specified in clause 9.x. |
|  |

\*\*\* End of changes \*\*\*