Assigned Names and Numbers

About this page	Link for Public Visitors
This is a publicly viewable page on the Broadband Forum's collaborative members' wiki. It lists the Broadband Forum "assigned names and numbers", i.e. things like URN prefixes, TCP port numbers and DHCP options that are used within BBF standards. These names and numbers are a mixture of those assigned by outside organizations, e.g. IANA (Internet Assigned Numbers Authority) and those assigned directly by BBF.	Return to the BBF **Public web site**

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1. Names and Numbers Assigned by Other Organizations

1.1. Enterprise Number and OUI

The Broadband Forum Enterprise Number is 3561 decimal (0x0DE9) and is listed in the IANA Private Enterprise Numbers Registry. The Enterprise Number also identifies the BBF's node in the object identifier (OID) hierarchy, with the full arc extending back to its root defined as follows: 1.3.6.1.4.1.3561. Information on the object identifier hierarchy can be found at ITU-T X.660 and ISO/IEC 9834.

The Broadband Forum IEEE OUI is 0x00256D. More information regarding IEEE OUI is at https://standards.ieee.org/develop/regauth/oui/.

1.2. IANA Interface Types

The following interface types were registered by BBF with IANA and are listed in the iana-if-type YANG module (there's also an IANA ifType MIB).

Interface Type	Reference	Notes
fastdsl	TR-355	
ghn	TR-374	
ptm	TR-383	

1.3. TCP and UDP Ports

The following ports were registered by BBF with IANA and are listed in the IANA Service Name and Transport Protocol Port Number Registry.

Service Name	Port Number	Transport Protocol	Reference	Notes
pon-ictp	7202	tcp	TR-352	
cwmp	7547	tcp	TR-069	ACS and Connection Request URLs can use this port
cwmp	7547	udp	TR-069	UDP Connection Request URL can use this port (it's the default)

1.4. Service Names

The following Service Names (without ports) were registered by BBF and are listed in the IANA Service Name and Transport Protocol Port Number Registry. Additional links are provided here to identify references for use of these Services Names, and defined TXT parameters associated with them.

Service Name	Transport Protocol	Published Reference or Current Project	TXT Parameters	Subtypes
usp-agt-coap	udp	TR-369	path=<resource path> name=<device or USP friendly name> code=<provisioning code> retry-min=< USP retry minimum wait interval> retry-mult=< USP retry interval multiplier>	No defined subtypes
usp-agt-http	tcp	TR-369		
usp-agt-stomp	tcp	TR-369		
usp-agt-ws	tcp	TR-369		
usp-ctr-coap	udp	TR-369		
usp-ctr-http	tcp	TR-369		
usp-ctr-stomp	tcp	TR-369		
usp-ctr-ws	tcp	TR-369		

1.5. URN Namespaces

The `dslforum-org`, `broadband-forum-org` and `bbf` URN namespaces have been registered with IANA. See RFC 8057 (URN Namespaces for Broadband Forum).

The first two (old) prefixes will continue to be used for new assignments relating to the standards with which they are already used, and the third (new) prefix will be used for assignments relating to all new standards.

To get a namespace assignment, requesters must go through the Broadband Forum project and documentation creation process.

1.6. Media Types

IANA media type assignments are listed at https://www.iana.org/assignments/media-types/media-types.xhtml.

The following Media Types have been assigned to BBF.

Media Type	Reference
application/vnd.bbf.usp.error	TR-369: User Services Platform (USP) This Media Type is currently described in the draft Issue 1 Amendment 1 of TR-369. This will be available at the above-referenced URL after TR-369i1a1 is published.
application/vnd.bbf.usp.msg	TR-369: User Services Platform (USP)
application/vnd.bbf.usp.msg+json	TR-369: User Services Platform (USP) This Media Type is not mentioned in the USP specification, as it is not intended for use in active deployments. It is intended for debugging and testing purposes only. It indicates the USP Record and Message headers are expressed in JSON without Protobuf encoding.

1.7. WebSocket Assignments

IANA WebSocket assignments are listed at https://www.iana.org/assignments/websocket/websocket.xhtml.

The following WebSocket Subprotocol Names have been assigned to BBF.

WebSocket Subprotocol Name	Reference
v1.usp	TR-369: User Services Platform (USP)

The following WebSocket Extension Names have been assigned to BBF.

WebSocket Extension Name	Reference
bbf-usp-protocol	TR-369: User Services Platform (USP)

1.8. Constrained RESTful Environments (CoRE) Parameters

IANA CoRE parameter assignments are listed at https://www.iana.org/assignments/core-parameters/core-parameters.xhtml.

The following CoRE parameter values have been assigned to BBF.

Registry	CoRE Parameter Value	Reference
Resource Type (rt=) Link Target Attribute	bbf.usp.endpoint	TR-369: User Services Platform (USP)
Interface Description (if=) Link Target Attribute	bbf.usp.c	TR-369: User Services Platform (USP)
Interface Description (if=) Link Target Attribute	bbf.usp.a	TR-369: User Services Platform (USP)

2. URN Namespaces

2.1. urn:dslforum-org:

Namespace	Usage	Reference	Notes
urn:dslforum-org:device:	BBF-defined UPnP devices	TR-064 TR-133	Both these TRs are DEPRECATED
urn:dslforum-org:service:	BBF-defined UPnP services	TR-064 TR-133	Both these TRs are DEPRECATED
urn:dslforum-org:cwmp-*n*-*m*	CWMP version *n.m*	TR-069	*n* and *m* indicate the CWMP major and minor version respectively Some examples: • urn:dslforum-org:cwmp-1-0 • urn:dslforum-org:cwmp-1-1
urn:dslforum-org:sip urn:dslforum-org:h.323 urn:dslforum-org:h.248 urn:dslforum-org:mgcp urn:dslforum-org:pppoe urn:dslforum-org:sdp-*m*-*t*	QoS protocol and flow identifiers	TR-181 Issue 2	*m* and *t* indicate media type and transport respectively Note: pppoe is used both as a protocol and a flow identifier, and sdp is used only as a flow identifier. In theory additional protocol and flow identifiers could be defined, but this is unlikely

2.2. urn:broadband-forum-org:

Namespace	Usage	Reference	Notes

urn:broadband-forum-org:tr-*nnn-i-a-c* urn:broadband-forum-org:tr-*nnn-i-a*	References to BBF Technical Reports	TR-106 TR-181 etc.	*nnn*, *i*, *a* and *c* indicate the TR number, Issue, Amendment and Corrigendum respectively (*-c* is optional) Note: *wt* is used instead of *tr* to reference a BBF Working Text (never in a published standard) Some examples: • urn:broadband-forum-org:tr-069-1-5-0 • urn:broadband-forum-org:tr-181-2-11
urn:broadband-forum-org:cwmp:	XML Schemas used with CWMP	TR-069 TR-106	Some examples: • urn:broadband-forum-org:cwmp:xmppConnReq-1-0 • urn:broadband-forum-org:cwmp:lwnotif-1-0 • urn:broadband-forum-org:cwmp:datamodel-1-5 • urn:broadband-forum-org:cwmp:datamodel-report-0-1 • urn:broadband-forum-org:cwmp:devicetype-1-3 • urn:broadband-forum-org:cwmp:devicetype-features
urn:broadband-forum-org:ipdr:	XML Schemas used with IPDR	TR-232	Some examples: • urn:broadband-forum-org:ipdr:tr-232-1-0

2.3. urn:bbf:

Namespace	Usage	Reference	Notes

urn:bbf:yang:	BBF YANG module namespaces	TR-355 TR-383 TR-385	Within this namespace, the following have been defined: • urn:bbf:yang:bbf-availability • urn:bbf:yang:bbf-dot1q-types • urn:bbf:yang:bbf-ethernet-performance-management • urn:bbf:yang:bbf-fast • urn:bbf:yang:bbf-fastdsl • urn:bbf:yang:bbf-frame-classification • urn:bbf:yang:bbf-ghn • urn:bbf:yang:bbf-ghs • urn:bbf:yang:bbf-hardware-rpf-dpu • urn:bbf:yang:bbf-hardware-rpf-dpu-state • urn:bbf:yang:bbf-hardware-types • urn:bbf:yang:bbf-if-type • urn:bbf:yang:bbf-inet-types • urn:bbf:yang:bbf-interfaces-performance-management • urn:bbf:yang:bbf-interfaces-statistics-management • urn:bbf:yang:bbf-interface-usage • urn:bbf:yang:bbf-l2-dhcpv4-relay • urn:bbf:yang:bbf-l2-dhcpv4-relay-forwarding • urn:bbf:yang:bbf-l2-forwarding • urn:bbf:yang:bbf-l2-forwarding-shared-fdb • urn:bbf:yang:bbf-ldra • urn:bbf:yang:bbf-link-table-body • urn:bbf:yang:bbf-melt • urn:bbf:yang:bbf-mgmd • urn:bbf:yang:bbf-mgmd-types • urn:bbf:yang:bbf-pppoe-intermediate-agent • urn:bbf:yang:bbf-ptm • urn:bbf:yang:bbf-qos-classifiers • urn:bbf:yang:bbf-qos-enhanced-scheduling • urn:bbf:yang:bbf-qos-filters • urn:bbf:yang:bbf-qos-policer-envelope-profiles • urn:bbf:yang:bbf-qos-policies • urn:bbf:yang:bbf-qos-policies-sub-interfaces • urn:bbf:yang:bbf-qos-policing • urn:bbf:yang:bbf-qos-policing-types • urn:bbf:yang:bbf-qos-rate-control • urn:bbf:yang:bbf-qos-shaping • urn:bbf:yang:bbf-qos-traffic-mngt • urn:bbf:yang:bbf-qos-types • urn:bbf:yang:bbf-selt • urn:bbf:yang:bbf-sub-interfaces • urn:bbf:yang:bbf-sub-interface-tagging • urn:bbf:yang:bbf-subscriber-profiles • urn:bbf:yang:bbf-subscriber-types • urn:bbf:yang:bbf-xpon • urn:bbf:yang:bbf-xponani • urn:bbf:yang:bbf-xpongemtcont • urn:bbf:yang:bbf-xpon-if-type • urn:bbf:yang:bbf-xpon-types • urn:bbf:yang:bbf-xponvani • urn:bbf:yang:bbf-vdsl • urn:bbf:yang:bbf-yang-types

urn:bbf:lmap:	BBF LMAP Performance Metrics Registry	TR-181i2a12 Appendix XX	TR-181i2a12 Appendix XX provides Theory of Operation and describes usage. The format for a registry entry within this namespace is: • urn:bbf:lmap:<BBF TR>:<DiagnosticProfileName> Example: • urn:bbf:lmap:tr-181-2-11-0:UploadDiagnostics-1 The following IETF references define format of a registry entry and provide examples. • draft-ietf-ippm-metric-registry • draft-ietf-ippm-initial-registry
urn:bbf:usp:	USP	TR-369	Within this namespace, the following have been defined in TR-369: • urn:bbf:usp:id:<Endpoint ID>

3. Common Sub-options

Common Sub-option codes used with DHCPv4, DHCPv6, PPPoE and RADIUS. Code range: 1-254 (0x01-0xfe), 8 bits.

Dec	Hex	Usage	Reference	Notes
1	0x01	Agent Circuit ID	TR-156 / TR-177	
2	0x02	Agent Remote ID	TR-156 / TR-177	
3-128	0x03-0x80	Unassigned		
129	0x81	Actual data rate Upstream	TR-156 / TR-177	32 bit binary value in kbps
130	0x82	Actual data rate Downstream	TR-156 / TR-177	32 bit binary value in kbps
131	0x83	Minimum Data Rate Upstream	TR-156 / TR-177	32 bit binary value in kbps
132	0x84	Minimum Data Rate Downstream	TR-156 / TR-177	32 bit binary value in kbps
133	0x85	Attainable Data Rate Upstream	TR-156 / TR-177	32 bit binary value in kbps
134	0x86	Attainable Data Rate Downstream	TR-156 / TR-177	32 bit binary value in kbps

135	0x87	Maximum Data Rate Upstream	TR-156 / TR-177	32 bit binary value in kbps
136	0x88	Maximum Data Rate Downstream	TR-156 / TR-177	32 bit binary value in kbps
137	0x89	Minimum Data Rate Upstream in low power state	TR-156 / TR-177	32 bit binary value in kbps
138	0x8a	Minimum Data Rate Downstream in low power state	TR-156 / TR-177	32 bit binary value in kbps
139	0x8b	Maximum Interleaving Delay Upstream	TR-156 / TR-177	32 bit binary value in milliseconds
140	0x8c	Actual interleaving Delay Upstream	TR-156 / TR-177	32 bit binary value in milliseconds
141	0x8d	Maximum Interleaving Delay Downstream	TR-156 / TR-177	32 bit binary value in milliseconds
142	0x8e	Actual interleaving Delay Downstream	TR-156 / TR-177	32 bit binary value in milliseconds
143	0x8f	Unassigned		
144	0x90	Access loop encapsulation	TR-101 Appendix A	24 bit binary value
145-154	0x91-0x9a	Unassigned		
155	0x9b	Expected throughput (ETR) upstream	TR-301	32 bit binary value in kbps
156	0x9c	Expected throughput (ETR) downstream	TR-301	32 bit binary value in kbps
157	0x9d	Attainable expected throughput (ATTETR) upstream	TR-301	32 bit binary value in kbps
158	0x9e	Attainable expected throughput (ATTETR) downstream	TR-301	32 bit binary value in kbps
159	0x9f	Gamma data rate (GDR) upstream	TR-301	32 bit binary value in kbps
160	0xa0	Gamma data rate (GDR) downstream	TR-301	32 bit binary value in kbps
161	0xa1	Attainable gamma data rate (ATTGDR) upstream	TR-301	32 bit binary value in kbps
162	0xa2	Attainable gamma data rate (ATTGDR) downstream	TR-301	32 bit binary value in kbps
163-191	0xa3-0xbf	Unassigned		
192	0xc0	DPU Discovery	TR-301 Issue 2 Section 16.5.2.1	

193	0xc1	PMA Offer	TR-301 Issue 2 Section 16.5.2.2	
194-254	0xc2-0xfe	Unassigned		

4. DHCP Sub-options

4.1. DHCPv4 Option 43 Sub-options (Codes)

RFC 2132 Section 8.4: Option 43: Vendor Specific Information. Code range: 1-254 (0x01-0xfe), 8 bits.

Dec	Hex	Usage	Reference	Notes
1-4	0x01-0x04	ACS discovery	TR-069 Section 3.1	Sub-option usage: • 1: ACS URL • 2: Provisioning code • 3: CWMP retry minimum wait interval • 4: CWMP retry interval multiplier
5-254	0x05-0xfe	Unassigned		

4.2. DHCPv4 Option 82, Sub-option 9 Codes

RFC 4243: Vendor-Specific Information Suboption for the Dynamic Host Configuration Protocol (DHCP) Relay Agent Option. Code range 1-254 (0x01-0xfe), 8 bits.

The following Sub-options are used with enterprise number 3561 (BBF).

Dec	Hex	Usage	Reference	Notes
1-2	0x01-0x02	Common Sub-options	TR-156 / TR-177	
3-128	0x03-0x80	Unassigned		
129-142	0x81-0x8e	Common Sub-options	TR-156 / TR-177	
143	0x8f	Unassigned		
144	0x90	Common Sub-options	TR-101 Appendix A	
145-154	0x91-0x9a	Unassigned		
155-162	0x9b-0xa2	Common Sub-options	TR-301	

163-191	0xa3-0xbf	Unassigned		
192-193	0xc0-0xc1	Common Sub-options	TR-301 Issue 2	
194-254	0xc2-0xfe	Unassigned		

4.3. DHCPv4 Option 125 Sub-options

RFC 3925 Section 4: Option 125: Vendor-Identifying Vendor-Specific Information. Sub-option range: 1-254 (0x01-0xfe), 8 bits.

The following Sub-options are used with enterprise number 3561 (BBF).

Dec	Hex	Usage	Reference	Notes
1-4	0x01-0x04	Device info	TR-124 WAN.DHCPC	Sub-option usage: • 1: Manufacturer OUI • 2: Product class • 3: Model name • 4: Serial number **Sub-options 1-4 overlap with TR-069 Annex F**
1-6	0x01-0x06	Device / Gateway association	TR-069 Annex F	Sub-option usage: • 1: Device manufacturer OUI • 2: Device serial number • 3: Device product class • 4: Gateway manufacturer OUI • 5: Gateway serial number • 6: Gateway product class **Sub-options 1-4 overlap with TR-124**
7-10	0x07-0x0a	Unassigned		
11-14	0x0b-0x0e	ACS discovery	TR-069 Section 3.1	Sub-option usage: • 11: ACS URL • 12: Provisioning code • 13: CWMP retry minimum wait interval • 14: CWMP retry interval multiplier
15-16	0x0f-0x10	Reserved	TR-069	Reserved because they're assigned as DHCPv6 option 17 sub-options
17-20	0x11-0x14	Unassigned		

21-23	0x15-0x17	GRE tunneling	TR-317 Section 7.1.3.3.2	Sub-option usage: • 21: Tunnel type • 22: Server endpoint • 23: Client endpoint
24	0x18	Client requirements	TR-317 Section 7.4.3.7	Sub-option usage: • 24: Device type
25-28	0x19-0x1c	USP Controller Discovery	TR-369 Discovery and Advertisement	Sub-option usage: • 25: URL of the Controller • 26: Provisioning code • 27: USP retry mini-mum wait interval • 28: USP retry interval multiplier
29-191	0x1d-0xbf	Unassigned		
192-193	0xc0-0xc1	Common Sub-options	TR-301 Issue 2	
194-254	0xc2-0xfe	Unassigned		

4.4. DHCPv6 Option 17 Sub-options

RFC 3315 Section 22.17: Option 17: Vendor-specific Information. Sub-option range: 1-65534 (0x0001-0xfffe), 16 bits.

The following Sub-options are used with enterprise number 3561 (BBF).

Dec	Hex	Usage	Reference	Notes
1-2	0x0001-0x0002	Common Sub-options	TR-156 / TR-177	**Sub-options 1-2 overlap with TR-069**
1-4	0x0001-0x0004	ACS discovery	TR-069 Section 3.1	Sub-option usage: • 1: URL of the ACS • 2: Provisioning code • 3: CWMP retry minimum wait interval • 4: CWMP retry interval multiplier **Sub-options 1-2 overlap with TR-156 / TR-177**
5-6	0x0005-0x0006	Reserved	TR-069	Reserved because they were used prior to TR-069 Amendment 5, and because they're assigned as DHCPv4 option 125 sub-options

7-10	0x0007-0x000a	Unassigned		
11-16	0x000b-0x0010	Device / Gateway association	TR-069 Annex F	Sub-option usage: • 11: Device manufacturer OUI • 12: Device serial number • 13: Device product class • 14: Gateway manufacturer OUI • 15: Gateway serial number • 16: Gateway product class Sub-options 1-6 were used prior to TR-069 Amendment 5
17-20	0x0011-0x0014	Unassigned		
21	0x0015	Reserved	TR-317	Reserved because it's assigned as a DHCPv4 option 125 sub-option
22-23	0x0016-0x0017	GRE tunneling	TR-317 Section 7.1.3.3.2	Sub-option usage: • 22: Server endpoint • 23: Client endpoint
24	0x0018	Reserved	TR-317	Reserved because it's assigned as a DHCPv4 option 125 sub-option
25-28	0x0019-0x001c	USP Controller Discovery	TR-369 Discovery and Advertisement	Sub-option usage: • 25: URL of the Controller • 26: Provisioning code • 27: USP retry mini-mum wait interval • 28: USP retry interval multiplier
29-128	0x001d-0x0080	Unassigned		
129-142	0x0081-0x008e	Common Sub-options	TR-156 / TR-177	
143	0x008f	Unassigned		
144	0x0090	Common Sub-options	TR-101 Appendix A	
145-154	0x0091-0x009a	Unassigned		

155-162	0x009b-0x00a2	Common Sub-options	TR-301	
163-191	0x00a3-0x00bf	Unassigned		
192-193	0x00c0-0x00c1	Common Sub-options	TR-301 Issue 2	
194-65534	0x00c2-0xfffe	Unassigned		

5. PPPoE Tags

PPPoE Tag 261 Sub-options

RFC 2516 Appendix A: Tag 261 (0x0105): Vendor-Specific. Sub-option range: 1-254 (0x01-0xfe), 8 bits.

The following Sub-options are used with enterprise number 3561 (BBF).

Dec	Hex	Usage	Reference	Notes
1-2	0x01-0x02	Common Sub-options	TR-156 / TR-177	
3-128	0x03-0x80	Unassigned		
129-142	0x81-0x8e	Common Sub-options	TR-156 / TR-177	
143	0x8f	Unassigned		
144	0x90	Common Sub-options	TR-101 Appendix A	
145-154	0x91-0x9a	Unassigned		
155-162	0x9b-0xa2	Common Sub-options	TR-301	
163-253	0xa3-0xfd	Unassigned		
254	0xfe	PPPoA/oE IWF session flag	TR-101	Indicates the presence of PPPoA/oE IWF session

6. RADIUS Attributes

RADIUS Attribute 26 Sub-options

RFC 2865 Section 5.26: Tag 26: Vendor-Specific. Sub-option range: 1-254 (0x01-0xfe), 8 bits.

The following Sub-options are used with enterprise number 3561 (BBF).

Dec	Hex	Usage	Reference	Notes
1-2	0x01-0x02	Common Sub-options	TR-156 / TR-177	
3-128	0x03-0x80	Unassigned		
129-142	0x81-0x8e	Common Sub-options	TR-156 / TR-177	
143	0x8f	Unassigned		
144	0x90	Common Sub-options	TR-101 Appendix A	
145-154	0x91-0x9a	Unassigned		
155-162	0x9b-0xa2	Common Sub-options	TR-301	
163-253	0xa3-0xfd	Unassigned		
254	0xfe	PPPoA/oE IWF session flag	TR-101	Indicates the presence of PPPoA/oE IWF session