MCx Network Architecture

VIAVI Solutions

5GS PDU CONNECTIVITY SERVICE AND SESSION

5QI Value	Resource Type	Default Priority Level	Packet Delay Budget	Packet Error Rate	Default Maximum Data Burst Volume	Default Averaging Window	Example Services
1	GBR	20	100 ms	10^{-2}	N/A	2000 ms	Conversational Voice
2		40	150 ms	10^{-3}	N/A	2000 ms	Conversational Video (Live Streaming)
3 (NOTE 1)		30	50 ms	10^{-3}	N/A	2000 ms	Real Time Gaming, V2X messages, Electricity distribution medium voltage, Process automation monitoring
4		50	300 ms	10^{-6}	N/A	2000 ms	Non Conversational Video (Buffered Streaming)
65		7	75 ms	10^{-2}	N/A	2000 ms	Mission Critical user plane Push To Talk voice (e.g., MCPTT)
66		20	100 ms	10^{-2}	N/A	2000 ms	Non Mission Critical user plane Push To Talk voice
67		15	100 ms	10^{-3}	N/A	2000 ms	Mission Critical Video user plane
75 (NOTE 1)							
71		56	150 ms	10^{-6}	N/A	2000 ms	"Live" Uplink Streaming (e.g. 3GPP TS 26.238)
72		56	300 ms	10^{-6}	N/A	2000 ms	"Live" Uplink Streaming
73		56	300 ms	10^{-8}	N/A	2000 ms	"Live" Uplink Streaming
74		56	500 ms	10^{-8}	N/A	2000 ms	"Live" Uplink Streaming
76		56	500 ms	10^{-6}	N/A	2000 ms	"Live" Uplink Streaming
5	Non-GBR	10	100 ms	10^{-6}	N/A	N/A	IMS Signalling
6		60	300 ms	10^{-6}	N/A	N/A	Video (Buffered Streaming) TCP-based (e.g., www, e-mail, chat, ftp, p2p file sharing, progressive video, etc.)
7		70	100 ms	10^{-3}	N/A	N/A	Voice, Video (Live Streaming) Interactive Gaming
8		80	300 ms	10^{-6}	N/A	N/A	Video (Buffered Streaming) TCP-based (e.g., www, e-mail, chat, ftp, p2p file sharing, progressive video, etc.)
9		90	Same values as 5QI '8'				
69	Delay Critical GBR	5	60 ms	10^{-6}	N/A	N/A	Mission Critical delay sensitive signalling (e.g., MC-PTT signalling)
70		55	200 ms	10^{-6}	N/A	N/A	Mission Critical Data (e.g. example services are the same as 5QI 6, 8, 9)
79		65	50 ms	10^{-2}	N/A	N/A	V2X messages
80		68	10 ms	10^{-6}	N/A	N/A	Low Latency eMBB applications, Augmented Reality
82		19	10 ms	10^{-4}	255 bytes	2000 ms	Discrete Automation (see TS 22.261)
83		22	10 ms	10^{-4}	1354 bytes	2000 ms	Discrete Automation (see TS 22.261)
84		24	30 ms	10^{-5}	1354 bytes	2000 ms	Intelligent transport systems (see TS 22.261)
85		21	5 ms	10^{-5}	255 bytes	2000 ms	Electricity Distribution- high voltage (see TS 22.261)

Source: 3GPP TS 23.501 NOTE 1: This 5QI value is not supported in Release 15 – reserved for future use

REFERENCE POINT PROTOCOL STACKS

User Plane | Control Plane

Stacks — Reference Points / Interfaces

H.248 / MIUA / SCTP / IP	Mn Mp Ix Iq
SIP / UDP / TCP / IP	Ms Rc Ma Mr Cr Ici Mi Mj Mk Mm Mx Mg ISC Gm Mw
Diameter / TCP / SCTP / IP	Dx Cx Gx S6a Rx Sh SGmb MB2-C Dh N5
RTP / RTCP / UDP / IP	Mb
User Plane / UDP / IP	Sgimb MB2-U
User Plane / GTPv1-U / UDP / IP	M1 N3 N9 S1-U
User Plane / IP	N6 SGi
GTPv2-C / User Plane / GTPv1-U / UDP / IP	S5 S11
GTPv2-C / UDP / IP	S10 Sm
RRC / PDCP / RLC / MAC; IP / Voice	Uu
X2AP / SCTP / IP; User Plane / GTPv1-U / UDP / IP	X2
NAS EMM / NAS ESM / SNAP / SCTP / IP	S1-MME
M2AP / SCTP / IP	M2
M3AP / SCTP / IP	M3
User Plane / DSMIPv6	S2c
HTTP / TCP / IP	Ut
PFCP / User Plane / GTPv1-U / UDP / IP	N4
NAS / NGAP / SCTP / IP	N1
NGAP / SCTP / IP	N2
NAS-MM / NAS-SM / User Plane: RRC, PDCP, RLC, MAC	5G Uu
XnAP / User Plane: GTPv1-U / SCTP / IP / UDP / IP	Xn
API / REST/JSON / HTTP/2 / TLS / TCP / IP	Service based interfaces (SBI): N11 N14 N12 N8 N2 N13 N35 N21 N16 N10

User Plane/Media Control Plane
Control Plane
Logical Interface
Reference Point - Application Plane