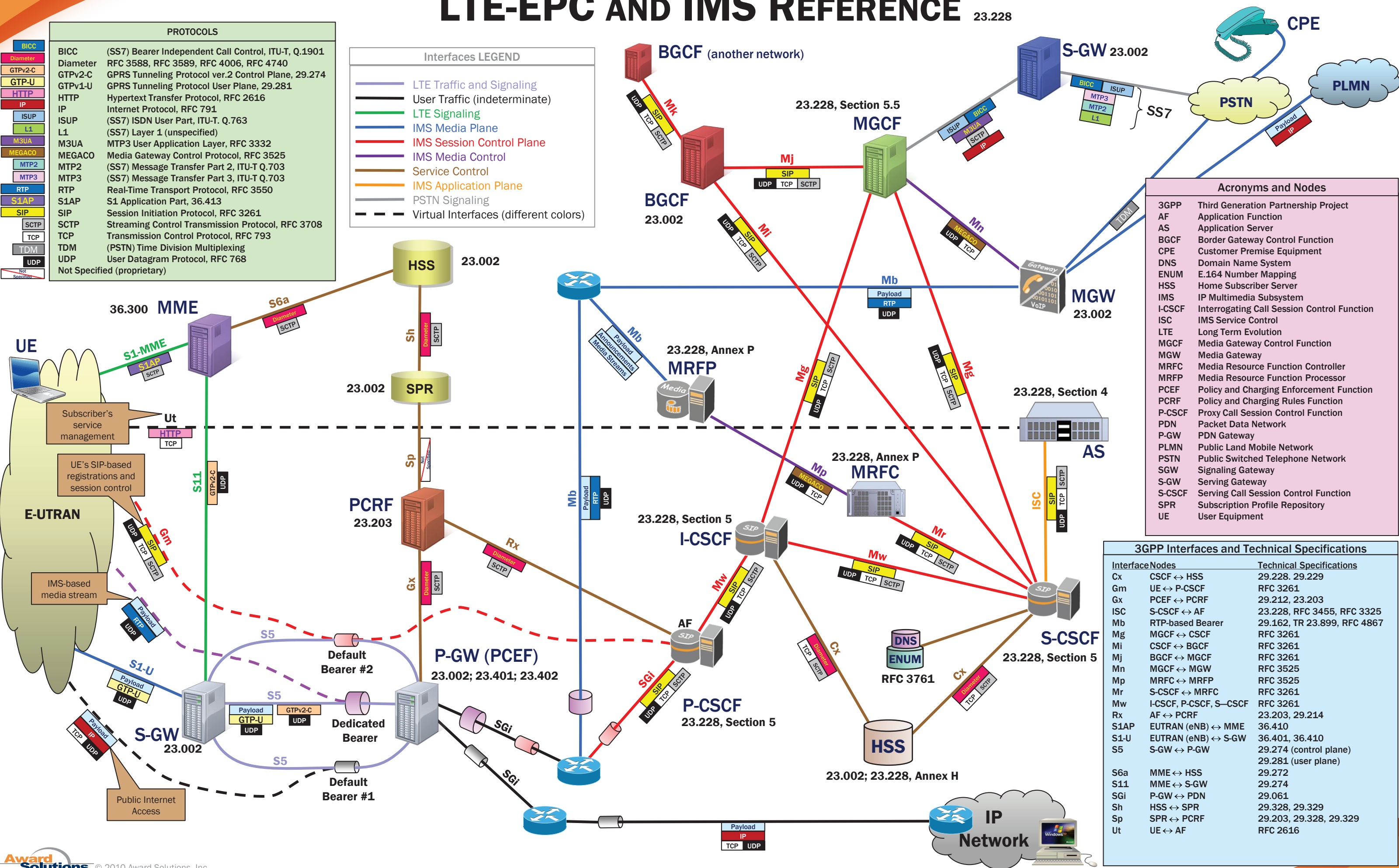


LTE-EPC AND IMS REFERENCE 23.228

PROTOCOLS	
BICC	(SS7) Bearer Independent Call Control, ITU-T, Q.1901
Diameter	RFC 3588, RFC 3589, RFC 4006, RFC 4740
GTPv2-C	GPRS Tunneling Protocol ver.2 Control Plane, 29.274
GTP-U	GPRS Tunneling Protocol User Plane, 29.281
HTTP	Hypertext Transfer Protocol, RFC 2616
IP	Internet Protocol, RFC 791
ISUP	(SS7) ISDN User Part, ITU-T, Q.763
L1	(SS7) Layer 1 (unspecified)
M3UA	MTP3 User Application Layer, RFC 3332
MEGACO	Media Gateway Control Protocol, RFC 3525
MTP2	(SS7) Message Transfer Part 2, ITU-T Q.703
MTP3	(SS7) Message Transfer Part 3, ITU-T Q.703
RTP	Real-Time Transport Protocol, RFC 3550
S1AP	S1 Application Part, 36.413
SIP	Session Initiation Protocol, RFC 3261
SCTP	Streaming Control Transmission Protocol, RFC 3708
TCP	Transmission Control Protocol, RFC 793
TDM	(PSTN) Time Division Multiplexing
UDP	User Datagram Protocol, RFC 768
Not Specified	Not Specified (proprietary)

Interfaces LEGEND	
	LTE Traffic and Signaling
	User Traffic (indeterminate)
	LTE Signaling
	IMS Media Plane
	IMS Session Control Plane
	IMS Media Control
	Service Control
	IMS Application Plane
	PSTN Signaling
	Virtual Interfaces (different colors)



Acronyms and Nodes	
3GPP	Third Generation Partnership Project
AF	Application Function
AS	Application Server
BGCF	Border Gateway Control Function
CPE	Customer Premise Equipment
DNS	Domain Name System
ENUM	E.164 Number Mapping
HSS	Home Subscriber Server
IMS	IP Multimedia Subsystem
I-CSCF	Interrogating Call Session Control Function
ISC	IMS Service Control
LTE	Long Term Evolution
MGCF	Media Gateway Control Function
MGW	Media Gateway
MRFC	Media Resource Function Controller
MRFP	Media Resource Function Processor
PCEF	Policy and Charging Enforcement Function
PCRF	Policy and Charging Rules Function
P-CSCF	Proxy Call Session Control Function
PDN	Packet Data Network
P-GW	PDN Gateway
PLMN	Public Land Mobile Network
PSTN	Public Switched Telephone Network
SGW	Signaling Gateway
S-GW	Serving Gateway
S-CSCF	Serving Call Session Control Function
SPR	Subscription Profile Repository
UE	User Equipment

3GPP Interfaces and Technical Specifications		
Interface	Nodes	Technical Specifications
Cx	CSCF ↔ HSS	29.228, 29.229
Gm	UE ↔ P-CSCF	RFC 3261
Gx	PCEF ↔ PCRF	29.212, 23.203
ISC	S-CSCF ↔ AF	23.228, RFC 3455, RFC 3325
Mb	RTP-based Bearer	29.162, TR 23.899, RFC 4867
Mg	MGCF ↔ CSCF	RFC 3261
Mi	CSCF ↔ BGCF	RFC 3261
Mj	BGCF ↔ MGCF	RFC 3261
Mn	MGCF ↔ MGW	RFC 3525
Mp	MRFC ↔ MRFP	RFC 3525
Mr	S-CSCF ↔ MRFC	RFC 3261
Mw	I-CSCF, P-CSCF, S-CSCF	RFC 3261
Rx	AF ↔ PCRF	23.203, 29.214
S1AP	EUTRAN (eNB) ↔ MME	36.410
S1-U	EUTRAN (eNB) ↔ S-GW	36.401, 36.410
S5	S-GW ↔ P-GW	29.274 (control plane) 29.281 (user plane)
S6a	MME ↔ HSS	29.272
S11	MME ↔ S-GW	29.274
SGi	P-GW ↔ PDN	29.061
Sh	HSS ↔ SPR	29.328, 29.329
Sp	SPR ↔ PCRF	29.203, 29.328, 29.329
Ut	UE ↔ AF	RFC 2616