

2 Services and Ports

2.1 Voice Traffic and Signaling

2.1.1 HiPath 5000

HiPath 5000 uses for communication on the network the following services and ports:

Important: Except the UDP-Ports for the Voice payload the port numbers listed cannot be changed in the product.

Explanation:

A-Prot. Application-Layer-Protocol

M-Prot. Middleware-Layer-Protocol

T-Prot. Transport-Layer-Protocol

D-Ports Default-Ports are the port numbers or the port range which comes in effect after turning power on the first time – without administration.

A-Ports Admin-Ports are the alternative port numbers or the port range in which the ports can be altered by administration.

Application	Function	Type	A-Prot.	M-Prot.	T-Prot.	D-Ports	A-Ports	Remarks
Centralised Administration - Functions provided by the system for DBFS access								
	FCT Interface to DBFS	server	FCT API	---	TCP	7100	1 - 65535	Def: FCT Adm: Default can be modified within this range
	REG Client Registration of HG1500 at DBFS	client	REG	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)
	SYNC Interface to DBFS	server	SYNC	---	TCP	7024	1 - 65535	Def: SYNC Adm: Default can be modified within this range
Centralised Ressource Management - Mangement of networkwide Ressources (conference, MOH)								
	IPNC MediaGatewaycontrol	server	MCP	---	TCP	12051	1 - 65535	Def: IPNC Adm: Default can be modified within this range
	RM client Resource manager for networkwide use of MOH and Conference	client	RM API	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)
	RM server Resource manager for networkwide use of MOH and Conference	server	RM API	---	TCP	9000	1 - 65535	Def: RM Adm: Default can be modified within this range
CSTA - CSTA access								
	CSTA Access	server	CSTA API	---	TCP	7001	1 - 65535	Def: CSTA Adm: Default can be modified within this range
Customer License Agent (CLA)								
	CLA Discovery CLA multicast listener for CLA detection by CLM	server	CLADP	---	UDP	23232		Def: UDP CLA detection Port on multicast address 224.0.23.23

Application	Function	Type	A-Prot.	M-Prot.	T-Prot.	D-Ports	A-Ports	Remarks
	CLA-Service CLA service port for CLC / CLM	server	XML	---	TCP - SSL	61740		Def: Port will be discovered by CLM through multicast procedure. CLC uses port by configuration.
Customer License Client (CLC)								
	CLA Connectivity (CLC) Used for data transfer between CLC / CLM	client	HLP	---	TCP - SSL	61740		Def: Port will be discovered by CLM through multicast procedure. CLC uses port by configuration.
Customer License Manager (CLM) Web basierte Applikation zur Verwaltung von HiPath Lizenzen in der Kundeninfrastruktur								
	CLA Connectivity (CLM) Used for data transfer between CLA / CLM	client	XML	---	TCP - SSL	61740		Def: Port will be discovered by CLM through multicast procedure. CLC uses port by configuration.
	CLM Shutdown port Tomcat shut down port provided by CLM setup	server	TSP	---	TCP	8820		Def: Shutdown port (Tomcat) of License Manager
	CLS Connectivity (CLM) Interface to Central License Server (CLS)	client	SOAP	HTTPS	TCP	0 - 65535		Def: Port selected by the TCP/IP-implementation of the underlying operating system
	HTTP based Management Access (CLM) Web based Interface of Customer License Manager	server	HTTP	---	TCP	8819	1025 - 65535	Def: HTTP port of License Manager Adm: Default can be modified within this range during Setup or later (CLM)
	HTTPS based Management Access (CLM) Secured Web based Interface of Customer License Manager	server	HTTPS	---	TCP	8818	1025 - 65535	Def: HTTPS port of License Manager Adm: Default can be modified within this range during Setup or later (CLM)
DBFS - Feature Server for centralized administration								
	CAR Server (DBFS) CAR component for centralized administration	server	CAR	---	TCP	12063	1 - 65535	Def: CAR Server Adm: Default can be modified within this range
	REG Server Registration of HG1500 with DBFS	server	REG	---	TCP	12061	1 - 65535	Def: REG Adm: Default can be modified within this range
	VSynch client (DBFS) Client for database synchronisation between DBFS and H2/3/5k	client	SYNC	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)
H.323 Networking								
	CAR client Call address resolution client	client	CAR	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)
	CAR-Alive Client Alivechecks (configurable)	client	CAR Alive	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)
	CAR-alive server Alive checks (configurable)	server	CAR Alive	---	TCP	12062	1 - 65535	Def: CAR Adm: Default can be modified within this range
	H.323 Call Signaling active VoIP Verbindungssteuerung	client	H.323 (H.225-Q.931)	---	TCP	12250 - 12950	1 - 65535	Def: H.323 Adm: Default can be modified within this range
	H.323 Call Signaling passive Voice over IP: Verbindungssteuerung	server	H.323 (H.225-Q.931)	---	TCP	1720	1 - 65535	Def: H.225/Q.931 Adm: Default can be modified within this range
	RAS client RAS client for registration at external gatekeeper	client	H.323 (H.225-RAS)	---	UDP	1024 - 65535		Def: Ephemeral Ports (IANA)
	RM client Resource manager for networkwide use of MOH and Conference	client	RM API	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)

H.323 Subscriber

Application	Function	Type	A-Prot.	M-Prot.	T-Prot.	D-Ports	A-Ports	Remarks
	H.225 RAS RAS server for H.323 endpoints	server	H.323 (H.225- RAS)	---	UDP	1719	1 - 65535	Def: H.225/RAS Adm: Default can be modified within this range
	H.245 Media Signaling active H.245 channel signalling for H.323 endpoints	client	H.323 (H.245)	---	TCP	12250 - 12950	1 - 65535	Def: H.323 Adm: Default can be modified within this range
	H.245 Media Signaling passive H.245 channel signalling for H.323 endpoints	server	H.323 (H.245)	---	TCP	12250 - 12950	1 - 65535	Def: H.323 Adm: Default can be modified within this range
	H.323 Call Signaling	server	H.323 (H.225- Q.931)	---	TCP	4711	1 - 65535	Adm: Default can be modified within this range
	H.323 Call Signaling active VoIP Verbindungssteuerung	client	H.323 (H.225- Q.931)	---	TCP	12250 - 12950	1 - 65535	Def: H.323 Adm: Default can be modified within this range
	H.323 Call Signaling passive Voice over IP: Verbindungssteuerung	server	H.323 (H.225- Q.931)	---	TCP	1720	1 - 65535	Def: H.225/Q.931 Adm: Default can be modified within this range
HFA subscriber								
	CorNet TC	server	CorNet-TC	---	TCP	4060	1 - 65535	Def: CorNet-TC Adm: Default can be modified within this range
	H.323 Call Signaling active VoIP Verbindungssteuerung	client	H.323 (H.225- Q.931)	---	TCP	12250 - 12950	1 - 65535	Def: H.323 Adm: Default can be modified within this range
	H.323 Call Signaling passive Voice over IP: Verbindungssteuerung	server	H.323 (H.225- Q.931)	---	TCP	1720	1 - 65535	Def: H.225/Q.931 Adm: Default can be modified within this range
MS-SQL Server								
	MS-SQL_Server-TCP MS-SQL Server	server	MS-SQL	---	TCP	1433		
	MS-SQL_Server-UDP Microsof SQL Server	server	MS-SQL	---	UDP	1434		
SIP networking								
	CAR client Call address resolution client	client	CAR	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)
	CAR-Alive Client Alivechecks (configurable)	client	CAR Alive	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)
	CAR-alive server Alive checks (configurable)	server	CAR Alive	---	TCP	12062	1 - 65535	Def: CAR Adm: Default can be modified within this range
	SIP Call Signalling active (symmetric UDP) Call Signalling for SIP endpoints and SIP based trunking	client	SIP	---	UDP	5060		Def: SIP
	SIP Call Signalling active (TCP) Call Signalling for SIP endpoints and SIP based trunking	client	SIP	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)
	SIP Call Signalling passive Call Signalling for SIP endpoints and SIP based trunking	server	SIP	---	TCP_UDP	5060	1 - 65535	Def: SIP Adm: Default can be modified within this range
SIP subscriber								
	SIP Call Signalling active (symmetric UDP) Call Signalling for SIP endpoints and SIP based trunking	client	SIP	---	UDP	5060		Def: SIP

Application	Function	Type	A-Prot.	M-Prot.	T-Prot.	D-Ports	A-Ports	Remarks
	SIP Call Signalling active (TCP) Call Signalling for SIP endpoints and SIP based trunking	client	SIP	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)
	SIP Call Signalling passive Call Signalling for SIP endpoints and SIP based trunking	server	SIP	---	TCP_UDP	5060	1 - 65535	Def: SIP Adm: Default can be modified within this range

2.1.2 IP- Clients

2.1.2.1 optiClient 130 V5.1 R5

Application	Function	Type	A-Prot.	M-Prot.	T-Prot.	D-Ports	A-Ports	Remarks
HFA Client								
	Coronet TC	server	Coronet-TC	---	TCP	4060	1 - 65535	Def: CorNet-TC Adm: Default can be modified within this range
	H.323 Call Signaling active VoIP Verbindungssteuerung	client	H.323 (H.225-Q.931)	---	TCP	12250 - 12950	1 - 65535	Def: H.323 Adm: Default can be modified within this range
	H.323 Call Signaling (MDW_MSA) Voice over IP: Verbindungssteuerung	server	H.323 (H.225-Q.931)	---	TCP	1720		Def: H.225/Q.931
	H.323 Media Signaling (MDW_MSA) Voice over IP: Verbindungssteuerung für Sprachkanäle (Mediachannels)	server	H.323 (H.245)	---	TCP	12000 - 12100		Def: H.245 portnumber is negotiated via H.225
	RTP Payload Transport active VoIP Payloadtransport	client	RTP_RTCP	---	UDP	29100 - 29159	1 - 65535	Def: RTP portnumber is negotiated via H.245. Max 30 connections: RTP starts at <adr>, RTCP at <adr>+1 (=RTP+1). Adm: Default can be modified within this range
	RTP Payload Transport passive VoIP payloadtransport	server	RTP_RTCP	---	UDP	29100 - 29159	1 - 65535	Def: RTP portnumber is negotiated via H.245. Max 30 connections: RTP starts at <adr>, RTCP at <adr>+1 (=RTP+1). Adm: Default can be modified within this range
LDAP Connectivity (client sided) client sided connectivity to a LDAP Service								
	LDAP Access Directory access via LDAP	client	LDAP	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)
DLC Connectivity (DLS client sided) client sided connectivity to Deployment Licence Service								
	DLS contact me request (optiClient sided) workpoint sided DLS contact me service	server	HTTP	---	TCP	8082		Def: HTTP optiClients
	DLS Detection (DHCP) DLS detection via DHCP	client	DHCP	---	UDP	68		Def: DHCP Client Port
	DLS Detection (DNS) DLS detection via DNS	client	DNS	---	UDP		1024 - 65535	Def: Unspecified Default Port(range) values Adm: PortLow/PortHigh can be modified within this range ()
	DLS Workpoint Interface (optiClient sided) workpoint sided DLS Communication interface workpoints	client	WPIP	HTTPS	TCP	18443		Def: DLS: Communication interface workpoints – DLS

HFA Client (HiPath 3000) HFA client at HiPath 3000

Application	Function	Type	A-Prot.	M-Prot.	T-Prot.	D-Ports	A-Ports	Remarks
	Cornet TC (HG1500) Cornet TC	server	Cornet-TC	---	TCP	4060	1 - 65535	Def: CorNet-TC Adm: Default can be modified within this range
	H.323 Call Signaling (HG1500) active VoIP Verbindungssteuerung	client	H.323 (H.225-Q.931)	---	TCP	12250 - 12950	1 - 65535	Def: H.323 Adm: Default can be modified within this range
	H.323 Call Signaling (MDW_MSA) Voice over IP: Verbindungssteuerung	server	H.323 (H.225-Q.931)	---	TCP	1720		Def: H.225/Q.931
	H.323 Media Signaling (MDW_MSA) Voice over IP: Verbindungssteuerung f?r Sprachkan?le (Mediachannels)	server	H.323 (H.245)	---	TCP	12000 - 12100		Def: H.245 portnumber is negotiated via H.225
	RTP Payload Transport (HG1500) active VoIP Payloadtransport	client	RTP_RTCP	---	UDP	29100 - 29159	1 - 65535	Def: RTP portnumber is negotiated via H.245. Max 30 connections: RTP starts at <adr>, RTCP at <adr>+1 (=RTP+1). Adm: Default can be modified within this range
	RTP Payload Transport (HG1500) passive VoIP payloadtransport	server	RTP_RTCP	---	UDP	29100 - 29159	1 - 65535	Def: RTP portnumber is negotiated via H.245. Max 30 connections: RTP starts at <adr>, RTCP at <adr>+1 (=RTP+1). Adm: Default can be modified within this range
HLM Connectivity (client sided) client sided HiPath Licence Management								
	CLA Connectivity (CLC) Used for data transfer between CLC / CLM	client	HLP	---	TCP - SSL	61740		Def: Port will be discovered by CLM through multicast procedure. CLC uses port by configuration.
LDAP Connectivity (client sided) client sided connectivity to a LDAP Service								
	LDAP Access Directory access via LDAP	client	LDAP	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)

2.1.2.2 optiPoint 410/420 SIP V5 R0

Application	Function	Type	A-Prot.	M-Prot.	T-Prot.	D-Ports	A-Ports	Remarks
OAM (oP410 SIP) Administration of optiPoint SIP devices								
	DHCP-Client (op410) Server of "Dynamic Host Configuration Protocol"	client	DHCP	---	UDP	68		Def: DHCP Client Port
	DHCP-Server (oP410) Server of "Dynamic Host Configuration Protocol"	server	DHCP	---	UDP	67		Def: DHCP Server Port
	DLS Workpoint Interface (client sided) workpoint sided DLS Communication interface workpoints	client	WPIP	HTTPS	TCP	18443	0 - 65535	Def: DLS: Communication interface workpoints – DLS
	DNS DNS relay	server	DNS	---	TCP_UDP	53		Def: DNS
	FTP_Server_Control (oP410) FTP-Server	server	FTP	---	TCP	21		Def: FTP-Server Control Port
	HTTPS_Server (Phones) Secure Embedded Web Server	server	HTTP	---	TCP	443	0 - 65535	Def: HTTPS
	HTTP_Server (Phones) Web Interface	server	TFTP	---	TCP	8085	0 - 65535	Def: HTTP optiPoints, HG1500
	IP-Config (Phones) IP Configuration Services	server	*proprietary*	---	UDP	5100		
	SNMP (SET/GET) (Phones) SNMP SET/GET-Functionality	server	SNMP	---	UDP	161		Def: SNMP (Set/Get)
	SNMP Trap (oP410) SNMP Trap function	client	SNMP	---	UDP	161 162		Def: SNMP Trap (oP410)
	SNTP (oP410) Simple Network Time Protocol	server	SNTP	---	UDP	123		Def: SNTP
	SNTP heartbeat (oP410) Simple Network Time Protocol	server	SNTP	---	UDP	580		
QoS Data Collection Unit (QCU) phones Send QoS reports								
	QCU client 12010 Client application which sends QDC data to the QCU	client	SNMP	---	UDP	12010	0 - 65535	Def: QCU receiving Port
SIP payload transport (op410 SIP) Session Initiation Protocol (SIP) payload								
	SIP Payload Transport (oP410) active Voice over IP: Transmission of Payload	client	RTP_RTCP	---	UDP	5004 - 5027	0 - 65534	Def: Port 5004 .. 5006 for normal usage. For every line-key you have to add two channels. The maximum of line keys are 10 -->. For this the maximum range of 5004 .. 5027 is valid Adm: even port number only
	SIP Payload Transport (oP410) passive Voice over IP: Transmission of Payload	server	RTP_RTCP	---	UDP	5004 - 5027	0 - 65534	Def: Port 5004 .. 5006 for normal usage. For every line-key you have to add two channels. The maximum of line keys are 10 -->. For this the maximum range of 5004 .. 5027 is valid Adm: even port number only
SIP Signalling (op410 SIP) Session Initiation Protocol (SIP) signaling								
	SIP Signalling (WL2-Phone) SIP over TLS	client	SIP	---	TCP - TLS	5061		Def: SIP

Application	Function	Type	A-Prot.	M-Prot.	T-Prot.	D-Ports	A-Ports	Remarks
	SIP signaling TCP (oP410) SIP signalling in the case of using TCP (configurable inside the phone)	client	SIP	---	TCP	5060		Def: SIP
	SIP signaling UDP (oP410) SIP signalling in the case of using UDP (configurable inside the phone)	client	SIP	---	UDP	5060		Def: SIP
	SIP-TLS (OP410) SIP over TLS	client	SIP	---	TCP - TLS	5061	1 - 65535	Def: SIP Adm: Configuration the port value to zero will result in the default port value being used
User Applications (oP410 SIP) bundle of user functions								
	JAVA (optiPoints) JAVA applications in phones	client	HTTP	---	TCP	9200	0 - 65535	Def: Java default port in optiPoint phones
	LDAP Access (optiPoint phones) Directory access via LDAP	client	LDAP	---	TCP	389	0 - 65535	Def: LDAP
	WAP client (TCP) for WAP access to WAP services (server)	client	WAP	---	TCP	9200	0 - 65535	Def: WAP connectionless session service (IANA)

2.1.2.3 optiPoint 410/420 V5 R3

Application	Function	Type	A-Prot.	M-Prot.	T-Prot.	D-Ports	A-Ports	Remarks
H.323 (oP410) General term for H.323 functions								
	H.323 Call Signaling (oP410) active Voice over IP	client	H.323 (H.225-Q.931)	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)
	H.323 Call Signaling (oP410) passive Voice over IP	server	H.323 (H.225-Q.931)	---	TCP	1720	0 - 65535	Def: H.225/Q.931
	H.323 Payload Transport (oP4x0 at H2k/H3k) active Voice over IP	client	RTP_RTCP	---	UDP	5004 - 5013	0 - 65534	Def: RTP portnumber is negotiated via H.245. Max 5 connections: RTP starts at <adr> port2/max - 1 down to <adr> port 1/min , RTCP at <adr> port2/max down to <adr> port 1/min+1 Adm: even port number only
	H.323 Payload Transport (oP4x0 at H2k/H3k) passive Voice over IP	server	RTP_RTCP	---	UDP	5004 - 5013	0 - 65534	Def: RTP portnumber is negotiated via H.245. Max 5 connections: RTP starts at <adr>, RTCP at <adr>+1 (=RTP+1). Adm: even port number only
	H.323 Payload Transport (oP4x0 at H4k) active Voice over IP	client	RTP_RTCP	---	UDP	5008 - 5013	0 - 65534	Def: Attention: The phone is prepared to handle up to 5 port couples in total. If the base port is set to 5004 inside the phone, the port range then is 5004 ... 5013. But, in H4k scenarios, only the upper three couples (starting from the top) are used: 5012/5013, 5010/5011 and 5008/5009 . Adm: even port number only
	H.323 Payload Transport (oP4x0 at H4k) passive Voice over IP	server	RTP_RTCP	---	UDP	5008 - 5013	0 - 65534	Def: Attention: The phone is prepared to handle up to 5 port couples in total. If the base port is set to 5004 inside the phone, the port range then is 5004 ... 5013. But, in H4k scenarios, only the upper three couples (starting from the top) are used: 5012/5013, 5010/5011 and 5008/5009 . Adm: even port number only
HFA (oP410) Hicom Feature Access								
	CorNet TC Logon (oP600) CorNet TC Logon Port	client	*proprietary*	---	TCP	4060		Def: CorNet-TC
OAM (oP410 HFA) Administration of optiPoint HFA devices								
	DLS Workpoint Interface (client sided) workpoint sided DLS Communication interface workpoints	client	WPIP	HTTPS	TCP	18443	0 - 65535	Def: DLS: Communication interface workpoints – DLS
	FTP_Server_Control (oP410) FTP-Server	server	FTP	---	TCP	21		Def: FTP-Server Control Port
	HTTPS_Server (Phones) Secure Embedded Web Server	server	HTTP	---	TCP	443	0 - 65535	Def: HTTPS
	HTTP_Server (Phones) Web Interface	server	TFTP	---	TCP	8085	0 - 65535	Def: HTTP optiPoints, HG1500
	IP-Config (Phones) IP Configuration Services	server	*proprietary*	---	UDP	5100		
	SNMP (SET/GET) (Phones) SNMP SET/GET-Functionality	server	SNMP	---	UDP	161		Def: SNMP (Set/Get)
	SNMP Trap (oP410) SNMP Trap function	client	SNMP	---	UDP	161 162		Def: SNMP Trap (oP410)

Application	Function	Type	A-Prot.	M-Prot.	T-Prot.	D-Ports	A-Ports	Remarks
QoS Data Collection Unit (QCU) phones Send QoS reports,								
	QCU client 12010 Client application which sends QDC data to the QCU	client	SNMP	---	UDP	12010	0 - 65535	Def: QCU receiving Port
User Applications (oP410 HFA) bundle of user functions of HFA phone oP410								
	CTI Service (TCP) CTI Service in oP410	client	Cornet TS	---	TCP	5105		Def: CTI Service oP410
	JAVA (optiPoints) JAVA applications in phones	client	HTTP	---	TCP	9200	0 - 65535	Def: Java default port in optiPoint phones
	LDAP Access (optiPoint phones) Directory access via LDAP	client	LDAP	---	TCP	389	0 - 65535	Def: LDAP
	WAP client (TCP) for WAP access to WAP services (server)	client	WAP	---	TCP	9200	0 - 65535	Def: WAP connectionless session service (IANA)

2.1.2.4 optiPoint WL2 professional V1.0 HFA Variant

Application	Function	Type	A-Prot.	M-Prot.	T-Prot.	D-Ports	A-Ports	Remarks
H.323 (WL2) General term for H.323 functions								
	H.323 Call Signaling (WL2) active Voice over IP	client	H.323 (H.225-Q.931)	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)
	H.323 Call Signaling (WL2) passive Voice over IP	server	H.323 (H.225-Q.931)	---	TCP	1720	1 - 65535	Def: H.225/Q.931 Adm: Default can be modified within this range
	H.323 Payload Transport (WL2) active Voice over IP	client	RTP_RTCP	---	UDP	5004 - 5011		Def: RTP portnumber : RTP starts at <adr>, RTCP at <adr>+1 (=RTP+1).
	H.323 Payload Transport (WL2) passive Voice over IP	server	RTP_RTCP	---	UDP	5004 - 5013		Def: RTP portnumber is negotiated via H.245. Max 5 connections: RTP starts at <adr>, RTCP at <adr>+1 (=RTP+1).
HFA (WL2) Hicom Feature Access								
	CorNet TC Logon (WL2) CorNet TC Logon Port	client	*proprietary*	---	TCP	4060		Def: CorNet-TC
LDAP WL2 LDAP access for phones								
	LDAP Access (WL2) Directory access via LDAP	client	LDAP	---	TCP	389	0 - 65535	Def: LDAP
OAM (WL2) Administration of optiPoint HFA devices								
	DHCP-Client (WL2) Server of "Dynamic Host Configuration Protocol"	client	DHCP	---	UDP	68		Def: DHCP Client Port
	DHCP-Server (WL2) Server of "Dynamic Host Configuration Protocol"	server	DHCP	---	UDP	67		Def: DHCP Server Port
	DLS Workpoint Interface (WL2) (client sided) workpoint sided DLS Communication interface workpoints	client	WPIP	HTTPS	TCP	1024 - 65535	0 - 65535	Def: Ephemeral Ports (IANA)
	HTTPS Server (WL2) Secure Embedded Web Server	server	HTTP	---	TCP	443		Def: HTTPS
	HTTP Server (WL2) Web Interface	server	TFTP	---	TCP	8085		Def: HTTP optiPoints, HG1500
	IP-Config (WL2) Service Agent Reque	server	*proprietary*	---	UDP	5100		
	SNMP (SET/GET) (WL2) SNMP SET/GET-Functionality	server	SNMP	---	UDP	161		Def: SNMP (Set/Get)
	SNMP (Traps) (WL2) active SNMP Traps	client	SNMP	---	UDP	162		Def: SNMP (Traps)
	Telnet (WL2) Telnet-Server	server	Telnet	---	TCP	23		Def: Telnet
QoS Data Collection Unit (QCU) phones Send QoS reports,								
	QCU client 12010 Client application which sends QDC data to the QCU	client	SNMP	---	UDP	12010	0 - 65535	Def: QCU receiving Port

2.2 Administration and Diagnosis

The following services are needed for administration and diagnosis in addition to those listed in chapter Voice Traffic and Signaling

OAM (H5k) Administration and Maintenance HiPath 5000

ADM (H2/3/5k) Interface to DBFS	server	ADM API	---	TCP	7000	1 - 65535	Def: ADM Adm: Default can be modified within this range
HTTP client (HG1500) used for multi gateway administration feature (MGAF)	client	HTTP	---	TCP	1024 - 65535		Def: Ephemeral Ports (IANA)
HTTP Server (HG1500) HTTP Server for WBM access	server	HTTP	---	TCP	8085		Def: HTTP optiPoints, HG1500
HTTPS client used for multi gateway administration feature (MGAF)	client	HTTP S	---	TCP - SSL	1024 - 65535		Def: Ephemeral Ports (IANA)
HTTPS Server (HG1500) Secure Web Server	server	HTTP S	---	TCP - SSL	443		Def: HTTPS
LDAP Client LDAP client used for centraliced directory service	client	LDAP	---	TCP_UDP	1024 - 65535		Def: Ephemeral Ports (IANA)
SNMP (SET/GET) (H2/3/5k/HG1500) SNMP Set/Get	server	SNMP	---	UDP	161		Def: SNMP (Set/Get)
SNMP (Traps) (H2/3/5/HG1500) SNMP Erromessages	client	SNMP	---	UDP	1024 - 65535		Def: Ephemeral Ports (IANA)
SNMP (Traps) (HG1500) Receiving of SNMP-Traps	server	SNMP	---	UDP	162		Def: SNMP (Traps)
SNTP Client (H2/3/5k/BizIP) Simple Network Time Protocol	client	SNTP	---	UDP	1024 - 65535		Def: Ephemeral Ports (IANA)
TFTP Client (H2/3/5k) APS-Transfer/ KDS-Sicherung mit TFTP	client	TFTP	---	UDP	1024 - 65535		Def: Ephemeral Ports (IANA)
TFTP Server (H2/3/5k,BizIP) TFTP Server for CDR	server	TFTP	---	UDP	69		Def: TFTP

SW_Manager (H5k) HiPath Software Manager

SW-Man Secured Web Access from a Client Browser HTTPS Interface of SW-Manager	server	HTTPS	---	TCP	8443	0 - 65535	Def: HTTPS port of SW-Manager, DB Feature Server Adm: Default can be modified within this range via server.xml file in Tomcat's "conf" directory
SW-Man Tomcat Shutdown Used to shutdown Tomcat	server	*proprietary*	---	UDP	8279	0 - 65535	Def: Shutdown port of SW-Manager Adm: Default can be modified within this range via server.xml file in Tomcat's "conf" directory
SW-Man Web Access from a Client Browser HTTP Interface of SW-Manager	server	HTTP	---	TCP	8280	0 - 65535	Def: HTTP port of SW-Manager Adm: Default can be modified within this range via server.xml file in Tomcat's "conf" directory

X-Trace (H2/3/5k) Access for X-Tracer

Online Trace (H2/3/5k) Online Trace Port (X-Tracer)	server	XTP	---	TCP	21965		Def: X-Tracer
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X-Trace (HG1500) Access for X-Tracer

Online Trace (HG1500) Acces to X-Trace	server	XTP		TCP	2048		Def: XTrace
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