

GENESYS

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Hardware and Bandwidth Usage

Hardware and Bandwidth Usage

This section contains hardware / disk space usage and bandwidth estimates for the Reporting Server, and bandwidth usage estimates for the Media and Call Control Platforms.

- Reporting Server Hardware Usage
- Bandwidth Usage for MCP, CCP, RS

Reporting Server Hardware Usage

Factors affecting disk space requirements for Reporting Server:

- Retention period
- Call rate
- Number of IVR Profiles, Tenants, and DNs

Reporting Server Disk Space Estimates

This table provides information necessary to estimate the disk space required for Reporting Server data types. For more information about data retention and data types, see "Data Retention Policy Wizard" in "Chapter 6: Provisioning IVR Profiles" of the GVP 8.5 User's Guide.

Table: Reporting Server Disk Space Estimates

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods		
Resource Manager						
CDR	Very High	600	Calls per day	retention.cdr		
Calculation:						
600 * number of calls per day * retention.cdr						
Operational Reporting (5 minutes)	Medium	300	Number of: • DNs • IVR Profiles • Tenants • RM, CTIC, PSTNC	retention.operations		
Calculation:						

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods	
300 * (number of DNs + number of IVR Profiles + number of tenants + number of CTIC, PSTNC +1) * (number of RMs) * 2 * 1440 * retention.operations.5min					
Operational Reporting (30 minutes)	Medium	300	Number of: • DNs • IVR Profiles • Tenants • RM, CTIC, PSTNC	retention.operations	.30mi
Calculation:					
300 * (number of DNs + nu RMs) * 2 * 48 * retention	umber of IVR Prot n.operations.30mi	files + number of ten in	nants + number of CTIC, PS	TNC +1) * (number of	
		Resource Mar	nager		
Operational Reporting (hourly)	Medium	300	Number of: • DNs • IVR Profiles • Tenants • RM, CTIC, PSTNC	retention.operations	.hour
Calculation:					
300 * (number of DNs + nu RMs) * 2 * 24 * retention	umber of IVR Prot n.operations.hou	files + number of te rly	nants + number of CTIC, PS	TNC +1) * (number of	
Operational Reporting (daily)	Medium	300	 DNs IVR Profiles Tenants RM, CTIC, PSTNC 	retention.operations	.dail
Calculation:					
300 * (number of DNs + nu RMs) * 2 * retention.ope	umber of IVR Prot rations.daily	files + number of te	nants + number of CTIC, PS	TNC +1) * (number of	
Operational Reporting (weekly)	Medium	300	 DNs IVR Profiles Tenants RM, CTIC, PSTNC 	retention.operations	.week

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods	
Calculation:					
300 * (number of DNs + number of IVR Profiles + number of tenants + number of CTIC, PSTNC +1) * (number of RMs) * 2 * retention.operations.weekly/7					
Operational Reporting (monthly)	Medium	300	 DNs IVR Profiles Tenants RM, CTIC, PSTNC 	retention.operations	.monthl
Calculation:					
300 * (number of DNs + nu RMs) * 2 * retention.oper	umber of IVR Prof rations.monthly/3	files + number of te 80	nants + number of CTIC, PS	TNC +1) * (number of	
		Media Control P	latform		
CDR	Very High	600	Calls per day	retention.cdr	
Calculation:					
600 * calls per day * retention	n.cdr				
Operational Reporting (5 minutes)	Medium	300	IVR ProfilesMCPs	retention.operations	.5min
Calculation:					
300 * (number of IVR Prot MCPs) * 1440 * retention	files + 1) * (num operations.5min	nber of MCPs) * 1440	* retention.operations.5m	in + 100 * (number of	
Note: The first product is for stored for each MCP.	the arrivals that are	e stored per IVR Profile f	or each MCP. The second produ	ict is for the peaks that are	
Operational Reporting (30 minutes)	Medium	300	IVR ProfilesMCPs	retention.operations	.30min
Calculation:					
300 * (number of IVR Profiles + 1) * (number of MCPs) * 48 * retention.operations.30min + 300 * (number of MCPs) * 48 * retention.operations.30min					
		Media Control P	latform		
Operational Reporting (hourly)	Medium	300	IVR ProfilesMCPs	retention.operations	.hourly
Calculation:					

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods
300 * (number of IVR Pro- MCPs) * 24 * retention.op	files + 1) * (num perations.hourly	ber of MCPs) * 24 *	retention.operations.hour	ly + 300 * (number of
Operational Reporting (daily)	Medium	300	IVR ProfilesMCPs	retention.operations
Calculation:				
300 * (number of IVR Pro- retention.operations.dai)	files + 1) * (num ly	ber of MCPs) * rete	ntion.operations.daily + 3	00 * (number of MCPs) *
Operational Reporting (weekly)	Medium	300	IVR ProfilesMCPs	retention.operations
Calculation:				
300 * (number of IVR Pro* * retention.operations.we	files + 1) * (num eekly/7	ber of MCPs) * rete	ntion.operations.weekly/7	+ 300 * (number of MCPs)
Operational Reporting (monthly)	Medium	300	IVR ProfilesMCPs	retention.operations
Calculation:				
300 * (number of IVR Pro- MCPs) * retention.operat:	files + 1) * (num ions.monthly/30	ber of MCPs) * rete	ntion.operations.monthly/3	0 + 300 * (number of
Events	Very High	500	 events per call calls per day	retention.events
Calculation:				
500 * number of events pe	er call * number	of calls per day st	retention.events	
VAR CDR	Very High	200 per VAR CDR 150 per VAR custom variable	 calls per day custom variables per call	retention.cdr
Calculation:				
(200 +150 * number of cus	stom variables pe	er call) * number of	calls per day * retention	.cdr
		Media Control P	latform	

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods		
VAR Summary (5 minutes)	Medium	300	 IVR Profiles Tenants MCPs IVR Actions unique call-end reasons 	retention.var.5min		
Calculation:						
300 * (number of IVR Prof unique call-end reasons *	ile + number of 1440 * retentio	tenants) * number o n.var.5min	f MCPs * (number of IVR Ac	tions +1) * number of		
VAR Summary (30 minutes)	Medium	300	 IVR Profiles Tenants MCPs IVR Actions unique call-end reasons 	retention.var.30min		
Calculation:						
300 * (number of IVR Prof unique call-end reasons *	ile + number of 48 * retention.	tenants) * number o var.30min	f MCPs * (number of IVR Ac	tions +1) * number of		
VAR Summary (hourly)	Medium	300	 IVR Profiles Tenants MCPs IVR Actions unique call-end reasons 	retention.var.hourly		
Calculation:						
300 * (number of IVR Profile + number of tenants) * number of MCPs * (number of IVR Actions +1) * number of unique call-end reasons * 24 * retention.var.hourly						
		Media Control P	latform			
VAR Summary (daily)	Medium	300	IVR ProfilesTenants	retention.var.daily		

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods	
			MCPsIVR Actionsunique call-end reasons		
Calculation:					
300 * (number of IVR Prof unique call-end reasons *	ile + number of retention.var.h	tenants) * number o ourly	f MCPs * (number of IVR Ac	tions +1) * number of	
VAR Summary (weekly)	Medium	300	 IVR Profiles Tenants MCPs IVR Actions unique call-end reasons 	retention.var.weekly	
Calculation:					
300 * (number of IVR Prof unique call-end reasons *	ile + number of retention.var.w	tenants) * number o eekly/7	f MCPs * (number of IVR Ac	tions +1) * number of	
VAR Summary (monthly)	Medium	300	 IVR Profiles Tenants MCPs IVR Actions unique call-end reasons 	retention.var.monthly	
Calculation:					
300 * (number of IVR Profile + number of tenants) * number of MCPs * (number of IVR Actions +1) * number of unique call-end reasons * retention.var.monthly/30					
SQA Latency (hourly)	Medium	600	Number of components	retention.latency.hou	
Calculation: 600 * (number of components) * retention.latency.hourly * 24					
		Media Control P	latform		
SQA Latency (daily)	Medium	600	Number of components	retention.latency.dai	

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods		
Calculation:						
600 * (number of componen	nts) * retention.	latency.daily				
SQA Latency (weekly)	Medium	600	Number of components	retention.latency.wee		
Calculation:						
600 * (number of componen	nts) * retention.	latency.weekly/7				
SQA Latency (monthly)	Medium	600	Number of components	retention.latency.mon		
Calculation:						
600 * (number of componen	nts) * retention.	latency.monthly/30				
SQA Failure Details	Medium	500	Calls per day Failure rate percentage	retention.sq.failures		
Calculation:						
500 * calls per day * fa:	ilure rate percer	ntage * retention.sq	.failures			
SQA Failure Summary	Medium	200	MCPs	retention.sq.hourly		
(nouny)			IVR Profiles			
Calculation:						
200 * number of MCPs * n	umber of IVR Prof	files * retention.sq	.hourly * 24			
SQA Failure Summary	Medium	200	MCPs	retention.sq.daily		
(ddify)			IVR Profiles			
Calculation:						
200 * number of MCPs * n	umber of IVR Prof	files * retention.sq	.daily			
SQA Failure Summary	Medium	200	MCPs	retention.sq.weekly		
(meenly)			IVR Profiles			
Calculation:						
200 * number of MCPs * number of IVR Profiles * retention.sq.weekly/7						
		Media Control P	latform			
SQA Failure Summary	Modium	200	• MCDc	rotontion on monthly		
(monthly)	Medium	200	• MCPS	recention.sq.monthly		

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods	
			IVR Profiles		
Calculation:					
200 * number of MCPs * n	umber of IVR Prot	iles * retention.sq	. monthly/30		
		Call Control Pla	atform		
CDR	Very High	600	Calls per day	retention.cdr	
Calculation:					
600 * calls per day * re	tention.cdr				
Operational Reporting	Medium	300	CCPs	retention.operations.	
(5 minutes)			IVR Profiles		
Calculation:					
300 * (number of IVR Pro	files +1) * numbe	er of CCPs * 1440 *	retention.operations.5min	+ 300 * number of CCPs *	
1440 * retention.operati Note: The first product is for stored for each CCP.	ons.5min the arrivals that are	e stored per IVR Profile 1	for each CCP. The second produ	ct is for the peaks that are	
			CCD-		
Operational Reporting (30 minutes)	Medium	300	• CCPs	retention.operations.3	
(30 minutes)			IVR Profiles		
Calculation:					
300 * (number of IVR Profiles retention.operations.30min	+1) * number of CO	CPs * 48 * retention.ope	rations.30min + 300 * number	of CCPs * 48 *	
Operational Reporting (hourly)	Medium	300		retention.operations.	
			• IVK Profiles		
Calculation:					
300 * (number of IVR Profiles +1) * number of CCPs * 24 * retention.operations.hourly + 300 * number of CCPs * 24 * retention.operations.hourly					
		Call Control Pla	atform		
Operational Reporting (daily)	Medium	300		retention.operations.o	
(IVR Profiles		
Calculation:					

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods		
300 \ast (number of IVR Profiles +1) \ast number of CCPs \ast retention.operations.daily + 300 \ast number of CCPs \ast retention.operations.hourly						
Operational Reporting (weekly)	Medium	300	CCPsIVR Profiles	retention.operations		
Calculation:						
300 * (number of IVR Profiles +1) * number of CCPs * retention.operations.weekly / 7+ 300 * number of CCPs * retention.operations.weekly / 7						
Operational Reporting (monthly)	Medium	300	CCPsIVR Profiles	retention.operations		
Calculation:						
300 * (number of IVR Pro* * retention.operations.me	files +1) * numbe onthly / 30	er of CCPs * retenti	on.operations.monthly / 30) + 300 * number of CCPs		
Events	Very High	500	 events per call calls per day	retention.events		
Calculation:						
500 * number of events p	er call * number	of calls per day st	retention.cdr			

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Bandwidth Usage

The following tables describe the bandwidth usage for the following components:

- Media Control Platform: Table: Media Control Platform Bandwidth Usage
- Call Control Platform: Table: Call Control Platform Bandwidth Usage
- Reporting Server: Table: Reporting Server Bandwidth Usage

Media Control Platform Bandwidth Usage

The table below describes the bandwidth usage when bi-directional traffic exists between the Media

Control Platform and other servers.

	Table: Media Control Platform Bandwidth Usage						
Protocol	Estimated bi-directional traffic	Criticalit	y Comments				
	Between Media Control Pla	tform and	I SIP components				
SIP	 Simple inbound call: 5KB per call Outbound with Supplementary Services Gateway: 10KB per call 	Very high	SIP traffic can vary, depending on the call flow, the amount of user data, and number of treatments applied to the call.				
	Between Media Contro	l Platform	and MRCPv1				
RTSP MRCP RTP	 ASR: 8 KB per recognition, and 8 KB/ sec of RTP traffic TTS: 3 KB per prompt, and 8 KB/sec of RTP traffic 	Very high	RTP traffic is uni-directional only.				
	Between Media Contro	l Platform	and MRCPv2				
SIP MRCP RTP	 ASR: 15 KB per recognition, and 10 KB/sec of RTP traffic TTS: 6 KB per prompt, and 8 K/sec of RTP traffic 	Very high	RTP traffic is uni-directional only.				
	Between Media Control Platform and RTP components						
RTP	 PCMU/PCMU/G.722: 20 KB/sec per call leg G.729: 6 KB/sec per call leg G.729d: 5.6 KB/sec per call leg G.729e: 7 KB/sec per call leg G.729-16: 8 KB/sec per call leg G.726-24: 10 KB/sec per call leg G.726-32: 12 KB/sec per call leg G.726-40: 14 KB/sec per call leg GSM: 7.3 KB/sec per call leg AMR: 2-7.3 KB/sec per call leg AMR-WB: 5-10 KB/sec per call leg (the rate varies, depending on the audio data) H.263/H.264-1998: 10-70 KB/sec per call leg (the rate varies, depending on video data) 	Very high	Examples of RTP components are: • RTSP software • Soft phone • Media gateway				

Protocol	Estimated bi-directional traffic	Criticalit	y Comments
	 H.264: 20-90 KB/sec per call leg (the rate varies, depending on video data) 		
	Between Media Control Platforn	n and HTT	P Server/Proxy Server
HTTP	1 KB per request and content size of the VoiceXML page or audio file in the HTTP request and response.	Very high	HTTP traffic can vary, based on the number of files that are used by the VoiceXML application, the maxage and maxstale settings of the VoiceXML application, and the expiry settings on the HTTP server.

Call Control Platform Bandwidth Usage

The table below describes the bandwidth usage when bi-directional traffic exists between the Call Control Platform and other servers.

Protocol	Estimated bi-directional traffic	Criticalit	y Comments					
	Between Call Control Platform and SIP components							
SIP	Simple inbound call without join: ~7 KB per session Inbound call starting a simple dialog: ~20 KB per session	Very high	Significantly dependent on call flow and network conditions. If the network connection is poor, messages could be resent according to the SIP protocol.					
	Between Call Control Platform	and HTTP	Server/Proxy Server					
HTTP	1 KB per request and content size of the CCXML page in the HTTP request and response.	Very high	HTTP traffic can vary, based on the number of files that are used by the CCXML application, the maxage and maxstale settings of the CCXML application, and the expiry settings on the HTTP server.					

Table: Call Control Platform Bandwidth Usage

For information about bandwidth usage for the Management Framework components, see the Management Framework chapter in this guide.

Reporting Server Bandwidth Usage

The table below describes the bandwidth usage when bi-directional traffic exists between the Reporting Server and other servers.

Protocol	Estimated bi-directional traffic	Criticalit	y Comments			
Between Reporting Server and Media Control Platform						
Proprietar (per call)	y CDR: 1 KB per callEvents: 1 KB per call	Very high	CDR: 2 updates per call, 400 bytes per update. Events: 10 events per call, 100 bytes per event.			

Table: Reporting Server Bandwidth Usage

Protocol	Estimated bi-directional traffic	Criticalit	y Comments		
			Note: The number of updates per call depends on the application used.		
Proprietar (Operatio Reporting	^{'Y} QR: 100 bytes/min.OR: 100 bytes per nal IVR Profile per minute.)	Low	One update per minute for peak (\sim 50 bytes), and one update per minute for arrivals (\sim 50 bytes).		
Proprietar (SQA)	ySQA: 50 KB per 15 min.SQA: 3 KB per IVR Profile per minute	Low	This depends on the frequency at which the SQA is configured to send data upstream to the Reporting Server. The default is 15 minutes. If the deployment is configured differently, the estimate must be adjusted.		
Between Reporting Server and Resource Manager					
Proprietar (per call)	y CDR: 3 KB per call	Very high	CDR: 7 updates per call, 400 bytes per update. Note: The number of updates per call depends on the application used.		
Proprietar (OR)	OR:100 bytes per IVR Profile per minuteOR: 100 bytes per tenant per minute OR:100 bytes per DN per minuteOR: 100 bytes per YCTI Connector or PSTN Connector component per minute Note: These data usage results are only for the IVR Profile, Tenant, Component, and DN that are invoked during each 5-minute period.	Medium	Two updates per minute per IVR Profiles, 50 bytes per update.Two updates per minute per tenant, 50 bytes per update.Two updates per minute per CTI Connector/PSTN Connector component, 5 bytes per update.Two updates per minute per DN, 50 bytes per update.		
Between Reporting Server and Call Control Platform					
Proprietar (per call)	y CDR: 1 KB per callEvents: 0.5 KB per call	Very high	CDR: 2 updates per call, 400 bytes per update.Events: 5 events per call, 100 bytes per event. Note: The number of updates per call depends on the application used.		
Proprietar (OR)	YOR: 100 bytes per minute OR: 100 bytes per IVR Profile per minute	Low	One update per minute for peak (\sim 50 bytes), and one update per minute for arrivals (\sim 50 bytes).		
Between Reporting Server and an Off-board Reporting Database					
Proprietar (database vendor)	YThe sum of all estimates between the Reporting Server and all the Media Control Platform, Call Control Platform, and Resource Manager servers.	Very high	This bandwidth estimate applies when the database is off-board only (on a different server).		

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