GVP HSG Pages

Hardware and Bandwidth Usage

5/4/2025

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

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.5min`
Calculation: `300 * (number of DNs + number of IVR Profiles + number of tenants + number of CTIC, PSTNC +1) * (number of`				

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods
RMs) * 2 * 1440 * retention.operations.5min				
Operational Reporting (30 minutes)	Medium	300	Number of: • DNs • IVR Profiles • Tenants • RM, CTIC, PSTNC	retention.operations.30min
Calculation: 300 * (number of DNs + number of IVR Profiles + number of tenants + number of CTIC, PSTNC +1) * (number of RMs) * 2 * 48 * retention.operations.30min				
Resource Manager				
Operational Reporting (hourly)	Medium	300	Number of: • DNs • IVR Profiles • Tenants • RM, CTIC, PSTNC	retention.operations.hourly
Calculation: 300 * (number of DNs + number of IVR Profiles + number of tenants + number of CTIC, PSTNC +1) * (number of RMs) * 2 * 24 * retention.operations.hourly				
Operational Reporting (daily)	Medium	300	• DNs • IVR Profiles • Tenants • RM, CTIC, PSTNC	retention.operations.daily
Calculation: 300 * (number of DNs + number of IVR Profiles + number of tenants + number of CTIC, PSTNC +1) * (number of RMs) * 2 * retention.operations.daily				
Operational Reporting (weekly)	Medium	300	• DNs • IVR Profiles • Tenants • RM, CTIC, PSTNC	retention.operations.weekly

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.monthly`
Calculation: `300 * (number of DNs + number of IVR Profiles + number of tenants + number of CTIC, PSTNC +1) * (number of RMs) * 2 * retention.operations.monthly/30`				
Media Control Platform				
CDR	Very High	600	Calls per day	`retention.cdr`
Calculation: 600 * calls per day * retention.cdr				
Operational Reporting (5 minutes)	Medium	300	• IVR Profiles • MCPs	`retention.operations.5min`
Calculation: `300 * (number of IVR Profiles + 1) * (number of MCPs) * 1440 * retention.operations.5min + 100 * (number of MCPs) * 1440 * retention.operations.5min` **Note:** The first product is for the arrivals that are stored per IVR Profile for each MCP. The second product is for the peaks that are stored for each MCP.				
Operational Reporting (30 minutes)	Medium	300	• IVR Profiles • MCPs	`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 Platform				
Operational Reporting (hourly)	Medium	300	• IVR Profiles • MCPs	`retention.operations.hourly`
Calculation:				

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods
`300 * (number of IVR Profiles + 1) * (number of MCPs) * 24 * retention.operations.hourly + 300 * (number of MCPs) * 24 * retention.operations.hourly`				
Operational Reporting (daily)	Medium	300	• IVR Profiles • MCPs	`retention.operations.daily`
Calculation: `300 * (number of IVR Profiles + 1) * (number of MCPs) * retention.operations.daily + 300 * (number of MCPs) * retention.operations.daily`				
Operational Reporting (weekly)	Medium	300	• IVR Profiles • MCPs	`retention.operations.weekly`
Calculation: `300 * (number of IVR Profiles + 1) * (number of MCPs) * retention.operations.weekly/7 + 300 * (number of MCPs) * retention.operations.weekly/7`				
Operational Reporting (monthly)	Medium	300	• IVR Profiles • MCPs	`retention.operations.monthly`
Calculation: `300 * (number of IVR Profiles + 1) * (number of MCPs) * retention.operations.monthly/30 + 300 * (number of MCPs) * retention.operations.monthly/30`				
Events	Very High	500	• events per call • calls per day	`retention.events`
Calculation: `500 * number of events per call * number of calls per day * 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 custom variables per call) * number of calls per day * retention.cdr`				
Media Control Platform				

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 Profile + number of tenants) * number of MCPs * (number of IVR Actions +1) * number of unique call-end reasons * 1440 * retention.var.5min`				
VAR Summary (30 minutes)	Medium	300	• IVR Profiles • Tenants • MCPs • IVR Actions • unique call-end reasons	`retention.var.30min`
Calculation: `300 * (number of IVR Profile + number of tenants) * number of MCPs * (number of IVR Actions +1) * number of unique call-end reasons * 48 * retention.var.30min`				
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 Platform				
VAR Summary (daily)	Medium	300	• IVR Profiles • Tenants	`retention.var.daily`

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods
			• MCPs • IVR Actions • unique call-end reasons	
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.hourly`				
VAR Summary (weekly)	Medium	300	• IVR Profiles • Tenants • MCPs • IVR Actions • unique call-end reasons	`retention.var.weekly`
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.weekly/7`				
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.hourly`
Calculation: `600 * (number of components) * retention.latency.hourly * 24`				
Media Control Platform				
SQA Latency (daily)	Medium	600	Number of components	`retention.latency.daily`

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods
Calculation: `600 * (number of components) * retention.latency.daily`				
SQA Latency (weekly)	Medium	600	Number of components	`retention.latency.weekly`
Calculation: `600 * (number of components) * retention.latency.weekly/7`				
SQA Latency (monthly)	Medium	600	Number of components	`retention.latency.monthly`
Calculation: `600 * (number of components) * retention.latency.monthly/30`				
SQA Failure Details	Medium	500	Calls per day Failure rate percentage	`retention.sq.failures`
Calculation: `500 * calls per day * failure rate percentage * retention.sq.failures`				
SQA Failure Summary (hourly)	Medium	200	• MCPs • IVR Profiles	`retention.sq.hourly`
Calculation: `200 * number of MCPs * number of IVR Profiles * retention.sq.hourly * 24`				
SQA Failure Summary (daily)	Medium	200	• MCPs • IVR Profiles	`retention.sq.daily`
Calculation: `200 * number of MCPs * number of IVR Profiles * retention.sq.daily`				
SQA Failure Summary (weekly)	Medium	200	• MCPs • IVR Profiles	`retention.sq.weekly`
Calculation: `200 * number of MCPs * number of IVR Profiles * retention.sq.weekly/7`				
Media Control Platform				
SQA Failure Summary (monthly)	Medium	200	• MCPs	`retention.sq.monthly`

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods
			• IVR Profiles	
Calculation: `200 * number of MCPs * number of IVR Profiles * retention.sq. monthly/30`				
Call Control Platform				
CDR	Very High	600	Calls per day	`retention.cdr`
Calculation: `600 * calls per day * retention.cdr`				
Operational Reporting (5 minutes)	Medium	300	• CCPs • IVR Profiles	`retention.operations.5min`
Calculation: `300 * (number of IVR Profiles +1) * number of CCPs * 1440 * retention.operations.5min + 300 * number of CCPs * 1440 * retention.operations.5min` **Note:** The first product is for the arrivals that are stored per IVR Profile for each CCP. The second product is for the peaks that are stored for each CCP.				
Operational Reporting (30 minutes)	Medium	300	• CCPs • IVR Profiles	`retention.operations.30min`
Calculation: 300 * (number of IVR Profiles +1) * number of CCPs * 48 * retention.operations.30min + 300 * number of CCPs * 48 * retention.operations.30min				
Operational Reporting (hourly)	Medium	300	• CCPs • IVR Profiles	`retention.operations.hourly`
Calculation: `300 * (number of IVR Profiles +1) * number of CCPs * 24 * retention.operations.hourly + 300 * number of CCPs * 24 * retention.operations.hourly`				
Call Control Platform				
Operational Reporting (daily)	Medium	300	• CCPs • IVR Profiles	`retention.operations.daily`
Calculation:				

Data type	Usage	Estimated disk storage in bytes	Required estimates	Retention periods
`300 * (number of IVR Profiles +1) * number of CCPs * retention.operations.daily + 300 * number of CCPs * retention.operations.hourly`				
Operational Reporting (weekly)	Medium	300	• CCPs • IVR Profiles	`retention.operations.weekly`
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	• CCPs • IVR Profiles	`retention.operations.monthly`
Calculation: `300 * (number of IVR Profiles +1) * number of CCPs * retention.operations.monthly / 30 + 300 * number of CCPs * retention.operations.monthly / 30`				
Events	Very High	500	• events per call • calls per day	`retention.events`
Calculation: `500 * number of events per call * number of calls per day * retention.cdr`				

top | toc

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	Criticality	Comments
Between Media Control Platform and 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 Control 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 Control 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) • H.264: 20-90 KB/sec per call leg (the	Very high	Examples of RTP components are: • RTSP software • Soft phone • Media gateway

Protocol	Estimated bi-directional traffic	Criticality	Comments
	rate varies, depending on video data)		
Between Media Control Platform and HTTP 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.

Table: Call Control Platform Bandwidth Usage

Protocol	Estimated bi-directional traffic	Criticality	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.

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.

Table: Reporting Server Bandwidth Usage

Protocol	Estimated bi-directional traffic	Criticality	Comments
Between Reporting Server and Media Control Platform			
Proprietary (per call)	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. **Note:** The number of updates per call depends on the application used.

Protocol	Estimated bi-directional traffic	Criticality	Comments
Proprietary (Operational Reporting)	OR: 100 bytes/min.OR: 100 bytes per IVR Profile per minute.	Low	One update per minute for peak (~50 bytes), and one update per minute for arrivals (~50 bytes).
Proprietary (SQA)	SQA: 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			
Proprietary (per call)	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.
Proprietary (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 CTI 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			
Proprietary (per call)	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.
Proprietary (OR)	OR: 100 bytes per minute OR: 100 bytes per IVR Profile per minute	Low	One update per minute for peak (~50 bytes), and one update per minute for arrivals (~50 bytes).
Between Reporting Server and an Off-board Reporting Database			
Proprietary (database vendor)	The 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).

top | toc