Exam Study Guide

Genesys Certified Professional 8 System Consultant, Genesys SIP SERVER (GCP8 - SIP)

Exam Code: GE0-807
Product Supported: This exam supports Genesys SIP Server software version 8.04. Candidates using an earlier version of SIP Server are advised to contact their local Genesys Training Center before registering for this exam.
Type of Exam: Multiple choice and multiple select questions
Certification Level: Professional level
Length: 80 questions (80 points possible)
Passing Score: 70% correct (56 points = 70%)
Exam Language: English-only
Timing: GE0-807: The exam is timed for 100 minutes.
GE0-807e: The exam is timed for 120 minutes for non-English speaking candidates

Exam Location: Kryterion online or exam testing centers worldwide
Genesys certification exams can be taken on your own online or scheduled at one of 750 Kryterion test centers worldwide, providing you with two convenient means of getting certified at your own time and location.

IMPORTANT: If you are taking the exam online, please download and read the proctored online exam setup and requirements.

Exam Price: Check with Genesys University Training Registration for current price information. Prices may vary depending on country where exam will be delivered. You will need to obtain an exam voucher code which will be used during the payment process. Check if your company has prepaid your exam fees or if your company qualifies for exam discounts.

Exam Registration: Exam candidates must first contact their local Genesys Training Center before registering for an exam. The Genesys Training Coordinator will collect your exam fees and give you a certification voucher code to use when registering for your exam.
You will be asked to log-in or complete a profile for a New User. You may select a date, time and location for your exam. Use the exam voucher number in the field Promotion Code during exam registration. Be sure to check the expiration date of your exam voucher code.

Exam Reschedule: If you need to reschedule your exam, please do so no less than 72 hours from the scheduled date and time in your region. Penalty fees will incur for exams rescheduled less than 3 days before the scheduled date and time.

Canceling Exam: You can cancel your scheduled exam however, please keep in mind that the voucher number is for one-time use. You will not be able to use the same voucher number if you schedule an exam after you cancel a prior appointment. You will need to contact Genesys Training for a replacement voucher. All voucher numbers are tracked and monitored.
Eligibility and Target Audience

The Genesys Certified Professional (GCP) program is open to current Genesys customers, partners and employees only. Passing the exam is only one part of the certification process. Genesys will need to verify that you are eligible for Genesys Certification before we can issue you a certificate and recognize your status as a Genesys Certified Professional. If you have any questions regarding your eligibility, please contact your local Genesys University training center.

The GCP8-CSIP certification exam is based on the Genesys SIP 8.0X training curriculum and the tasks that a SIP 8 System Consultant performs for SIP 8 Installation and Configuration. This certification validates the candidate's comprehensive understanding of the Genesys SIP Server solution components related to architecture, deployment models, configuration and installation, basic usage, call flows of Genesys SIP Server, and Genesys Media Manager, and monitoring a Genesys SIP Server solution.

Target Audience

System Consultants who perform as system administrators, solution integrators, and any other technical role involved in planning, installation, configuration, monitoring and maintenance of Genesys SIP Server solutions.

Preparing for the Exam

Genesys University highly recommends that candidates seeking certification follow the certification preparatory track. The preparatory track, coupled with hands-on experience will increase the probability of passing the exam. You are not required, however, to complete the training courses prior to taking the certification exam. If you feel you have considerable, real-world experience using Genesys SIP Server and/or Genesys Stream Manager products, then you may register and take the exam at any time.

In either case, Genesys University encourages you to review the materials described in this study guide to help you prepare for the GCP8 – CSIP exam.

Genesys Certification Roadmap for the GCP8 – CSIP Exam
Certification Preparatory Track

- “IP Foundation 8” (SIP8-FND) – 1 day course
  - Covers IP Telephony, SIP protocol, and an overview of SIP Servers
  - The prerequisite for SIP 8-FND is Framework 8-FND. A basic understanding of IP Telephony and SIP Protocol is a plus.
- “Genesys SIP Server Deployment” (SIP 8-DPL) – 3 day course
  - Covers the purpose, architecture, deployment models, configuration and installation, basic usage, and call flows of Genesys SIP Server and Stream Manager.
- Prerequisites for SIP8-DPL are:
  - Framework 8 Foundation (FWK 8-FND)
  - Framework 8 Deployment (FWK 8-DPL)
- Other recommended courses are: Routing and Reporting Installation and Configuration
  - (RRI 7) or Building Basic Routing Strategies (BRD 7)

In addition, it is also recommended that candidates review or attend the following preparatory training:

- “IP Architecture Workshop SIP 8” (IAI 8) – 2 day course
  - Covers architecture in the IP environment and how to design and size a solution, including large-scale, multi-site, multi-product deployments

Reference Materials Available
Your training course materials are an excellent source of information for exam review. Other Genesys reference materials you can use for exam preparation are available from the Genesys website:

- Genesys Tech Support Website: http://genesyslab.com/support/home/index/
  - Select Documentation and search by product and major release
  - Genesys SIP Server Deployment Guide 8.0 is especially useful to prepare for this exam
- Genesys Documentation Library CD (good resource for architecture, planning, deployment, and system monitoring)
  - The Documentation Library CD is distributed in Genesys training classes or from Genesys directly

Exam Study Topics

GCP8 - CSIP Exam Topic Categories
The GCP8 - CSIP exam topics are organized into six topic categories with descriptions of the corresponding knowledge and skill sets that represent the tasks required by a System Consultant when installing, implementing and supporting a Genesys SIP Server solution. These knowledge and skill sets might be obtained from the SIP 8-FND, SIP 8-DPL and IAI 8 training courses, Transfer of Information (TOI) presentations, a sales presentation, reading technical documentation or working with SIP Server at a foundation level.

1. SIP Server Product Overview / General Architecture
   - Overview of IP Technology and SIP
   - Describe VoIP protocols (signaling protocols and media protocols)
   - Describe the main components of a VoIP network as they relate to SIP
   - Describe gateways, soft switches, application servers, and SIP endpoints and describe their role in a voice interaction flow
   - Describe the basics of the SIP protocol and SDP
   - Describe Overview of Genesys IP Products and the role of the Genesys SIP Server
   - Overview of Genesys SIP Solution Components
   - Determine when to use Network SIP Server (primarily for Policy Based Load Distribution)
2. Designing A SIP Server Solution
   • Describe the key features and benefits of the Genesys SIP Server
     • Inbound/Outbound Calls
     • Associate an ACD Queue with a Routing Point
     • No Answer Supervision
     • Endpoint Service Monitoring
     • Call Treatments
     • Call Transfer and Conference
     • Regular and Emergency Call Recording
     • Call Supervision
     • Remote Supervision (including support for Multi-Site Supervision)
     • Music and Announcements
     • Personal Greeting (including Whisper)
     • Preview Interactions
     • Presence Subscription
     • Instant Messaging
     • Remote Server Registration
     • Class of Service (including Trunk capacity configuration)
     • Mapping SIP Headers and SDP Messages (including support for Blocking SIP headers, OPTIONS messages)
   • Describe SIP Server Deployment modes:
     • SIP Stand Alone
     • Integrated with a third party softswitch
     • Open standard SIP architecture
   • Describe SIP Deployment Considerations
     • Overall deployment components
     • Licensing
     • Software and hardware requirements
     • Explain Interoperability Conditions
     • HA & Scalability Considerations
     • Sizing
     • SIP Server Scaling and Performance
     • QoS
   • Describe SIP Server Integrations
     • Genesys Voice Platform Integration
     • Outbound Integration
     • Softswitch Integration
     • Video
     • Asterisk Voice Mail Integration

3. Deployment
   • OS Support
   • SIP Server Installation
     • Run Setup Program for SIP Server Installation
     • Start SIP Server
     • Verify SIP Server has started
   • Deploying A Network SIP Server
     • Create new Network SIP Server
     • Configure Routing Point for Network SIP Server
   • Network SIP Server Installation
     • Run Setup Program for Network SIP Server Installation
   • SIP Server as a T-Server
   • SIP Server Configuration
     • Set Permissions
     • Connect SIP Server to Router(s)
   • How to deploy SIP Server
     • Configure SIP endpoints
     • Configure SIP Server Connections
• Create DNs
• Create Agents (Logins, Groups, Assign Logins)
• Configure New Application
• High Availability Configuration
  • Microsoft NLB configuration and scripting
  • Unix virtual IP configuration and scripting
• Mapping SIP Headers
  • Authenticating INVITEs
  • SIP to T-Lib mapping and T-Lib to SIP Mapping
• Configuring Call Transfers
  • Call Transfers
  • 1PCC and 3PCC call transfer
• Configuring Conference Calls
  • Multipoint Conferencing Unit (MCU)
  • 1PCC and 2PCC conference calls
  • Push video
• Configuring Dialing Services
• Configuring Auto-Agent
• Configuring Multi-Site Call Type Tracking

4. Deploying Media Server
• Genesys Media Server Features
  • Music and Video on Hold
  • Music in Queue
  • DN Types
• Genesys Media Server Deployment
  • Configuring Genesys Media Server Applications
  • Overview of Supported Codecs
  • Call Treatments
  • Call Transfer
  • Call Conference
  • Call Supervision
  • Call Recording
  • Personal Greetings
• Overview of Stream Manager

5. Using SIP 8
• Using A SIP Softphone
  • Registering a softphone in SIP
• Agent Configuration
  • Associating an ACD Queue with a Routing Point
  • Performing Call Transfers
  • Describe what gcti DNs are used for
  • Describe how Emulated Agents are used
  • Describe how and when to configure Business Call Parameters
  • Describe how to configure After Work Calls
  • Describe when SIP classifies call categories
• Class of Service
• 6. Monitoring SIP Server 8 Deployment
• Call Supervision
  • Session monitoring
  • Call Supervision modes
  • Remote Supervision
  • Multi-site Supervision
• Recording Configuration
  • Recording DN
  • Emergency recording
- Trunk site and agent side recording
- Monitoring SIP Messages
  - Monitor call flow diagrams with SIP messages and TLib messages
- Reading SIP Logs
  - Using SIP Log Visualizer
  - Reading SIP Log File
- Maintaining Configuration

How Do I Know What to Study?
The exam includes questions from all the topic areas. Some topics have more questions presented than others. Review the GCP8-CSIP Exam Study Topics using your Genesys Training Course materials or the Genesys SIP Server 8.0 Deployment Guide.
Genesys Certification Registration

Step 1: Obtain your exam voucher code by contacting your local Genesys University Training Registration representative. A sample voucher code attached to a confirmation email is shown below.

Dear Josephine,

Congratulations, you are now ready to schedule your Genesys Certified Professional exam! Your voucher code is Abbe67Kjvyt6789at. This voucher is good for 90 days.

EXAM INFORMATION

Step 2: Visit the Genesys Certification Registration website (beginning September 3, 2013). Create a new profile and register to schedule your exam.

Step 3: During checkout, enter the voucher code in the field Promotion Code.
PRACTICE QUESTIONS
The sample questions below are additional questions that have not been used in the actual exam, but are representative of typical questions that an exam candidate may face.

Select one answer (or more if indicated) that best answers the question or completes the statement.

1. Gateways can be used to load balance between Network SIP Servers.
   A. True  False

2. SIP protocol is a media independent protocol.
   A. True  False

3. A Back to Back User Agent can generate a Request.
   A. True  False

4. 3PCC is a functionality of:
   A. Registrar
   B. Stateless Proxy
   C. Stateful Proxy
   D. None of the above

5. Which of the following are characteristics of the SIP protocol? (Choose 3)
   A. SIP is a text-based protocol
   B. SIP has no firewall or NAT restrictions
   C. SIP messages contain both a header and a message body
   D. SIP supports call transfer, call conference and call hold

6. Personal Greeting requires Stream Manager or any Media Server.
   A. True  False

7. No Answer Supervision options can be applied to Voice Treatment Ports.
   A. True  False

8. In which of the following cases will SIP server auto logout an Agent on a call?
   A. If the call is private call only
   B. If the call is private call or takes longer than specified by the option 'auto-logout-timeout'
   C. If the call takes longer than specified by the option 'auto-logout-timeout'
   D. Only if the option 'auto-logout-ready' is set to 'true'
   E. Never

9. In SIP Server standalone mode, SIP Server can be used, together with other Genesys components, for which of the following? (Choose 3)
   A. Voice Mailbox
   B. Voice routing
   C. Reporting
   D. Registrar for Endpoint
10. Which of the following factors have a direct impact on voice quality? (Choose 3)
   A. Network latency
   B. Packet loss
   C. Packet Jitter
   D. Type of endpoint

11. What are the valid values specified in the Service-type option used by a Voice over IP Service DN? (Choose 6)
   A. moh
   B. mcu
   C. treatment
   D. cos
   E. announcement
   F. recorder
   G. conference
   H. msml

12. Which one of the features below is NOT supported by Media Server?
   A. playing prompts and music
   B. voice mail
   C. recording customer conversation
   D. MCU

13. 'oos-check' option needs to be configured for Active Out of Service detection but not for Passive Out of Service detection.
   A. True
   B. False

14. For geo-location matching to work, both parties in the SIP call must be configured with the same geo-location label.
   A. True
   B. False

15. Which of the following methods is used by SIP Server to detect DTMF tone?
   A. In-band method by encoding DTMF tone as regular RTP packets
   B. In-band method by encoding DTMF tone in specific RTP packets (RFC 2833)
   C. Out-of-band method by encoding DTMF tone in SIP message (INFO)
   D. All of the above

16. Which of the following participate in or support a push video feature? (Choose 4)
   A. Customer
   B. Agent
   C. Media Server (treatment)
   D. Media Server (MCU)
   E. Media Server (VIDEO)

17. Which of the following components are recommended for a Genesys Media Server deployment? (Choose 3)
   A. SIP Server
   B. GVP Resource Manager
   C. TServer
   D. Genesys Media Control Platform
18. Which of these is generally NOT a function of the Media Server?
   A. Call Progress Detection
   B. DTMF Detection
   C. Playing Announcements
   D. Call Transfer

19. For each treatment type used by Media Server a separate Voice over IP Service DN has to be
    created specifying the type of treatment to be used. E.g. we must have 3 VoIP Service DN type
    treatment if we want to use in a strategy “Music”, “Announcement” and “Silent” treatment
    simultaneously.
   A. True                False

20. It is possible to perform a two-step transfer by SIP server without Media Server.
   A. True                False

21. It is possible to perform a 1PCC 4-participant conference by SIP Server without a Media Server using
    Genesys Endpoints.
   A. True                False

22. SIP Server supports replacing the CallerID with another number using which of the following
    methods?
   A. The Extensions attribute with the CPNDigits key in the following messages: TMakeCall,
      TMakePredictiveCall, TInitiateConference, TInitiateTransfer, and TRouteCall.
   B. The cpn option at the Trunk DN level. In this case, the caller ID information will be replaced
      by the SIP URI setting in this option for all outgoing calls through this Trunk DN.
   C. Both a and b
   D. None of the above

23. In order for the agent to initiate emergency recording, the TSingleStepConference request must be
    called with a specific destination: gcti::record.
   A. True                False

24. Class of Service can be assigned to either Agent Login Objects or to DN Objects.
   A. True                False

25. The find-trunk-by-location option is used to determine which gateway or trunk to use for an outbound
    call.
   A. True                False

26. When a SIP end point fails to respond to an incoming invite message, an EventDNOutOfService
    message will be generated based on the timeout option value that has been set.
   A. True                False
Answers to Practice Questions

1. correct answer = “t”
2. correct answer = “t”
3. correct answer = “t”
4. correct answer = “e”
5. correct answer = “a,c,d”
6. correct answer = “t”
7. correct answer = “f”
8. correct answer = “e”
9. correct answer = “b,c,d”
10. correct answer = “a,b,c”
11. correct answer = “a,b,c,d,f,h”
12. correct answer = “b”
13. correct answer = “t”
14. correct answer = “t”
15. correct answer = “d”
16. correct answer = “a,b,d,e”
17. correct answer = “a,b,d”
18. correct answer = “d”
19. correct answer = “f”
20. correct answer = “f”
21. correct answer = “t”
22. correct answer = “c”
23. correct answer = “t”
24. correct answer = “t”
25. correct answer = “t”
26. correct answer = “t”

For more information about Genesys Certification, please contact your local Genesys University training center or click here:
http://www.genesyslab.com/about/training/certification_programs.asp