Genesys CCaaS Product Training Guide

Module 1: Introduction & Overview

What is CCaaS?\ CCaaS stands for **Contact Center as a Service**. It is a cloud-based customer experience solution that allows businesses to manage inbound and outbound customer interactions (calls, chats, emails, etc.) through a scalable and flexible platform.

Benefits of CCaaS vs. Legacy On-Premises Solutions

- **Scalability**: Instantly scale up/down without hardware.
- **Cost Efficiency**: Pay-as-you-go model avoids large CapEx.
- **Remote Work Ready**: Supports global teams with browser-based tools.
- **Continuous Updates**: No manual upgrades—features are added automatically.

Common Use Cases

- Customer Support
- Sales and Lead Generation
- Collections and Billing
- Surveys and Feedback
- Helpdesk and Technical Support

High-Level Service Model & Cloud Architecture

- Hosted in the cloud (AWS, Azure, etc.)
- Utilizes microservices for modular functions
- Redundancy across geographic regions ensures high availability

(Diagram: Cloud with interconnected services—Voice, Chat, Email flowing through Genesys Cloud to agents at desktops)

Module 2: Core Concepts & Terminology

Key Terms Defined:

- **SIP (Session Initiation Protocol)**: Protocol used for initiating VoIP (Voice over IP) calls.
- **IVR (Interactive Voice Response)**: Automated system that interacts with callers via keypad or voice.
- **ACD (Automatic Call Distributor)**: Routes incoming calls to the most appropriate agent.
- **Omnichannel**: Unified handling of multiple communication channels (voice, chat, email, SMS).
- **API (Application Programming Interface)**: Allows other software to interact with Genesys.
- **Webhook**: A user-defined HTTP callback that triggers when an event happens.

Building Blocks Explained:

- **Agent**: Front-line user handling interactions.

- **Queue**: Line where interactions wait to be answered.
- **Skill**: Attribute assigned to agents (e.g., language, product expertise).
- **Routing Profile**: Defines which interactions go to which agents.

Module 3: System Architecture

Cloud Infrastructure

- **Multi-Tenant Environment**: Shared platform with customer isolation.
- **Regions & Availability Zones**: Services spread across data centers for fault tolerance.

Data Flow (Voice Interaction)

1. Customer calls DID number
2. Call enters IVR
3. Routed via ACD
4. Delivered to agent desktop

Security Model

- **Authentication**: SAML SSO or native login
- **Authorization**: Role-based access controls (RBAC)
- **Encryption**: TLS for in-transit, AES-256 at rest

Module 4: Feature Deep-Dive

Telephony

- Supports PSTN and VoIP
- DID (Direct Inward Dialing) for each business line
- Call flows built using Architect (drag-and-drop tool)

Digital Channels

- **Web Chat**: Embed widget via JavaScript
- **Email**: Inbound routing to agents
- **SMS & Messaging Apps**: Facebook Messenger, WhatsApp, etc.

Omnichannel Routing

- **Skill-based** and **priority-based** routing
- SLA (Service Level Agreement) timers for response time guarantees

Reporting & Analytics

- **Dashboards**: Real-time monitoring of agent performance

- **Reports**: Historical metrics (AHT, ASA, CSAT)

Module 5: Step-by-Step Configuration

Prerequisites

- Admin permissions
- Valid Genesys Cloud subscription
- Network whitelist for media services

Initial Setup

```
# Assign roles
POST /api/v2/authorization/roles
{
  "name": "Admin",
  "permissions": ["routing:queue:view", "user:add"]
}
```

Telephony Configuration

```
{
  "sip_trunk": "sip.provider.com",
  "authentication": {
    "username": "user",
    "password": "pass"
  }
}
```

Digital Channels

```
<!-- Embed Chat Widget -->
<script src="https://apps.mypurecloud.com/widgets/9.0/webchat.js"></script>
```

Routing & Queues

```
{
  "queue": "Support",
  "skills": ["English", "Technical"],
  "routingProfile": "Priority-Routing"
}
```

Agent Desktop Setup

- Access via Chrome browser
- Configure statuses: Available, Busy, Break
- CRM pop-ups via screen-pop URL integration

Module 6: Integrations & APIs

REST API Overview

```
# Create Queue
POST /api/v2/routing/queues
{
  "name": "SalesQueue",
  "divisionId": "division123"
}
```

Webhooks Example

```
{
  "event": "conversation.queued",
  "url": "https://yourserver.com/handler"
}
```

CRM Connectors

- Pre-built integrations for Salesforce, Zendesk
- Custom connectors via API Gateway

Module 7: Advanced Topics & Best Practices

High Availability

- Active-active redundancy
- Multi-region failover supported

Scalability

- Auto-provision users and trunks via API
- Elastic usage-based licensing

Security Hardening

- Enable MFA (Multi-Factor Authentication)
- Periodic audits and access reviews

Disaster Recovery

- Monthly failover tests
- Documented recovery RTOs and RPOs

Module 8: Troubleshooting & FAQs

Common Issues

- **One-way Audio**: Check NAT/firewall, verify STUN/TURN
- **Chat Widget Not Loading**: Check domain allowlists

Reading Logs

- Access via Admin Console > Analytics > Interaction Details
- Look for disconnectType and errorCode fields

Community Resources

- Genesys Community Forums
- Developer Center
- Product Documentation

Module 9: Summaries & Knowledge Checks

Recap

- CCaaS offers flexibility, scalability, and rapid innovation
- Genesys Cloud handles voice, chat, email, and more
- Setup includes telephony, digital channels, routing, and integration

Sample Questions

1. What does ACD stand for and what is its role?
2. Name two digital channels supported by Genesys.
3. How can you integrate a CRM with Genesys?

Module 10: Glossary & Cheat Sheets

Glossary

- **ACD**: Automatic Call Distributor
- **IVR**: Interactive Voice Response
- **DID**: Direct Inward Dialing
- **SLA**: Service Level Agreement

Cheat Sheet

- Create Queue: `/api/v2/routing/queues`
- Embed Chat: `<script src=".../webchat.js"></script>`
- Troubleshooting: Admin > Analytics > Interaction Details

Module 11: CTI Integration (Computer Telephony Integration)

CTI on Premise Overview

- Traditional CTI integrates the telephony system with CRM/desktop apps using middleware.
- Components:
- CTI Server (middleware)
- Telephony Switch (PBX/ACD)
- Agent Workstation Software (e.g., Genesys Agent Desktop)
- Integration Methods:
- T-Server (Telephony Server in Genesys)
- IWS (Interaction Workspace)
- Proprietary SDKs and connectors
- Requires heavy infrastructure, ongoing maintenance, and localized deployments.

CTI in Genesys Cloud (CCaaS)

- Built-in CTI with browser-based agent UI (no local install required)
- Out-of-the-box CRM integrations (Salesforce, Zendesk)
- CTI events (screen pops, click-to-dial) triggered via APIs and WebRTC
- Supports real-time call control from web-based CRMs
- More secure, scalable, and faster to deploy

Technical Behavior

- SIP signaling flows to Edge devices
- WebRTC events are translated to JSON payloads via APIs
- Screen-pop & call control can be handled using:

```
{
  "eventType": "conversation.answered",
```

```
  "conversationId": "abc-123",
  "ani": "+18005551234",
  "screenPopUrl": "https://crm.example.com/customer?id=90210"
}
```

Best Practices

- Align CRM data model with Genesys interaction attributes
- Test failover and event consistency under load

Module 12: AI Integrations for Agent Assist & Self-Service

Overview

- Genesys Cloud supports integrations with third-party AI platforms like Google Dialogflow, Amazon Lex, IBM Watson, and OpenAI.

Self-Service Integration

- Dialogflow integrated via Bot Flow in Architect:

```
{
  "name": "SupportBot",
  "integrationType": "dialogflowCx",
  "projectId": "genesys-project",
  "languageCode": "en-US"
}
```

- Lex integration involves IAM roles and secure endpoints
- OpenAI integrations via RESTful Lambda or Data Action

Agent Assist Integration

- Real-time transcription feeds into NLU (e.g., OpenAI)
- Suggestions returned in UI panel

```
{
  "sessionId": "call-234",
  "transcript": "I need to cancel my order",
  "intent": "OrderCancellation",
  "recommendation": "Open Order Management Tool, Filter by ID"
}
```

Design Considerations

- Use message queuing (Kafka/EventBridge) for async workloads
- Cache intents to minimize latency
- Handle fallback using "No Match" intent logic

Security

- Encrypt all AI traffic using TLS
- Redact sensitive info before passing to AI APIs

Module 13: Architecture Patterns & Design Considerations

Deployment Architectures

- **Standard**: Fully cloud-based with Genesys Cloud Edges
- **Hybrid**: CCaaS with on-prem SBC and BYOC Cloud
- **High Availability**: Multiple Edges across zones, geo-redundancy

Sizing Guidelines

- 1 Edge can support \~250 concurrent calls
- Factor in: Codec (G.711 vs. Opus), recording, AI concurrency

Best Practices

- Place Edges close to media source (minimize latency)
- Use API rate limiting and retry logic
- Separate dev, staging, and prod orgs

Sample API Workflow for Bulk Agent Creation

```
POST /api/v2/users
{
  "name": "John Doe",
  "email": "johnd@example.com",
  "divisionId": "sales123",
  "roles": ["agent"]
}
```

Next Steps

- Sign up for Genesys Cloud Free Trial
- Explore Genesys Developer Center

- Earn Genesys Cloud certifications (GCP, GCX)

End of Training Guide.