

Amazon Connect Introduction

MODULE 3



Contact Centers

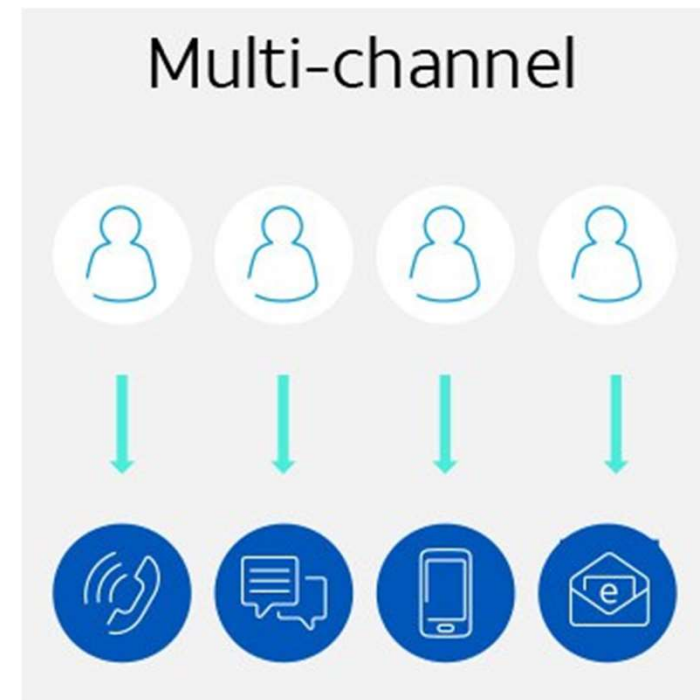
- Also Known As - Call Centers
- Modern Contact Centers handle not just Voice calls from customers, they now open up communications through Chat, SMS, Email and Social Media
- Multi-Channel communications: Use of the various channels in an independent stream
- Omni-Channel Communications: Use of the various channels in a single stream. Agent can Switch from any line of communication during the engagement.
- Customer can have a Chat session with an Agent then switch to a Voice call with the same Agent
- Agents can view Chat communications with the customer that they had earlier while on a Voice call.

Contact Center Technologies

- Contact Center platform
- IVR/self-service
- ACD
- VoIP/Softphone

Multi-Channel

- Seperate channels forces the agents to use multiple applications
- Communications cannot be combined into one standard interface
- Reporting is separate as well
- Workforce Management Teams struggle with optimizing the team.



Omni-Channel

- Access to consolidated data
- Easily switch between channels
- Combined reporting and Analytics
- Workforce Management team can manage the Agents through one interface
- Allows customers to switch from one channel to another



Amazon Connect Overview

Traditional contact center solutions didn't work:

- Licensing
- Infrastructure
- Scalability

What is Amazon Connect?

- Contact Center platform
- IVR/self-service
- ACD
- VoIP/Softphone

Amazon Connect Overview

Amazon Connect is an easy to use omni-channel cloud contact center that helps companies provide superior customer service at a lower cost. Amazon Connect is built on the same contact center technology that Amazon uses to allow its customer support agents to conduct millions of customer conversations worldwide.

Channels include:

- Voice – traditional inbound or outbound voice communications
- Chat – proactive or reactive Chat sessions through a web site or mobile application
- Tasks – allows agents to create and complete tasks in an automated process

Browsers supported by Amazon Connect

Browser	Version	Check your version
Google Chrome	Latest three versions	Open Chrome and type chrome://version in your address bar. The version is in the Google Chrome field at the top of the results.
Mozilla Firefox ESR	Latest three versions	Open Firefox. On the menu, choose the Help icon and then choose About Firefox . The version number is listed underneath the Firefox name.
Mozilla Firefox	Latest three versions	Open Firefox. On the menu, choose the Help icon and then choose About Firefox . The version number is listed underneath the Firefox name.

Amazon Connect Benefits

Make changes in minutes, not months

Setting up Amazon Connect is easy. With only a few clicks in the Amazon Web Services (AWS) Management Console, agents can begin taking calls within minutes. The drag-and-drop Contact Flow Editor allows you to create contact flows that define effective and efficient customer interactions without any coding.

Save up to 80% over traditional contact center solutions

As an on-demand service, you pay for Amazon Connect usage by the minute. No long-term commitments, upfront charges, or minimum monthly fee. You pay only for the number of minutes you use Amazon Connect to engage with end customers. Pricing is not based on capacity, agent seats, or maintenance.

Amazon Connect Benefits

Easily scale to meet unpredictable demand

With no infrastructure to deploy or manage, you can scale your Amazon Connect contact center up or down. This means you can onboard up to tens of thousands of agents in response to business cycles. Pay only for the time callers interact with Amazon Connect, plus any associated telephony charges.

Features of Amazon Connect

- User Administration
- Contact Control Panel (CCP)
- Contact flows
- Skills-based routing
- Metrics and Reporting

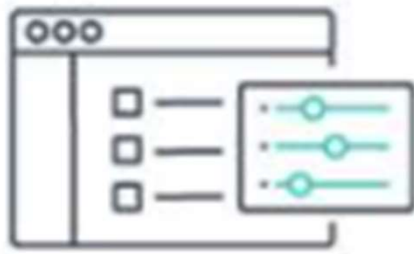


User Administration

- The ability to add users
 - Agents
 - Managers
- Configure permissions
- Assign appropriate roles
- Authenticate users through
 - Amazon Connect
 - AWS Directory Service
 - SAML-based identity provider



Contact Control Panel (CCP)

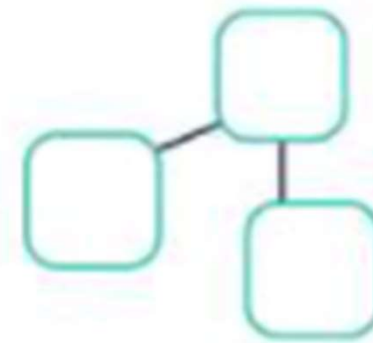


Contact
Control Panel (CCP)

- Customizable interface that agents use to engage with contacts across multiple channels

Contact Flows

- Features that let you define the customer experience within the Contact Center
 - Play prompts
 - Get Input data from customers
 - Invoke Lambda functions
 - Integrate Lex Bot



Contact
flows

Skills-based routing

- Routing of contacts based on the skills of the Agents



Metrics and Reporting

- Real-time and historical information about the activity in your Contact Center



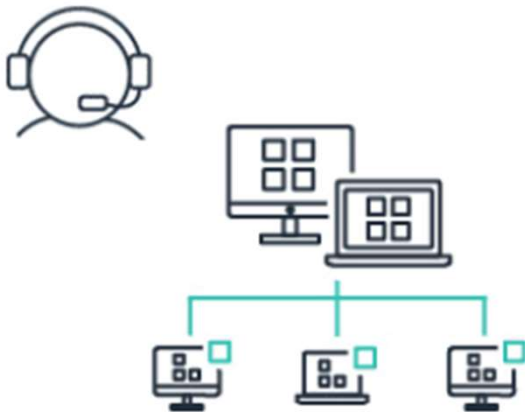
Metrics
and reporting

Telephony

Amazon Connect provides a variety of choices to enable your company to make and receive telephone calls.

A big advantage of Amazon Connect is AWS manages the telephony infrastructure for you:

- carrier connections
- Redundancy
- routing



Chat

Amazon Connect allows your customers to start a chat with an agent or Amazon Lex bot, step away from it, and then resume the conversation. They can even switch devices and continue the chat.



Routing profiles / Queue-based routing

- Routing profile determines the contacts that an agent receives and routing priority. Amazon Connect uses routing profiles to help you manage your contact center at scale.
- Queue-based (or skills-based) routing directs customers to specific agents according to criteria like agent skill.



Natural language processing (NLP)



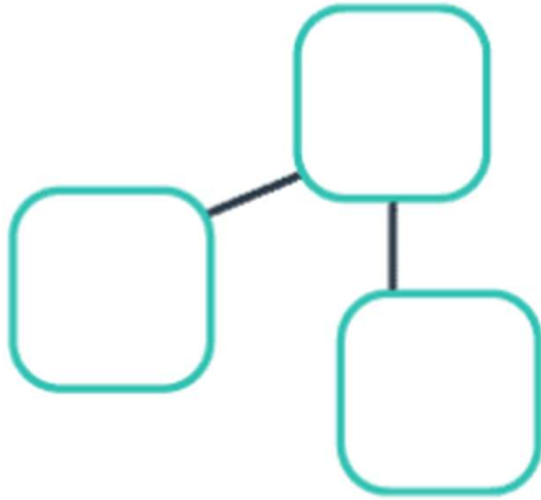
- The ability for a computer to understand voice or text input, derive meaning, recognize purpose or intent, and collect individual data elements.
- NLP reduces the time and effort needed to achieve your contact's purpose, facilitate self-service, and can increase quality of experience for your contacts.
- Amazon Connect features a native integration with Amazon Lex for NLP over text and voice.

Channels and concurrency

- Agents can be available concurrently on both voice and chat channels. Here's how this works:
- Suppose an agent is configured in their routing profile for voice and up to five chats. When the agent logs in, a chat or voice call can route to them.
- However, once they are on a voice call, no more voice calls or chats are routed to them until they finish the call.



Contact flows



- How a customer experiences your contact center from start to finish. At the most basic level, contact flows enable you to customize your IVR (interactive voice response) system.
- For example, you can give customers a set of menu options, and route customers to agents based on what they enter on their phone. With Amazon Connect, contact flows are even more powerful. You create dynamic, personalized flows to interact with AWS services.

Create an Amazon Connect Instance

The first step in setting up an Amazon Connect contact center is to create a virtual contact center instance. The instance contains all the resources and settings related to your contact center. You specify where voice recordings and chat transcripts are stored, and how you plan to manage user accounts and other aspects. In this section, you will learn how to create an Amazon Connect instance for the client.

NOTE!!! In the Identity Management section, you will have to select the which User Authentication method you will be using. Once selected and saved, you will not be able to change the Authentication method.

Create an Amazon Connect Instance

With your new Amazon Connect contact center, you have the ability to:

- ◎ Provision phone numbers or port your own.
- ◎ Add agents and assign them permissions appropriate to their roles.
- ◎ Set up queues so that you can route communications to agents based on their specific skills

Create an Amazon Connect Instance

Instance considerations

When preparing to create your Amazon Connect instance, consider the AWS Identity and Access Management (IAM) permissions for your users. Also consider your company's user management practices and the AWS Region in which your instance should be deployed to have the most efficient setup for your contact center. In order to create the best contact center solution based on your business needs, consider receiving additional support from AWS Partners and AWS Professional Services.

Create an Amazon Connect Instance

IAM permissions

One way to allow an IAM user to create an instance is to provide the **AmazonConnect_FullAccess** policy permissions. With this policy, additional privileges are required to create an Amazon Simple Storage Service (Amazon S3) bucket. While creating or updating an instance from the Amazon Connect console, you can choose a name for your new bucket or use an existing bucket. If you choose default storage locations—for your call recordings, chat transcripts, call transcripts, and more—they are now prefixed with **amazon-connect-**.

The **aws/connect** AWS Key Management Service (AWS KMS) key is available to use as a default encryption option. To use a custom encryption key, assign users additional KMS privileges. To learn more about how to bring your own keys (BYOK), see Key Management in the Amazon Connect Administrator Guide.

Create an Amazon Connect Instance

IAM permissions

You can add other AWS services to your Amazon Connect contact center to enhance security, dive deeper into analytics, add messaging capabilities, and more. You can assign users additional privileges to attach other AWS resources, such as Amazon Polly, live media streaming, data streaming, and Amazon Lex bots to their Amazon Connect instances. For more information about how Amazon Connect interacts with other AWS services to enhance your contact center, see [The Power of AWS with Amazon Connect](#) in the Amazon Connect Administrator Guide.

If you are using custom IAM policies to manage access to the Amazon Connect console, your users might need adjusted permissions, depending on the tasks they want to do. For more information on how to provide more security surrounding least privilege access, see [Required Permissions for Using Custom IAM Policies to Manage Access to the Amazon Connect Console](#) in the Amazon Connect Administrator Guide.

Create an Amazon Connect Instance

Regional considerations

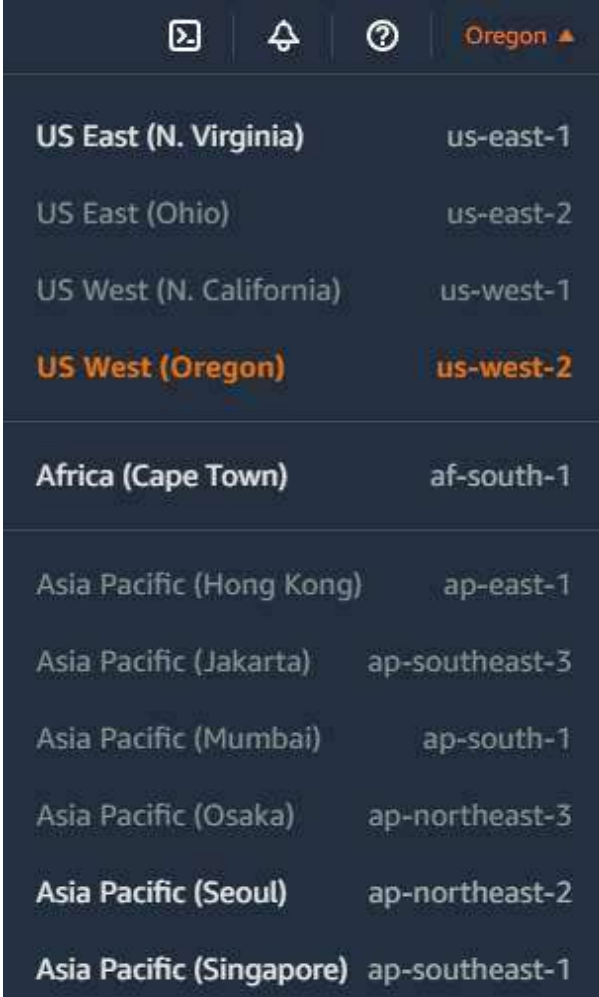
Amazon Connect is a regional service. When choosing the AWS Region to deploy an Amazon Connect contact center, ask yourself the following questions:

- ⦿ Where are my customers physically located?
- ⦿ Where are my agents physically located?
- ⦿ Do I need to abide by any regulatory, compliance, or data residency requirements?
- ⦿ Do I have any on-premises, cloud, or software as a service (SaaS) workloads that integrate to the contact center?

Create an Amazon Connect Instance

The answers to these questions will help you determine which Region will work best for you and your company.

For example, AnyCompany is headquartered in Portland, Oregon USA. The company has agents and customers located across Western USA and is running production workloads in the AWS us-west-2 Region. The company also uses a third-party customer relationship management (CRM) platform that is hosted in the us-west-2 Region. After evaluating agent network connectivity with the Amazon Connect Endpoint Test Utility, the AnyCompany administrator selected us-west-2 as the AWS Region to use for their Amazon Connect contact center. By creating your Amazon Connect instance in the Region that is geographically closest to your customers and agents, you achieve lower latency, optimal performance of your Amazon Connect contact center, more efficiency for your agents, and a more seamless experience for your customers.

	
US East (N. Virginia)	us-east-1
US East (Ohio)	us-east-2
US West (N. California)	us-west-1
US West (Oregon)	us-west-2
Africa (Cape Town)	af-south-1
Asia Pacific (Hong Kong)	ap-east-1
Asia Pacific (Jakarta)	ap-southeast-3
Asia Pacific (Mumbai)	ap-south-1
Asia Pacific (Osaka)	ap-northeast-3
Asia Pacific (Seoul)	ap-northeast-2
Asia Pacific (Singapore)	ap-southeast-1

Create an Amazon Connect Instance

Step 1: Set your identity

There are three identity management options: store users in Amazon Connect, link to an existing directory, or use SAML 2.0-based authentication. When creating your Amazon Connect instance, select the option that best suits your company's needs.

After you select an identity management option, you want to create a unique name for your instance. This instance name (called instance alias) will be part of your Amazon Connect instance URL after it is created. This label must be unique across all Amazon Connect instances in all Regions.

Create an Amazon Connect Instance

Step 1: Identity Management

1. Open the Amazon Connect console at <https://console.aws.amazon.com/connect/>.
2. If this is the first time in Amazon Connect, choose **Get started**. If you have previously created an instance, choose **Add an instance** instead.
3. Choose one of the following options:
 - **Store users within Amazon Connect** - Use Amazon Connect to create and manage user accounts.

This name cannot be a pre-existing name

- ☒ Store users within Amazon Connect
Users will be created and managed by you within Amazon Connect. Note: you will not be able to share users with other applications.

Access URL <https://MySample.my.connect.aws> ⓘ

Create an Amazon Connect Instance

Step 1: Identity Management (cont)

- **Link to an existing directory** - Use an AWS Directory Service directory to manage your users. You

can use each directory with one Amazon Connect instance at a time.

- **SAML 2.0-based authentication** - Use an existing identity provider (IdP) to federate users with

Amazon Connect.

4. If you chose **Store users within Amazon Connect** or **SAML 2.0-based authentication**, provide the

left-most label for **Access URL**. This label must be unique across all Amazon Connect instances in all

Regions. You can't change the access URL after you create your instance.

5. If you chose **Link to an existing directory**, select the AWS Directory Service directory for **Directory**.

The directory name is used as the left-most label for **Access URL**.

Create an Amazon Connect Instance

Step 2: Add an administrator

On the Add administrator page, shown in the following image, you have the option to select Specify an administrator. The best practice we recommend is to specify an administrator user during setup. You can then log in as this user and begin administering the Amazon Connect environment, such as adding additional users.

After you specify an administrator (optional), enter a first and last name, create a username and password, and enter an email. Then, choose Next at the bottom right of the screen.

Create an Amazon Connect Instance

Step 2: Administrator

After clicking next you will need to create an Administrator, or you can skip this step and create one later.

Add a new Admin will be selected.

Enter the following information:

- First Name
- Last Name
- Username
- Password
- Email address

Click Next step

Create an Amazon Connect Instance

Step 3: Set telephony

Amazon Connect is an omnichannel cloud contact center where voice is among the channels available. Administrators can choose whether the contact center allows inbound calls, outbound calls, or both.

On the Set telephony page, shown in the following image, you can select Allow incoming calls, Allow outgoing calls, or both. Then, choose the Next button at the bottom right of the screen.

Later, in user permissions, you can also determine which users are able to place outbound calls. The telephony configuration can be modified as the contact center grows.

Create an Amazon Connect Instance

Step 3: Telephony Options

You can select Incoming calls, Outbound calls or both.

Incoming calls

☒ I want to handle **incoming** calls with Amazon Connect

Outbound calls

☒ I want to make **outbound** calls with Amazon Connect

Note: You can set which users can place outbound calls in user permissions.

Click on Next Step

Create an Amazon Connect Instance

Step 4: Data storage

When creating an Amazon Connect instance, you are able to select the Amazon Simple Storage Service (Amazon S3) bucket used for storing Amazon Connect data. Amazon Connect can automatically create a bucket for you in your account. Or, you can select an existing Amazon S3 bucket that adheres to existing naming conventions, data residency requirements, or other organizational considerations.

Within your Amazon S3 bucket, different objects store the data for your contact center. The object types, shown in the previous image, are folders for your attachments, call recordings, chat transcripts, and reports.

Create an Amazon Connect Instance

Call recordings

Administrators have the option to set up recorded calls. When this bucket is created, call recording is enabled at the instance level. You can configure which calls are recorded (and not) inside your contact flows. For more information about activating call recordings in your Amazon Connect instance contact flows, see Step 4: Data Storage in the Amazon Connect Administrator Guide.

Perhaps your company wants to make sure that customer service calls are always recorded for quality assurance and training purposes. Perhaps payment processing calls, which have protected information, are not recorded as a default. When you activate call recordings in your contact flows, the recordings are stored in the appropriate Amazon S3 bucket. You can listen to and manage call recordings from the Amazon Connect UI, or you can manage the recordings from your Amazon S3 bucket.

Create an Amazon Connect Instance

Chat transcripts

Administrators have the option to set up recorded chat conversations. When this bucket is created, chat transcripts are enabled at the instance level, and all future chat transcripts will be stored there. Chat transcripts can be viewed and managed from the Amazon Connect UI.

The Amazon Connect UI shows the contact details from the chat conversation with the customer through the contact summary, chat transcript, agent details, and more.

Create an Amazon Connect Instance

Chat attachments

Administrators can set up the option for customers and agents to share files using chat. When this bucket is created, an attachment icon automatically appears in your agents' contact control panel (CCP). Agents can share attachments on chats, such as digital receipts, customer service photos, and more.

The attachments feature uses two Amazon S3 locations: a staging location and a final location. The final location is where the attachment resides once it's gone through staging and has been validated. For more information about the staging location, see [Enable Attachments to Share Files Using Chat](#) in the Amazon Connect Administrator Guide.

Within Amazon S3, the staging location is the object called `Staging/`, and the final location is called `chat/`.

Create an Amazon Connect Instance

Exported reports

Amazon Connect provides real-time and historical reports. Scheduled reports are saved as CSV files in the Amazon S3 bucket specified for your contact center reports. When administrators or supervisors set up a scheduled report, they can add a prefix to sort and filter reports in Amazon S3. For example, you can sort by line of business (such as Accounting or Sales) or by email distribution list (such as 1st shift or 2nd shift).

By adding a prefix, your file will have the following naming convention: amazon-connect-<bucket name>/connect/<Amazon Connect Instance Alias>/Reports/<Prefix>/<Report Name>. When a report is exported to your Amazon S3 bucket, the file name includes the date and UTC time when it was created. Because the last modified date for the file is displayed using the bucket's time zone, it might not match the creation time for the report. For example, if a report is exported on January 1 at 7:00 AM UTC, the file name will include the date and time. Five minutes later, the bucket that is located in the US West (Northern California) Region is modified with a date and time of December 31 at 11:00 PM PST.

Create an Amazon Connect Instance

Contact flow logs

Amazon Connect contact flow logs provide you with real-time details about events in your contact flows as customers interact with them. You can also use contact flow logs to help debug your contact flows as you create them. Contact flow logs are stored in an Amazon CloudWatch log group, in the same Region as your Amazon Connect instance. This log group is created automatically when contact flow logging is turned on for your instance. A log entry is added as each block in your contact flow is invoked. You can configure CloudWatch to send alerts when unexpected events occur during active contact flows.

Create an Amazon Connect Instance

Customer profiles

With Amazon Connect Customer Profiles, customer information that agents need is centralized in a single location. This service can use information from external applications, such as account numbers, billing addresses, and dates of birth. Customer Profiles ties the Amazon Connect contact history with customer information so agents can deliver more efficient and personalized customer service. Agents will then be able to see this information every time the customer calls. By default, Amazon Connect creates your Customer Profiles domain.

Create an Amazon Connect Instance

Encryption

To protect your contact center data, you can specify AWS Key Management Service (AWS KMS) keys, which includes the option to bring your own keys (BYOK). AWS KMS keys can also be applied to data stored in Amazon Connect Customer Profiles. By default, Amazon Connect creates an AWS KMS key to protect stored data when no other key is defined.

Create an Amazon Connect Instance

Step 4: Data storage

Creating storage is used for:

- Call recordings
- Scheduled reports
- Chat transcripts

These are stored in an Amazon S3 bucket that is created for you when you create an Amazon Connect instance. The stored data is encrypted by the AWS Key Management Service using a key specific to your Amazon Connect instance.

Contact flow logs are stored in Amazon CloudWatch Logs in a Log Group created for you.

Click on Next Step to proceed

Create an Amazon Connect Instance

Step 5: Review and Create

In this section you can review and modify your choices.

1. Review the configuration choices. Remember that you cannot change the identity management options after you create the instance.
2. To change any of the configuration options, choose **Change**.
3. Choose **Create instance**.

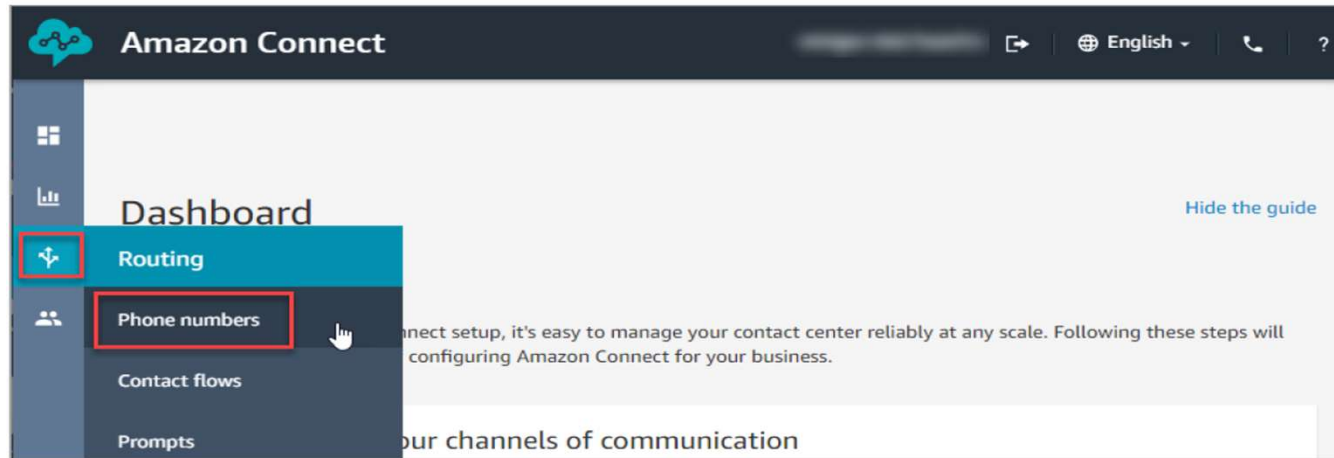
Create an Amazon Connect Instance

Step 5: Review and Create

Once confirmed, choose the Create instance button. When the instance has been created successfully, choose the Get started button at the top right of the page to navigate to the newly created Amazon Connect instance.

After creating your instance, you land on the Amazon Connect instances page. Choose the Get started button in the success bar at the top of the page, or select your instance alias to open your newly created instance.

Claim you Phone Number



After you have successfully created your Instance, you will need to go into your Amazon Connect Dashboard

1. On the navigation menu, click on **Routing** then **Phone numbers**
2. Click on **Claim a number** on the right hand side of the screen

Claim a number

Claim you Phone Number (cont.)

For our example, we will select DID (Direct Inward Dialing). The other option is selecting a Toll Free number although for testing that will be a costly option.

3. Select DID (Direct Inward Dialing)
4. Select your country
5. Select your desired number. If there is no number available, you will have to come back to check on a numbers availability. Write down the number.
6. In Contact flow/IVR, choose the drop-down arrow then choose Sample inbound flow (first contact experience)
7. Click on Save

Claim Phone number

Toll free DID (Direct Inward Dialing)

Country

 +1 ▼

Prefix (optional)

☐ +1 313-263-6541

☐ +1 302-300-3345

☐ +1 307-459-4977

☐ +1 313-221-5702

☐ +1 213-524-1011

Test the sample Voice experience

1. Go to the Dashboard

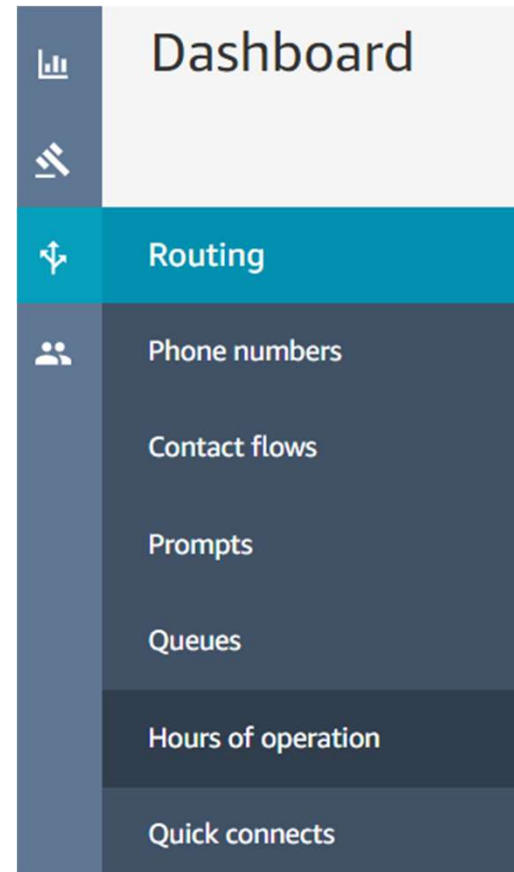
Set Hours of Operations

Hours of operation define when Amazon Connect resources, such as queues, are available. These hours may be referenced in contact flows.

To build out a holiday closure schedule, many enterprise organizations use a DynamoDB and reference that table with a Lambda function.

Set Hours of Operations

1. Go to the Dashboard
2. Click on Routing then Hours of Operation
3. The Basic Hours are set to Always Open Hours
4. Click “Add new hours”
5. Name the Hours of Operations
6. Enter a Description
7. Select your Time zone
8. Modify the days and times
9. Click on Save



Set Hours of Operations (Exercise)

Create a Lunch hour

Adjust the Day and Time reflect the image below:

<input type="checkbox"/> Day	Start	End
<input type="checkbox"/> Monday ▼	<u>09</u> : <u>00</u> AM	<u>12</u> : <u>00</u> PM
<input type="checkbox"/> Monday ▼	<u>01</u> : <u>00</u> PM	<u>05</u> : <u>00</u> PM

In most contact centers breaks are staggered while some agents are on break, others are covering.

We will cover adding a Custom Agent Status later in the course.

Queues

In Amazon Connect, routing consists of three parts:

1. **Queues** - allow contacts to be routed to the best agents. Multiple queues can route contacts with different priorities or to agents with different skills. Queues can handle voice, chat, or both
2. **Routing profiles** - is a collection of queues from which an agent services contacts. Routing profiles enable agents to service multiple queues with the proper level of priority.
3. **Contact flows** - define a customer's experience when they contact the center. Contact flows can integrate with systems such as CRMs and databases to dynamically adapt the experience by customer and history.

Contacts are routed through your contact center based on the routing logic you define in your contact flows. You can also use routing profiles to manage how agents are allocated to queues, such as routing specific types of contacts to agents with specific skill sets.

If no agent with the required skill set is available, the contact is placed in the queue you define in the contact flow.

Queues

A queue is a "waiting area" that holds contacts to be answered by agents.

Contacts in a queue are automatically prioritized and forwarded to the next available agent. Customers are placed on hold if there are no available agents.

The order in which customers are serviced is determined by their time in the queue on a first-come, first-served basis, unless otherwise specified in the contact flow.

If multiple agents are available, the contact is routed to the agent who has been in available status for the longest time.

Routing profiles can assign priority to one queue over another. Once in the queue it is in the order which they were added.

Create queues - attributes

1. Limits (optional)
2. Hours of operation
3. Outbound caller ID name
4. Outbound caller ID number
5. Quick connects (optional)
6. Outbound whisper flow (optional)

Create queues - Exercise

1. From the Dashboard click on **Routing** then **Queues**
2. Click on **Add new Queue**
3. Enter a Name – “Customer Service”
4. Add a description
5. Assign the Hours of Operation
6. For **Outbound Caller ID Name**, enter a Name
7. Select the number for **Outbound Caller ID**. This number can only be a number that you own.

Prompts

Prompts are audio files played in call flows.

For example, hold music is a prompt.

Amazon Connect comes with a set of prompts that you can add to your contact flows. Or, you can add your own recordings.

Upload a pre-recorded .wav file to use for your prompt or record one in the web application.

Recommend using 8 KHz .wav files that are less than 50 MB and less than 5 minutes long.

Create Prompts

1. In the navigation pane, choose **Routing, Prompts**.
2. On the **Manage voice prompts** page, choose **Create new prompt**.
3. Choose the following actions:
 - **Upload**—Select the file to upload.
 - **Record**—Select the red circle to begin recording. Use the red square to stop. You can choose **Crop** to cut the recorded prompt or **Discard** to record a new prompt.
4. For **Step 2: Input basic information**, enter the name of the file, and then choose **Create**.

Create Prompts

Text-to-Speech prompts can be added to the following contact flow blocks

- **Get customer Input**
 - It plays a prompt to get a response from the customer. For example, "For Sales, press one. For Support, press two."
 - When customers enter DTMF input (touch-tone keypad or telephone input), the prompt is interruptible.
 - When an Amazon Lex bot plays a voice prompt, customers can interrupt it with their voice. To set this up, use the barge-in-enabled session attribute.
 - It then branches based on the customer's input.
 - This block works for chat only when Amazon Lex is used.
- **Loop prompts**
 - Loops a sequence of prompts while a customer or agent is on hold or in queue

Create Prompts

Text-to-Speech prompts can be added to the following contact flow blocks

- Play prompt
 - This block can play an interruptible audio prompt, play a text-to-speech message, or send a chat response.
- Store customer input
 - Stores the input as a contact attribute and allows you to encrypt it.

Create Contact Flows

A *contact flow* defines the customer experience with your contact center from start to finish.

At the most basic level, contact flows enable you to customize your interactive voice response (IVR) system. Contacts are routed through your contact center based on the routing logic you define in your contact flows.

A contact flow determines a series of interactions with the user. Contact flows can play or show prompts to the user, get user inputs, and behave differently depending on conditions. In a way, contact flows are like simple programs, written in a very constrained, visual programming language.

Contact flow editor that lets you drag and drop blocks onto the designer canvas.

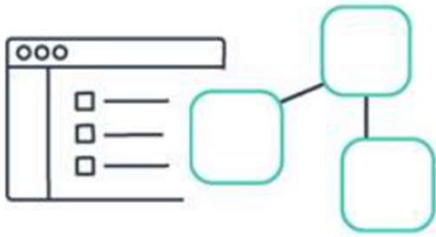
Contact blocks

- Interact blocks
 - Play prompt
 - Plays audio
 - Get Customer input
 - Branches based on customer intent
 - Store Customer input
 - Stores numerical input to contact attribute
 - Hold customer or agent
 - Places customer or agent on or off hold
 - Start media streaming
 - Starts media streaming to Kinesis
 - Stop media streaming
 - Stops media streaming to Kinesis
- Set blocks
 - Set working queue
 - Specifies the queue to be used when Transfer to queue is invoked
 - Set contact attribute
 - Stores key/value pairs as contact attributes
 - Change routing priority/age
 - Alters the priority of a contact in queue.
 - Set logging behavior
 - Enables or disables contact flow logs
 - Set call recording behavior
 - Enables or disables call recording for the agent, customer or both
- Set blocks (cont.)
 - Set hold flow
 - Specifies the flow to invoke when a customer or agent is put on hold
 - Set customer queue flow
 - Specifies the flow to invoke when a customer is transferred to queue
 - Set whisper flow
 - Specifies the whisper to be played to a customer on an outbound call or when a call is being joined.
 - Set disconnect flow
 - Specifies the disconnect flow
 - Set callback number
 - Specifies the number to be used to call the customer back in the Contact Control Panel (CCP) or in a callback queue

Contact blocks

- Branch blocks
 - Check queue status
 - Branches based on comparison of time in queue or queue capacity.
 - Check staffing
 - Branches based on whether agents are available, staffed or online.
 - Check hours of Operation
 - Check hours of operation then branches
 - Check contact attributes
 - Branches based on a comparison of values
 - Distribute by percentage
 - Routes customers randomly based on percentage
- Branch blocks (cont.)
 - Loop
 - Loops through the Looping branch for a number of loops specified
 - Wait
 - Waits for a specific time period
- Integrate blocks
 - Invokes AWS Lambda function
 - Makes a call to AWS Lambda and optionally returns key/value pairs
- Terminate/Transfer blocks
 - Disconnect/Hang up
 - Disconnects the customer's call
 - Transfers to queue
 - Ends the current contact flow and places the customer in queue
 - Transfer to phone number
 - Transfers the customer to a phone number
 - Transfer to flow
 - Ends current flow and transfers the customer to a flow of type contact flow

Contact flows



Default contact flows

Amazon Connect includes a set of default contact flows that have already been published to help you get started with your contact center quickly.

These default contact flows power your contact center.



Sample contact flows

Amazon Connect includes a set of sample contact flows that show you how to perform common functions. They are designed to help you learn how to create your own contact flows that work in a similar way.



Contact flow templates

Amazon Connect includes a set of nine contact flow templates. Each template is for a specific scenario. When you create a contact flow, be sure to choose the right template for the scenario.

Exporting and Importing contact flows

You do have the ability to export and import Contact flows

This lets you easily copy from Amazon Connect instance to another.

An example is moving a completed Contact flow from one region to another.

When you import a contact flow, it will have the Amazon Resource Names (ARNs) of the previous instance embedded in the JSON. This means that you will have to go through the contact flows and associate the queues, Lambdas, and any other objects that are referenced in the contact flow with the right resources from your instance

Amazon Connect contact attributes

In Amazon Connect, a contact is an interaction with a customer in your contact center.

The interaction can be a voice phone call, chat, or automated interaction using an Amazon Lex bot. Contact attributes in Amazon Connect refer to key-value pairs that contain data about a contact.

Contact attributes let you pass data between Amazon Connect and other services, such as Amazon Lex and Lambda. Contact attributes can be both set and consumed by each service.

For example, you could use a Lambda function to look up customer information, such as their name or order number, and use contact attributes to store the values returned to Amazon Connect.

Amazon Connect contact attributes

Contact Attributes	Definition
System	System attributes are predefined attributes in Amazon Connect. You can reference system attributes, but you cannot create them. Some system attributes relate to contacts, and some relate to metrics. Not all blocks in a contact flow support using system attributes. For example, you cannot use a system attribute to store customer input. Instead, use a user-defined attribute to store the data input by a customer.
Agent	Agent attribute is a subset of system attributes related to agents in your contact center.
Queue metrics	Queue metrics attributes are system metric attributes returned when you use a Get queue metrics block in your contact flow
User-defined	User-defined attributes that are created when a contact flow executes using Set contact attributes blocks. When you get data from an external source, you can copy key-value pairs as user-defined attributes to reference later in a contact flow. You can also create user-defined attributes through the Amazon Connect API. User-defined attributes include all attributes set by using a Set contact attributes block in a contact flow.
External	External attributes are created via a process external to Amazon Connect. Examples include when you use an Invoke AWS Lambda function block in a contact flow, or integrate with an Amazon Lex bot.
Amazon Lex slots	Amazon Lex slots attributes are an external attribute for the slot name of an Amazon Lex bot.
Amazon Lex attributes	Amazon Lex attributes are session attributes from an Amazon Lex bot interaction.

Contact flows integrations



AWS Lambda

Amazon Connect can interact with your own CRM, and databases to take different paths in contact flows dynamically. To achieve this, invoke Lambda functions in a contact flow, fetch the results, and call your own services or interact with other AWS services.



Amazon Lex

You can use an Amazon Lex chatbot in your Amazon Connect contact flow to interact with callers. Callers can provide input to the chatbot by either speaking an utterance or pressing digits on their keypads.



Amazon Polly

Amazon Connect has built in text-to-speech leveraging Amazon Polly. Prompt blocks within the contact flow enable you to insert dialog using text to speech or Speech Synthesis Markup Language (SSML).

Steps to create a contact flow

1. Choose the type of contact flow you want to build
2. Choose which contact blocks from the different groupings you want to add to your contact flow.
3. Under the Set block menu, determine the required components for your contact flow.
4. Use blocks in the branch section to determine where the callers go.
5. Integrate with external sources or other AWS services with a Lambda function.
6. End the contact flow with a terminate or transfers block
7. Save and publish

Create Contact Flows Example #1

Create a contact flow for a Chat interaction

Create Contact Flows Example #2

Create a contact flow that will offer your caller the option to receive a call back

Create Contact Flows Example #3

Create a contact flow that will be associated with your inbound phone number and used to determine why your customers are calling.

Create Routing Profiles

How are customers routed in my contact center?

In Amazon Connect, routing consists of three parts:

1. queues
2. routing profiles
3. contact flows

Earlier we learned how to create queues and contact flows for the client's contact center. In the final stage of the client's routing configuration, you will create routing profiles for the contact center.

Create Routing Profiles

While queues are a "waiting area" for contacts, a routing profile links queues to agents.

When you create a routing profile, you specify which queues will be in it.

Routing profiles link specific types of contacts to agents with specific skill sets.

If no agent with the required skill set is available, the contact is placed in the queue you define in the contact flow.

You can also specify whether one queue should be prioritized over another.

Create Routing Profiles

What criteria is specified in a routing profile?

- Which queues will be in it.
- Whether one queue should be prioritized over another.
- Which channels agents will handle in the Contact Control Panel (CCP):
 - Voice
 - Chat
 - both
- How many chat conversations agents can handle simultaneously, up to five.
- Whether individual queues are for voice, chat, or both.

What are the attributes to set up a routing profile?

- Channel
- Priority
- Delay

Configure Users

User management in Amazon Connect enables

- adding
- managing
- deleting users

User-specific settings, such as routing profiles and permissions, can be assigned after the users are created.

To add several users at a time from a Microsoft Excel spreadsheet in a CSV file. You can integrate your contact center with an identity management solution such as SAML or Active Directory (AD) for authentication and authorization, but you will still need to add the users to your contact center.

Configure Users

User management attributes

- User identification attributes
- Routing profiles
- Security profiles
- Phone type and behavior
- Agent hierarchy

After creating users for the client, you can further manage a variety of customer contacts using agent hierarchy organization and agent status management. These tools provide filtering and agent availability management per queue, skill set, and routing profiles.

User configuration



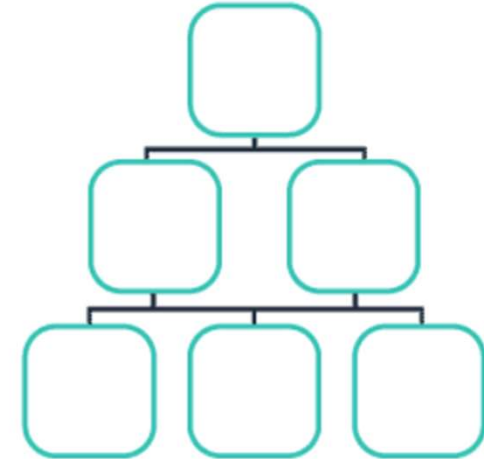
Security profiles

A security profile consists of permissions that determine which Amazon Connect users can view, update, or create which Amazon Connect resources or perform specific tasks. Assigning a security profile to a user grants that user the permissions you added to the security profile. For example, you can grant users read/write access to routing profiles



Routing profiles

A routing profile determines all of the types of contacts that an agent can receive, along with the routing priority. Amazon Connect uses routing profiles to allow you to manage your contact center at scale. To quickly change what a group of agents does, you only need to make an update in one place: the routing profile.



Hierarchies

Hierarchies let you organize agents into teams and groups for reporting purposes. It's useful to organize them based on their location and skill sets. For example, you might want to create large groups, such as all agents who work on a specific continent. You could also create smaller groups, such as all agents working in a specific department.

Security profiles

Most customer-based service teams have role-based agents rules that require different levels of access to resources from within the contact center.

Security profiles provide effective and secure role-based access control to specific modules, functions, and actions from within the contact center.

Security profiles are organized into the following permission groups. For each permission group, there is a set of resources and supported set of actions.

For example, users are part of the Users and permissions group, which supports the following actions:

- View
- Edit
- Create
- Remove
- enable/disable
- edit permission.

Security profiles

Permission Group Name	Definition
Routing	Routing grants access to routing profiles, quick connects, hours of operation, and queues.
Numbers and Flows	Numbers and flows grants access to prompts, contact flows, and phone numbers.
Users and Permissions	Users and permissions grants access to users, agent hierarchies, security profiles, and agent status.
Contact Control Panel (CCP)	Contact Control Panel (CCP) grants access to the CCP and to make outbound calls.
Metrics and Quality	Metrics and quality grants access to metrics, contact search, contact attributes, login/logout reports, manage conversations, recordings of conversations, and saved reports.
Historical Changes	Historical changes grants access to view historical changes.

Default Security profiles

Security profiles	Definition
Admin	Grants administrators permission to perform all actions.
Agent	Grants agents permission to access the CCP
CallCenterManager	Grants managers permission to perform actions related to user management, metrics, and routing.
QualityAnalyst	Grants analysts permission to perform actions related to metrics.

Attributes to create a security profile

- Name
- Description
- Permissions

Hierarchies in the Contact Center

If an agent is a member of multiple groups, reporting can prove to be challenging.

Agent hierarchy allows you to define groups that provide more focused reporting to service delivery teams across several sub-groups. This reporting leverages agent groupings based on escalation tiers and functional skill sets.

Attributes to create a hierarchy

- Name for each level
- Values for each branch of the hierarchy

Agent Status

Workforce Management teams uses the agent status to determine is a call can be routed to that agent. There are three types of status which includes routable, offline and custom.

Attributes to create agent status

- Type
- Enabled in the CCP

Quick connects

Quick connects are a way for you to create a list of destinations for common transfers.

They are assigned at the queue level and available to the agent from the Amazon Connect CCP or agent UI.

For example, you might create a quick connect for Tier 2 support.

If agents in Tier 1 support **can't** solve the issue, they will transfer the contact to Tier 2. A caller must be connected to the agent to use quick connect.

Quick connects



External

Contacts are transferred to an external number (such as an on-call pager).



Agent

Contacts are transferred to a specific agent as part of a contact flow.



Queue

Contacts are transferred to a queue as part of a contact flow.