



KORE Developer Ecosystem

Rule Engine Guide

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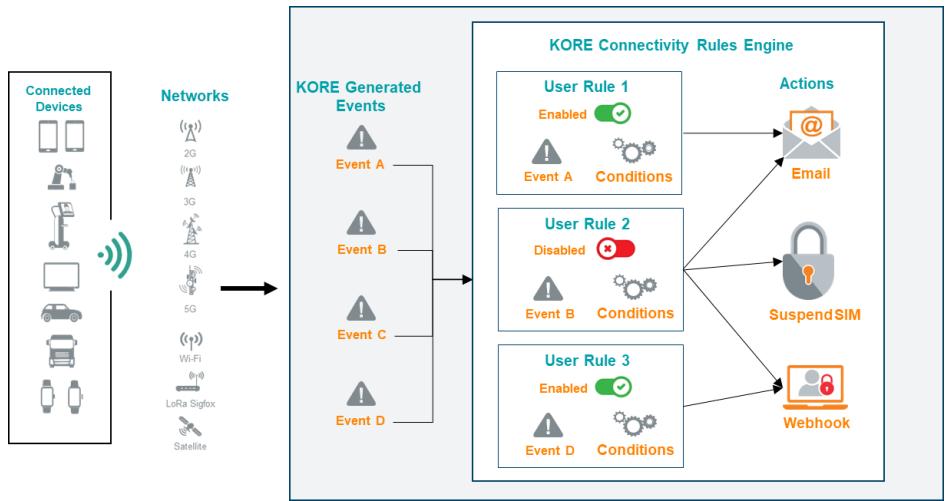
Introduction

KORE's rule engine is an easy-to-use framework to build ***event-based*** workflows. The Engine currently supports two features:

- Conditional Alerting & Actions
 - Subscribe to events and fire actions based on conditions
- Event Streaming
 - Stream event data directly to you

Conditional Alerting & Actions

Overview



This feature of the rule engine evaluates **KORE events** against business rule **conditions** and performs follow-up **actions**. The different actions and alerting options supported are:

- Alerting/Notifications
 - Email
 - Webhook
- Platform Specific Actions
 - Block Usage
 - eSIM Switch

Note: Not all actions/notification options are available for every event-based rules.



Supported KORE Events & Actions

The currently supported event types and the supported actions include:

Product	Event Type	Description	When is the event fired	Actions Supported
Connectivity	Provisioning request created	<p>When a provisioning request is created, users won't know unless they are polling the API or look at the UI.</p> <p>The conditional properties supported for this event is mentioned here.</p> <p>The Webhook schema for this event is mentioned here.</p>	When a new provisioning request is created either through the API or UI.	[X] Webhook [X] Email [] Block Usage [] eSIM Switch
Connectivity	Provisioning request updated	<p>When a provisioning request is made, the request could take some time to complete especially when there are a lot of sims. To determine the status of a request as a whole , customers have to poll the API or refresh the UI. Users can now write rules to be notified of any request changes and avoid polling.</p> <p>The conditional properties supported for this event is mentioned here.</p> <p>The Webhook schema for this event is mentioned here.</p>	When the status of a provisioning request has changed.	[X] Webhook [X] Email [] Block Usage [] eSIM Switch

Connectivity	Subscription state changed	<p>When a subscription changes state, users are not aware unless they actively poll the API, use the UI, or download reports.</p> <p>The conditional properties supported for this event is mentioned here.</p> <p>The Webhook schema for this event is mentioned here.</p>	<p>When a state of any subscription changes state.</p>	<input checked="" type="checkbox"/> Webhook <input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> Block Usage <input type="checkbox"/> eSIM Switch
Connectivity	Subscription IMEI changed	<p>NOTE: Only available for VzW</p> <p>When a SIM is taken out of one device and put in another, customers don't know when that happens or if the device is approved. With this event, users can decide if the destination IMEI is approved and block the SIM if its not.</p> <p>The conditional properties supported for this event is mentioned here.</p> <p>The Webhook schema for this event is mentioned here.</p>	<p>When the IMEI is changed</p>	<input checked="" type="checkbox"/> Webhook <input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> Block Usage <input type="checkbox"/> eSIM Switch
Connectivity	Subscription request updated	<p>When a user wants to change properties of a subscription, a subscription request is initiated. To know when the status of the request changes, the user has to either poll the API or look at the UI.</p> <p>The conditional properties supported for this event is mentioned here.</p> <p>The Webhook schema for this event is mentioned here.</p>	<p>When the status of the request changes.</p>	<input checked="" type="checkbox"/> Webhook <input checked="" type="checkbox"/> Email <input type="checkbox"/> Block Usage <input type="checkbox"/> eSIM Switch

Connectivity	Network location changed	<p>When a device connects to a new network or changes countries, this event can be used to determine approximately where the device is in the world, what network its currently connected to and where it was last.</p> <p>The conditional properties supported for this event is mentioned here.</p> <p>The Webhook schema for this event is mentioned here.</p> <p>The list of Service types for which this event supported is given here.</p>	<p>When the network or location of a device is changed</p>	<input checked="" type="checkbox"/> Webhook <input type="checkbox"/> Email <input type="checkbox"/> Block Usage <input checked="" type="checkbox"/> eSIM Switch
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Supported Conditional Operators

The supported conditional operators include:

==	Equal	The binary operator which represents equality comparison; returns true when the property value in the incoming event and the condition value are equal
!=	Not Equal	The binary operator which represents inequality comparison; returns true when the property value in the incoming event and the condition value are not equal
>	Greater Than	The binary operator which represents numeric comparison; returns true when the property value in the incoming event is greater than the condition value given
>=	Greater Than Or Equal	The binary operator which represents numeric comparison; returns true when the property value in the incoming event is equal to or greater than the condition value given
<	Less Than	The binary operator which represents numeric comparison; returns true when the property value in the incoming event is less than the condition value given
<=	Less Than Or Equal	The binary operator which represents numeric comparison; returns true when the property value in the incoming event is equal to or less than the condition value given
in	Element(s) Exist	<p>Add multiple attribute values separated by comma. Evaluates to true if any of the given values, is the property value in the incoming event.</p> <p>E.g.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Attribute Name :</p> <input type="text" value="service-type-id"/> </div> <div style="text-align: center;"> <p>Operator :</p> <input type="text" value="in"/> </div> <div style="text-align: center;"> <p>Attribute Value :</p> <input type="text" value="23,43,45,34"/> </div> </div>
not In	Element(s) Not Exist	Add multiple attribute values separated by comma. Evaluates to true if the property value in the incoming event is not present in the provided list.
is null	is Null	The operator checks if the property value in the incoming event is Null
is not null	is Not Null	The operator checks if the property value in the incoming event is not Null

Getting started with conditional rules

Creating your first conditional rule

Assumptions:

- You have access to managing rules (link [here](#))

To create your first rule:

1. Navigate to **MANAGE → Manage Rules** page

Rule ID	Rule Name	Account ID	Product	Event Name	Created	Updated	Disableable	Actions
cmp-kts-streaming-rule-28	3. Min_Test - ESM switch failed status	cmp-pc-org-30	connectivity	Esm Subscription Profile Switch Failed	ridkorewireless.com 2023-01-20T18:05:00	ridkorewireless.com 2023-01-20T18:05:00	<input checked="" type="checkbox"/>	
cmp-kts-streaming-rule-27	4. Min_ESM_Switch Request Updated	cmp-pc-org-30	connectivity	Esm Switch Request Updated	ridkorewireless.com 2023-01-20T18:05:00	ridkorewireless.com 2023-01-30T19:22:27	<input checked="" type="checkbox"/>	
cmp-kts-streaming-rule-26	1. Min_Test - Switch request creation event	cmp-pc-org-30	connectivity	Esm Switch Request Created	ridkorewireless.com 2023-01-20T18:05:00	ridkorewireless.com 2023-01-20T18:05:00	<input checked="" type="checkbox"/>	
cmp-kts-streaming-rule-25	2. Min_Test - Esm Create	cmp-pc-org-26	connectivity	Min Test Event	ridkorewireless.com 2023-01-20T18:05:00	ridkorewireless.com 2023-01-20T18:05:00	<input checked="" type="checkbox"/>	

2. Click ‘Add Rule’

1. Give your rule a name. This can be anything you like.
2. Select ‘Alerting’ as the Type
3. For this example, Select ‘Connectivity’ as the product.
4. For ‘Account Id’, select the account you want this rule evaluated for. If you’re not using parent/child you will only see one account.

3. You will be presented with the screen to set up your rule.

The screenshot shows the 'ADD RULE' interface. At the top, there are fields for 'Rule Name' (Test Rule), 'Type' (Alerting), 'Product' (Connectivity), and 'Account Id' (cmp-pp-org-310). A checkbox for 'Enable on Create' is checked. Below these, there's a section for 'Events' with 'Event Category' and 'Event Type' dropdowns, and a 'Description' field. A sidebar on the left lists 'Conditions', 'Actions', and 'Alert Strategy'. At the bottom are 'NEXT', 'CANCEL', and 'SAVE' buttons.

4. For the Event Category, pick the category of events
5. For the event type, select the event you want to create a rule which condition(s) will be applied against and click next
6. Create condition(s) based on the selected event's properties with the defined operators (*Note: If multiple conditions are provided, they are ANDed together before evaluation*)
7. And finally select the action(s) to be taken if all the conditions are satisfied.

The screenshot shows the 'ADD RULE' interface with more details filled in. Under 'Events', 'Event Category' is 'subscription' and 'Event Type' is 'Subscription state changed'. Under 'Conditions', there is one condition: 'Attribute Name' is 'new-state', 'Operator' is 'is', and 'Attribute Value' is 'Stock'. Under 'Actions', there is an 'EMAIL' action with recipient 'test@korewireless.com', and a 'WEBHOOK' action with URL 'URL*'. At the bottom, there are 'PREVIOUS', 'NEXT', and 'CANCEL' buttons.

Note: Alert strategy is meant only for Email notifications. It provides you a facility to group all notifications and send it at a particular time of the day.

Below is a sample rule created for a location change event.

ADD RULE

Rule Name:	Type:	Product:	Account Id:																		
Test Rule	Alerting	Connectivity	cmp-pp-org-310																		
<input checked="" type="checkbox"/> Enable on Create																					
Events Event Category : network-location Event Type : Network location changed																					
Conditions <small>1</small> <table border="1"> <tr> <td>Attribute Name :</td> <td>Operator :</td> <td>Attribute Value :</td> </tr> <tr> <td>eid</td> <td>==</td> <td>9827984723487328947389</td> </tr> <tr> <td>Attribute Name :</td> <td>Operator :</td> <td>Attribute Value :</td> </tr> <tr> <td>old-mcc</td> <td>==</td> <td>233</td> </tr> <tr> <td>Attribute Name :</td> <td>Operator :</td> <td>Attribute Value :</td> </tr> <tr> <td>new-mcc</td> <td>==</td> <td>334</td> </tr> </table>				Attribute Name :	Operator :	Attribute Value :	eid	==	9827984723487328947389	Attribute Name :	Operator :	Attribute Value :	old-mcc	==	233	Attribute Name :	Operator :	Attribute Value :	new-mcc	==	334
Attribute Name :	Operator :	Attribute Value :																			
eid	==	9827984723487328947389																			
Attribute Name :	Operator :	Attribute Value :																			
old-mcc	==	233																			
Attribute Name :	Operator :	Attribute Value :																			
new-mcc	==	334																			
Actions Webhook : URL: http://testwebhook.com <small>Last Changes</small>																					
eSIM Switch : Activation Profile ID: cmp-prov-ap-1234																					
PREVIOUS NEXT CANCEL																					

The rule says,

if eid == 9827984723487328947389 AND old-mcc == 233 AND new-mcc == 334

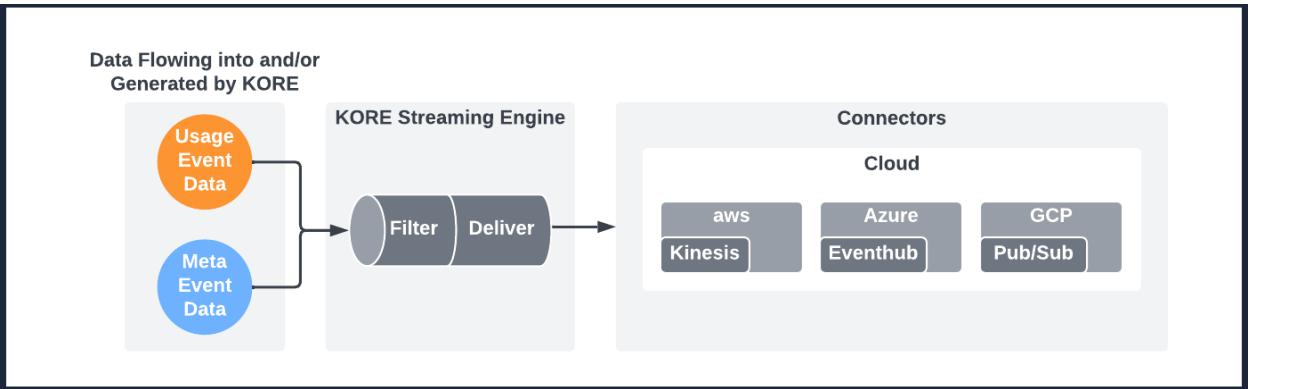
Trigger the following actions

A *Webhook message (schema [here](#))* of the corresponding event to the URL <http://testwebhook.com> and initiate an eSIM switch request for the EID to the activation profile cmp-prov-ap-1234

Note: An eSIM profile switch is a means to remotely change carrier on your eSIM. When creating rules for triggering an eSIM switch, KORE advises using a minimum of 3 attributes to ensure that the correct device or group of devices in your account are captured by the rule

Event Streaming

Overview



Instead of making API calls, downloading reports, or looking at UI's, KORE provides a near real-time event stream delivered to your infrastructure. With this data, you are able to build more real-time event-driven solutions.



Supported Streamable Events

Below is the list of Events/Data Streams currently supported for Streaming:

Product	Event Type Friendly Name	JSON Schema	Description
Connectivity	SIM ASSIGNED	Details and samples here	When a SIM is assigned to an account as part of a Stock order request completion, this event is generated for each subscription.
Connectivity	SIM UPDATED	Details and samples here	When a SIM property or state is updated due to any of the following requests, this event is emitted. <ul style="list-style-type: none">• Transfer SIM (to another organization)• Change profile (plan/features)• Change State• Update Additional fields
Connectivity	NETWORK LOCATION CHANGED	Details and samples here	When a location change for a SIM is detected in terms of MCC or MNC, an event is emitted.
Connectivity	USAGE RECEIVED	Details and samples here	The CDR records are streamed using this event type.
Connectivity	ESIM SWITCH REQUEST CREATED	Details and samples here	When an ESIM switch request is created, this event is emitted.
Connectivity	ESIM SWITCH STATUS UPDATED	Details and samples here	When an ESIM switch request is updated, this event is emitted.
Connectivity	ESIM PROFILE SWITCH REQUEST UPDATED	Details and samples here	When an eSIM profile switch is in progress, an event is emitted each time a step in the switch process is initiated.
Connectivity	ESIM PROFILE SWITCH REQUEST FAILED	Details and samples here	When an eSIM profile switch is in progress, an event is emitted to indicate the switch process step that failed.

Getting started with streaming rules

A streaming rule needs to be created in the system (for an event type) to enable this. A rule consists of the Event type to be streamed and 1 or more target connectors.

Creating your first connector

A connector defines the target cloud infrastructure and its details. User can create a connector for a specific cloud provider by providing the necessary details. The details of the list of supported cloud connectors, how to setup each of these infrastructure at the user end and then create a connector in Rule Engine is provided below.

How to setup your cloud infrastructure:

- [AWS Kinesis](#)
- [Azure Eventhub](#)
- [GCP Pub/Sub](#)

How to add a connector to the streaming engine:

Assumptions:

- You have access to managing rules (link [here](#))

To create your first connector:

1. Navigate to **MANAGE → Manage Rules** page.

Rule ID	Rule Name	Account ID	Product	Event Name	Created	Updated	Disable/Enable	Actions
cmp-kf-streaming-rule-28	3. Min. Test - ESM switch failed status	cmpp-pp-org-210	connectivity	Esm Subscription Profile Switch Failed	2023-01-29T14:23	2023-01-29T20:52	<input checked="" type="checkbox"/>	
cmp-kf-streaming-rule-27	4. Min. ESM Switch Request Updated	cmpp-pp-org-210	connectivity	Esm Switch Request Updated	2023-01-29T14:25:58	2023-01-30T19:22:27	<input checked="" type="checkbox"/>	
cmp-kf-streaming-rule-26	1. Min. Test - Switch request creation event	cmpp-pp-org-210	connectivity	Esm Switch Request Created	2023-01-29T14:22:09	2023-01-29T20:57:55	<input checked="" type="checkbox"/>	

- Click on **MANAGE CONNECTORS**. The existing connectors (if any) are displayed here.

Connector ID	Connector Name	Connector Type	Account ID	Actions
cmp-k-streaming-connector-43	Location event	Webhook	cmp-pp-org-260	
cmp-k-streaming-connector-42	Min Test Webhook Conn	Webhook	cmp-pp-org-360	
cmp-k-streaming-connector-41	Min Test AWS Kinesis Conn	AWS Kinesis	cmp-pp-org-360	
cmp-k-streaming-connector-37	test	Webhook	cmp-pp-org-360	
cmp-k-streaming-connector-26	Test Aws Kinesis	AWS Kinesis	cmp-pp-org-360	

- Click on **ADD CONNECTOR**.

ADD STREAMING CONNECTOR

Connector Name:

Type: select

Account Id: select

Connector Description:

CANCEL SAVE

- Provide any meaningful name
- From the **Type** dropdown; select the type of connector you want to create (Based on the type selected; the properties to be filled in will vary)
- Select Account id for which this connector to be associated.
- A description
- Fill in the mandatory configuration values for the selected connector type. Where to find the values is defined in the infrastructure setup details of each connector (in the above [section](#)). Below is for the type AWS Kinesis.

ADD STREAMING CONNECTOR

Connector Name: Test Connector

Type: AWS Kinesis

Account Id: cmp-pp-org-360

Connector Description:

ARN:

Role ARN:

External Id:

CANCEL SAVE

Creating your first streaming rule

Assumptions:

- You have access to managing rules

To create your first rule:

1. Navigate to **MANAGE → Manage Rules** page

Rule ID	Rule Name	Account ID	Product	Event Name	Created	Updated	Disableable	Actions
cmp-id-streaming-rule-28	3. Mini_Test - ESIM switch failed status	cmp-po-org-310	connectivity	Esim Subscription Profile Switch Failed	mkac@korewireless.com 2023-09-20T18:45:33	mkac@korewireless.com 2023-09-20T18:45:33	<input checked="" type="checkbox"/>	
cmp-id-streaming-rule-27	4. Mini_ESIM_Switch Request Updated	cmp-po-org-280	connectivity	Esim Switch Request Updated	mkac@korewireless.com 2023-09-20T18:45:26	mkac@korewireless.com 2023-09-20T18:45:26	<input checked="" type="checkbox"/>	
cmp-id-streaming-rule-26	1. Mini_Test - Switch request creation event	cmp-po-org-280	connectivity	Esim Switch Request Created	mkac@korewireless.com 2023-09-20T18:45:20	mkac@korewireless.com 2023-09-20T18:45:20	<input checked="" type="checkbox"/>	
... More	... More	... More	... More	... More	... More	... More	... More	... More

2. Click 'Add Rule'

1. Give your rule a name. This can be anything you like.
2. Select 'Streaming' as the Type
3. For this example, select 'Connectivity' as the product.
4. For 'Account Id', select the account you want this streaming rule to be setup. If you are not using parent/child, you will only see one account.

3. Select the Events you would like to stream and select 1 or more connectors to which you would like to stream this and Click Save

ADD RULE

Rule Name:	Type:	Product:	Account Id:																
Test Rule	Streaming	Connectivity	cmp-pp-org-310																
<input checked="" type="radio"/> Streams Go to Manage Connectors		<input checked="" type="checkbox"/> Enable on Create																	
Events to be Streamed: <input type="radio"/> PROVISIONING REQUEST CREATED <input type="radio"/> PROVISIONING REQUEST UPDATED <input type="radio"/> SIM ASSIGNED <input checked="" type="radio"/> SIM UPDATED <small>*Auto already exists for these events</small>		Connectors to use: <table border="1"> <tr> <th>Connector ID</th> <th>Connector Name</th> <th>Connector Type</th> <th>Action</th> </tr> <tr> <td>cmp-k1-streaming-connector-26</td> <td>Test Aws Kinesis</td> <td>AWS Kinesis</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>cmp-k1-streaming-connector-29</td> <td>test1</td> <td>AWS Kinesis</td> <td><input type="checkbox"/></td> </tr> <tr> <td>cmp-k1-streaming-connector-23</td> <td>test1</td> <td>AWS Kinesis</td> <td><input type="checkbox"/></td> </tr> </table>		Connector ID	Connector Name	Connector Type	Action	cmp-k1-streaming-connector-26	Test Aws Kinesis	AWS Kinesis	<input checked="" type="checkbox"/>	cmp-k1-streaming-connector-29	test1	AWS Kinesis	<input type="checkbox"/>	cmp-k1-streaming-connector-23	test1	AWS Kinesis	<input type="checkbox"/>
Connector ID	Connector Name	Connector Type	Action																
cmp-k1-streaming-connector-26	Test Aws Kinesis	AWS Kinesis	<input checked="" type="checkbox"/>																
cmp-k1-streaming-connector-29	test1	AWS Kinesis	<input type="checkbox"/>																
cmp-k1-streaming-connector-23	test1	AWS Kinesis	<input type="checkbox"/>																
CANCEL SAVE																			

Note: A user can create only one streaming rule per event (per account id). If there is a need to edit or update the connector list; select the existing rule for that event and update the connector list.

Managing Users in Rules Engine

Initially only account admin has access to Rules Engine.

To give permission for rules engine:

1. Navigate to **MANAGE → Manage Rules** page.

The screenshot shows the 'Manage Rules' interface. At the top, there's a dropdown menu set to 'Streaming'. To the right is a search bar with a 'SEARCH' button. Below these are three buttons: 'MANAGE CONNECTORS' (orange), 'MANAGE USERS' (orange, highlighted with a red box), and '+ ADD RULE' (orange). The background shows a grid of rule entries.

2. Click 'Manage User'

 1. Click on Enable/Disable button under permission status against each user.
 2. Click 'Save' to add permission.

The screenshot shows the 'ADD PERMISSION' dialog. It has a 'Search Here ...' field and a 'SEARCH' button at the top. Below is a table with two rows. The first row contains the email 'johndoe@korewireless.com' and a toggle switch for 'Permission Status'. The second row contains the email 'susanbrown@korewireless.com' and another toggle switch. At the bottom left is a page number '10' with a dropdown arrow. At the bottom right are 'CANCEL' and 'SAVE' buttons, with 'SAVE' also highlighted by a red box.

Email	Permission Status
johndoe@korewireless.com	<input type="checkbox"/>
susanbrown@korewireless.com	<input type="checkbox"/>

References

Events details - conditional rules

Provisioning request created

Webhook JSON Schema

```
{
    "$schema": "https://json-schema.org/draft/2020-12/schema",
    "$id": "https://example.com/provreqcreated.schema.json",
    "title": "Provisioning Request Created",
    "description": "Provisioning Request Created",
    "type": "object",
    "required": ["rule-id", "rule-name", "event-name", "alert-message-date", "account", "alert-id"],
    "properties": {
        "rule-id": {
            "description": "A unique id for the conditional rule",
            "type": "integer"
        },
        "rule-name": {
            "description": "Rule name given",
            "type": "string"
        },
        "event-name": {
            "description": "Event type",
            "type": "string",
            "const": "connectivity.provisioning.request.created"
        },
        "alert-message-date": {
            "description": "The time at which this event is posted to the user (ISO 8601)",
            "type": "string"
        },
        "account": {
            "description": "A unique identifier of the account",
            "type": "string"
        },
        "alert-id": {
            "description": "A unique id created for each evaluated to true events/notifications.",
            "type": "integer"
        },
        "events": {
            "type": "array",
            "items": {
                "type": "object",
                "required": ["id", "data"],
                "properties": {
                    "id": {
                        "description": "A unique id for each provisioning request created event",
                        "type": "string"
                    }
                }
            }
        }
}
```

```

        },
        "data": {
            "type": "object",
            "required": ["request-id", "request-type",
            "properties": {
                "request-id": {
                    "description": "A
                    "type": "string"
                },
                "request-type": {
                    "description": "The
                    "type": "string"
                },
                "exact-date-time": {
                    "description": "A
                    "type": "string"
                }
            }
        }
    }
}

```

"exact-date-time"],
unique identifier for the provisioning request",
type of the provisioning request (Activation, Deactivation, ProfileChange, SimChange, StateChange, Reactivation, etc.)",
DateTime value when the event happened using ISO_8601 format",

Event Properties

Property name	Description	Platform supported values
request-id	A unique identifier for the provisioning request	
request-type	The type of the provisioning request	Activation, Deactivation, Reactivation, ProfileChange, SimChange, StateChange



Provisioning request updated

Webhook JSON Schema

```
{  
    "$schema": "https://json-schema.org/draft/2020-12/schema",  
    "$id": "https://example.com/provreqstatuschanged.schema.json",  
    "title": "Provisioning request status changed",  
    "description": "Provisioning request status changed",  
    "type": "object",  
    "required": ["rule-id", "rule-name", "event-name", "alert-message-date", "account", "alert-id"],  
    "properties": {  
        "rule-id": {  
            "description": "A unique id for the conditional rule",  
            "type": "integer"  
        },  
        "rule-name": {  
            "description": "Rule name given ",  
            "type": "string"  
        },  
        "event-name": {  
            "description": "Event type",  
            "type": "string",  
            "const": "connectivity.provisioning.request.status.changed"  
        },  
        "alert-message-date": {  
            "description": "The time at which this event is posted to the user (ISO  
8601)",  
            "type": "string"  
        },  
        "account": {  
            "description": "A unique identifier of the account",  
            "type": "string"  
        },  
        "alert-id": {  
            "description": "A unique id created for each evaluated to true  
events/notifications.",  
            "type": "integer"  
        },  
        "events": {  
            "type": "array",  
            "items": {  
                "type": "object",  
                "required": ["id", "data"],  
                "properties": {  
                    "id": {  
                        "description": "A unique id for each  
provisioning request status changed event",  
                        "type": "string"  
                    },  
                    "data": {  
                        "type": "object",  
                        "required": ["request-id", "request-type",  
"exact-date-time", "to-status", "created-by"],  
                        "properties": {  
                            "request-id": {  
                                "type": "string"  
                            },  
                            "request-type": {  
                                "type": "string"  
                            },  
                            "exact-date-time": {  
                                "type": "string"  
                            },  
                            "to-status": {  
                                "type": "string"  
                            },  
                            "created-by": {  
                                "type": "string"  
                            }  
                        }  
                    }  
                }  
            }  
        }  
    }  
}
```



unique identifier for the provisioning request",

type of the provisioning request (Activation, Deactivation, ProfileChange, SimChange, StateChange, Reactivation, etc.)".

DateTime value when the event happened using ISO_8601 format",

request status",

request status",

"created-by": {

user email which submitted the provisioning request",

}

Property name	Description	Platform supported values
created-by	The user email which submitted the request	
request-id	A unique identifier for the provisioning request	
request-type	The type of the provisioning request	Activation, Deactivation, Reactivation, ProfileChange, SimChange, StateChange
to-status	New request status	Completed, Failed



Subscription state changed

Webhook JSON Schema

```
{  
    "$schema": "https://json-schema.org/draft/2020-12/schema",  
    "$id": "https://example.com/substatechanged.schema.json",  
    "title": "Subscription state changed",  
    "description": "Subscription state changed",  
    "type": "object",  
    "required": ["rule-id", "rule-name", "event-name", "alert-message-date", "account", "alert-id"],  
    "properties": {  
        "rule-id": {  
            "description": "A unique id for the conditional rule",  
            "type": "integer"  
        },  
        "rule-name": {  
            "description": "Rule name given ",  
            "type": "string"  
        },  
        "event-name": {  
            "description": "Event type",  
            "type": "string",  
            "const": "connectivity.subscription.state.changed"  
        },  
        "alert-message-date": {  
            "description": "The time at which this event is posted to the user (ISO  
8601)",  
            "type": "string"  
        },  
        "account": {  
            "description": "A unique identifier of the account",  
            "type": "string"  
        },  
        "alert-id": {  
            "description": "A unique id created for each evaluated to true  
events/notifications.",  
            "type": "integer"  
        },  
        "events": {  
            "type": "array",  
            "items": {  
                "type": "object",  
                "required": ["id", "data"],  
                "properties": {  
                    "id": {  
                        "description": "A unique id for each  
subscription state changed event",  
                        "type": "string"  
                    },  
                    "data": {  
                        "type": "object",  
                        "required": ["subscription-id", "new-state",  
"old-state", "iccid", "exact-date-time"],  
                        "properties": {  
                            "subscription-id": {  
                                "type": "string"  
                            },  
                            "new-state": {  
                                "type": "string"  
                            },  
                            "old-state": {  
                                "type": "string"  
                            },  
                            "iccid": {  
                                "type": "string"  
                            },  
                            "exact-date-time": {  
                                "type": "string"  
                            }  
                        }  
                    }  
                }  
            }  
        }  
    }  
}
```



```
    "subscription-id":{  
        "description": "A  
unique identifier for the subscription",  
        "type": "string"  
    },  
    "new-state":{  
        "description": "The  
new state value of the subscription (Suspended, Active, Suspended With Charge, Test, Scrapped, etc.)",  
        "type": "string"  
    },  
    "old-state":{  
        "description": "The old  
state value of the subscription (Stock, Active, Suspended, Suspended With Charge, Test, etc.)",  
        "type": "string"  
    },  
    "iccid":{  
        "description":  
        "type": "string"  
    },  
    "exact-date-time":{  
        "description": "A  
DateTime value when the event happened using ISO_8601 format",  
        "type": "string"  
    }  
}  
}  
}
```

Event Properties

Property name	Description	Platform supported values
iccid	Integrated circuit card identifier; unique number consists of 18 to 22 characters	
subscription-id	A unique identifier for the subscription	
old-state	The new state value of the subscription	Suspended, Active, Suspended With Charge, Test, Scrapped
new-state	The old state value of the subscription	Stock, Active, Suspended, Suspended With Charge, Test, Ready

Subscription IMEI changed

Webhook JSON Schema

```
{
    "$schema": "https://json-schema.org/draft/2020-12/schema",
    "$id": "https://example.com/subimeichanged.schema.json",
    "title": "Subscription IMEI changed",
    "description": "Subscription IMEI changed",
    "type": "object",
    "required": ["rule-id", "rule-name", "event-name", "alert-message-date", "account", "alert-id"],
    "properties": {
        "rule-id": {
            "description": "A unique id for the conditional rule",
            "type": "integer"
        },
        "rule-name": {
            "description": "Rule name given",
            "type": "string"
        },
        "event-name": {
            "description": "Event type",
            "type": "string",
            "const": "connectivity.subscription.imei.changed"
        },
        "alert-message-date": {
            "description": "The time at which this event is posted to the user (ISO 8601)",
            "type": "string"
        },
        "account": {
            "description": "A unique identifier of the account",
            "type": "string"
        },
        "alert-id": {
            "description": "A unique id created for each evaluated to true events/notifications",
            "type": "integer"
        },
        "events": {
            "type": "array",
            "items": {
                "type": "object",
                "required": ["id", "data"],
                "properties": {
                    "id": {
                        "description": "A unique id for each subscription imei changed event",
                        "type": "string"
                    },
                    "data": {
                        "type": "object",
                        "required": ["from-imei", "tac-code", "to-imei", "subscription-id", "exact-date-time", "iccid", "msisdn"],
                        "properties": {
                            "from-imei": {
                                "type": "string"
                            },
                            "tac-code": {
                                "type": "string"
                            },
                            "to-imei": {
                                "type": "string"
                            },
                            "subscription-id": {
                                "type": "string"
                            },
                            "exact-date-time": {
                                "type": "string"
                            },
                            "iccid": {
                                "type": "string"
                            },
                            "msisdn": {
                                "type": "string"
                            }
                        }
                    }
                }
            }
        }
    }
}
```

IMEI value of the subscription",

8 digits of the IMEI",

new IMEI value of the subscription",

"subscription-id": {

unique identifier for the subscription",

"exact-date-time": {

DateTime value when the event happened using ISO_8601 format",

"iccid": {

"Integrated circuit card identifier; unique number consists of 18 to 22 characters",

"msisdn": {

- Mobile station integrated services digital network",

"from-imei": [
 "description": "The old

 "type": "string"

],
 "tac-code": [
 "description": "The first

 "type": "string"

],
 "to-imei": [
 "description": "The

 "type": "string"

],
 "description": "A

 "type": "string"

 "description": "A

 "type": "string"

 "description":

 "type": "string"

 "description": "MSISDN

 "type": "string"

]

}

}

}

}

}

Event Properties

Property name	Description	Platform supported values
from-imei	The old IMEI value of the subscription	
tac-code	The first 8 digits of the IMEI	
to-imei	The new IMEI value of the subscription	

Subscription request updated

Webhook JSON Schema

```
{
    "$schema": "https://json-schema.org/draft/2020-12/schema",
    "$id": "https://example.com/subreqstatuschanged.schema.json",
    "title": "Subscription request status changed",
    "description": "Subscription request status changed",
    "type": "object",
    "required": ["rule-id", "rule-name", "event-name", "alert-message-date", "account", "alert-id"],
    "properties": {
        "rule-id": {
            "description": "A unique id for the conditional rule",
            "type": "integer"
        },
        "rule-name": {
            "description": "Rule name given",
            "type": "string"
        },
        "event-name": {
            "description": "Event type",
            "type": "string",
            "const": "connectivity.inventory.subscription.request.status.changed"
        },
        "alert-message-date": {
            "description": "The time at which this event is posted to the user (ISO 8601)",
            "type": "string"
        },
        "account": {
            "description": "A unique identifier of the account",
            "type": "string"
        },
        "alert-id": {
            "description": "A unique id created for each evaluated to true events/notifications",
            "type": "integer"
        },
        "events": {
            "type": "array",
            "items": {
                "type": "object",
                "required": ["id", "data"],
                "properties": {
                    "id": {
                        "description": "A unique id for each subscription request status changed event",
                        "type": "string"
                    },
                    "data": {
                        "type": "object",
                        "required": ["subscription-request-id", "subscription-request-type", "subscription-request-status", "subscription-error-code", "subscription-error-reason", "subscription-error-details", "exact-date-time"]
                    }
                }
            }
        }
    }
}
```



```
"properties": {
    "subscription-request-id": [
        "description": "A
unique identifier for the subscription request",
        "type": "string"
    ],
    "subscription-request-type": [
        "description": "The
type of inventory request (Possible values - additionalfields, costCenter, organizationtransfer, devicefields)",
        "type": "string"
    ],
    "subscription-request-status": [
        "description": "The
status of subscription request (Possible values - Accepted, Rejected, InProgress, Failed, Completed,
Partially Completed)",
        "type": "string"
    ],
    "subscription-error-code": [
        "description": "The
response code generated when the request-status is failed",
        "type": "string"
    ],
    "subscription-error-reason": [
        "description": "The
reason for request failure. Generated only when the request-status is failed",
        "type": "string"
    ],
    "subscription-error-details": [
        "description": "The
Additional error details. Generated only when the request-status is failed",
        "type": "string"
    ],
    "exact-date-time": [
        "description": "A
DateTime value when the event happened using ISO_8601 format",
        "type": "string"
    ]
})}}
```

Event Properties

Property name	Description	Platform supported values
subscription-request-id	A unique identifier for the subscription request	
subscription-request-type	The type of inventory request	additionalfields, costCenter, organizationtransfer, devicefields
subscription-request-status	The status of subscription request	Accepted, Rejected, InProgress, Failed, Completed, Partially Completed

Network location changed

Webhook JSON Schema

```
{
    "$schema": "https://json-schema.org/draft/2020-12/schema",
    "$id": "https://example.com/networklocationchanged.schema.json",
    "title": "Network location changed",
    "description": "Network location changed",
    "type": "object",
    "required": ["rule-id", "rule-name", "event-name", "alert-message-date", "account", "alert-id"],
    "properties": {
        "rule-id": {
            "description": "A unique id for the conditional rule",
            "type": "integer"
        },
        "rule-name": {
            "description": "Rule name given",
            "type": "string"
        },
        "event-name": {
            "description": "Event type",
            "type": "string",
            "const": "connectivity.network.location.changed"
        },
        "alert-message-date": {
            "description": "The time at which this event is posted to the user (ISO 8601)",
            "type": "string"
        },
        "account": {
            "description": "A unique identifier of the account",
            "type": "string"
        },
        "alert-id": {
            "description": "A unique id created for each evaluated to true events/notifications",
            "type": "integer"
        },
        "events": {
            "type": "array",
            "items": {
                "type": "object",
                "required": ["id", "data"],
                "properties": {
                    "id": {
                        "description": "A unique id for each network location changed event",
                        "type": "string"
                    },
                    "data": {
                        "type": "object",
                        "required": ["eid", "iccid", "service-type-id", "product-offer-type", "subscription-id", "imei", "exact-date-time"],
                        "properties": {
                            "eid": {
                                "type": "string"
                            },
                            "iccid": {
                                "type": "string"
                            },
                            "service-type-id": {
                                "type": "string"
                            },
                            "product-offer-type": {
                                "type": "string"
                            },
                            "subscription-id": {
                                "type": "string"
                            },
                            "imei": {
                                "type": "string"
                            },
                            "exact-date-time": {
                                "type": "string"
                            }
                        }
                    }
                }
            }
        }
    }
}
```

eSIM identifier, unique number consists of 32 characters",

```

    "eid": {
        "description": "The
        "type": "string"
    },
    "iccid": {
        "description": "
        "type": "string"
    },
    "service-type-id": {
        "description": "The
        "type": "string"
    },
    "product-offer-type": {
        "description": "The
        "type": "string"
    },
    "imei": {
        "description": "IMEI
        "type": "string"
    },
    "exact-date-time": {
        "description": "A
        "type": "string"
    },
    "old-mcc": {
        "description": "The old
        "type": "string"
    },
    "new-mcc": {
        "description": "The
        "type": "string"
    },
    "old-mnc": {
        "description": "The old
        "type": "string"
    },
    "new-mnc": {
        "description": "The
        "type": "string"
    },
    "old-country-code": {
        "description": "The old
        "type": "string"
    }
},

```

"Integrated circuit card identifier; unique number consists of 18 to 22 characters",

service type id of the subscription",

product offer type of this subscription",

"imei": {

identifier of the device",

"exact-date-time": {

DateTime value when the event happened using ISO_8601 format",

"old-mcc": {

MCC code of this device",

"new-mcc": {

new MCC code of this device",

MNC code of this device",

new MCC code of this device",

country code of this device",



new country code of this device",

```
"new-country-code": [
    "description": "The
new country code of this device",
    "type" : "string"
},
"old-network-name": [
    "description": "The old
network name of this device",
    "type" : "string"
},
"new-network-name": [
    "description": "The old
MCC code of this device",
    "type" : "string"
],
"seconds-in-previous-location": [
    "description": "Duration
in seconds that the devive was in previous location",
    "type" : "string"
}],}]})}}
```

in seconds that the devive was in previous location",

Event Properties

Property name	Description	Platform supported values
eid	The eSIM identifier, unique number consists of 32 characters	
iccid	Integrated circuit card identifier; unique number consists of 18 to 22 characters	
old-mcc	Previous location's MCC code	
new-mcc	New location's MCC code	
product-offer-type	Product offer type of the subscription	
seconds-in-previous-location	Duration in seconds that the subscription was in the previous location	
service-type-id	The service type of the subscription currently in use	



Events details - streaming

USAGE RECEIVED

JSON Schema

```
{  
    "$schema": "https://json-schema.org/draft/2020-12/schema",  
    "$id": "https://example.com/cdrusage.schema.json",  
    "title": "CDR Usage",  
    "description": "CDR Usage Data stream",  
    "type": "object",  
    "properties": {  
        "rule-id": {  
            "description": "A unique id for this streaming rule",  
            "type": "string"  
        },  
        "rule-name": {  
            "description": "Rule name given ",  
            "type": "string"  
        },  
        "event-name": {  
            "description": "Event type",  
            "type": "string",  
            "const": "connectivity.subscription.usage.cdr.enriched"  
        },  
        "stream-date": {  
            "description": "The time at which this Usage data record is streamed (ISO  
8601)",  
            "type": "string"  
        },  
        "account-id": {  
            "description": "A unique identifier of the account",  
            "type": "string"  
        },  
        "event": {  
            "type": "object",  
            "properties": {  
                "id": {  
                    "description": "A unique id for a usage record",  
                    "type": "string"  
                },  
                "data": {  
                    "type": "object",  
                    "properties": [  
                        "account-id": {  
                            "description": "A unique identifier  
of the account",  
                            "type": "string"  
                        },  
                        "subscription-id": {  
                            "description": "A unique identifier  
for the subscription",  
                            "type": "string"  
                        }  
                    ]  
                }  
            }  
        }  
    }  
}
```

for the cost center",

subscription",

identifier of the service type",

identifier of the subscription on the network",

attached to the subscription",

or SMS-MO or VOICE-MT or VOICE-MO",

usage occurred in GMT (ISO 8601)",

usage recorded",

amount recorded in",

"cost-center-id", "iccid", "service-type-id", "imsi", "msisdn", "usage-type", "exact-usage-time-utc", "usage-amount", "usage-units"]

},

],
"required": ["id", "data"]

}

```

        },
        "cost-center-id": {
            "description": "A unique identifier
            "type": "string"
        },
        "iccid": {
            "description": "The ICCID of the
            "type": "string"
        },
        "service-type-id": {
            "description": "The unique
            "type": "string"
        },
        "imsi": {
            "description": "The unique
            "type": "string"
        },
        "msisdn": {
            "description": "The msisdn
            "type": "string"
        },
        "usage-type": {
            "description": "DATA or SMS-MT
            "type": "string"
        },
        "exact-usage-time-utc": {
            "description": "The time the
            "type": "string"
        },
        "usage-amount": {
            "description": "Amount of the
            "type": "string"
        },
        "usage-units": {
            "description": "Units usage
            "type": "string"
        }
    },
    "required": ["account-id", "subscription-id", "cost-
center-id", "iccid", "service-type-id", "imsi", "msisdn", "usage-type", "exact-usage-time-utc", "usage-amount",
"usage-units"]
}
```



```
        "required": ["rule-id", "rule-name", "event-name", "stream-date", "account-id"]
    }
```

Sample

```
{
  "rule-id": 624,
  "rule-name": "sample rule test",
  "event-name": "connectivity.subscription.usage.cdr.enriched",
  "stream-date": "2022-11-22T07:52:19.3474817Z",
  "account-id": "cmp-pp-org-2212",
  "event": {
    "id": "cmp-pp-source-cdr-JPU-B518048FF948564C82FA52B6CE96FD24",
    "data": {
      "account-id": "cmp-pp-org-2212",
      "subscription-id": "cmp-k1-stage-00001758",
      "cost-center-id": "",
      "iccid": "8910390000089898541",
      "service-type-id": "32",
      "imsi": "208047939903709",
      "msisdn": "3197099918385",
      "usage-type": "VOICE",
      "exact-usage-time-utc": "2022-08-18T05:26:00",
      "usage-amount": "87273",
      "usage-units": "seconds"
    }
  }
}
```

SIM ASSIGNED

JSON Schema

```
{
  "$schema": "https://json-schema.org/draft/2020-12/schema",
  "$id": "https://example.com/simassigned.schema.json",
  "title": "SIM Assigned Event",
  "description": "Event generated when a SIM is assigned using Stock order request",
  "type": "object",
  "properties": {
    "specversion": {
      "description": "The spec version for this json schema",
      "type": "string",
      "const": "1.0"
    },
    "type": {
      "description": "Event type",
      "type": "string",
      "const": "connectivity.sim.assigned"
    },
    "source": {
      "description": "Event source",
      "type": "string",
      "const": "kore"
    }
  }
}
```



```
        "const": "/assign-sim"
    },
    "id": {
        "description": "A unique id for each sim assigned event",
        "type": "string"
    },
    "time": {
        "description": "Event published time (ISO 8601) ",
        "type": "string"
    },
    "ruleid": {
        "description": "A unique id for this streaming rule",
        "type": "string"
    },
    "rulename": {
        "description": "Rule name given",
        "type": "string"
    },
    "datacontenttype": [
        "description": "The data payload type",
        "type": "string",
        "const": "application/json"
    ],
    "data": [
        "type": "object",
        "properties": {
            "subscription-id": {
                "description": "A unique identifier for the subscription",
                "type": "string"
            },
            "iccid": {
                "description": "The ICCID of the subscription",
                "type": "string"
            },
            "eid": {
                "description": "The EID of the device",
                "type": "string"
            },
            "request-id": {
                "description": "The stock order request id created in
the platform for this subscription",
                "type": "string"
            },
            "account-id": {
                "description": "A unique identifier of the account",
                "type": "string"
            },
            "product-offer-type": {
                "description": "The product offer type of this
subscription",
                "type": "string"
            },
            "service-type-id": {
                "description": "The unique identifier of the service
type",
                "type": "string"
            }
        }
    ]
}
```



```
        "type": "string"
    ],
    "cost-center-id": {
        "description": "The unique identifier of the cost
center",
        "type": "string"
    },
    "request-completed-time": {
        "description": "The time at which this request is
completed (ISO 8601)",
        "type": "string"
    }
},
"required": ["subscription-id", "iccid", "eid", "request-id", "account-id",
"product-offer-type", "service-type-id", "cost-center-id", "request-completed-time"]
}
],
"required": ["specversion", "type", "source", "id", "time", "ruleid", "rulename", "datacontenttype",
"data"]
}
```

Sample

```
{
    "specversion": "1.0",
    "type": "connectivity.sim.assigned",
    "source": "/assign-sim",
    "id": "b9ecae86-6caf-4e22-b07a-f56f8be7df03",
    "time": "2022-05-12T09-40-33Z",
    "ruleid": "694",
    "rulename": "test",
    "datacontenttype": "application/json",
    "data": {
        "subscription-id": "cmp-k1-subscription-47730330",
        "iccid": "89148000007585356682",
        "eid": "1255655558",
        "stockorder-request-id": 7818,
        "account-id": "cmp-pp-org-2456",
        "product-offer-type": "Single Ops",
        "service-type-id": "cmp-pp-servicetype-19",
        "cost-center-id": "test-cost",
        "updated-time": "2022-10-27T20:35:55"
    }
}
```



SIM UPDATED

JSON Schema

```
{  
    "$schema": "https://json-schema.org/draft/2020-12/schema",  
    "$id": "https://example.com/simupdated.schema.json",  
    "title": "SIM Updated Event",  
    "description": "Event generated when a SIM properties are updated",  
    "type": "object",  
    "properties": {  
        "specversion": {  
            "description": "The spec version for this json schema",  
            "type": "string",  
            "const": "1.0"  
        },  
        "type": {  
            "description": "Event type",  
            "type": "string",  
            "const": "connectivity.sim.updated"  
        },  
        "source": {  
            "description": "Event source",  
            "type": "string",  
            "enum": ["/transfer-sim", "/change-profile", "/change-state", "/update-  
additionalfields"]  
        },  
        "id": {  
            "description": "A unique id for each sim updated event",  
            "type": "string"  
        },  
        "time": {  
            "description": "Event published time (ISO 8601)",  
            "type": "string"  
        },  
        "ruleid": {  
            "description": "A unique id for this streaming rule",  
            "type": "string"  
        },  
        "rulename": {  
            "description": "Rule name given",  
            "type": "string"  
        },  
        "datacontenttype": {  
            "description": "The data payload type",  
            "type": "string",  
            "const": "application/json"  
        },  
        "data": {  
            "type": "object",  
            "properties": {  
                "subscription-id": {  
                    "description": "A unique identifier for the subscription",  
                    "type": "string"  
                }  
            },  
        }  
    }  
}
```

```

    "iccid": {
        "description": "The ICCID of the subscription",
        "type": "string"
    },
    "request-id": {
        "description": "SIM update request id",
        "type": "string"
    },
    "old-state": {
        "description": "Previous SIM state before a state
change",
        "type": "string"
    },
    "new-state": {
        "description": "Current state of the SIM",
        "type": "string"
    },
    "old-profile-id": {
        "description": "Previous profile id which was active
before a profile change",
        "type": "string"
    },
    "new-profile-id": {
        "description": "Current profile id which is active on the
SIM",
        "type": "string"
    },
    "old-org-id": {
        "description": "Previous org id to which the SIM is
attached before the Organisation transfer request",
        "type": "string"
    },
    "new-org-id": {
        "description": "The current org id to which the SIM is
attached",
        "type": "string"
    },
    "updated-time": {
        "description": "The time at which this sim update
request is completed (ISO 8601) in the system",
        "type": "string"
    }
},
    "required": ["iccid", "subscription-id", "updated-time"]
}
],
"required": ["specversion", "type", "source", "id", "time", "ruleid", "rulename", "datacontenttype",
"data"]
}

```

Sample

```
{
  "specversion": "1.0",
  "type": "connectivity.sim.updated",

```



```
"source": "/change-profile",
"id": "05a0fce0-0f59-1acc-e7c4-7a50e45f28bd",
"time": "2022-05-12T09-36-02Z",
"ruleid": "717",
"rulename": "for event sim update",
"datacontenttype": "application/json",
"data": {
    "subscription-id": "cmp-k1-subscription-52004861",
    "iccid": "8910390000067339721",
    "request-id": "cmp-cpro-request-2886017",
    "updated-time": "2022-11-11T14:23:17.132Z"
}
}
```

ESIM SWITCH REQUEST CREATED

JSON Schema

```
{
    "$schema": "https://json-schema.org/draft/2020-12/schema",
    "$id": "https://example.com/esimswitchrequestcreated.schema.json",
    "title": "eSIM Switch Request Created Event",
    "description": "Event generated when an eSIM Switch Request is Created",
    "type": "object",
    "properties": {
        "specversion": {
            "description": "The spec version for this json schema",
            "type": "string",
            "const": "1.0"
        },
        "type": {
            "description": "Event type",
            "type": "string",
            "const": "connectivity.esim.switch.request.created"
        },
        "source": {
            "description": "Event source",
            "type": "string",
            "const": "/create-esim-switch-request"
        },
        "id": {
            "description": "A unique id for each eSIM switch request created event",
            "type": "string"
        },
        "time": {
            "description": "Event published time (ISO 8601) ",
            "type": "string"
        },
        "ruleid": {
            "description": "A unique id for this streaming rule",
            "type": "string"
        },
        "rulename": {
            "description": "Rule name given",
            "type": "string"
        }
}
```



```
        },
        "datacontenttype": [
            "description": "The data payload type",
            "type": "string",
            "const": "application/json"
        ],
        "data": [
            "type": "object",
            "properties": {
                "request-id": {
                    "description": "eSIM switch request id",
                    "type": "string"
                },
                "request-status": {
                    "description": "Status of the eSIM switch request",
                    "type": "string",
                    "const": "created"
                },
                "total-switches-requested": {
                    "description": "Total number of eSIMs in this request.",
                    "type": "string"
                },
                "created-by": {
                    "description": "User who created this request.",
                    "type": "string"
                }
            },
            "updated-time": {
                "description": "The time at which this request is
created (ISO 8601) in the system",
                "type": "string"
            }
        ],
        "required": [
            "request-id",
            "request-status",
            "updated-time",
            "total-switches-
requested",
            "created-by",
            "updated-time"
        ]
    },
    "required": [
        "specversion",
        "type",
        "source",
        "id",
        "time",
        "ruleid",
        "rulename",
        "datacontenttype",
        "data"
    ]
}
```

Sample

```
{
  "specversion": "1.0",
  "type": "connectivity.esim.switch.request.created",
  "source": "/create-esim-switch-request",
  "id": "c8cf4597-0a12-63a6-4c13-17b6c9a38534",
  "time": "2022-09-12T09-14-55Z",
  "ruleid": "726",
  "rulename": "test nithn",
  "datacontenttype": "application/json",
  "data": {
    "request-status": "Created",
    "request-id": "cmp-cpro-request-2978550",
    "total-switches-requested": 1,
```



```
"created-by": "MMuthiah@korewireless.com",
"updated-time": "2022-11-25T02:21:45.286Z"
}
}
```

ESIM SWITCH REQUEST UPDATED

JSON Schema

```
{
    "$schema": "https://json-schema.org/draft/2020-12/schema",
    "$id": "https://example.com/esimswitchrequestupdated.schema.json",
    "title": "eSIM Switch Request Updated Event",
    "description": "Event generated when an eSIM Switch Request is Updated",
    "type": "object",
    "properties": {
        "specversion": {
            "description": "The spec version for this json schema",
            "type": "string",
            "const": "1.0"
        },
        "type": {
            "description": "Event type",
            "type": "string",
            "const": "connectivity.esim.switch.request.updated"
        },
        "source": {
            "description": "Event source",
            "type": "string",
            "const": "/update-esim-switch-request"
        },
        "id": {
            "description": "A unique id for each eSIM switch request updated event",
            "type": "string"
        },
        "time": {
            "description": "Event published time (ISO 8601) ",
            "type": "string"
        },
        "ruleid": {
            "description": "A unique id for this streaming rule",
            "type": "string"
        },
        "rulename": {
            "description": "Rule name given",
            "type": "string"
        },
        "datacontenttype": {
            "description": "The data payload type",
            "type": "string",
            "const": "application/json"
        },
        "data": {
            "type": "object",
            "properties": {

```

```

    "request-id": {
        "description": "eSIM switch request id",
        "type": "string"
    },
    "request-status": {
        "description": "Status of the eSIM switch request",
        "type": "string",
        "enum": ["processed", "processing", completed"]
    },
    "activation-profile-id": {
        "description": "New activation profile id requested.",
        "type": "string"
    },
    "service-type-id": {
        "description": "The new service type id requested",
        "type": "string"
    },
    "created-by": {
        "description": "User who created this request.",
        "type": "string"
    },
    "updated-time": {
        "description": "The time at which this request is
updated (ISO 8601) in the system",
        "type": "string"
    }
},
"required": ["request-id", "request-status", "activation-profile-id", "service-
type-id", "updated-time", "created-by"]
},
"required": ["specversion", "type", "source", "id", "time", "ruleid", "rulename", "datacontenttype",
"data"]
}

```

Sample 1

```
{
  "specversion": "1.0",
  "type": "connectivity.esim.switch.request.updated",
  "source": "/update-esim-switch-request",
  "id": "17f3e0ef-0fbb-7f1b-0cc8-d883dde73cc8",
  "time": "2022-09-12T09-15-05Z",
  "ruleid": "726",
  "rulename": "test nithn",
  "datacontenttype": "application/json",
  "data": {
    "request-status": "Processed",
    "service-type-id": 19,
    "request-id": "cmp-cpro-request-3002126",
    "activation-profile-id": "cmp-prov-ap-11436",
    "created-by": "JDabbs@korewireless.com",
    "updated-time": "2022-11-29T16:29:39.846Z"
  }
}
```



}

Sample 2

```
{  
  "specversion": "1.0",  
  "type": "connectivity.esim.switch.request.updated",  
  "source": "/update-esim-switch-request",  
  "id": "17f3e0ef-0fbb-7f1b-0cc8-d883dde73cc8",  
  "time": "2022-09-12T09-15-05Z",  
  "ruleid": "726",  
  "rulename": "test nithn",  
  "datacontenttype": "application/json",  
  "data": {  
    "request-status": "Processing",  
    "service-type-id": 19,  
    "request-id": "cmp-cpro-request-3002126",  
    "activation-profile-id": "cmp-prov-ap-11436",  
    "created-by": "JDabbs@korewireless.com",  
    "updated-time": "2022-11-29T16:29:39.846Z"  
  }  
}
```

Sample 3

```
{  
  "specversion": "1.0",  
  "type": "connectivity.esim.switch.request.updated",  
  "source": "/update-esim-switch-request",  
  "id": "17f3e0ef-0fbb-7f1b-0cc8-d883dde73cc8",  
  "time": "2022-09-12T09-15-05Z",  
  "ruleid": "726",  
  "rulename": "test nithn",  
  "datacontenttype": "application/json",  
  "data": {  
    "request-status": "Completed",  
    "service-type-id": 19,  
    "request-id": "cmp-cpro-request-3002126",  
    "activation-profile-id": "cmp-prov-ap-11436",  
    "created-by": "JDabbs@korewireless.com",  
    "updated-time": "2022-11-29T16:29:39.846Z"  
  }  
}
```



ESIM PROFILE SWITCH REQUEST UPDATED

JSON Schema

```
{  
    "$schema": "https://json-schema.org/draft/2020-12/schema",  
    "$id": "https://example.com/esimssubscriptionprofileswitchupdated.schema.json",  
    "title": "eSIM Subscription Profile Switch Status",  
    "description": "Event generated when a subscription profile switch status is updated.",  
    "type": "object",  
    "properties": {  
        "specversion": {  
            "description": "The spec version for this json schema",  
            "type": "string",  
            "const": "1.0"  
        },  
        "type": {  
            "description": "Event type",  
            "type": "string",  
            "const": "connectivity.esim.subscription.profile.switch.status"  
        },  
        "source": {  
            "description": "Event source",  
            "type": "string",  
            "const": "/get-subscription-profile-switch-status"  
        },  
        "id": {  
            "description": "A unique id for each status updated event of a profile switch workflow.",  
            "type": "string"  
        },  
        "time": {  
            "description": "Event published time (ISO 8601)",  
            "type": "string"  
        },  
        "ruleid": {  
            "description": "A unique id for this streaming rule",  
            "type": "string"  
        },  
        "rulename": {  
            "description": "Rule name given",  
            "type": "string"  
        },  
        "datacontenttype": {  
            "description": "The data payload type",  
            "type": "string",  
            "const": "application/json"  
        },  
        "data": {  
            "type": "object",  
            "properties": {  
                "eid": {  
                    "description": "The EID of the SIM.",  
                    "type": "string"  
                }  
            }  
        }  
    }  
}
```

```

        ],
        "current": {
            "type": "object",
            "properties": {
                "subscription-id": {
                    "description": "The
current subscription id of the SIM",
                    "type": "string"
                },
                "iccid": {
                    "description": "The
current ICCID of the SIM",
                    "type": "string"
                }
            },
            "required": ["subscription-id", "iccid"]
        },
        "destination": {
            "type": "object",
            "properties": {
                "subscription-id": {
                    "description": "The
new subscription id of the SIM",
                    "type": "string"
                },
                "iccid": {
                    "description": "The
new ICCID of the SIM",
                    "type": "string"
                },
                "service-type-id": {
                    "description": "The
destination service type id requested.",
                    "type": "string"
                },
                "activation-profile-id": {
                    "description": "The
destination activation profile id requested.",
                    "type": "string"
                }
            },
            "required": ["service-type-id", "activation-profile-id"]
        },
        "step": {
            "description": "The current step in the profile switch
workflow",
            "type": "string"
        },
        "switch-status": [
            "description": "The current status of the above step",
            "type": "string"
        ]
    }
}

```



```
        "updated-time": [
            "description": "The time at which this status is updated
(ISO 8601) in the system",
            "type": "string"
        },
        "required": ["eid", "current", "destination", "step", "switch-status", updated-
time"]
    }
},
"required": ["specversion", "type", "source", "id", "time", "ruleid", "rulename", "datacontenttype",
"data"]
}
```

Sample

```
{
    "specversion": "1.0",
    "type": "connectivity.esim.subscription.profile.switch.status",
    "source": "/get-subscription-profile-switch-status",
    "id": "aba9dbab-cf00-170b-0c52-6960394b7138",
    "time": "2023-17-01T05-43-21Z",
    "ruleid": "727",
    "rulename": "test sample event 6",
    "datacontenttype": "application/json",
    "data": {
        "eid": "89001039450260153800000006264082",
        "current": {
            "subscription-id": "cmp-k1-subscription-51820424",
            "iccid": "8910390000060471984"
        },
        "destination": {
            "subscription-id": "test-urn",
            "iccid": "test-7844458",
            "service-type-id": 32,
            "activation-profile-id": "cmp-prov-ap-12150"
        },
        "step": "In Session Check",
        "switch-status": "Waiting for session",
        "updated-time": "2022-11-28T13:49:10.913Z"
    }
}
```



ESIM PROFILE SWITCH REQUEST FAILED

JSON Schema

```
{  
    "$schema": "https://json-schema.org/draft/2020-12/schema",  
    "$id": "https://example.com/esimssubscriptionprofilesswitchfailed.schema.json",  
    "title": "eSIM Subscription Profile Switch Status",  
    "description": "Event generated when a subscription profile switch status is failed.",  
    "type": "object",  
    "properties": {  
        "specversion": {  
            "description": "The spec version for this json schema",  
            "type": "string",  
            "const": "1.0"  
        },  
        "type": {  
            "description": "Event type",  
            "type": "string",  
            "const": "connectivity.esim.subscription.profile.switch.failed"  
        },  
        "source": {  
            "description": "Event source",  
            "type": "string",  
            "const": "/get-subscription-profile-switch-status"  
        },  
        "id": {  
            "description": "A unique id for each failed event of a subscription profile  
switch .",  
            "type": "string"  
        },  
        "time": {  
            "description": "Event published time (ISO 8601) ",  
            "type": "string"  
        },  
        "ruleid": {  
            "description": "A unique id for this streaming rule",  
            "type": "string"  
        },  
        "rulename": {  
            "description": "Rule name given ",  
            "type": "string"  
        },  
        "datacontenttype": {  
            "description": "The data payload type",  
            "type": "string",  
            "const": "application/json"  
        },  
        "data": {  
            "type": "object",  
            "properties": {  
                "eid": {  
                    "description": "The EID of the SIM.",  
                    "type": "string"  
                },  
            }  
        },  
    }  
}
```



```
"request-id": {
    "description": "eSIM switch request id",
    "type": "string"
},
"step": [
    "description": "The failed step",
    "type": "string"
],
"switch-status": [
    "description": "The failed reason",
    "type": "string"
],
"updated-time": [
    "description": "The time at which this status is updated
(ISO 8601) in the system",
    "type": "string"
],
"required": ["eid", "request-id", "step", "switch-status", "updated-time"]
}
},
"required": ["specversion", "type", "source", "id", "time", "ruleid", "rulename", "datacontenttype",
"data"]
}
```

Sample

```
{
  "specversion": "1.0",
  "type": "connectivity.esim.subscription.profile.switch.failed",
  "source": "/get-subscription-profile-switch-status",
  "id": "2346ae3c-6758-9752-0b1c-84850f1cec04",
  "time": "2023-17-01T05-29-16Z",
  "ruleid": "772",
  "rulename": "esim status test",
  "datacontenttype": "application/json",
  "data": [
    "request-id": "cmp-cpro-request-2993690",
    "eid": "89001039450260153800000006264082",
    "step": "In Session Check",
    "switch-status": "Device not in session"
    "updated-time": "2022-11-28T14:50:23.524Z"
  ]
}
```



NETWORK LOCATION CHANGED

JSON Schema

```
{  
    "$schema": "https://json-schema.org/draft/2020-12/schema",  
    "$id": "https://example.com/locationchanged.schema.json",  
    "title": "Network location changed Event",  
    "description": "Event generated when network location of a SIM is changed",  
    "type": "object",  
    "properties": {  
        "specversion": {  
            "description": "The spec version for this json schema",  
            "type": "string",  
            "const": "1.0"  
        },  
        "type": {  
            "description": "Event type",  
            "type": "string",  
            "const": "connectivity.network.location.changed"  
        },  
        "source": {  
            "description": "Event source",  
            "type": "string",  
            "const": "/update-network-location"  
        },  
        "id": {  
            "description": "A unique id for each network location updated event",  
            "type": "string"  
        },  
        "time": {  
            "description": "Event published time (ISO 8601) ",  
            "type": "string"  
        },  
        "ruleid": {  
            "description": "A unique id for this streaming rule",  
            "type": "string"  
        },  
        "rulename": {  
            "description": "Rule name given ",  
            "type": "string"  
        },  
        "datacontenttype": {  
            "description": "The data payload type",  
            "type": "string",  
            "const": "application/json"  
        },  
        "data": {  
            "type": "object",  
            "properties": {  
                "subscription-id": {  
                    "description": "A unique identifier for the subscription",  
                    "type": "string"  
                },  
                "iccid": {  
                    "type": "string"  
                }  
            }  
        }  
    }  
}
```

```

        "description": "The ICCID of the subscription",
        "type": "string"
    },
    "service-type-id": {
        "description": "The unique identifier of the service
type",
        "type": "string"
    },
    "imei": {
        "description": "IMEI identifier of the device",
        "type": "string"
    },
    "eid": {
        "description": "EID of the device",
        "type": "string"
    },
},
"change-log": {
    "type": "object",
},
"properties": [
    "mcc": {
        "properties": {
            "old-value": {
                "description": "Old MCC code value. If it is a newly active device, this field will not be present.",
                "type": "string"
            },
            "new-value": {
                "description": "Current MCC code value",
                "type": "string"
            }
        },
        "required": ["new-value"]
    },
],
"mnc": {
    "type": "object",
},
"properties": {
    "old-value": {
        "description": "Old MNC code value. If it is a newly active device, this field will not be present.",
        "type": "string"
    },
    "new-value": {
        "description": "Current MNC code value",
        "type": "string"
    }
},
"required": ["new-value"]
},
"country-code": {
    "type": "object",
}

```



```
        "properties": {
            "old-value": {
                "description"
            },
            "type": string
        },
        "new-value": {
            "description"
        },
        "type": string
    },
    "required": ["new-value"]

},
"network-name": {
    "type": "object",
    "properties": {
        "old-value": {
            "description"
        },
        "type": string
    },
    "new-value": {
        "description"
    },
    "type": string
},
"required": ["new-value"]

}
}

],
"required": ["subscription-id", "iccid", "eid", "service-type-id", "imei", "change-log", "updated-time"]
},
"required": ["specversion", "type", "source", "id", "time", "ruleid", "rulename", "datacontenttype", "data"]
}
```

Sample

```
{
    "specversion": "1.0",
    "type": "connectivity.network.location.changed",
    "source": "/update-network-location",
    "id": "9a5f5d6a-6e1b-41a9-a4a4-281473439028",
    "time": "2022-19-12T09-30-04Z",
    "ruleid": "734",
    "rulename": "test sample event 6",
    "datacontenttype": "application/json",
```



```
"data": {  
    "subscription-id": "cmp-pp-subscription-18621818",  
    "iccid": "8901260882274757100",  
    "service-type-id": 16,  
    "imei": "354596110817409",  
    "change-log": {  
        "mcc": {  
            "old-value": "310",  
            "new-value": "312"  
        },  
        "mnc": {  
            "old-value": "260",  
            "new-value": "250"  
        },  
        "country-code": {  
            "old-value": "PR",  
            "new-value": "US"  
        }  
    },  
    "updated-time": "2022-12-13T09:50:28+00:00"  
}  
}
```



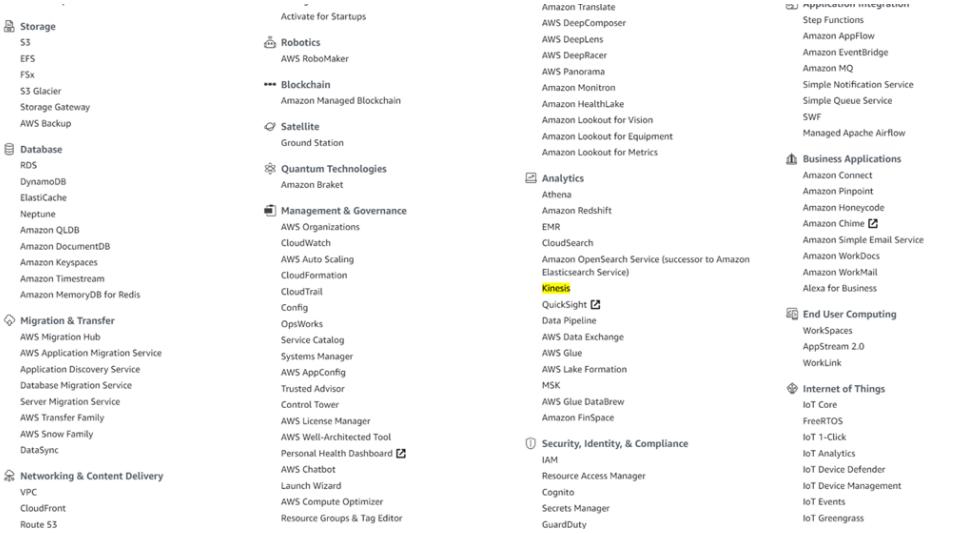
Service Types which supports location change events

Service Type id	Service Type name
3	M2MSecurelink
6	KORE USA GSM (Gold)
7	KORE International GSM
13	KORE EE
15	KORE Canada GSM 2
16	KORE T-USA
20	KORE T-USA H
21	KORE T-USA W
22	KORE O2 UK
24	KORE O2 CC
25	KORE GN
26	KATTCC
27	KORE 3IE CC
29	KORE ESIM BLUE
30	KORE ESIM GREEN
31	KORE ESIM RED
32	KORE OmniSIM

Streaming Connector details

AWS Kinesis

1. In AWS Management Console select All Services > Analytics > Kinesis



2. From the Kinesis click “Create data stream”

Amazon Kinesis		
Amazon Kinesis makes it easy to collect, process, and analyze data streams in real time, so you can get timely insights and react quickly to new information.		
<hr/>		
Data Streams <small>Info</small>	Data Firehose <small>Info</small>	Data Analytics <small>Info</small>
Total data streams	Total delivery streams	Total analytics applications
1	1	0
Create data stream	Create delivery stream	Create application

3. On the Create data Stream page enter a name for your data stream and the number of open shards for your stream (you can change this value later)

Create a data stream [Info](#)

Data stream configuration

Data stream name

Acceptable characters are uppercase and lowercase letters, numbers, underscores, hyphens and periods.

Data stream capacity [Info](#)

[Request limit increase](#)

Data records are stored in Kinesis Data Stream. A shard is a uniquely identified sequence of data records in a stream.

► Shard estimator

Number of open shards

Each shard ingests up to 1 MiB/second and 1000 records/second and emits up to 2 MiB/second.

Minimum: 1, Maximum: 499, Account limit: 500.

Total data stream capacity

Total data stream capacity is calculated based on the number of shards entered above.

Write

0 MiB/second, 0 Data records/second

Read

0 MiB/second

[Cancel](#)
[Create data stream](#)

- I. Note: there is a charge for using Kinesis stream that is directly associated with the number of open shards you have on your stream. You can use the Shard estimator

▼ Shard estimator

Use the shard estimator to generate the recommended optimal number of shards for your stream based on your usage.

Writing to the stream

Average record size (in KiB)

Minimum: 1 KiB, maximum: 1024 KiB.

Maximum records written per second

Reading from the stream

Total number of consumers

Estimated number of open shards

10

[Cost calculator](#)



- II. You can combine this with the Cost calculator to get an estimate of what your monthly Kinesis costs will be

AWS Pricing Calculator > My Estimate > Add Amazon Kinesis Data Streams

Step 1 Select service

Configure Amazon Kinesis Data Streams [Info](#)

Description

Region [Info](#)
It is a physical location around the world where AWS clusters data centers.
US East (Ohio)

Service Settings [Info](#)

Number of records
100 per second

Average record size
100 KB

Number of Consumer Applications
Consider using Enhanced Fan Out consumers if you need 70ms latency and have more than two consumers
1

Extended data retention
No extended data retention

Number of Enhanced fan-out consumers
Enter the amount

Show calculations

Amazon Kinesis Data Streams estimate

Total monthly cost: **124.22 USD**

[Cancel](#) [Add to my estimate](#)

- III. Note you can change the number of shards on your stream after creating it

4. Click “Create data stream”

MyDataStreamName was successfully created.

Amazon Kinesis > Data streams > MyDataStreamName

MyDataStreamName [Info](#) [Delete](#)

Stream details

Status Active	ARN arn:aws:kinesis:us-west-2:750607079480:stream/MyDataStreamName	Data retention period 1 day	Creation time October 01, 2021, 09:02 EDT
----------------------	--	-----------------------------	---

Applications [Monitoring](#) [Configuration](#) [Enhanced fan-out \(0\)](#)

Producers [Info](#)
Producers put records into Kinesis Data Streams.

Amazon Kinesis Agent Use a stand alone Java software application to send data to the stream. [Learn more](#) [View in Github](#)

AWS SDK Use AWS SDK for Java to develop producers. [Learn more](#) [View in Github](#)

Amazon Kinesis Producer Library (KPL) Use KPL to develop producers. [Learn more](#) [View in Github](#)

Consumers [Info](#)
Consumers get records from Kinesis Data Streams and process them.

Amazon Kinesis Data Analytics Use an Amazon Kinesis Data Analytics application to process and analyze using SQL or Java. [Process data in real time](#) [View in Github](#)

Amazon Kinesis Data Firehose Use an Amazon Kinesis Data Firehose delivery stream to process and store records in a destination. [Process with delivery stream](#) [View in Github](#)

Amazon Kinesis Client Library (KCL) Use Kinesis Client Library to develop consumers. [Learn more](#) [View in Github](#)

5. Copy the streams “ARN” value, we will need it later

Create a policy and role to give outside access for writing to the Stream

1. In AWS management console select All Services > Security, Identity, & Compliance > IAM

Amazon Timestream	CloudFormation	Kinesis
Amazon MemoryDB for Redis	CloudTrail	QuickSight
Migration & Transfer	Config	Data Pipeline
AWS Migration Hub	OpsWorks	AWS Data Exchange
AWS Application Migration Service	Service Catalog	AWS Glue
Application Discovery Service	Systems Manager	AWS Lake Formation
Database Migration Service	AWS AppConfig	MSK
Server Migration Service	Trusted Advisor	AWS Glue DataBrew
AWS Transfer Family	Control Tower	Amazon FinSpace
AWS Snow Family	AWS License Manager	
DataSync	AWS Well-Architected Tool	
Networking & Content Delivery	Personal Health Dashboard	
VPC	AWS Chatbot	Security, Identity, & Compliance
CloudFront	Launch Wizard	IAM
Route 53	AWS Compute Optimizer	Resource Access Manager
API Gateway	Resource Groups & Tag Editor	Cognito
Direct Connect	Amazon Grafana	Secrets Manager
AWS App Mesh	Amazon Prometheus	GuardDuty
AWS Cloud Map	AWS Proton	Inspector
Global Accelerator	Incident Manager	Amazon Macie
		AWS Single Sign-On
		Certificate Manager
		Key Management Service
		CloudHSM
		Directory Service
		WAF & Shield
		AWS Firewall Manager
		Artifact
		Security Hub
		Detective
		AWS Audit Manager
		AWS Signer
		AWS Network Firewall

2. Go to Access Management > Policies and click “Create Policy”

Policies (867) <small>Info</small>			Actions		Create Policy		
A policy is an object in AWS that defines permissions.							
<input type="text"/> Filter policies by property or policy name and press enter							
Policy Name	Type	Used as		Description			

3. On the next screen for “Service” select “Kinesis” and under “Actions” give the role “PutRecord” and “PutRecords” permission

Create policy

A policy defines the AWS permissions that you can assign to a user, group, or role. You can create and edit a policy in the visual editor and using JSON. [Learn more](#)

Visual editor **JSON** **Import managed policy**

1 **2** **3**

Kinesis (2 actions) ▲ 1 warning

Service Kinesis

Actions Specify the actions allowed in Kinesis [Switch to deny permissions](#)

Access level

- List
- Read
- Tagging
- Write (2 selected)

CreateStream EnableEnhancedMonitoring RegisterStreamConsumer
 DecreaseStreamRetentionPeriod IncreaseStreamRetentionPeriod SplitShard
 DeleteStream MergeShards StartStreamEncryption
 DeregisterStreamConsumer PutRecord StopStreamEncryption
 DisableEnhancedMonitoring PutRecords UpdateShardCount

Resources [Specify stream resource ARN for the PutRecords and 1 more action.](#)

Request conditions [Specify request conditions \(optional\)](#)

Add additional permissions

Character count: 39 of 6,144. **Cancel** **Next: Tags**

4. Under “Resources” select Specific and click “Add ARN” for the stream

Create policy

A policy defines the AWS permissions that you can assign to a user, group, or role. You can create and edit a policy in the visual editor and using JSON. [Learn more](#)

Visual editor **JSON** **Import managed policy**

1 **2** **3**

Kinesis (2 actions) ▲ 1 warning

Service Kinesis

Actions Write

PutRecord
PutRecords

Resources Specific All resources

stream [Specify stream resource ARN for the PutRecords and 1 more action.](#) Any in this account

[Add ARN to restrict access](#)

Request conditions [Specify request conditions \(optional\)](#)

Add additional permissions

5. Copy and Paste the arn for the stream you created earlier and click “Add”

Add ARN(s)

Amazon Resource Names (ARNs) uniquely identify AWS resources. Resources are unique to each service. [Learn more](#)

Specify ARN for stream [List ARNs manually](#)

arn:aws:kinesis:us-west-2:750607079480:stream/MyDataStreamName

Region * us-west-2 Any

Account * 750607079480 Any

Stream name * MyDataStreamName Any

Add

6. Click “Next: tags” and add any tags you wish to associate with the policy (optional)

Create policy

1 2 3

Add tags (Optional)

Tags are key-value pairs that you can add to AWS resources to help identify, organize, or search for resources.

No tags associated with the resource.

Add tag

You can add up to 50 more tags

7. Click “Next: Review” and give your Policy a name and description then click “Create policy”

8. Go to Access management > Roles and Click “Create role”

9. For “Select type of trusted entity” select “Another AWS account”

Select type of trusted entity

- AWS service EC2, Lambda and others
- Another AWS account Belonging to you or 3rd party
- Web identity Cognito or any OpenID provider
- SAML 2.0 federation Your corporate directory

Allows entities in other accounts to perform actions in this account. [Learn more](#)

10. Enter “750607079480” (KORE’s Account ID) for the Account ID and a value for External ID that can be anything you want (recommended value your OrgUrn)

Create role

Select type of trusted entity

- AWS service EC2, Lambda and others
- Another AWS account Belonging to you or 3rd party
- Web identity Cognito or any OpenID provider
- SAML 2.0 federation Your corporate directory

Allows entities in other accounts to perform actions in this account. [Learn more](#)

Specify accounts that can use this role

Account ID* 750607079480

Options Require external ID (Best practice when a third party will assume this role)
 Require MFA [?](#)

You can increase the security of your role by requiring an optional external identifier, which prevents "confused deputy" attacks. This is recommended if you do not own or have administrative access to the account that can assume this role. The external ID can include any characters that you choose. To assume this role, users must be in the trusted account and provide this exact external ID. [Learn more](#)

External ID
myExternalId

Important: The console does not support using an external ID with the Switch Role feature. If you select this option, entities in the trusted account must use the API, CLI, or a custom federation proxy to make cross-account iam:AssumeRole calls. [Learn more](#)

Require MFA [?](#)

* Required Cancel **Next: Permissions**



11. Click “Next: Permissions” and search for the Policy you created

Create role

1 2 3 4

▼ Attach permissions policies

Choose one or more policies to attach to your new role.

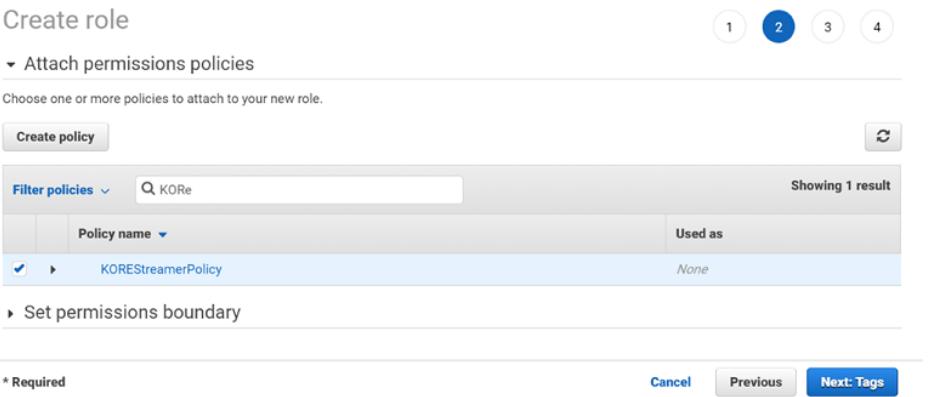
Create policy

Filter policies Q KORE Showing 1 result

	Policy name	Used as
<input checked="" type="checkbox"/>	KOREStreamerPolicy	None

▶ Set permissions boundary

* Required Cancel Previous Next: Tags



12. Select it and click “Next: Tags”

13. Add any tags you wish to associate with the role (optional) and click “Next:

Review”

14. Give your Role a name and description and click “Create role”

Create role

1 2 3 4

Review

Provide the required information below and review this role before you create it.

Role name* KOREStreamingRole
Use alphanumeric and ‘+’, ‘@’, ‘_’ characters. Maximum 64 characters.

Role description a role to give KORE write access to a Kinesis Stream
Maximum 1000 characters. Use alphanumeric and ‘+’, ‘@’, ‘_’ characters.

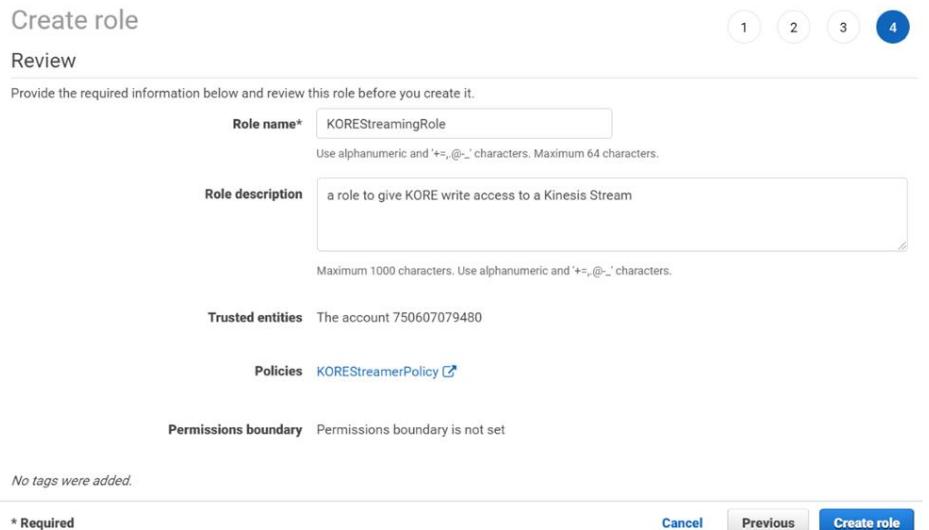
Trusted entities The account 750607079480

Policies KOREStreamerPolicy

Permissions boundary Permissions boundary is not set

No tags were added.

* Required Cancel Previous Create role





15. Select your newly created role from the list and copy the “Role ARN” we will need this value to setup your stream connection

The screenshot shows the AWS IAM Roles page with the role 'KOREStreamingRole' selected. The 'Summary' tab is active. Key details shown include:

- Role ARN:** arn:aws:iam:750607079480:role/KOREStreamingRole
- Role description:** a role to give KORE write access to a Kinesis Stream | Edit
- Instance Profile ARNs:** /
- Path:** /
- Creation time:** 2021-10-01 10:18 EDT
- Last activity:** Not accessed in the tracking period
- Maximum session duration:** 1 hour

Below the summary, there's a link to switch roles: <https://signin.aws.amazon.com/switchrole?roleName=KOREStreamingRole&account=750607079480>.

The 'Permissions' tab is selected, showing:

- Permissions policies (1 policy applied): **KOREStreamerPolicy** (Managed policy)
- Attachments: None
- Policy name: KOREStreamerPolicy
- Policy type: Managed policy
- Generate policy based on CloudTrail events: None
- Share your feedback and help us improve the policy generation experience.
- Generate policy button
- No requests to generate a policy in the past 7 days.

16. Go to “Trust relationships” and copy the External ID you created the role with we will need this value to setup your stream connection

The screenshot shows the 'Trust relationships' tab for the 'KOREStreamingRole' page. It displays the following information:

Give this link to users who can switch roles in the console: <https://signin.aws.amazon.com/switchrole?roleName=KOREStreamingRole&account=750607079480>

Permissions Tab (selected):
Trust relationships Tab (selected):
Tags Tab
Access Advisor Tab
Revoke sessions Tab

You can view the trusted entities that can assume the role and the access conditions for the role. Show policy document

Edit trust relationship

Trusted entities:
The following trusted entities can assume this role:
The account: 750607079480

Conditions:
The following conditions define how and when trusted entities can assume the role.

Condition	Key	Value
StringEquals	sts:ExternalId	myExternalId

Azure Event Hub

Azure Event Hubs is a Big Data streaming platform and event ingestion service that can receive and process millions of events per second.

Create an event hub using Azure portal

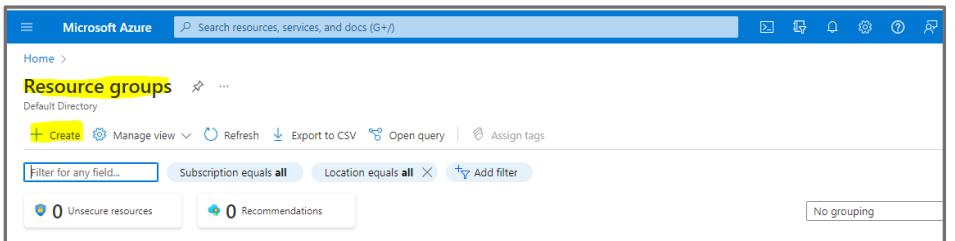
Prerequisites

Make sure we have an **Azure account** and **Azure subscription**.

1. Create Resource Group

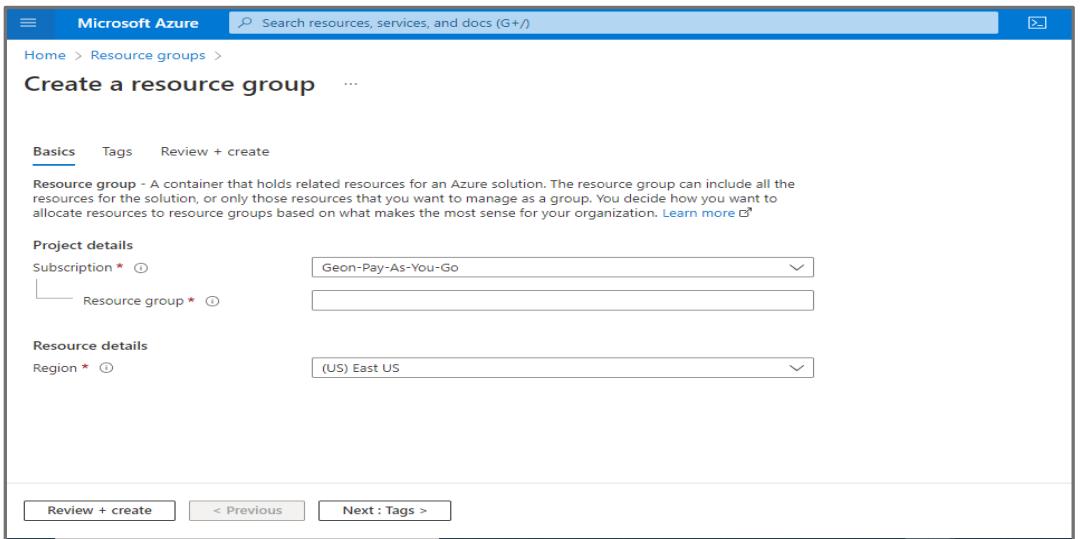
A resource group is a logical collection of Azure resources.

- Sign in to Azure portal. In the left navigation, select **Resource groups**. Then select **Create**.



The screenshot shows the Microsoft Azure portal interface. The top navigation bar has 'Microsoft Azure' and a search bar. Below it, the left sidebar shows 'Home > Resource groups'. The main content area is titled 'Resource groups' with a sub-header 'Default Directory'. It includes a toolbar with '+ Create', 'Manage view', 'Refresh', 'Export to CSV', 'Open query', and 'Assign tags'. There are also filter options for 'Filter for any field...', 'Subscription equals all', 'Location equals all', and 'Add filter'. At the bottom, there are buttons for 'Unsecure resources' (0) and 'Recommendations' (0), and a 'No grouping' option.

-



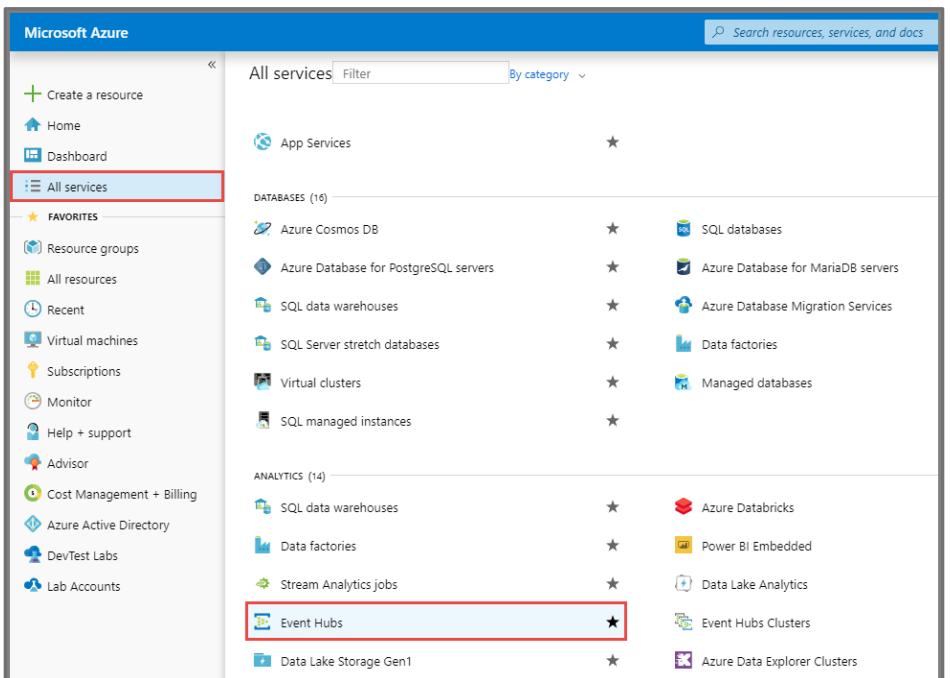
The screenshot shows the 'Create a resource group' wizard in the Microsoft Azure portal. The top navigation bar has 'Microsoft Azure' and a search bar. The left sidebar shows 'Home > Resource groups > Create a resource group'. The main content area is titled 'Create a resource group'. It has tabs for 'Basics', 'Tags', and 'Review + create'. Under 'Basics', there is a description of what a resource group is, a 'Project details' section with 'Subscription' set to 'Geon-Pay-As-You-Go' and 'Resource group' input field, and a 'Resource details' section with 'Region' set to '(US) East US'. At the bottom, there are buttons for 'Review + create', '< Previous', and 'Next : Tags >'.

- For **Subscription**, select the name of the Azure subscription in which you want to create the resource group.
- Type a unique **name for the resource group**. The system immediately checks to see if the name is available in the currently selected Azure subscription.
- Select a **region** for the resource group.
- Select **Review + Create**.
- On the **Review + Create** page, select **Create**.

2. Create an Event Hubs namespace

An Event Hubs namespace provides a unique scoping container, in which we can create one or more event hubs.

1. In the Azure portal, select **Create a resource** at the top left of the screen.
2. Select **All services** in the left menu, and select **star (*)** next to **Event Hubs** in the **Analytics** category. Confirm that **Event Hubs** is added to **FAVORITES** in the left navigational menu.



3. Select Event Hubs under FAVORITES in the left navigational menu, and select Create.

The screenshot shows the Microsoft Azure portal's 'All services' page. On the left, there's a navigation bar with 'Favorites' highlighted. Below it, under 'Categories', 'Event Hubs' is also highlighted. In the main content area, a list of services is shown with 'Event Hubs' at the bottom, preceded by a yellow star icon.

4. On the Create namespace page, take the following steps:

- Select the **subscription** in which you want to create the namespace.
- Select the **resource group** you created in the previous step.
- Enter a **name** for the namespace. The system immediately checks to see if the name is available.
- Select a **location** for the namespace.
- Choose **Basic** for the **pricing tier**.
- Leave the **throughput units** (for standard tier) or **processing units** (for premium tier) settings as it is.
- Select **Review + Create** at the bottom of the page.

The screenshot shows the 'Create Namespace' wizard on the 'Basics' step. It includes fields for Project Details (Subscription: Geon-Pay-As-You-Go, Resource group: kore-poc-account), Instance Details (Namespace name: eh-namespace-test11, Location: East US, Pricing tier: Basic (~\$11 USD per TU per Month), Throughput Units: 1). At the bottom are 'Review + create', '< Previous', and 'Next: Advanced >' buttons.

5. On the **Review + Create** page, review the settings, and select **Create**. Wait for the deployment to complete.

The screenshot shows the 'Create Namespace' page in the Azure portal. The top navigation bar includes 'All services > Event Hubs >' followed by the title 'Create Namespace' and a 'Event Hubs' link. A green validation message 'Validation succeeded.' is displayed. Below the title, there are tabs for 'Basics', 'Advanced', 'Networking', 'Tags', and 'Review + create', with 'Review + create' being the active tab. The main content area displays the configuration for the 'Event Hubs Namespace by Microsoft'. Under the 'Basics' section, the namespace name is 'eh-namespace-test11', subscription is 'GeoN-Pay-As-You-Go', resource group is 'kore-poc-account', location is 'East US', pricing tier is 'Basic', throughput units are '1', and availability zones are 'Enabled'. The 'Networking' section shows 'Public access' selected for connectivity. The 'Security' section specifies '1.2' for minimum TLS version and 'Enabled' for local authentication. At the bottom, there are three buttons: a blue 'Create' button, a light gray '< Previous' button, and a light gray 'Next >' button.

- On the Deployment page, select Go to resource to navigate to the page of your namespace. The Event Hubs Namespace page is shown below.

Essentials

- Resource group: kore-poc-account
- Status: Active
- Location: East US
- Subscription: Geon-Pay-As-You-Go
- Host name: kore-streaming-poc.servicebus.windows.net
- Tags: purpose:kore-poc

NAMESPACE CONTENTS: 1 EVENT HUB, KAFKA SURFACE: NOT SUPPORTED, ZONE REDUNDANCY: UNAVAILABLE

3. Create an event hub

- On the Event Hubs Namespace page, select Event Hubs in the left menu.
- At the top of the window, select + Event Hub.

Essentials

- Resource group: kore-poc-account
- Status: Active
- Location: East US
- Subscription: Geon-Pay-As-You-Go
- Host name: kore-streaming-poc.servicebus.windows.net
- Tags: purpose:kore-poc

NAMESPACE CONTENTS: 1 EVENT HUB, KAFKA SURFACE: NOT SUPPORTED, ZONE REDUNDANCY: ENABLED

- Type a name for your event hub, and then select Review + Create. Fill the details as per your need.
 - Partition count:** Setting allows you to parallelize consumption across many consumers.
 - Message retention:** Setting specifies how long the Event Hubs service keeps data.

The screenshot shows the 'Create Event Hub' wizard in the Microsoft Azure portal. The 'Basics' tab is selected. Under 'Event Hub Details', there is a note: 'Enter required settings for this event hub, including partition count and message retention.' The 'Name' field contains 'ehsample'. The 'Partition Count' slider is set to 2. The 'Message Retention' slider is set to 1. At the bottom, there are buttons for 'Review + create', '< Previous', and 'Next: Capture >'.

4. We can check the status of the event hub creation in alerts. After the event hub is created, the same can be seen in the list of event hubs like below.

The screenshot shows the 'Event Hubs Namespace' blade in the Microsoft Azure portal. The left sidebar has 'Event Hubs' selected. The main area shows a table of event hubs:

Name	Status	Message Retention	Partition Count
kore-streaming-poc.eh	Active	1 day	2

4. Authorizing access to Event Hubs resources using Shared Access Signatures

The following parameters are needed to authorize Event Hubs for send or receive messages (as a connection string).

- **EventHubNamespace**
- **EntityPath**
- **SharedAccessPolicies:**
 - **SharedAccessName**
 - **SharedAccessKey**



A **shared access signature (SAS)** provides us with a way to grant limited access to resources in the Event Hubs namespace.

Shared access authorization policies:

Each Event Hubs namespace and each Event Hubs entity has a shared access authorization policy made up of rules. The policy at the **namespace level** applies to all entities inside the namespace, irrespective of their individual policy configuration. For each authorization policy rule, we can decide on three pieces of information: **name**, **scope**, and **rights**.

1. **name**: is a unique name in that scope.
2. **scope**: is the URI of the resource. For an Event Hubs namespace, the scope is the fully qualified domain name (FQDN), such as <https://<yournamespace>.servicebus.windows.net/>.
3. The **rights** provided by the policy rule can be a combination of:
 - **Send** – Gives the right to send messages to the entity
 - **Listen** – Gives the right to listen or receive to the entity
 - **Manage** – Gives the right to manage the topology of the namespace, including creation and deletion of entities

Get an event hub connection string:

To communicate with an event hub in a namespace, we need a connection string for the namespace or the event hub.

The connection string for a Eventhub has the following components embedded within it,

- Fully qualified domain name of the **Event Hubs namespace** you created (it includes the Event Hubs namespace name followed by [servicebus.windows.net](https://<yournamespace>.servicebus.windows.net))
- The connection string for an event hub has an additional component in it. That's, **EntityPath = <EventHubName>**
- **Name of the shared access key**
- **Value of the shared access key**

The connection string for an Eventhub looks like:

Endpoint=sb://<NamespaceName>.servicebus.windows.net/;SharedAccessKeyName=<Keyname>;SharedAccessKey=<KeyValue>;EntityPath=<EventHubName>

Following steps shows, how to create SAS policies and connection string:

1. On the **Event Hubs Namespace** page, select the event hub in the bottom pane.
2. On the **Event Hubs instance** page, select **Shared access policies** on the left menu.

3. There is no default policy created for an event hub. Create a policy with **Send** and **Listen** access.
4. Select the policy from the list.
5. Select the **copy** button next to the **Connection string-primary key** field (from which you can select the four parameters needed to create the Eventhub connector).

The screenshot shows the Azure portal interface for managing an Event Hub. On the left, there's a sidebar with options like Overview, Access control (IAM), and Shared access policies. Under Shared access policies, the 'kore-streaming-poc-eh-sap' policy is selected and highlighted with a yellow box. The main pane displays the policy settings, including checkboxes for Manage, Send, and Listen, and fields for Primary key and Secondary key. The 'Connection string-primary key' field is also highlighted with a yellow box.

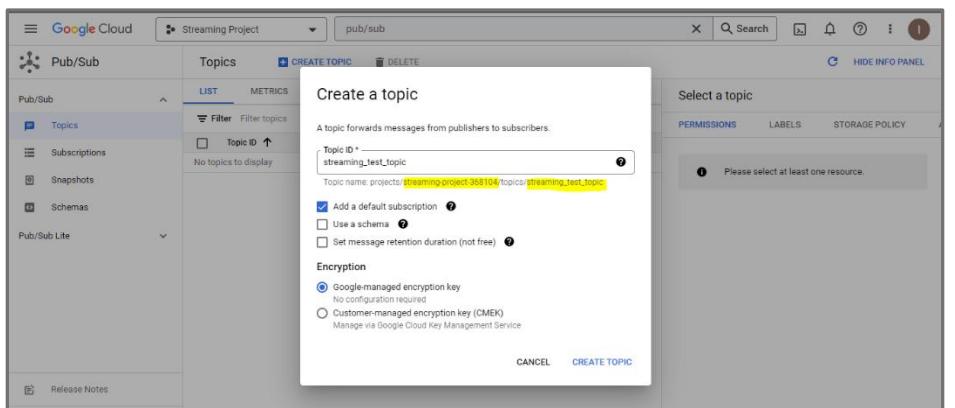
GCP Pub/Sub

To configure a GCP Cloud Pub/Sub connector, we would need to provide a **project id** and a **topic id**. To configure a topic with required access, follow the below steps.

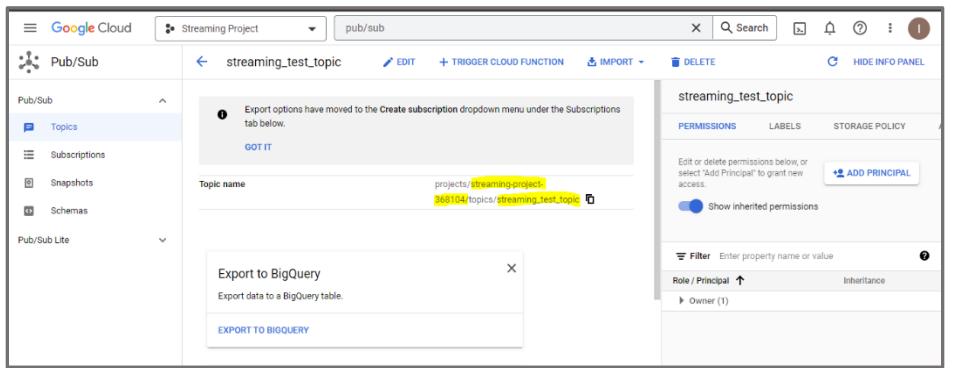
- To create a Topic in a project; go to the **Pub/Sub topics** page inside your project.

The screenshot shows the GCP Pub/Sub interface. On the left, there's a sidebar with options like Topics, Subscriptions, Snapshots, and Schemas. The 'Topics' section is selected. It shows a 'CREATE TOPIC' button and a message 'No topics to display'. On the right, a modal window titled 'Select a topic' is open, with a message 'Please select at least one resource.'

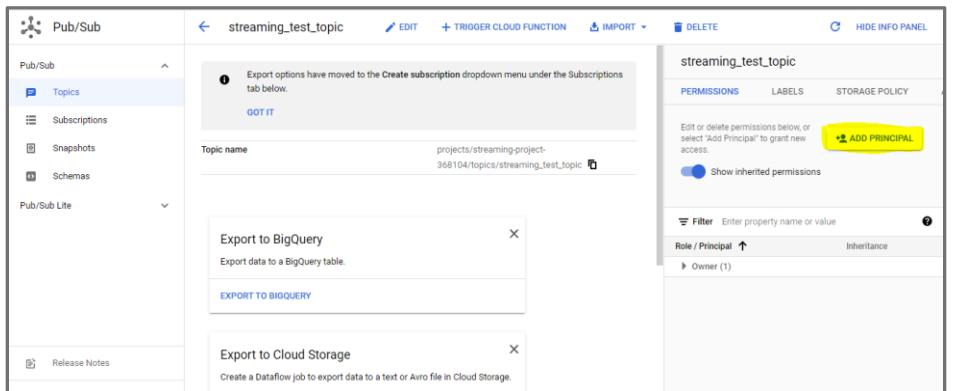
- Provide a **topic ID** and create the topic. The other parameters can be the default ones.



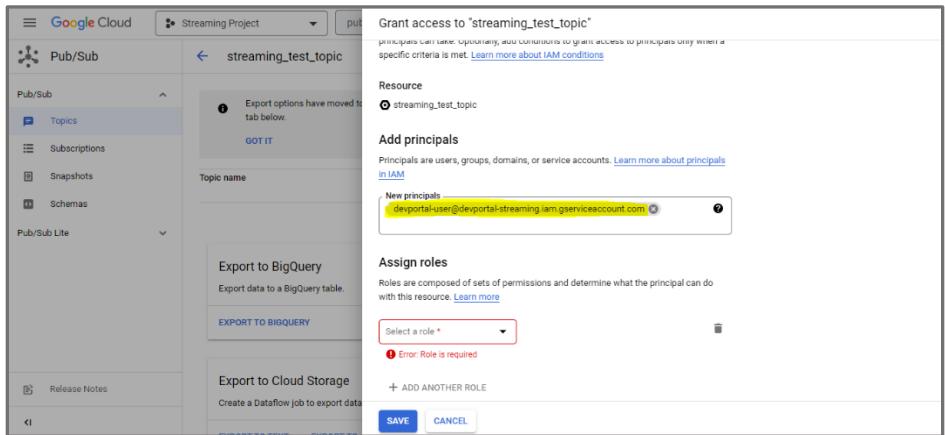
- Copy your project ID and topic ID for creating the connector.



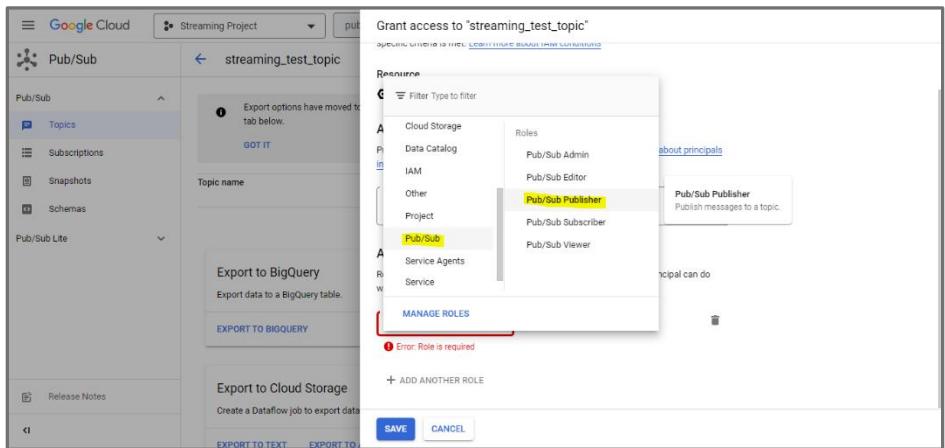
- Next add the KORE's account service principal and grant the required access. For this; click on the ADD PRINCIPAL button.



- Paste devportal-user@devportal-streaming.iam.gserviceaccount.com into the New principals text box



- Next select the Pub/Sub → Pub/Sub Publisher role to the above service principal and click SAVE



The configuration is now complete. Next create the GCP Pub/Sub connector in the Streaming UI/API with the project ID and the topic ID.

The information in this document is subject to change.