WING Digital Hub

User Manual for Enterprises

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Version 1.2

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Version 1.2

Document Revision History

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1.2	Draft	24.2.2023	Supriya	Teresa, Gabriel	Updated Document Overview and Chapter 5: Rating Updated section 3.3.11: Moving Subscriptions

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The Internet of Things (IoT) holds vast promise for enterprises. Not only is it one of the principal engines of the so-called fourth industrial revolution, or Industry 4.0, that will transform manufacturing, but the IoT will boost efficiency and productivity across all enterprise activities.

By connecting and then managing the cooperation between machines, sensors and other devices, IoT will power new monitoring, tracking, measuring and analysis technologies. These advances will depend fundamentally on the continuous and uninterrupted flow of data between enterprise assets and operations, no matter how widely dispersed they are.

It's a highly complex undertaking to achieve this connectivity and manage the data flows to and from numerous fixed and moving assets, across multiple radio technologies and between any location on land, air and sea. The challenge facing enterprises, especially multinationals, is immense.

Now there's an answer with Nokia's Worldwide IoT Network Grid (WING) Digital Hub. This complete managed service has been created with communication service providers and enterprise customers in mind, to help them enter the world of IoT, or further grow their existing IoT offerings. WING Digital Hub manages the IoT connectivity and services needs of assets, such as connected cars or connected freight containers, as they move around the globe, reducing complexity for large enterprises which would otherwise be required to work with multiple mobile network and technology providers.

Nokia WING Digital Hub offers a unique, API driven, geographically distributed IoT core as a service, as well as a single unified IoT platform that has all the functionality for real-time management of IoT devices across the globe. This uniquely designed, multi domestic self-service portal offers the benefits of full automation and notification and gives access to unique views and dashboards.

Enterprises benefit from a truly global IoT connectivity grid with a fast and simple go-to-market route for their connected applications and total connectivity management including a dedicated SLA which fits their specific applications. They gain assured levels of performance, full expert support and additional capabilities such as analytics to provide deeper insight.

About WING Digital Hub

WING Digital Hub (Worldwide IoT Network Grid Hub) is a robust and highly scalable **IoT** (**I**nternet **o**f **T**hings) application that helps organizations manage and monitor their SIM Cards and things to capture data at varied volumes and speeds.

The features and capabilities of WING Digital Hub for enterprises are configurable by CSP. This manual describes the default configuration and guides you through a detailed set of procedures to achieve specific outcomes.

Intended audience

This document is meant to function as a ready reference for the following audience:

- Enterprise Users

Conventions used

This manual uses the following typographical conventions:

Appearance	Description
<Parameter_Name>*	If an asterisk is suffixed to a parameter, it indicates that the parameter is required.
GUI	Any GUI element or icon name that can be selected or clicked appears in bold font.
Optional	Any feature that can be enabled/disabled within WDH only.

Disclaimers

1. The screenshots used in this document are for illustration purpose only. They might appear different from the actual application depending on the WDH platform used by the user.
2. Some of the features shown in this document might not be visible to the user depending upon the user access right.

Chapter 1

Introduction

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1 Introduction

Designed from inception as a cloud-based portal, WING Digital Hub is the solution that Communication Service Providers (CSPs), Enterprises, and multi-national corporations need for flexible and modern IoT connectivity management.

WDH is designed to address the challenges of managing the increasing number of IoT connections and to provide to the Enterprises the capability to take full control of connected assets without being a deep technical expert in mobile core networks.

1.1 Features and Benefits

- Manage your global IoT deployment from a single self-service portal
- Provision, update network preferences and provisioning information
- Get full insights into the network for easy diagnostics, troubleshooting, and efficient debugging
- Cost control with complete transparency and real-time data
- Simplified management of your SIMs with full flex of customization for organizing the SIMs in groups, tags, creation of tags, and custom fields for eliminating the time-consuming tasks of managing thousands or millions of SIMs.

1.2 Functions of Nokia WING Digital Hub

WING Digital Hub solution performs the following functions:

Note: The functionality of various features of the application is visible/available/accessible depending upon the permissions given to your user role by the administrator of your account. Contact your account administrator for issues regarding visibility/availability of any functionality.

Table 1-1: WING Digital Hub Functions

Function	Description
Dashboard	Displays a high level view of subscriptions and usage.
Subscriptions	Configuration and management of the lifecycle of entire connected SIM set, from initial activation through to the end date of their subscription. See Managing Subscriptions.

Function	Description
Accounts	Displays the details of the account, hierarchical structure, assigned network resources, and other account related information. See Accounts.
Rating	Displays rate plans information. See Rating.
Reports	To get access to the reports, off-the-shelf and batch executions reports. See Reports.
Administration	Management of users, user groups, roles, and IP Whitelists. See Administration.
Automation Rules	Management of automation rules over a dynamic or static set of resources. See Automation Rules.
Invoice Data	To check charges of the service.
Security	To check audit logs. See Security.
Ordering	Ordering additional physical SIMs for an enterprise. See Ordering.

1.3 First Login with Multi-Factor Authentication (MFA)

1.3.1 Multi-Factor Authentication (MFA)

Multi-factor Authentication (MFA) method for accessing the WING Digital Hub portal provides additional security to the customer to protect its network and services.

1. Once your profile is created and enabled (See Chapter 7, "Administration"), you will get notified through the email address that was used during the creation of your profile. This email includes a link to generate the password. Click the link to generate a password.

   Note: This link expires after 30 minutes. You need to generate the password within 30 minutes time.

2. You will receive a second email after password generation. This email includes the link to verify the email address. Click the link to verify the email address.

   Note: This link expires after one hour. You need to verify the email address within one hour time.

3. Open the URL of the portal in a compatible web browser. The login page displays.

4. In the login page, enter your username (or email ID) and password in the Username and Password fields respectively and click **Sign In**.

1.4 Password Policy

The password policy is as follows:

- The user is enforced to reset the password on their first login attempt as per the given steps:
  - User needs to accept the "Terms and Conditions" message
  - User needs to update their password (within 30 minutes)
  - User needs to verify their email ID (within one hour)
- The password must contain at least one numerical character (0 to 9), at least one lowercase alphabetical character (a to z), one uppercase alphabetical character (A to Z), and one special character (@#$&%). The password length must be at least a minimum of 8 characters and a maximum of 20 characters.
- If a user forgets the password or is not able to activate the account (by verifying email ID and updating the password) within the time duration mentioned in the email, a reset can be requested by clicking **Forgot Password** in the login page. The portal sends an email to the user with a link to reset the password. This link is only available for a limited time duration (two hours). Once the user clicks the link, the reset password page displays. The user can enter and confirm the new password on this page.

1.5 Logging in

The login authentication allows users to log in with a username and password to WING Digital Hub.

1. Open the URL of the portal in a compatible web browser.
2. In the login page, enter your username (or email ID) and password in the Username and Password fields respectively.
3. Click **Sign In**.

   The Dashboard page of the WING Digital Hub opens.

1.6 Resetting a Forgotten Password

Use this procedure when you have forgotten the password to log in to the WING Digital Hub and want to reset the password.

1. In the login page of the WING Digital Hub, click **Forgot Password**.
2. Enter your email ID and click **Reset**. An email is sent to your email ID with a link to reset your user password.
3. Click the link to open the page where you can reset the password.

Note: This link expires after two hours.

1.7 Changing the Default Language

A list of allowed display languages of WING Digital Hub portal is provided to the user along with the default language. The default language can be changed by the user to any other language available in the list.

1. Click the **Language** icon at the top right of the WING Digital Hub and then select the new language from the allowed language list.

   The display language on the portal is set to the new language.

   The new language gets displayed besides the **Language** icon and it also becomes the language to be used for the user on subsequent logins. This language can again be changed to any of the allowed languages at any time.

   Note: Currently, the portal supports seven languages, such as English, German, Danish, Swedish, Español (Spanish), Italian, and Hindi.

1.8 Logging Out of the WING Digital Hub

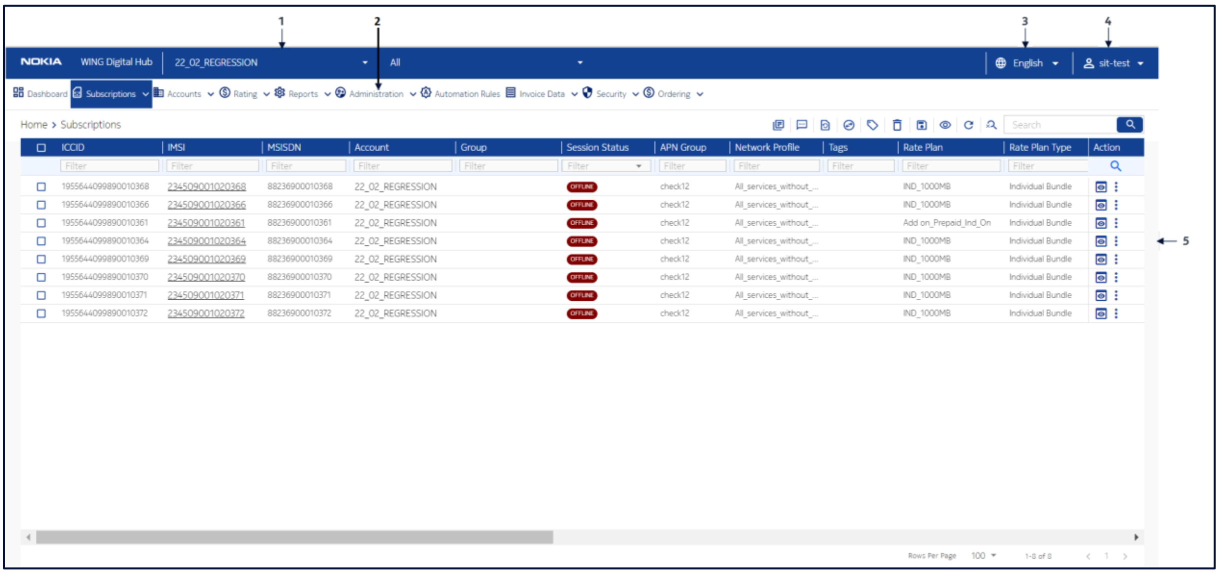
1. Click the **User** icon having your user name at the top right corner of the WING Digital Hub and then select **Logout**.

   You get logged out of the portal and redirected to the login page.

1.9 User Interface Layout

The user interface of the WING Digital Hub has an identical layout across pages.

Figure 1-1: WING Digital Hub User Interface Layout



Legend:

Item	Description
1	Context Dropdown lists (allows selecting a specific account, sub-account, or SIM group) from the ones that the user has permissions to access.
2	Top menu (displays the functional tabs)
3	User profile language (allows to change the language from the available options)
4	User icon with user name. Click this icon for Logout option.
5	Main area In the Dashboard page, this area displays the snapshot view and widgets. In other pages, this area displays items related to the selected top menu option in a tabular format and provides the ability to manage the items.

1.10 Context Dropdowns

WING Digital Hub allows you to select an account, sub-account, and a SIM group from the Account Context Dropdown list, Sub Account Context Dropdown list, and the Group Context Dropdown list respectively. This tool facilitates the navigation the management of the Subscriptions for a particular Account, sub-account or Group.

Based on your User role, the Context Dropdown will show you the accounts, sub-accounts and SIM groups where you have been authorized.

The context dropdown lists

are available at the top of the page.

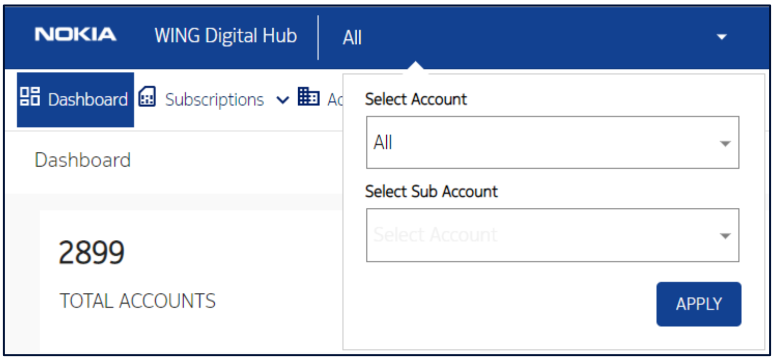
If you don't see the account, sub-account, or SIM group you expected to see then please contact your Admin user in the Enterprise or with the CSP Admin user who has created your user in WDH.

1.10.1 Using the Context Dropdowns

1. Select the required account from the account context 

dropdown list.

Figure 1-2: Account and sub-account context dropdown



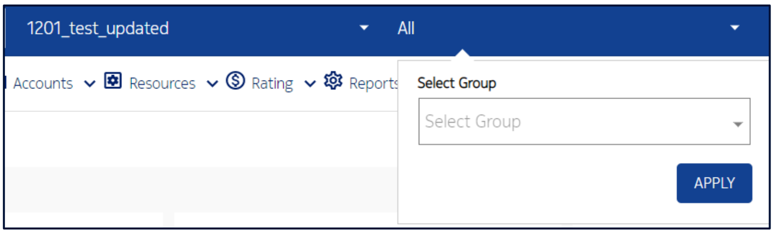
2. Select the sub account from the sub account context 

dropdown list (if the Account has sub-accounts).

3. Click **Apply**. The group context 

dropdown list displays (if the Account or sub-account has Groups).

Figure 1-3: Group context dropdown



4. Select the group.

5. Click **Apply**.

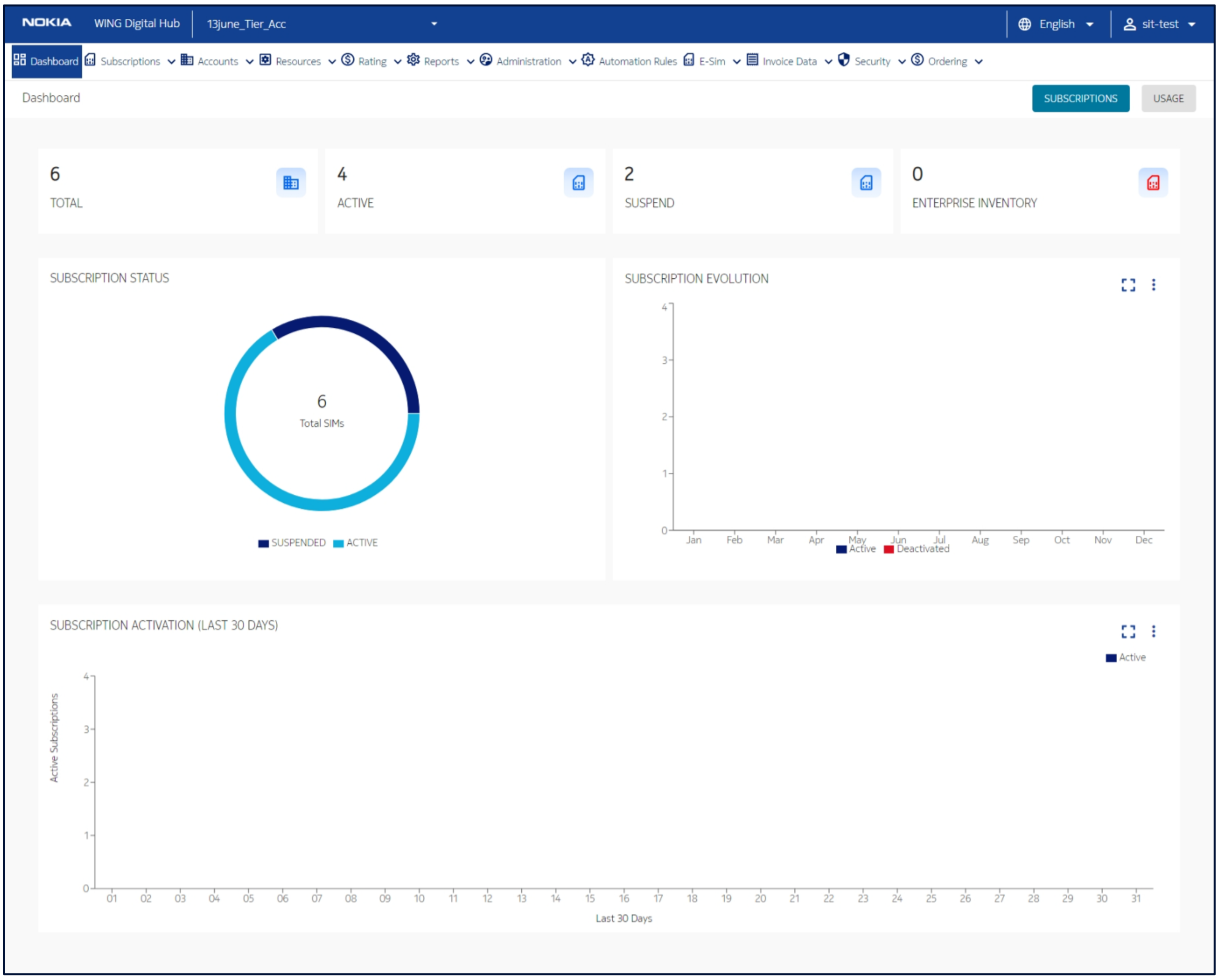
1.11 Dashboard

The WING Digital Hub Dashboard gives you a 'bird's eye view' of the application. It provides key insights across population of devices for real-time informed decisions and forecasts to meet demand proactively. In other words, it is the progress report of all the major functional activities covered by WING Digital Hub that is presented in the form of data visualization.

1.11.1 Dashboard – Subscriptions Page

Click **Dashboard** in the top menu and then click **Subscriptions** to view the dashboard subscriptions page.

Figure 1-4: WDH Dashboard



Snapshot View: The snapshot view of the dashboard subscriptions page provides the following information:

Note: Click these numbers to view the corresponding subscription details. These links are enabled only if you have the access to the target page.

- **Total Subscriptions:** Displays the total number of subscriptions.

- **Active Subscriptions:** Displays the number of subscriptions that are currently active.
- **Suspended Subscriptions:** Displays the number of suspended subscriptions.
- **Enterprise Inventory:** Displays the total number of SIMs in enterprise inventory.

Widgets: The dashboard subscriptions page displays the following widgets:

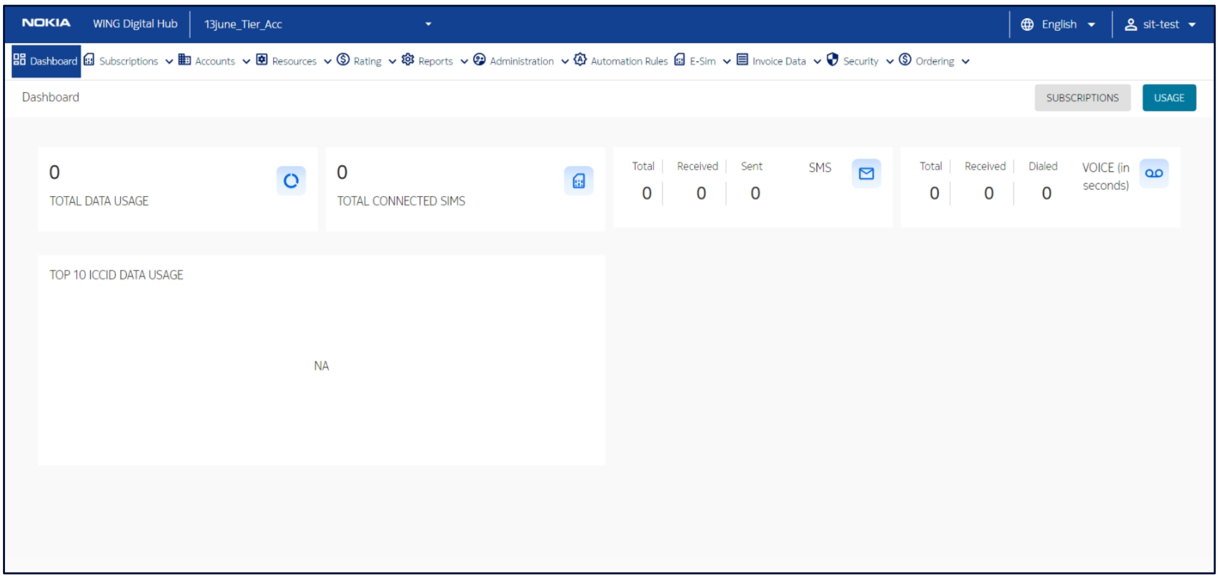
Table 1-2: Dashboard Subscriptions Page Widgets

Widget	Description
Subscription Status	Displays a pie-chart of the number of SIMs in each subscription state. The pie-chart displays the total number of subscriptions/SIMs in the following states in different colors: • Suspended • Conditional-suspend • Deactivated • Quarantined • Active • Trial • Retired • Enterprise-Inventory Hover over the pie-chart to know the exact number of subscriptions in each state. Click on the state of the subscription in the legend to view all the subscriptions in that state.
Subscription Evolution	Displays a graph of the number of active and deactivated subscriptions, and the subscription evolution for each month or week. Hover over the graph to know the exact number of active and deactivated subscriptions for each month or week. Click the **Zoom** icon to view the enlarged graph. Click the **More** icon and select from the following options: • **By Month:** To arrange the graph by months • **By Week:** To arrange the graph by weeks
Subscription Activation (Last 30 Days)	Displays a graph of the number of activated subscriptions for last 30 days. Hover over the graph to know the exact number of activated subscriptions for each day. Click the **Zoom** icon to view the enlarged graph. Click the **More** icon and select from the following options: • **Last 30 Days:** To see the graph of last 30 days • **Month:** To see the graph of the required month

1.11.2 Dashboard – Usage Page

Click **Dashboard** in the top menu and then click **Usage** to view the dashboard usage page.

Figure 1-5: WDH Usage Dashboard



Snapshot View: The snapshot view of the dashboard usage page provides the following information:

Note: Click these numbers to view the corresponding usage details. These links are enabled only if you have the access to the target page.

- **Total Data Usage:** Displays the total data used.
- **Total Connected SIMs:** Displays the total number of connected SIMs.
- **SMS:** Displays the number of total/received/sent SMS.
- **Voice:** Displays the number of total/received/dialed voice calls.

Widgets: The dashboard usage page displays the following widgets:

Table 1-3: Dashboard Usage Page Widgets

Widget	Description
Top 10 ICCID Data Usage	Displays a graph of data usage for top ten ICCIDs. Hover over the graph to know the exact amount of data usage for each ICCID. Select the **MB/GB** toggle button to view the usage in MB or GB. Click the **Zoom** icon to view the enlarged graph. Click on the data usage in the graph to view the usage details.

Chapter 2

Getting Started

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2 Getting Started

Check the following points before you start managing your subscriptions:

- You are authorized with valid credentials to access the WING Digital Hub (WDH) application.

  Note: It means that a CSP admin or Enterprise Reseller admin has created your user on the WDH platform.

- Your Account has the status: **Active**.

  You can view the information that the admin (CSP or Enterprise Reseller) has configured for you and your services from the Accounts section.

  See Viewing Account Details.

- Your subscriptions are in Enterprise Inventory, Trial, or Active state. The dashboard will give you a high level view of your subscriptions. The Subscriptions section shows more detailed information of each subscription.

WDH provides the Enterprises with full flexibility to organize the SIMs along with their own organization. Depending on the size of the organization, different hierarchy, or business needs, the Enterprise can customize their own structure.

If you are an Enterprise Reseller user, you own a Master Account and you can create sub accounts for your customers and/or SIM groups.

If you are an Enterprise user, you own a main account or a sub account (created by an Enterprise Reseller user), and in both cases, you can create SIM groups to easily organize and manage your devices based on your specific hierarchical organization needs.

2.1 Examples of Enterprise Hierarchical Models

Some Enterprise hierarchical models are as follows:

Figure 2-1: Enterprise SIM Organization Model 1

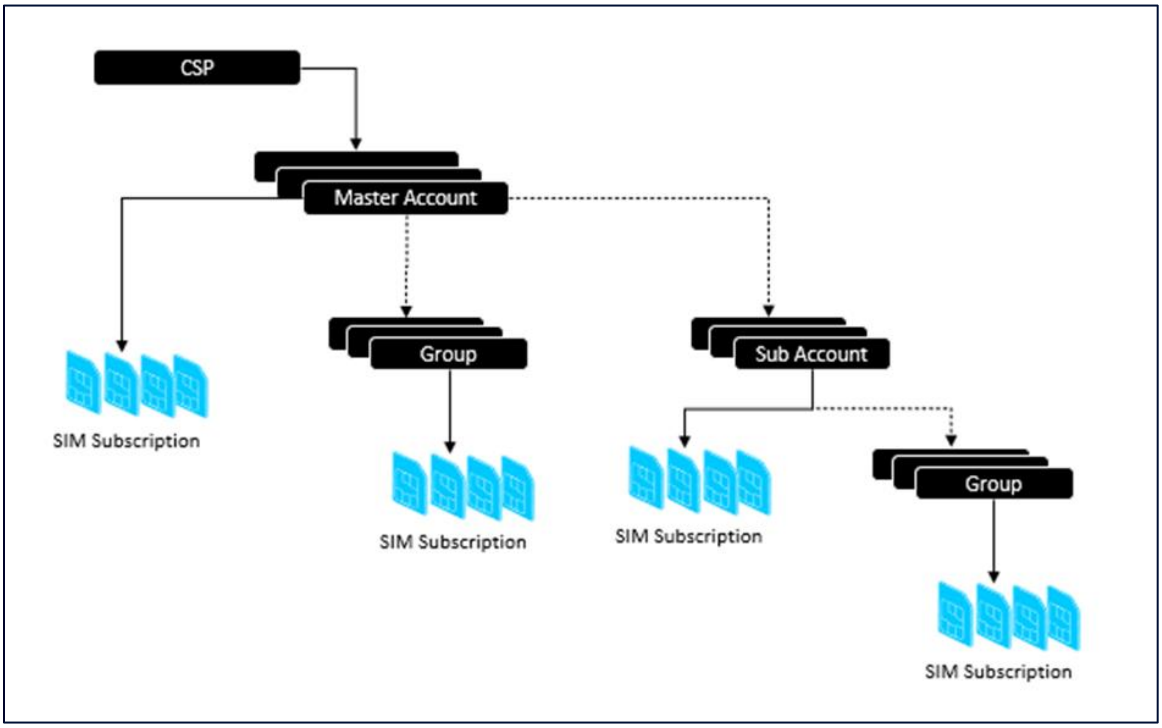
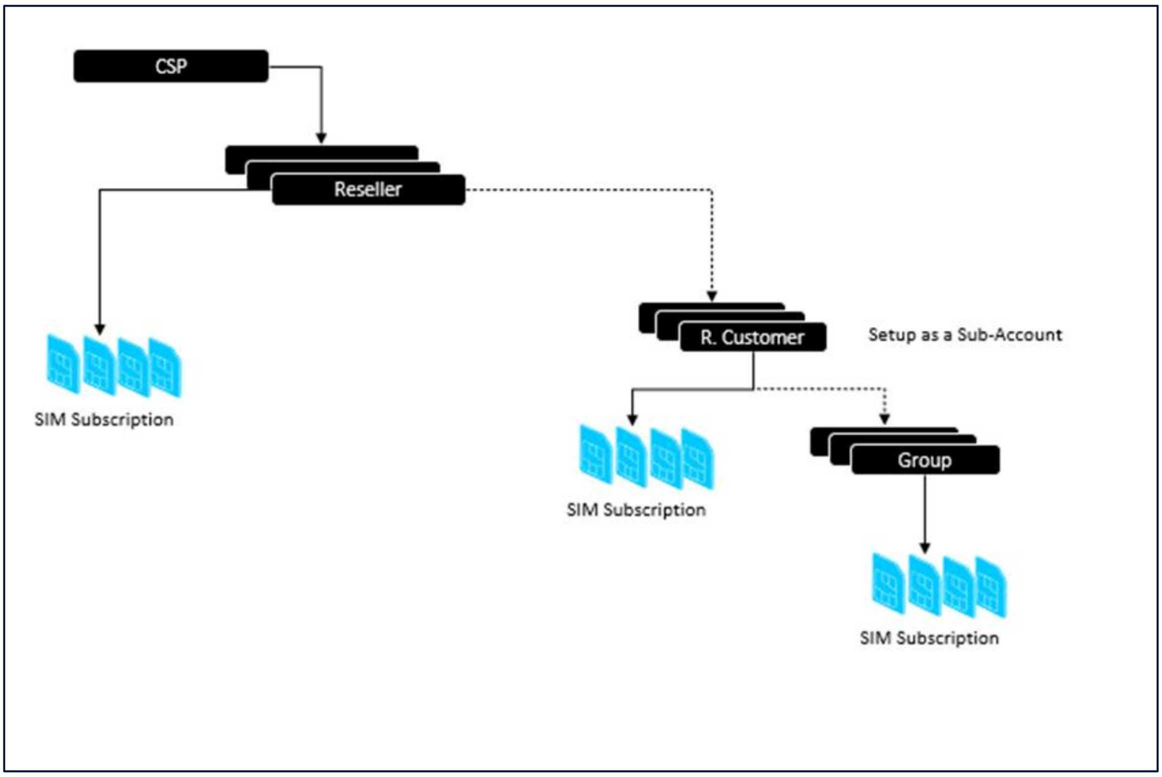


Figure 2-2: Enterprise SIM Organization Model 2



2.2 How To

This section provides quick guidelines for most common scenarios and users journey when using WING Digital Hub.

2.2.1 As an IT Admin of my enterprise how can I create new users groups and users for my organization so all of them have proper access to the portal to meet the organization´s requirements?

WDH provides its Enterprise users with a means to organize the SIMs along with their own organization. Even with a single Account entity, Enterprise user can partition the access to the SIMs based on the User Groups (associated with SIM Groups).

As the example models shown in the previous section, you can define your user groups that are going to interact with the defined SIM groups.

Note: User Groups will access SIM Groups level info (in the WDH portal and in Reports).

See Administration to know about how to create Roles with proper permissions to access the different sections of the portal.

Once the role is defined, go to User Group to create User groups

Now, you can create a user and assign it to the user group that you defined.

2.2.2 As an IT Admin of my enterprise, how can I assign access rights that define each functional user group

WDH provides full flexibility to hide/show some sections of the WDH portal to the users based on their role. It also provides the way to allow/deny some actions over the subscriptions, accounts organization, or invoice data. For example, you could create a user role for a user group in your Enterprise with access to the financial information but can't change any network resource of the Subscriptions. A user group with a role that has "only Read" access and can't change any parameter. Another user group in charge of the Ordering process of the SIMs.

See Managing Roles to create roles with proper permissions to access different sections and functions of the WDH portal. Then, see Administration to assign a role to a user group, continue with the creation of Users and assign users to a group.

2.2.3 As an Enterprise Admin how can I activate a set of Subscriptions so they are ready to start using the connectivity service

See SIM Lifecycle States to understand the different states of the SIMs

The WDH Dashboard will provide a quick view of the status of all Subscriptions. The tab Subscriptions will provide you with all the actions to facilitate the management of the

See Subscriptions to view all the functions you can do with the subscriptions; you can modify some resources individually or for a selected group of Subscription using the Bulk Change tool.

2.2.4 As a financial controller, how can I check all the costs and invoice of all the Subscriptions

See the Invoice Data section to know how to access the bill preview of your Enterprise. You will get access to all charges. From a high level total view at Enterprise (Account) level, that is broken down to go to a deep breakdown of charges at SIM level.

A first summary view with the grand totals of charges of the Account. Then, a series of Tabs to go in more details, like Sub Accounts (if the Account has Sub-accounts and the user role can access both), the Subscriptions tab, Rate Plan tab, Rate Plan zones and other charges, and related invoice items.

2.2.5 As a financial controller, how can I change to another rate plan assigned to some Subscriptions for business needs, for example, high data usage or changing location of my Subscriptions

It is possible to change the rate plan of some subscriptions from Subscriptions menu. You can do it individually for a single subscription or as a bulk process.

In **Subscriptions** table, filter the SIMs based on your requirement and then use the checkbox on the left to select the SIMs to which the change will apply. Another option is to use the **Bulk Change** icon to use a file with the subscriptions to which the change shall apply.

2.2.6 As a technical support, how can I monitor and diagnose the connectivity service of the Subscriptions

WDH offers different ways to monitor your SIMs.

- The General tab in the subscription detail window provides detailed information about the selected Subscription and you can check status of the SIM, the last connection information and status. For more detail, the Event logs show the network events of the SIM for a particular time range.
- The Viewing Event Logs screen is also useful to review the activity of the SIM by time range.
- The Graphical Probe Diagnostics – Troubleshooting tab provides a history of the activities done for a particular Subscription.
- The Graphical Probe Diagnostics section also provides a high level diagnostic and a deep level for troubleshooting.

2.2.7 As a technical support, how can I see the network resources assigned to a specific Subscription or a group

In Subscriptions section, for a particular SIM go to Details view to see the APN group, network profile and roaming profile assigned to the SIM you are looking for. .

For a group of SIMs, go to the Subscriptions table, use filters to show only the SIMs you are looking for. In same table you can watch the resources assigned to the SIMs, there are columns for APN group, Network profile and Roaming profile.

To get more details of a resource assigned to a SIM, go to Accounts section, and Details of the Account. The tabs will show all resources that the CSP has assigned to your account with the details.

- **Network profile:** Show the list of Network profiles with the services available for each profile

- **APN Group:** Show the list of APN groups and the details of each APN group
- **Roaming profile:** Show the list of roaming profiles.

Note: WDH does not support the functionality to show the list of networks that are in each roaming profile.

2.2.8 As a security officer, how can I set security policies to the Subscriptions to allow or deny services

In the WDH portal, under Accounts and Details of the Account, there is a specific tab to manage Security Policy. The Managing Security Policies explains how to create and manage security policies for your subscriptions.

2.2.9 As a logistics admin, how can I order SIMs or eSIM Profiles

WDH provides with a means to request SIMs or eSIM Profiles from the WDH portal. The CSP creates and publishes a catalogue of SIMs and eSIM Profiles available with the corresponding information and then assigns catalogue items to the Enterprise account.

See Ordering to know about how to create an order to request SIMs or eSIM profiles and manage them.

See Lifecycle States of an Order to understand the different states that an order can have.

Chapter 3

Subscriptions

3 Subscriptions

3.1 About Subscriptions

In WING Digital Hub terminology, a subscription is a SIM associated with a list of services like Data, SMS or voice, and their associated resources like APNs, network profiles. These services are chargeable based on a rate plan. All these details are specified in contractual arrangement between the Enterprise and the service provider to receive access to connectivity services by paying a fee regularly at fixed intervals.

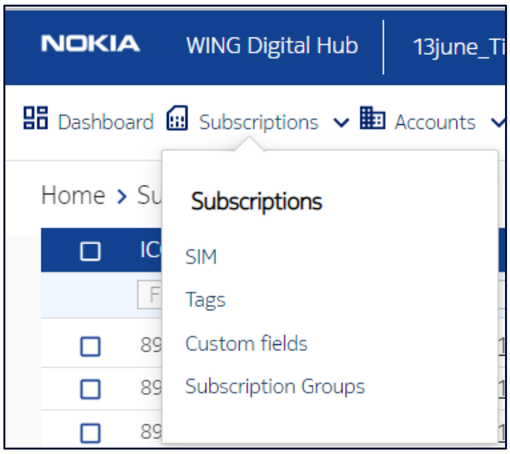
Subscription management provides the visibility and control over how you can manage connectivity services thereby optimizing the monthly recurring charges at any point during a SIM's lifecycle and monitoring the proper functioning of the service.

The Subscriptions page allows you to view the subscription details associated with your account.

The **Subscriptions** menu in WDH includes the following options:

- SIM
- Tags
- Custom Fields
- Subscription Groups

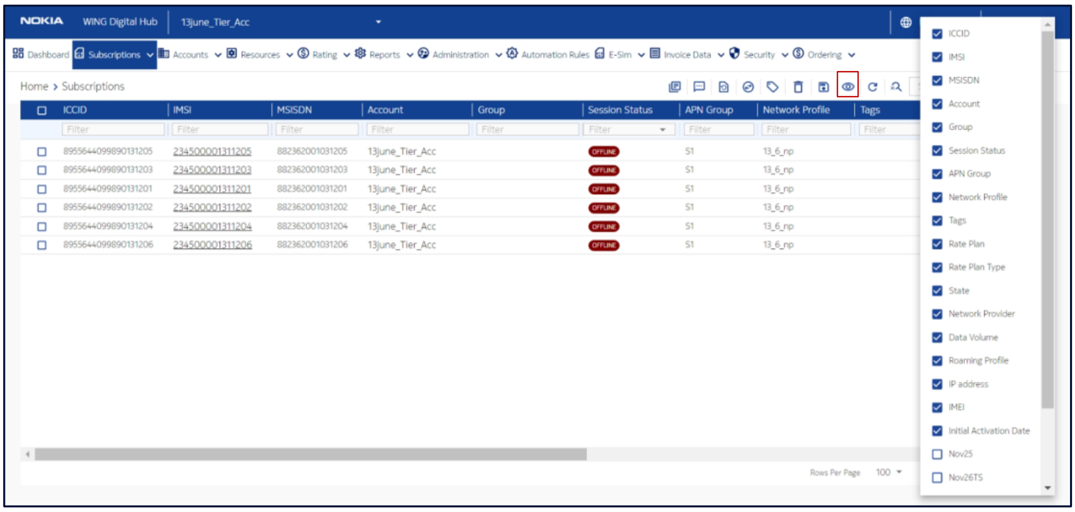
Figure 3-1: Subscriptions menu



You can search for a specific subscription by entering text in the Search field, or filter the subscription list by ICCID, IMSI, MSISDN, account, group, session status, APN group, network profile, tags, rate plan, rate plan type, state, network provider, data volume, roaming profile, IP address, IMEI, Initial Activation Date, or custom fields parameters. See Custom Fields for more information on how to use custom fields.

You can choose to display the columns that you want to view on the Subscriptions page by clicking the **Choose Columns** icon and selecting/unselecting the checkboxes of the available columns that are displayed in the pop-up window.

Figure 3-2: Subscriptions-Choose Columns



You can also view all subscriptions associated with a specific sub-account or SIM group by selecting the sub account or group from their respective **Context Dropdown** list displayed at the top of the page.

See Context Dropdown

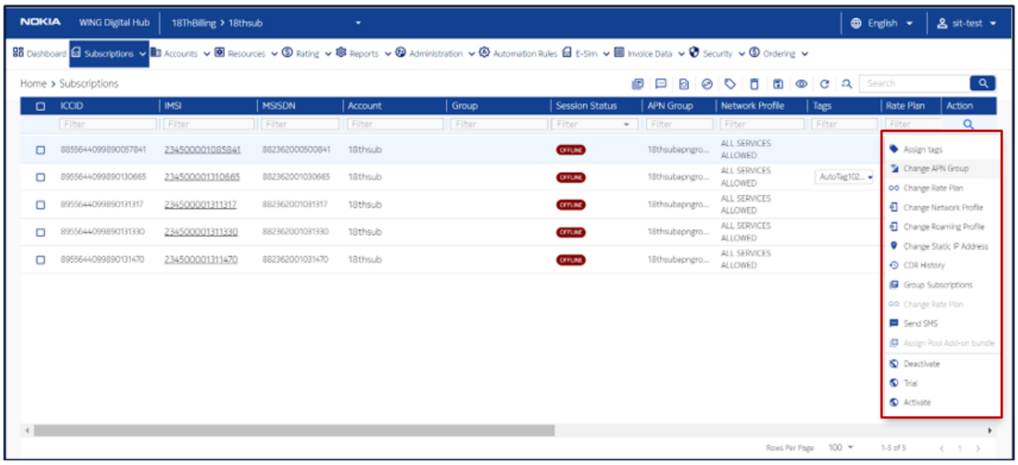
You can also reverse the order of the displayed subscription list by hovering over and clicking **Sort** that appears on any of these parameter names.

You can perform following actions on single subscriptions on the Subscriptions page by clicking **More** icon :

- Assigning Tags
- Changing an APN Group of a Subscription
- Changing a Network Profile of a Subscription
- Changing Roaming Profile of a subscription
- Getting CDR History
- Assigning subscription to a group
- Send SMS
- Changing a Rate Plan of a Subscription
- Changing the Status of a Subscription (Section 4.7 to Section 4.9)

You can access the details of a subscription by clicking **View Details** icon .

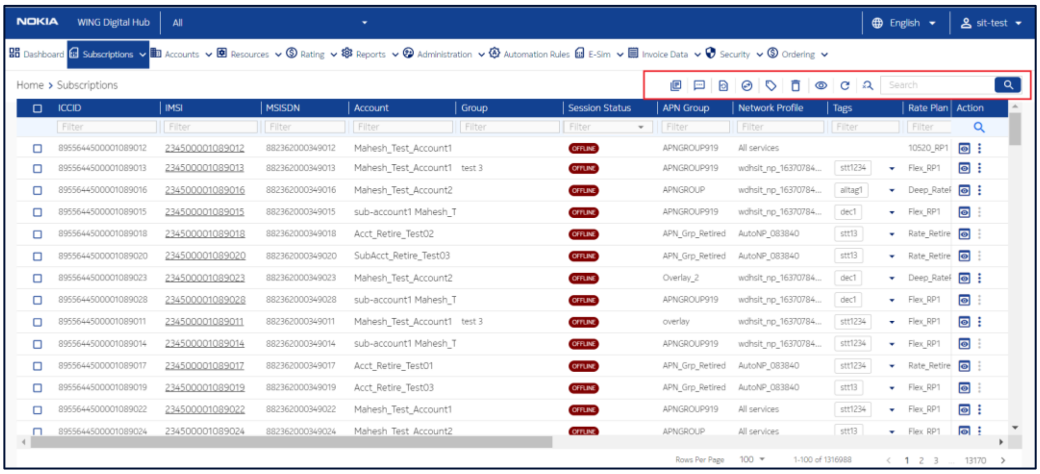
Figure 3-3: Actions performed on a Subscription



You can also make bulk changes in the subscriptions. You can make these changes to re-assign the resources or perform other bulk operations on multiple subscriptions associated with an account.

The following bulk operations are available on the Subscriptions page:

Figure 3-4: Bulk Operations



- Group Subscriptions
- Send SMS
- Bulk Change
    - Changing APN Group
    - Changing Network Profile
    - Changing Rate Plan
    - Changing Roaming Profile
    - Changing SIM Status
    - Changing Custom fields

- Moving SIMs between Accounts/Sub-Accounts
- Tag SIMs
- Purge Subscriptions
- Exporting Subscriptions

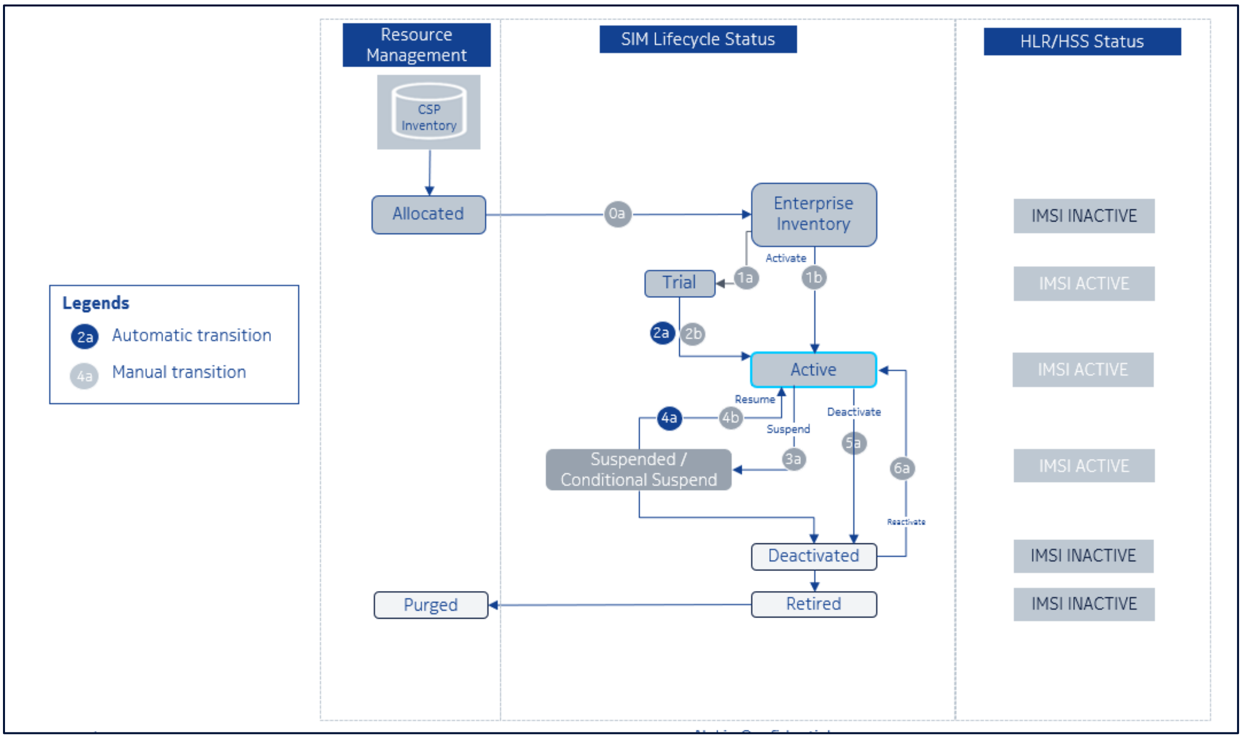
3.2 SIM

3.2.1 SIM Lifecycle States

This section focuses on the capabilities of the Enterprise users to manage the SIM lifecycle, and thereby the capability to contain control and predictability of connectivity costs.

Note: Enterprise user does not have any control over the SIMs in CSP inventory, Allocated SIMs, or Purged. The Enterprise user can only control the SIMs in the states as shown below from Enterprise Inventory to Retired SIM states.

Figure 3-5: SIM Lifecycle



A subscription is created once the SIM is moved into the account. At this point of the process, a SIM lifecycle profile for this ICCID/SIM is created and refers to:

- Permitted states and transitions within those states

- Associated identities and accounts

Table 3-1 below enlists and describes the various lifecycle states of a SIM.

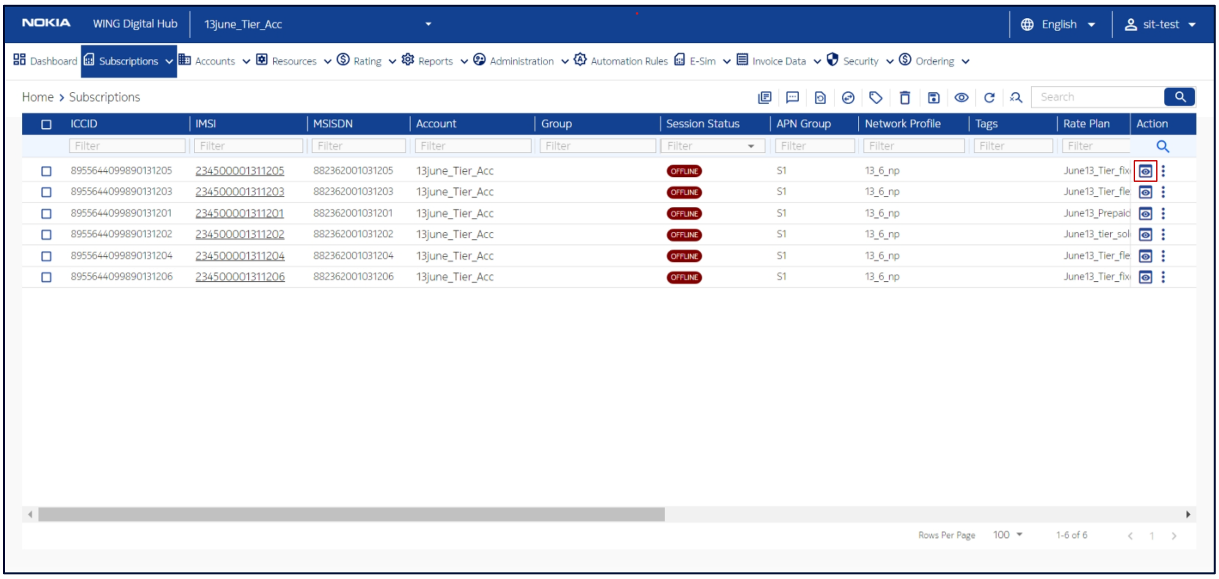
Table 3-1: SIM Lifecycle States

SIM Status	Description
CSP-Inventory	A SIM state where the SIM is not allocated to the enterprise yet. A SIM in this state does not have an active subscription. **Note:** Only CSP users have control over the SIMs in this state.
Enterprise-Inventory	A SIM state where the SIM is allocated to the enterprise by the CSP. A SIM in this state does not have an active subscription (from end user perspective). In the backend, a subscription identity without any resources attached to it is created.
Trial	A SIM state where the user can consume network services without getting charged. The SIM has test quota allocated (in the rate plan) for each service type provisioned (data, SMS, etc.), which is consumed by the user when in this state. Once any one of the test quotas has been consumed, the SIM moves automatically into the **Activated** state or when the Trial state finishes.
Activated	A SIM state that enables the user to consume network services as per their contracted rate plan. This is the stable state for the SIM when enabled to consume network services. In entering this state, any one-time activation charges are generated. Once in the state, all MRC charges are generated, and services are rated and charged as per the account billing cycle.
Suspended	A SIM state that restricts the user from consuming network services. The transition to this state is either triggered via manual action (GUI or API) or as result of the account that owns the SIM is moving to the suspended state. This state allows the enterprise to temporarily block the SIM from using network services for a variety of business reasons. Monthly charges are paused, but subscription is not cancelled.
Conditional Suspended	A SIM state that behaves the same as Suspended state and restricts the user from consuming network services. The enterprise user is not allowed to change the SIM state from Conditional Suspend to Active; only the CSP from the WDH portal or via API (external system) has the access to perform the change. Once the SIM is active, the user can continue using the network services. Conditional Suspend is helpful while handling certain external conditions. For example, when data and SMS on a farm irrigation device during winter months needs to be restricted. In such cases, the SIM state change from Suspended to Active requires a restriction. Therefore, another state called Conditional Suspend is used, which behaves the same as Suspended state, i.e., services are barred with IMSI active. **Note:** Based on the settings customized by the CSP, this status might not be configured.

SIM Status	Description
Deactivated	A SIM state where the subscription is cancelled from an end user perspective.
Retired	A SIM state that represents the termination of all services pertaining to the SIM. This state is the end of life billing state for the SIM. The subscription is cancelled from an end user perspective. In this state the SIM cannot access any services (data, SMS, or voice) and is not able to register on the mobile network. Monthly charges are stopped, and the SIM becomes available to be un-assigned from the account. The transition to this state is triggered via manual action (GUI or API) when certain business rules are triggered or when the account state is changed to **Terminated**. All attached resources are released. Reactivation is not possible. Recycling of resources takes effect based on the settings for the account.
Purged	A state where the subscription/IMSI has been deleted in the HLR/HSS network. **Note**: Only CSP users have control over the SIMs in this state.

3.2.2 Viewing Subscription Details

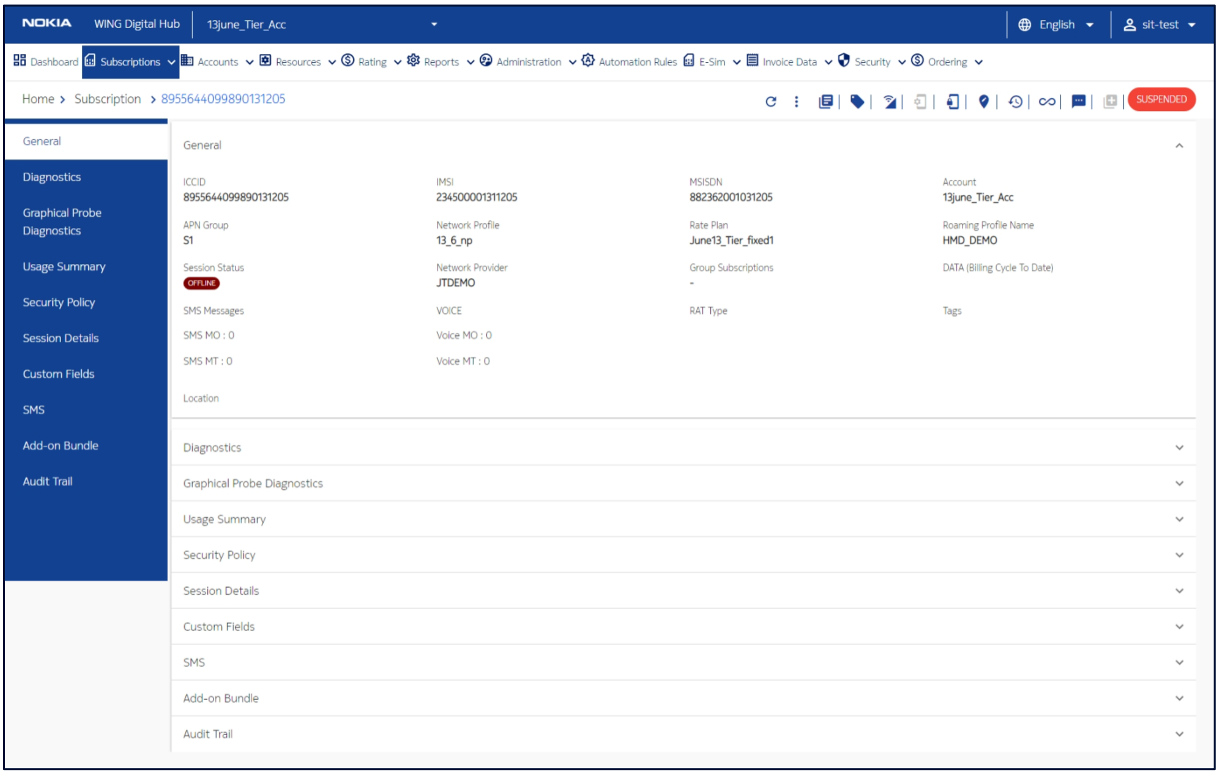
Figure 3-6: List of Subscriptions



1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **View Details** icon corresponding to a subscription to open the subscription details window.
3. In the subscription details window, you can view the details of the subscription corresponding to the following tabs:
   - General
   - Diagnostics

- Graphical Probe Diagnostics
- Usage Summary
- Security Policy
- Session Details
- Custom Fields
- SMS
- Add-on Bundle
- Audit Trail

Figure 3-7: Subscription details



Note: The coming sections describe the above mentioned tabs in detail.

3.2.3 General

Click this tab to get the general view about the SIM. For example, ICCID, IMSI, MSISDN, name of the associated account, APN Group, Network Profile, Rate Plan, Roaming Profile Name, Session Status (Offline or Online), Network Provider, Group Subscriptions, Data, SMS, and voice usage (from billing cycle to current date), RAT Type, Tags, and Location.

3.2.4 Diagnostics

WING Digital Hub provides its users with remote diagnostic capabilities to make it easy for non-technical enterprise user to monitor, diagnose, and even correct common problems related to network connectivity.

Diagnostics can help support team by saving a lot of resources. It can reduce resolution time for an issue by providing some guidelines and showing potential issues.

The subscriber diagnostic details corresponds to the following tabs:

- **General**
- **Event Log**

3.2.4.1 SIM Diagnostics - General

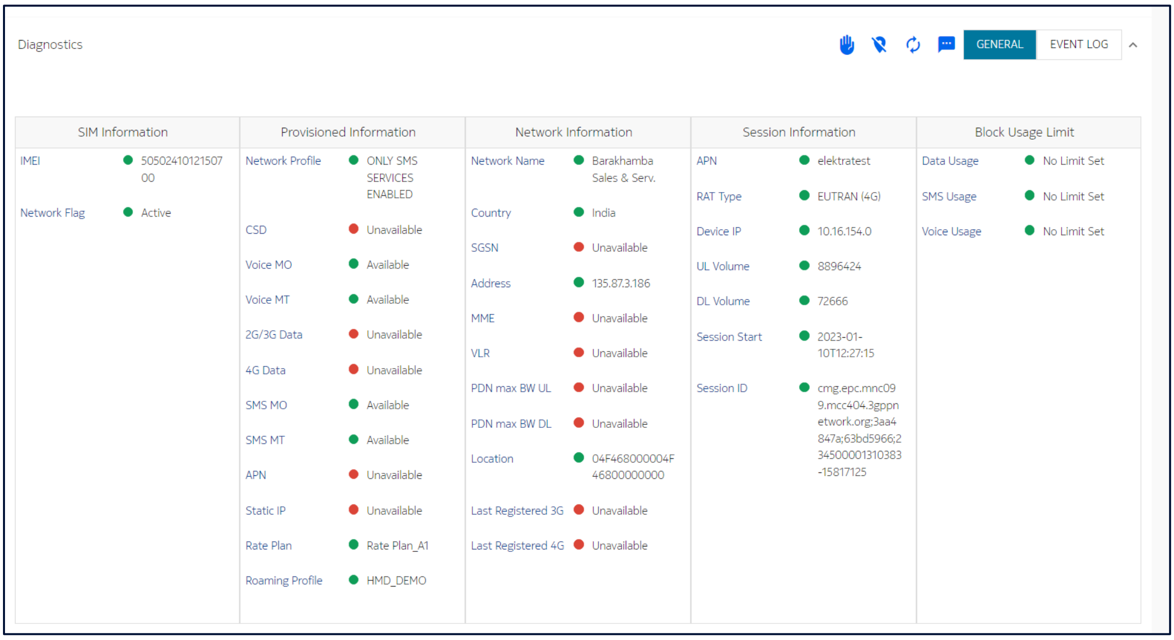
Diagnostics are performed in an automated manner and in context of a subscription to provide real-time status of the subscription in terms of:

- SIM Information
- Provisioned Information
- Network Information
- Session Information
- Block Usage Limit

You can perform the following actions through the SIM Diagnostics window:

- Terminate Session only for an Active and Online SIM
- Cancel Location only for an Active and Online SIM
- Refresh the information shown on the screen
- Send SMS

Figure 3-8: SIM Diagnostics - General



The table below describes the parameters displayed in the General tab of SIM Diagnostic details.

Table 3-2: General Parameters

Parameter	Description
SIM Information	
IMEI	Displays the IMEI number of the SIM.
Network Flag	Displays the state of the network, whether Active or Inactive.
Provisioned Information	
Network Profile	Displays the network profile.
Voice MO	Displays the Voice MO status.
Voice MT	Displays the Voice MT status.
2G/3G Data	Displays the 2G/3G data status.
4G Data	Displays the 4G data status.
SMS MO	Displays the SMS MO status.
SMS MT	Displays the SMS MT status.
APN	Displays the assigned APN.

Parameter	Description
Static IP	Displays the IP address (if static).
Rate Plan	Displays the assigned rate plan.
Roaming Profile	Displays the roaming profile.
Network Information	
Network Name	Displays the name of the network.
Country	Displays the name of the country.
SGSN	Displays the Serving GPRS Support Node (SGSN) number.
Address	Displays the SGSN address.
MME	Displays the Mobility Management Entity (MME) ID.
VLR	Displays the Visitor Location Register (VLR) number.
PDN max BW UL	Displays the Packet Data Network's (PDN) maximum uplink bandwidth.
PDN max BW DL	Displays the Packet Data Network's (PDN) maximum downlink bandwidth.
Location	Displays the location.
Last Registered 3G	Displays the last registered 3G information.
Last Registered 4G	Displays the last registered 4G information.
Session Information	
APN	Displays the session APN.
RAT Type	Displays the Radio Access Technology (RAT) type.
Device IP	Displays the IP address of the device from the session details.
UL Volume	Displays the uplink volume.
DL Volume	Displays the downlink volume.
Session Start	Displays the start time of the session.
Session End	Displays the end time of the session.
Session ID	Displays the session ID.
Block Usage Limit	

Parameter	Description
Data Usage	Displays the amount of data usage as per the automation rule set for this subscription and the data consumption till now. WDH compares automation rule limit and consumed data to get the percentage. **Note:** If no automation rule is set, then the value of this field is **No Limit Set**.
SMS Usage	Displays the amount of SMS used as per the usage limit set in the automation rule.
Voice Usage	Displays the amount of voice calls used as per the usage limit set in the automation rule.

3.2.4.1.1 Terminating Session

Note: You can terminate an **Online** session only and this is applicable for Gy and Radius.

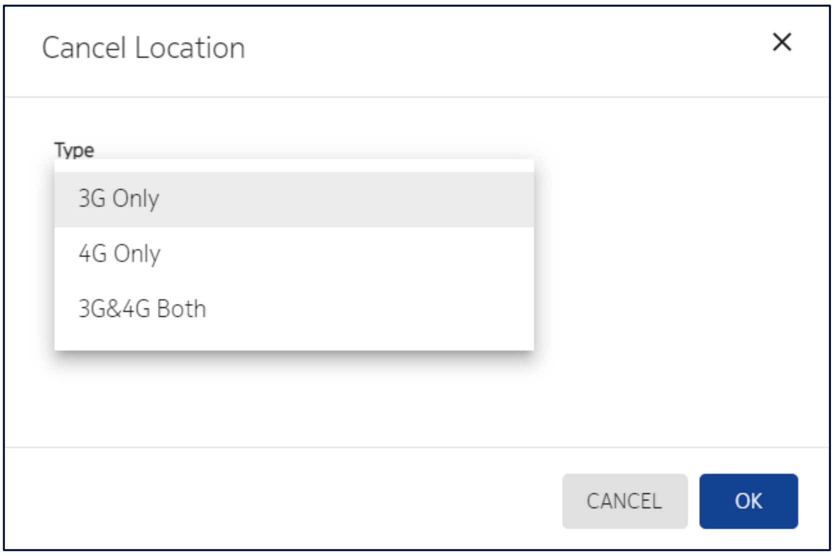
1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **View Details** icon corresponding to a subscription to open the subscription details window.
3. In the subscription details window, click **Diagnostics** tab.
4. Click to terminate the session.

   The session will get terminated.

3.2.4.1.2 Canceling Location

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **View Details** icon corresponding to a subscription to open the subscription details window.
3. In the subscription details window, click **Diagnostics** tab.
4. Click to cancel location.

Figure 3-9: SIM Diagnostics – Cancel Location



5. Select the **Type** and then click **OK**.

3.2.4.1.3 Sending SMS

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **View Details** icon corresponding to a subscription to open the subscription details window.
3. In the subscription details window, click **Diagnostics** tab.
4. Click to send SMS.
5. Enter the SMS text and then click **Send**.

Figure 3-10: SIM Diagnostics – Send SMS

Note: The maximum limit of the text in SMS is 160.

3.2.4.2 SIM Diagnostics - Event Log

WING Digital Hub can integrate with CSP probes for the purpose of monitoring and collecting data about network activity. Signaling messages are monitored and it is created records with the relevant metadata to be shown on the screen as update location, device attachments to SGSN nodes on the CSP network, etc.

3.2.4.2.1 Viewing Event Logs

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **View Details** icon corresponding to a subscription to open the subscription details window.
3. In the **Subscription Details** window, click the **Diagnostics** tab and then click the **Event Log** tab.
4. Select the **Start Date and End Date** to view the event logs, i.e., the number of network attaches by day. The feed is based on CSP probe.

3.2.5 Graphical Probe Diagnostics

WING Digital Hub also provides both its technical and non-technical users with remote visual diagnostic capabilities. It helps them to monitor, diagnose, and even correct common problems related to network connectivity.

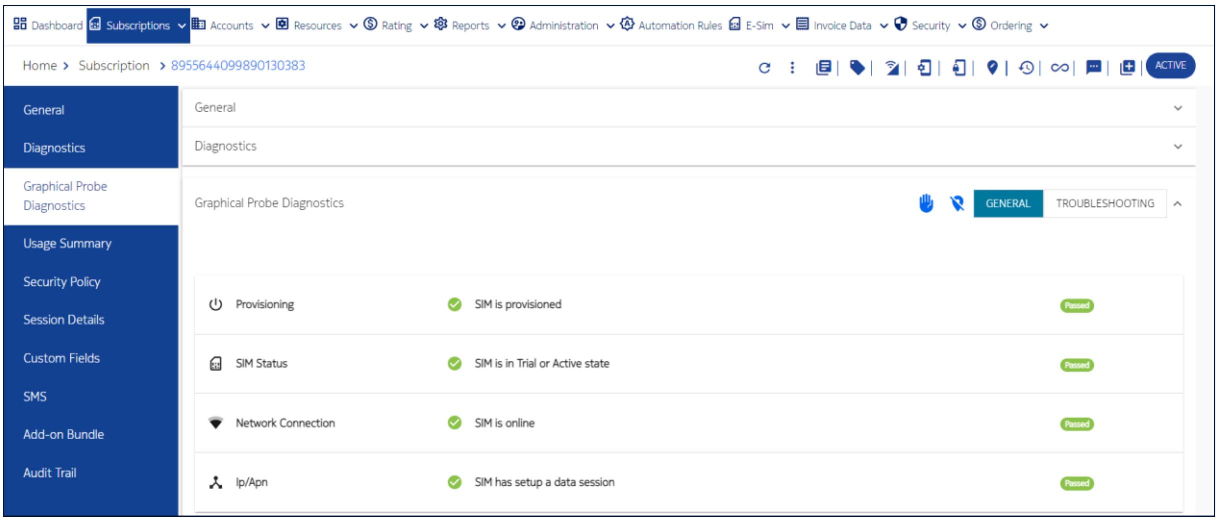
The subscriber graphical probe diagnostic details corresponds to the following tabs:

- **General**
- **Troubleshooting**

Note: This section can be visible or not depending on the CSP settings configuration.

3.2.5.1 Graphical Probe Diagnostics – General

Figure 3-11: Graphical Probe Diagnostics



For non-technical users, a Graphical Probe Diagnostics **General** tab provides information on the following parameters:

Table 3-3: Graphical Probe Diagnostics - General Parameters

Icon	Parameter Name	Description
	Provisioning	Indicates the SIM state and shows whether it permits traffic network or not. **Green:** SIM is provisioned. **Red:** SIM is in Enterprise-Inventory or Retired state and the provisioning state does not permit passing traffic. **Note1:** When Provisioning is red, the other bullets such as SIM Status, Network Connection, IP/APN will also be red. So no need to check anything else. **Note 2**: If Provisioning is red, then the Troubleshooting, Cancel Location and Terminate Session are not clickable.
	SIM Status	Indicates whether the SIM is allowed to use wireless network resources. **Green:** SIM is in Active or in Trial state **Red:** Conditional-Suspend, Suspend, or Deactivated **Note:** When SIM Status is red, the below bullets will be red (no need to check anything else)
	Network Connection	Indicates whether the SIM is successfully connected to wireless network or not. **Green:** The SIM is registered and currently in session. **Yellow:** (Case 1) The SIM is registered, but there has been no recent wireless activity.

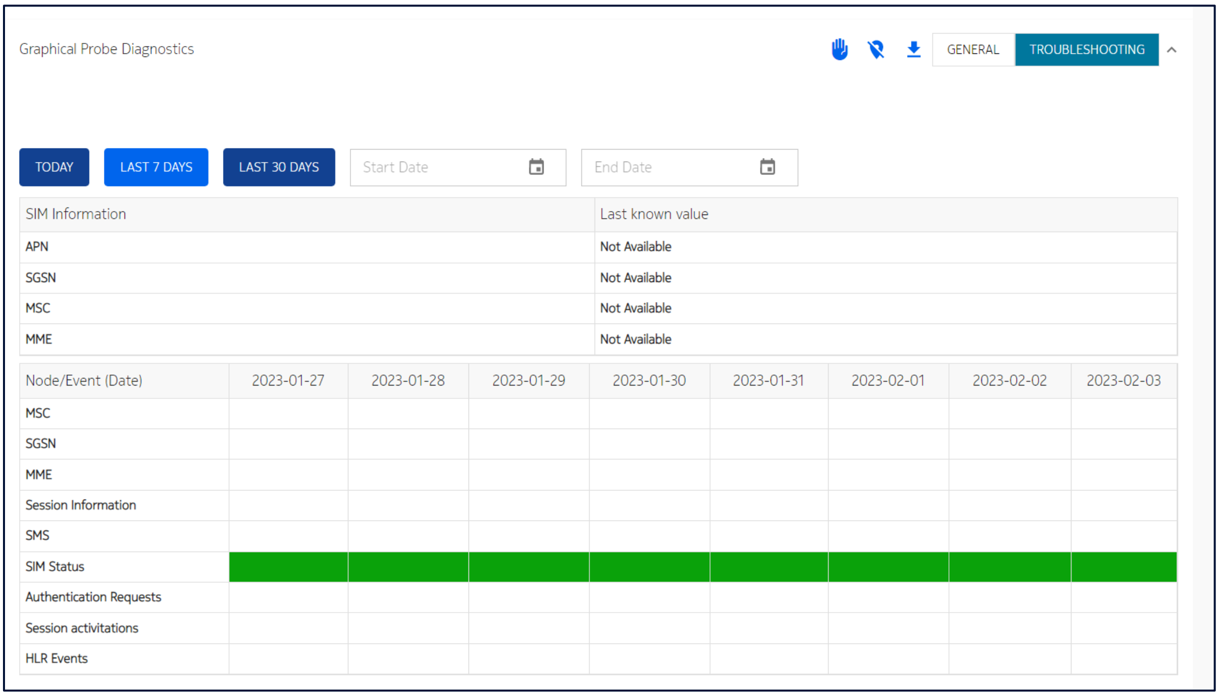
Icon	Parameter Name	Description
		Yellow: (Case 2) The SIM is not currently registered, but there has been network activity in the last 24 hours **Red:** The SIM is not currently registered. The SIM has made authentication requests, but no location updates in the last 24 hours.
	IP/APN	Indicates that the device has obtained an IP Address and is currently connected. **Green:** The SIM has successfully set up a data session. **Yellow:** The SIM has had successful sessions in the past (within the past 24 hours), but it is not currently connected. If the SIM were to try to connect, it should have a successful connection. **Red:** The SIM is not connected and shows no history of successful sessions; this can indicate a problem with the APN or IP settings on the SIM or with an inability for the SIM to open ports or sockets.
	Terminate Session	Click to terminate the session.
	Cancel Location	Click to cancel the location.

3.2.5.2 Graphical Probe Diagnostics – Troubleshooting

For support and technical users, a SIM Graphical Probe Diagnostics **Troubleshooting** tab provides detailed information of a SIM's connection history over the past days. It allows the users to observe long-term trends and real time status. For example, the following information:

- Networks to which the device has connected
- Time when data sessions occurred
- The duration for which the data session lasted
- Whether the sessions terminated normally
- Unusual events as: 0-byte sessions
- Timeline granularity options:
  - When user selects several days, there will be a column for each day
  - When user selects one day, there will be a column per hour
- Time range: Today, Last 7 days, Last 30 days, and self-selection of start date and end date (limit of last date to show is 60 days)

Figure 3-12: SIM Graphical Probe Diagnostics - Troubleshooting



The first part of the screen shows the last known values of the network session such as **APN**, **SGSN**, **MSC** and **MME**.

The second part shows a history of connections.

3.2.6 Usage Summary

The **Usage Summary** tab displays the **Total**, **Zone**-wise, and **Country**-wise **Data**, **SMS**, and **Voice** usage of the SIM.

Figure 3-13: TOTAL Usage Summary

- Click **TOTAL** to view total data, SMS, and Voice usage summary.
- Click **ZONE** to view the zone-wise data, SMS, and Voice usage summary.

Figure 3-14: ZONE Usage Summary

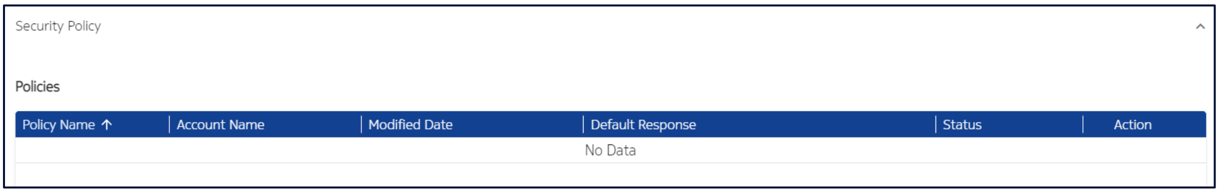
- Click **COUNTRY** to view the country-wise data, SMS, and Voice usage summary.

Figure 3-15: COUNTRY Usage Summary

3.2.7 Security Policy

The **Security Policy** tab displays the details of the security policies, such as **Policy Name**, **Account Name**, **Modified Date**, **Default Response**, and **Status**, parameters.

Figure 3-16: Security Policy

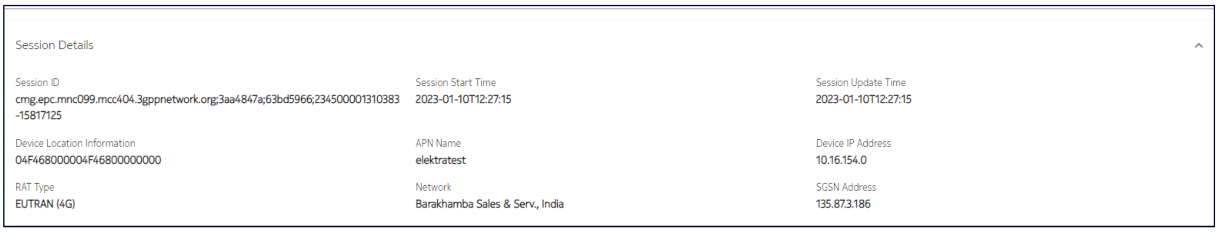


Click **View Details** icon displayed in the **Action** column to access the list of filters for a particular security policy.

3.2.8 Session Details

The **Session Details** displays the information of the latest network session that the SIM has established. For example, **Session ID**, **Session Start Time**, **Session Update Time**, **Device Location Information**, **APN Name**, **Device IP Address**, **RAT Type**, **Network**, and **SGSN Address**.

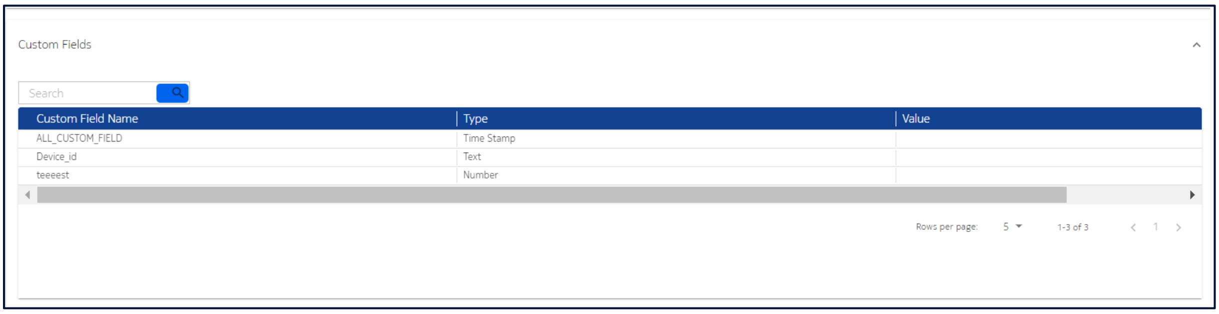
Figure 3-17: Session Details



3.2.9 Custom Fields

The **Custom Fields** tab displays the details of custom fields along with their data types and values. You can also search a specific custom field from the search field.

Figure 3-18: Custom Fields



3.2.10SMS

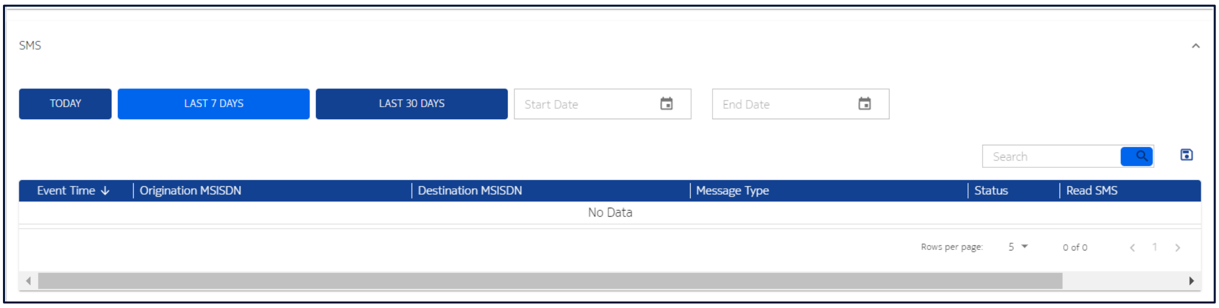
WDH allows you to send and receive SMS messages from/to a subscription(s) usually as a way to make some connectivity verifications.

The SMS tab is a Reporting tab to review SMS transactions and status, It allows to read the message payload.

The **SMS** tab displays the SMS details for the subscription. For example, **Event Time**, **Originating MSISDN**, **Destination MSISDN**, **Message Type**, **Status**, and **Read SMS**.

You can view the SMS for **TODAY**, **LAST 7 DAYS**, or **LAST 30 DAYS**. You can also select a **Start Date** and **End Date** to view the SMS within that duration. Use the **Search** field to search any specific SMS and **Export Subscriptions** icon to export all data from SMS window.

Figure 3-19: SMS



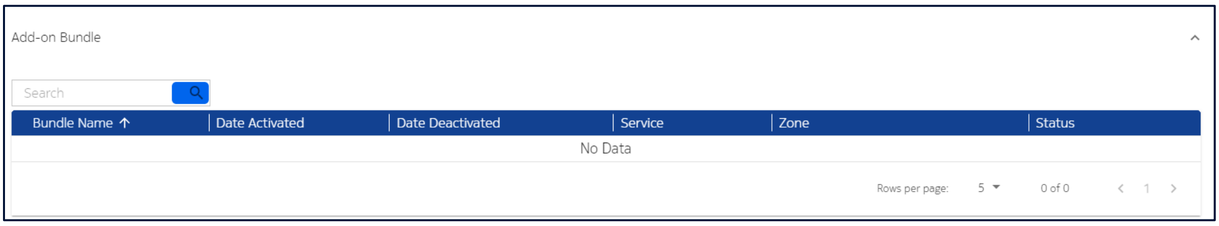
3.2.11 Add-on Bundle

Add-on bundles are products which are charged to the Subscriptions "on top" of the connectivity fees. This table shows the Add-on bundles applicable to the Subscription.

The **Add-on Bundle** tab displays the details of the add-on bundles for the subscription. For example, **Bundle Name**, **Date Activated**, **Date Deactivated**, **Service**, **Zone**, and **Status**.

Use the **Search** field to search the details of any specific add-on bundle.

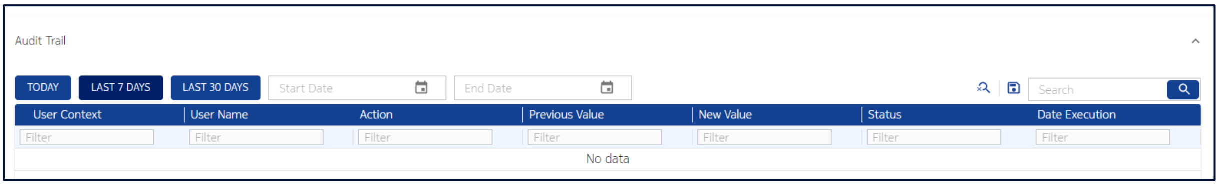
Figure 3-20: Add-on Bundle



3.2.12 Audit Trail

The **Audit Trail** tab displays a history of the activities performed for that particular subscription.

Figure 3-21: Audit Trail



3.3 Managing SIMs

3.3.1 Changing an APN Group of a Subscription

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **More** icon ⋮ corresponding to a subscription and then select the **Change APN Group** icon to change the APN group.
3. Select the required APN group.
4. Click **OK** to confirm changing the APN group of the subscription.

3.3.2 Changing a Network Profile of a Subscription

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **More** icon ⋮ corresponding to a subscription and then select the **Change Network Profile** icon to change the network profile.
3. Click **OK** to confirm changing the network profile of the subscription.

3.3.3 Changing a Rate Plan of a Subscription

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **More** icon ⋮ corresponding to a subscription and then select the **Change Rate Plan** icon ∞ to change the rate plan.
3. In the change rate plan window, select the new rate plan from the rate plan list.
4. Click **OK** to confirm changing the rate plan of the subscription.

   The changed rate plan appears in the table in the Subscriptions page.

3.3.4 Deactivating a Subscription

Note: You can deactivate a subscription if its status is **Active, Suspended,** or **Conditional-Suspend**.

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **More** icon ⋮ corresponding to a subscription and then select the **Deactivate** icon to deactivate the subscription.

   The deactivate subscription window displays both the current state and the target state of the subscription.

3. In the deactivate subscription window, click **OK** to confirm deactivating the subscription.

   You will be able to see the updated status of the subscription in the Diagnostics page.

3.3.5 Suspending a Subscription

Note: You can suspend a subscription only if its status is **Active**.

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **More** icon ⋮ corresponding to a subscription and then select the **Suspend** icon to suspend the subscription.

   The suspend subscription window displays both the current state and the target state of the subscription.
3. In the suspend subscription window, click **OK** to confirm suspending the subscription.

   The suspended subscription appears in the list of subscriptions in the table in **Suspended** state.

3.3.6 Conditional Suspending a Subscription

Note: You can conditionally suspend a subscription only if its status is **Active**.

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **More** icon ⋮ corresponding to a subscription and then select the **Conditional Suspend** icon to conditional suspend the subscription.

   The conditional suspend subscription window displays both the current state and the target state of the subscription.
3. In the conditional suspend subscription window, click **OK** to confirm conditional suspending the subscription.

   The conditional suspended subscription appears in the list of subscriptions in the table in **Conditional-Suspend** state.

3.3.7 Viewing CDR History

You can view your Call Detail Record (CDR) history to see your usage consumption for the selected service, if you have the corresponding service activated in your service profile.

You can search for a specific CDR record by entering text in the **Search** field or filter the CDR list by the parameters displayed in its table.

You can choose to display the columns that you want to view in the CDR table by clicking the **Choose Columns** icon and selecting/unselecting the checkboxes of the available columns that are displayed in the pop-up window.

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **More** icon ⋮ corresponding to a subscription and then select the **CDR History** icon to view the CDR history.
3. Configure the following parameters:

Table 3-4: CDR History Parameters

Parameter	Description
Select Service	Select the service from the list: • **Data** • **SMS** • **Voice**
Today	Click **Today** to view the CDR history of that day.
Last 7 Days	Click **Last 7 Days** to view the CDR history of last 7 days.
Last 30 Days	Click **Last 30 Days** to view the CDR history of last 30 days.
Start Date* End Date*	Select the start date and end date for which you need to view the CDR history.
Start Time End Time	Select the start time and end time.

4. Click **Search** to view the CDR history.

   The CDR history for the selected service and time is displayed in a table.

   You can also export the displayed CDR history for the selected service (See section below).

3.3.7.1 Exporting the CDR History

1. Click the **Export** icon at top of the displayed table.
2. In the export window, select the output format from the following options:
   - XLSX
   - CSV
3. Click **Export** to export the file.

   The file gets downloaded and saved in your PC.

3.3.8 Sending an SMS

WING Digital Hub supports AO/MT and MO/AT SMS services so that from the WDH portal user can send SMS to devices and is also able to consult the SMS transactions and payload sent from the devices to the portal.

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Perform any of the following actions, as required:
   - Click the **More** icon ⋮ corresponding to a subscription and then select the **Send SMS** icon to send an SMS to the subscription.
   - Select multiple subscriptions and click the **Send SMS** icon at the top of the table to send SMS to multiple selected subscriptions.
3. In the Send SMS window, enter the SMS text and click **Send** to send the SMS to selected subscriptions.

   The SMS delivery report can be checked along with its details by clicking the **SMS Delivery** tab under **View Details** icon of the corresponding subscription (see below section).

3.3.9 Viewing SMS Delivery Report

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **View Details** icon corresponding to a subscription to open the subscription details window.
3. In the Subscription Details window, click the **SMS** tab to view the SMS delivery report details.

   The SMS delivery report, which contains all SMS transaction details and status per SIM, for the selected subscription and time period is displayed in the table.

   You can also reverse the order of the displayed SMS delivery report list by hovering over and clicking **Sort** that appears on any of the above parameter names.

   You can also download the SMS delivery report file in CSV format by clicking the Export icon given at the top right of the table.

Table 3-5: SMS Delivery Report Parameters

Parameter	Description
Start Date End Date	Select the start date and end date for which you need to view the SMS delivery report details.
Event Time	Displays the recorded time of the SMS event.

Parameter	Description
Origination MSISDN	The MSISDN from which the SMS was sent (short code is displayed if the message type is AT).
Destination MSISDN	The MSISDN to which the SMS was sent (short code is displayed if the message type is AT).
Message Type	Displays the message types: • **MO (Mobile Originated):** SMS was sent from the SIM. • **MT (Mobile Terminated):** SMS was delivered to the SIM. • **AO (Application Originated):** SMS was sent from an application such as WING Digital Hub. • **AT (Application Terminated:** SMS was delivered to an application such as WING Digital Hub.
Status	Displays the delivery status of the SMS: • **Pending**: The SMS was successfully submitted to the SMSC but delivery is pending. • **Rejected:** The SMS was not allowed to be delivered, for example, due to SMS being barred in the service profile. • **Failed/Expired:** The SMS was not delivered due to delivery timer expiry. • **Delivered:** The SMS was successfully delivered.
Read SMS	Displays payload.

3.3.10 Exporting Subscriptions information

You can export the information of the selected subscription or all the subscriptions present in the WING Digital Hub in the form of an excel file. A typical exported excel file contains details such as ICCID, IMSI, MSISDN, Account, APN Group, Network Profile, Rate Plan, State, Action, etc.

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **Export Subscriptions** icon at the top right corner of the page and then select **Export Page Data** to export the subscription details corresponding to the selection in an excel file.

   The file gets downloaded and saved in your PC.

3.3.11 Moving Subscriptions (SIMs)

You can move the subscriptions (SIMs) present in WING Digital Hub from one account/sub-account to another account/sub-account irrespective of their state.

You can also re-assign the resources when moving the subscriptions to another account or sub-account.

WDH allows SIM movement with specific resources (such as, rate plan, APNs, Network Profile, Roaming Profile, and custom fields).

If no input is given then WDH allows SIM movement with default settings of the target account.

Use the following steps to move SIM(s) from one account/sub-account to another account/sub-account:

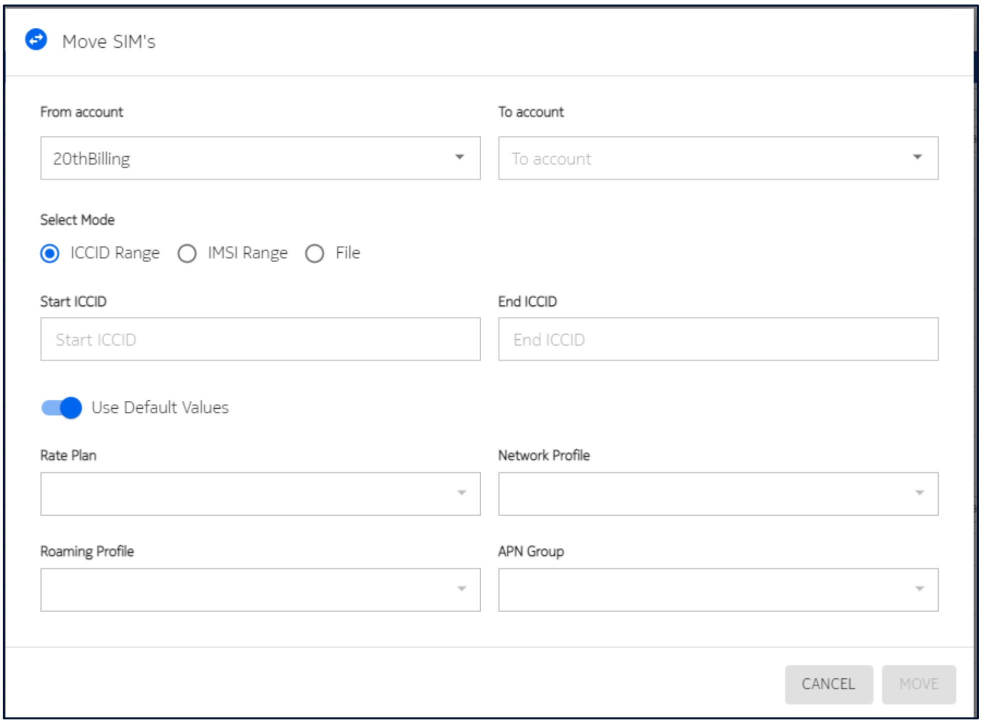
1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Select an account from the account context dropdown list at the top of the page.

   The subscriptions associated with the selected account appear in the list of subscriptions in the table.
3. Click the **Move SIMs** icon at the top right of the page to move the required subscriptions.

   Or,

   Select subscriptions from the table and then click on **Move SIMs** icon at the top right of the page.

   Figure 3-22: Move SIMs



4. In the Move SIMs window, configure the following parameters:

Table 3-6: Move SIM Parameters

Parameter	Description
From Account	Select the account from the list from which you need to move the subscription.
To Account	Select the account from the list to which you need to move the subscription.
Select Mode	Select the mode from the list: • **ICCID Range:** Enter an ICCID range if a contiguous range of ICCID is available. • **IMSI Range:** Enter an IMSI range if a contiguous range of ICCID is available. • **File:** Select file if a contiguous range of ICCID is not available.
Start ICCID	Enter the start ICCID. **Note:** This button appears when the **Select Mode** is **ICCID Range**.
End ICCID	Enter the end ICCID. **Note:** This button appears when the **Select Mode** is **ICCID Range**.
Start IMSI	Enter the start IMSI. **Note:** This button appears when the **Select Mode** is **IMSI Range**.
End IMSI	Enter the end IMSI. **Note:** This button appears when the **Select Mode** is **IMSI Range**.
UPLOAD FILE	Click to upload a file. **Note:** This button appears when the **Select Mode** is **File**.
Tip: Download sample file template	Click to download the template of the file to be uploaded. **Note:** This button appears when the **Select Mode** is **File**.
APN Group Network Profile Rate Plan Roaming Profile	Select the **Use Default Values** toggle button to enable or disable using the default values for APN group, network profile, rate plan, and roaming profile parameters. • If this option is enabled, the default APN group, rate plan, network profile, and roaming profile are assigned to the SIMs. By default, this option is enabled. • If this option is disabled, you can assign the required APN group, rate plan, network profile, and roaming profile to the SIMs.

5. Click **Move** to move the SIMs (subscriptions) to the selected account.

3.3.12 Bulk Changes in Subscriptions

Bulk actions done via file import are normally used when users want to perform several actions with a larger set of entities.

To ensure bulk operations are less prone to errors, the user can:

1. Apply filters to retrieve the sub-set of subscriptions, which are needed to perform the bulk operation. The system only triggers actions for the selected subscriptions.

2. Export the result in CSV file, which is available under reports (batch execution reports). It provides success/failure of the transaction per subscription row by row. Also, the error fields that were not processed and the reason (wrong value, wrong transition, etc.) are indicated.
3. Set up new indented values for several fields in the same row/subscription.
4. Import file.

Bulk changes are available for the following operations:

- Assign Tags
- Changing APN Group
- Changing Network Profile
- Changing Rate Plan
- Changing Roaming Profile
- Changing SIM Lifecycle
- Assign and define Custom Fields

Perform the following steps to perform bulk operations:

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Select an account from the account context dropdown list at the top of the page.

   The subscriptions associated with the selected account appear in the list of subscriptions in the table.
3. Click the **Bulk Change** icon at the top right of the page to make changes to the subscriptions.
4. In the Bulk Change window, configure the following parameters:

Table 3-7: Bulk Change Parameters

Parameter	Description
For Account	Select the account from the list for which you need to make bulk changes.
Select Mode	Select the **File** mode. • Click the **Upload File** icon UPLOAD FILE to upload the SIMs data file. • In the browse window of your PC, select the required csv file to upload. • Click **Upload** to upload the file.

Parameter	Description
Select Operation Type	Select the operation for which you need to make the bulk change from the list: • APN Group • Network Profile • Rate Plan • Roaming Profile • SIM Lifecycle As you select the operation, its dropdown list appears below. • Select the resource or status for making the bulk change.

5. Click **Change** to implement the changes in the selected SIMs/subscriptions of the account.

3.3.13 Group Subscriptions

WING Digital Hub allows you to group the subscriptions within an account. All SIMs within a group share the same resources and rate plans.

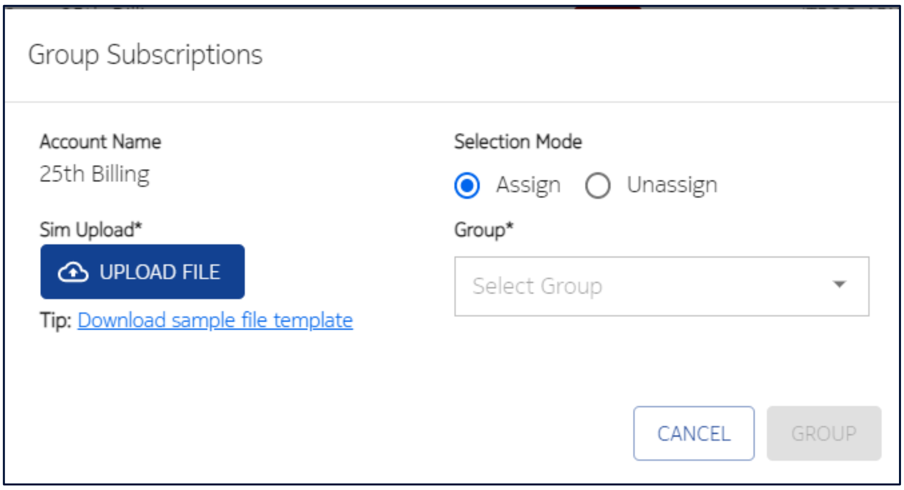
Use the following steps to group the subscriptions:

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.
2. Select an account from the account context dropdown list at the top of the page.

   The subscriptions associated with the selected account appear in the list of subscriptions in the table.

3. Click the **Group Subscriptions** icon at the top right of the page to group the subscriptions.

Figure 3-23: Group Subscriptions



4. In the Group Subscriptions window, configure the following parameters:

Table 3-8: Group Subscriptions Parameters

Parameter	Description
Account Name	Displays name of the account within which the subscriptions are grouped.
SIM Upload*	• Click **Download sample file template** to download the template for SIM data file. • Make the required changes in the **SIM Data File**. • Click the **Upload File** icon UPLOAD FILE to upload the SIMs data file. • In the browse window of your PC, select the required csv file to upload. • Click **Upload** to upload the file.
Selection Mode	Select the mode in which you need to select the subscriptions for grouping: • Assign • Unassign
Group*	**Note:** This dropdown appears when the **Selection Mode** is **Assign**. Select the group name.

5. Click **GROUP**.

3.3.14 Changing a Static IP Address

The WDH portal allows you to change the static IP address of a subscription.

1. Click **Subscriptions**→**SIM** in the top menu to view the list of subscriptions in a table.
2. Click the **More** icon ⋮ corresponding to a subscription and then select the **Change Static IP Address** icon.

   Note: You can also view the **Change Static IP Address** icon on the top of the subscription details page.

3. Change the static IP address of the device and then click **OK** to confirm the changes.

3.4 Tags

Depending on the business and operational needs, the platform allows to capture and maintain “labels” at SIM level. Tagging of SIMs is useful to describe the entity, for example, in terms of its use case, ownership, project, form factor, software status, application, maintenance status, or cost center. Tags can also be used to group subscriptions.

Tags can be private or public. In case of private only user who created the tag can see his own tags and in case of public, all users of the account can see it. . Accordingly, tags are shown in the Subscription grid.

The Tags page displays all the created tags (visible for the user) as well as provides the interface to add new tags.

You can search for a specific tag by entering text in the Search field, or filter the tags list by name, description, visibility, or last update.

You can also reverse the order of the displayed tags list by hovering over and clicking **Sort** that appears on any of these parameter names.

3.4.1 Creating a Tag

1. Click **Subscriptions→Tags** in the top menu to view the list of tags in a table.
2. Click the Create Tag icon + TAG at the top right of the table to create a new tag.
3. Configure the following parameters:

Table 3-9: Tag Parameters

Parameter	Description
Tag Name*	Enter a name for the tag.
Description	Enter the description.
Visibility*	Select the visibility of the tag from the list: • **Public:** All users of the account can see the tag. **Note:** Ensure that the context dropdown selection is within same account. • **Private:** Only the user can see his own tag.

4. Click **Create** to create a new tag.

   The newly created tag appears in the list of tags in the table.

3.4.2 Editing a Tag

Note: Private tag can be edited only by its own user.

1. Click **Subscriptions→Tags** in the top menu to view the list of tags in a table.
2. Click the **Edit Tag** icon corresponding to the required tag in the table to edit the tag.
3. In the Edit Tag window, make the required changes to the tag and click **Update.**

   The updated tag appears in the list of tags in the table.

3.4.3 Deleting a Tag

Note: Private tag can be deleted only by its own user.

1. Click **Subscriptions→Tags** in the top menu to view the list of tags in a table.
2. Click the **Delete Tag** icon corresponding to the required tag in the table to delete the tag.
3. In the Confirm Deletion window, click **Confirm** to delete the tag.

   The deleted tag is removed from the list of tags in the table.

   All the tag values associated with subscriptions are also deleted and the tag is also deleted from the table in Subscriptions page.

3.4.4 Assigning Tags to a Subscription

1. Click Subscriptions in the top menu to view the list of subscriptions in a table.
2. Perform any of the following actions, as required:
   - Click the **More** icon corresponding to a subscription and then select the **Assign Tags** icon to assign tags to the subscription.
   - Select multiple subscriptions and click the **Tag SIMs** icon at the top right of the table to assign tags to multiple selected subscriptions.
3. Configure the following parameters:

Table 3-10: Assign Tags Parameters

Parameter	Description
Select Mode	This field is visible only on clicking the **Tag SIMs** icon at the top of the table. Select an assign mode from the list: • **IMSI Range:** Enter an IMSI range if a contiguous range of IMSI is available. • **File:** Select file if a contiguous range of IMSI is not available.
Available Tags Selected Tags	Select the tags that you need to assign to the subscriptions from the **Available Tags** list and click the **Right Arrow** icon to shift them to the **Selected Tags** list. Clicking the **Right Double Arrow** icon will shift all the tags from the **Available Tags** list to the **Selected Tags** list.

4. Click **Assign** to assign the selected tags to the subscriptions.

   The newly assigned tags appear in the table in Subscriptions page.

3.4.5 Unassigning Tags for a Subscription

1. Click **Subscriptions** in the top menu to view the list of subscriptions in a table.
2. Click the **More** icon corresponding to a subscription with an already assigned tag, and then select the **Assign Tags** icon .

3. Select the **Un-assign Tags** toggle button to enable unassigning the tags.
4. Click **Un-Assign** to unassign the tags for the subscriptions.

   The tags are unassigned for the subscriptions and are also removed from the table in Subscriptions page.

3.4.6 Updating Tags for a Subscription

1. Click **Subscriptions** in the top menu to view the list of subscriptions in a table.
2. Click the **More** icon ⋮ corresponding to a subscription with an already assigned tag, and then select the **Assign Tags** icon .
3. Perform any of the following actions, as required:
   - Select the tags that you need to assign to the subscriptions from the **Available Tags** list and click the **Right Arrow** icon > to shift them to the **Selected Tags** list.
   - Select the tags that you need to remove for the subscriptions from the **Selected Tags** list and click the Top Arrow icon < to shift them back to the **Available Tags** list.
4. Click **Update** to update the tags for the subscription.

   The tags are updated for the subscriptions and appear in the table in Subscriptions page.

3.5 Custom Fields

Enterprises can create custom attributes for SIMs to suit business requirements and processes, i.e., reporting, etc and give the possibility for each subscription to assign a value to those attributes. The attributes will be available to all SIMs assigned to the account and may be propagated to N-1 level.

As an example: an attribute is created for the initial 100 SIMs assigned to an Account. An additional 50 SIMs are assigned to the same account. The custom field which already created will be available to the new 50 SIMs as well.

By inserting their own custom fields to subscriptions, Enterprises can generate business reports based on them and users can use it to suit their processes and business.

So, custom fields allow users to create their own attributes, and also gives the possibility for each subscription to assign a value to one or more attributes.

An attribute is defined using the following parameters:

- Name
- Type
  - Text
  - Number
  - Date
  - Time
  - Time Stamp
  - True/False
  - Enumeration
- Description
- Propagate Option: If the user selects the **Propagate** option, the custom field can be propagated to be visible at N-1 level accounts. If **Propagate** option is not selected, custom field will be available on that account level.

Custom fields get created for all the existing and future subscriptions under that account context.

When a SIM is moved from one account to another account, it will acquire the custom fields already defined for the destination account. All the existing custom fields and values are deleted.

All created custom fields are available as options under the **Choose Columns** icon in the subscription menu.

The value for a custom field can be inserted and edited via **View Details** option for each subscription.

3.5.1 Managing Custom Fields for a Subscription

The Custom Fields page displays all the created custom fields as well as provides the interface to create new custom fields.

You can search for a specific custom field by entering text in the **Search** field, or filter the custom field list by name, type, description, or last update parameters.

You can also reverse the order of the displayed custom field list by hovering over and clicking **Sort** that appears on any of these parameter names.

3.5.1.1 Adding or Editing a Custom Field

1. Click **Subscriptions→Custom Fields** in the top menu to view the list of custom fields in a table.
2. Perform any of the following actions, as required:
   - Click the **Create Field** icon + FIELD at the top right of the table to create a new custom field.
   - Click the **Edit** icon corresponding to a custom field to edit the custom field.
3. In the Add/Edit Field window, configure the following parameters:

Table 3-11: Custom Field Parameters

Parameter	Description
Name*	Enter the name of the custom field.
Type*	Select the type of custom field from the list: • **Text** • **Number** • **Date** • **Time** • **Time Stamp** • **True/False** • **Enumeration**
Description*	Enter the description. **Note:** The description length can be of maximum 100 characters.
Propagate	Select the **Propagate** toggle button to enable propagating the custom value to be visible to N-1 level accounts.

4. Click **Create** to create the custom field.

3.5.1.2 Deleting a Custom Field

1. Click **Subscriptions→Custom Fields** in the top menu to view the list of custom fields in a table.
2. Click the **Delete** icon corresponding to a custom field to delete the custom field.
3. In the confirmation window, click **Confirm** to confirm the deletion.

3.5.1.3 Setting Custom Field Value for a Subscription

1. Click **Subscriptions→SIM** in the top menu to view the list of subscriptions in a table.

2. Click the **View Details** icon corresponding to a subscription to open the subscription details window.
3. In the subscription details window, click the **Custom Fields** tab to display the custom field details associated with the subscription.
4. Enter the value for a particular custom field under the **Value** column to set it.

   You can set the custom field value.

3.6 Subscription Groups

Subscriptions Groups provide the Enterprise with a means to organize the SIMs along with their own organization. Maintain the contractual benefits of a single account whilst being able to partition the access to the SIMs for manageability and operability purposes.

You can create Subscriptions groups to easily organize and manage your devices based on your specific hierarchical organization needs. See section Examples of Enterprise Hierarchical Models to understand how you can organize your Subscriptions.

These are the principles of the management of Subscriptions groups that you need to consider before creating groups:

- Groups share all the resources of the account they are defined within:
  - Rate Plans
  - Network Profiles
  - Roaming Profiles, etc
- Charges are counted at the account level
  - Pools belong to the account, hence they are shared among groups
  - Tiered plans apply to all SIMs in the Account
- Automation Rules can be defined at Group level and Account level
- Group level users will access Group level reports

The below table shows the capabilities WDH offers corresponding to Groups vs Sub accounts:

Table 3-12: WDH capabilities differentiating Groups from Sub-accounts

WDH Capability	Groups	Sub accounts	Description
Shared Pool with Master Account	✓	×	Pools are at account level (master or subaccount) but can be shared across groups.
Contributes to Tiered Plan of Master Account	✓	×	Tiered plans are at account level (master or subaccount) but can be shared across groups.
Automation Rule at the level	✓	✓	Automation rules can be configured at group or subaccount level
Shared Automation Rules with Master Account	✓	×	Automation rules configured at account level, include SIMs in all groups.
User Access at the level	✓	✓	User access can be granted to account, subaccount or group level.
Commitment at the level	×	×	Commitments can be assigned at master account only.
Shared Commitment	✓	×	All groups within a master account would contribute to a commitment.
Custom Fields	×	✓	Custom Fields creation are defined at the Account level, can be used at the Group level
Tags	×	✓	Tags creation are defined at the Account level, can be used at the Group level

Once you have created your own Model that fits well with your organization, it will be much easier for the users to manage and operate your Subscriptions.

The Subscription Groups page displays all the created Subscription groups as well as provides the interface to create new Groups.

You can search for a specific subscription group by entering text in the Search field, or filter the tags list by group ID, group name, account name, or description.

You can also reverse the order of the displayed tags list by hovering over and clicking **Sort** that appears on any of these parameter names.

3.6.1 Creating a Subscription Group

1. Click **Subscriptions→Subscription Groups** in the top menu to view the list of subscription groups in a table.

2. Click the Create Group icon + CREATE GROUP at the top right of the table to create a new group.
3. Configure the following parameters:

Table 3-13: Subscription Groups Parameters

Parameter	Description
Name*	Enter a name for the subscription group.
Description	Enter the description for the subscription group.

4. Click **Create** to create a new subscription group.

   The newly created subscription group appears in the list of subscription groups in the table.

3.6.2 Editing a Subscription Group

1. Click **Subscriptions→Subscription Groups** in the top menu to view the list of subscription groups in a table.
2. Click the **Edit Group** icon corresponding to the required subscription group in the table to edit the subscription group.
3. In the Edit Group window, make the required changes to the subscription group and click **Update.**

   The updated subscription group appears in the list of subscription groups in the table.

3.6.3 Deleting a Subscription Group

Note: It is only possible to delete a Subscription Group when there are no Subscriptions assigned to that Group. If you want to delete a Subscription Group, first unassign the Subscriptions and then delete the Subscription Group.

1. Click **Subscriptions→Subscription Groups** in the top menu to view the list of subscription groups in a table.
2. Click the **Delete Group** icon corresponding to the required subscription group in the table to delete the subscription group.
3. In the Confirm Deletion window, click **Confirm** to delete the subscription group.

   The deleted subscription group is removed from the list of subscription groups in the table.

Chapter 4

Accounts

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4 Accounts

The WING Digital Hub provides the interface to create new accounts and sub-accounts and manage those accounts or sub-accounts.

4.1 Introduction to Accounts and Sub-Accounts

An account (or a customer) is an individual or a business that purchases a company's goods or services. It represents an enterprise with a large organizational structure, or personal accounts used in private non-commercial contexts. An account can be either a master account or a sub-account.

Therefore, WING Digital Hub supports the following hierarchy:

- **Customer** is the root of hierarchy. There can be multiple child master accounts.
- **Master Account** is the main account for customer/enterprise account hierarchy. This defines a business relationship between CSP and enterprise.
- **Sub-Account** allows to create organizations and manage their associated SIM subscriptions, resources based on organization units. The sub-account inherits all or part of resources from the parent master account. The form and function of a sub-account are identical to a master account; however, they are often reduced in the scope of operations and possess fewer access rights.

Once the SIM cards are ordered, the service provider assigns the resources necessary to operate over the mobile network and in accordance with the contractual agreements. These resources are made available to the account users for the management of their own IoT connectivity. Additionally, the service provider can view and edit the details of any existing account or sub-account, as well as create new accounts or sub-accounts.

To enable enterprise/reseller users to manage the customer properly, they are allowed to manage resources (SIMs) for their sub-accounts.

This capability also allows enterprise user to:

- Move SIMs back from sub-accounts to master accounts (SIMs in **Enterprise-Inventory** state).
- Move SIMs between sub-accounts (SIMs in **Enterprise-Inventory** state).

See "Moving a Subscription" for more information on moving SIMs.

4.2 Account State Model

This section describes the Account Lifecycle, its management, and possible states of an account in the Account Lifecycle. The account lifecycle management applies to the master account as well as the sub account.

The following states are possible in the account lifecycle management:

- **Draft:**
  Draft state is the default state when a new account is created. It indicates that onboarding of an account is still in progress, which includes the creation and assignment of rate plans and other network resources.
- **Active:**
  After the creation of accounts and assignment of all the required resources, an account can be activated. During the activation of account, all required resources assigned to account are validated and only then is the account ready to assign SIM cards.
- **Suspended:**
  An account in suspended state means that the SIM cards under given master/sub accounts are suspended.
- **Retired:**
  Retired state is final account state. When an account or sub-account is moved to the Retired state, all the SIMs under that account are also retired. CSP users will no longer be able to re-activate the SIMs within a retired account. Similarly, enterprise users cannot access a retired account. In addition, it is not possible to reactivate a retired account.

4.3 Managing an Account

The Accounts page displays all the created accounts as well as provides the interface to create new accounts.

You can select a specific sub-account from the **Account Context Dropdown** list All displayed at the top of the page.

You can also search for a specific sub-account by entering text in the **Search** field, or filter the account list by name, type, account ID, Ext ID, parent, status, or category parameters.

You can choose to display the columns that you want to view on the Accounts page by clicking the **Choose Columns** icon and selecting/unselecting the checkboxes of the available columns that are displayed in the window.

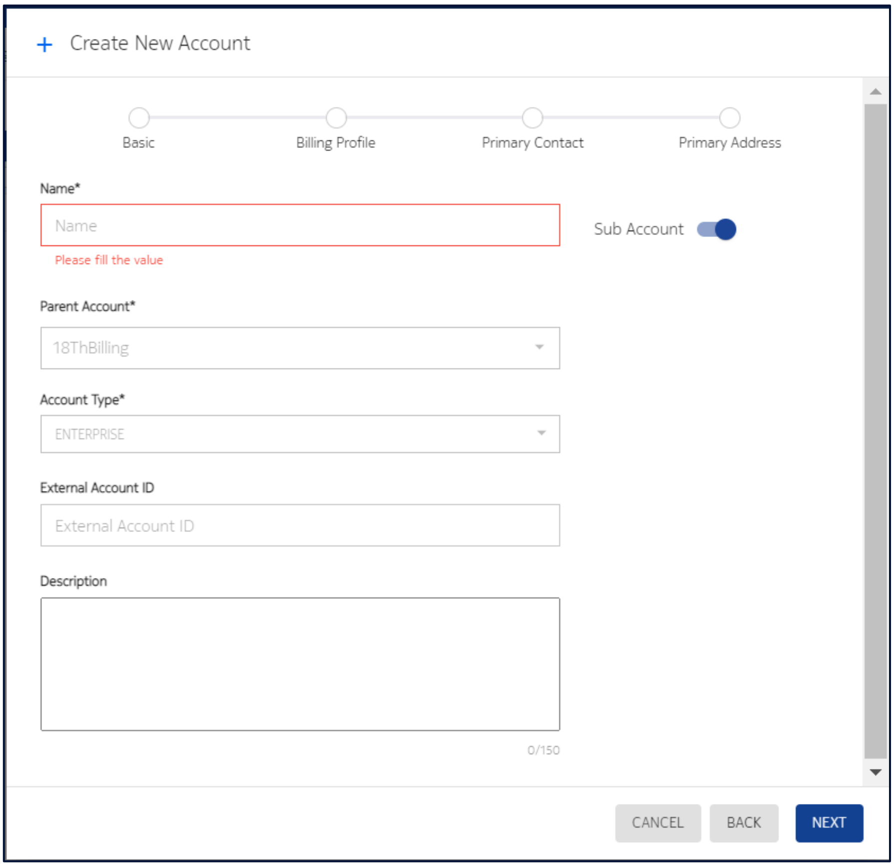
You can also reverse the order of the displayed account list by hovering over and clicking **Sort** that appears on any of these parameter names.

4.3.1 Creating or Editing a Sub Account

Note: You can edit **all parameters** of an account only if its status is **Draft**.

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Perform any of the following actions, as required:
   - Click the **Create New Account** icon + ACCOUNT at the top right of the table to create a sub-account.
     In the account window, the **Sub Account** toggle button is enabled by default.
   - Click the **More** icon ⋮ corresponding to a sub account and then select the **Edit** icon ✎ to edit the sub account.

Figure 4-1: Create New Sub Account



3. Configure the following parameters:

Table 4-1: Sub Account Parameters

Parameter	Description
Basic section	
Name*	Enter a unique sub account name.
Sub Account	The **Sub Account** toggle button is enabled by default. This account is a sub-account of an existing parent account.
Parent Account*	The parent account of the sub account is selected by default according to the context. A single parent account can hold multiple sub accounts.
Account Type*	Select an account type from the list: • **Enterprise:** This account is used in the business operations of an organization. • **Reseller:** This account belongs to a partner who resells IoT connectivity typically as part of Bundled Partner Services.
External Account ID	Enter the external account ID to allocate an additional ID to the account, if required. Allowed values: Alphanumeric characters
Description	Enter the description of the account.
Billing Profile section	
Create a New Billing Profile Use Parent Billing Profile	This field is visible only if you have enabled the **Sub-Account** toggle button in the previous, **Basic** section. Select an option for creating the billing profile: • **Create a New Billing Profile:** To create a new billing profile for the sub-account. • **Use Parent Billing Profile:** To use the existing parent billing profile for the sub-account.
Billing Cycle*	Select the billing cycle from the list to set the day on which billing starts each month.
Currency*	Select the currency for billing from the list.
Rating Type	Select an option to determine the rating type: • **Prorated:** Usage is rated according to the rate plan change. • **Retroactive:** Usage is rated with the last rate plan at the end of the billing cycle.
MRC Type	Select an option to determine when the Monthly Recurring Charge (MRC) is charged: • **In Advance:** The MRC is added to the monthly invoice at the beginning of the billing cycle.

Parameter	Description
	• **In Arrear:** The MRC is added to the monthly invoice at the end of the billing cycle.
MRC Rating Type	Select an option to determine the MRC rating type: • **Full** • **Prorated**
Primary Contact section	
First Name* Last Name*	Enter the first name and last name of the primary account holder.
Email*	Enter the Email ID.
Phone Number	Enter the phone number.
Primary Address section	
Address Line 1* Address Line 2	Enter the address details.
State & Province* City*	Enter the state & province and city.
Postal Code*	Enter the postal code.
Country*	Select a country from the list.

4. Click **OK** to create a new account or sub-account.

   The newly created account appears in the list of accounts in the table in **Draft** state.

4.3.2 Editing an Active Account or Sub Account

Note: You can edit **few allowed parameters** of an account or sub-account if its status is **Active**.

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **More** icon ⋮ corresponding to an account or sub-account in **Active** status and then select the **Edit** icon ✎ to edit the account or sub account.
3. Configure the following parameters:

Table 4-2: Editable Account or Sub-Account Parameters of Active Account

Parameter	Description
Basic section	

Parameter	Description
Name*	Enter a unique name for the account or sub account.
External Account ID	You can edit the external account ID used to allocate an additional ID to the account, if required. Allowed values: Alphanumeric characters
Description	Enter the description of the account or sub account.
Primary Contact section	
First Name* Last Name*	You can edit the first name and last name of the primary account holder.
Email*	You can edit the Email ID.
Phone Number	You can edit the phone number.
Primary Address section	
Address Line 1* Address Line 2	You can edit the address details.
State & Province* City*	You can edit the state & province and city.
Postal Code*	You can edit the postal code.
Country*	You can edit the country from the list.

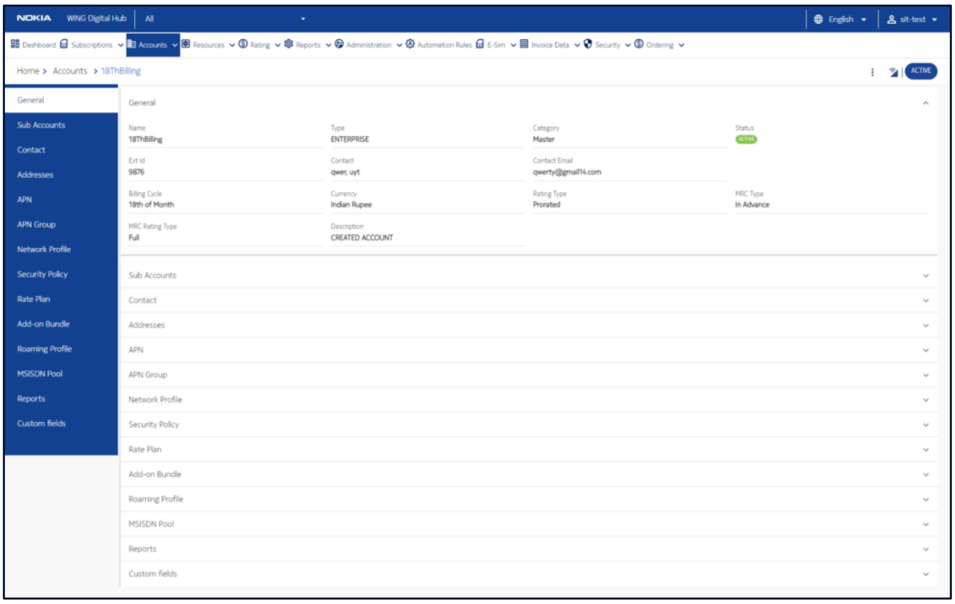
4. Click **OK** to save the account or sub account with updated details.

4.3.3 Viewing Account Details

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an Account to open the Account details window.
3. In the account details window, you can view the Accounts details on the corresponding to the following tabs:
   - General
   - Sub-accounts
   - Contact
   - Addresses
   - APN
   - APN Group
   - Network Profile
   - Security Policy
   - Rate Plan

- Add-on Bundle
- Roaming Profile
- MSISDN Pool
- Reports
- Custom Fields

Figure 4-2: View Account Details

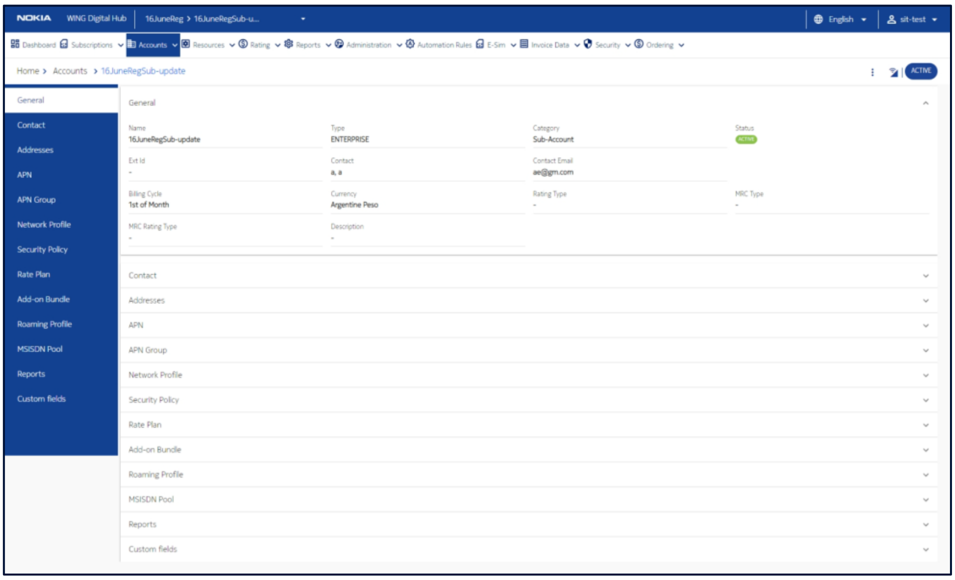


4.3.4 Viewing Sub Account Details

Note: You have to select the Account and the corresponding Sub-Account in the context.

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to a Sub-Account to open the Sub-Account details window.
3. In the Sub-Account details window, you can view the Sub-Account details on the corresponding to the following tabs:
   - General
   - Contact
   - Addresses
   - APN
   - APN Group
   - Network Profile
   - Security Policy
   - Rate Plan
   - Add-on Bundle
   - Roaming Profile
   - MSISDN Pool
   - Reports
   - Custom Fields

Figure 4-3: View Sub Account Details



4.3.5 Deleting a Sub Account

Note: You can delete a sub-account only if its status is **Draft**.

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **More** icon ⋮ corresponding to a sub account and then select the **Delete** icon to delete the sub account.
3. In the confirmation window, click **Confirm** to confirm the deletion.

4.3.6 Activating, Suspending, or Retiring an Account or Sub Account

You can activate, suspend, or retire an account or sub account by changing its status.

The current status of each account or sub account is shown on the Accounts page under the Status column. As you work with a customer in the creation and management of their account, you can transition the account status, as needed.

Important! No subscriptions can be moved to a sub account until the sub account is in the **Active** status.

1. Click **Accounts** in the top menu to view the list of accounts or sub accounts in a table.
2. Click the **More** icon ⋮ corresponding to an account or sub account and then select the new status icon.

   If the current account status is:

- **Draft**, you can change the account status to **Active** by selecting the **Activate** icon .
- **Active**, you can change the account status to **Suspend** or **Retired** by selecting the **Suspend** icon or **Retire** icon .
- **Suspend**, you can change the account status to **Active** or **Retired** by selecting the **Activate** icon or **Retire** icon .

Note: After the account is retired, you cannot change its status.

Table 4-3: Account Status

Status	Description
Draft	The initial status of an account is **Draft**. You can change the status from **Draft** to **Active**. Only accounts in the **Draft** status can be deleted.
Active	An **Active** account possesses all the WING Digital Hub resources required to begin IoT business operations. An account can have: • Multiple APNs and one default APN • Multiple APN groups and one default APN group • Multiple network profiles and one default network profile • Multiple rate plans and one default rate plan • Multiple security policies You can assign SIMs to an account only if it is in the **Active** status. You can change the account status from **Active** to **Suspend** or **Retired**.
Suspend	The status of an account is set to **Suspend** when the usage and rating of all subscribers is not currently needed, because it is: • Awaiting future subscriber usage • Awaiting cancelation and removal of all subscribers You can change the account status from **Suspend** to **Active** or **Retired**. When an account is suspended, all SIMs associated with the account are also suspended. However, when the account status is changed from **Suspend** to **Active**, the SIM activation will need to be done manually in the Subscriptions individually or in bulk, if needed. **Note:** To be able to return the required SIMs to **Active** state you need to know the state of the SIMs before the account suspension. This can be achieved by downloading **Subscriber Status Report** from **Off the Shelf Reports** run before the account suspension. (See Section 6.3.2, "Downloading Off-the-Shelf Reports")

Status	Description
Retired	The status of an account is set to **Retired** when it is determined that there no longer exists a use for the account. Only accounts void of subscribers can be retired. You can change the account status to **Retired** from **Active** or **Suspend** status. Account retirement is irreversible. Retirement of an account also triggers retirement of its sub-accounts and associated SIMs. Once retired, there is no option to reopen the account.

4.4 Managing APNs for an Account or Sub Account

4.4.1 Assigning an APN to an Account or Sub Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub account to open the account or sub account details window.
3. Click **APN** to view the list of APNs in a table.
4. Click the **Assign APN** icon + at the top right corner of the table to assign an APN to an account or sub account.
5. In the APN window, select the APNs that you need to assign from the **Available APNs** list and click the **Right Arrow** icon > to shift them to the **Selected APNs** list.

   Clicking the **Right Double Arrow** icon » will shift all the APNs from the **Available APNs** list to the **Selected APNs** list.
6. Click **OK** to assign the APNs.

   The newly assigned APNs appear in the list of APNs for that account or sub account.

4.5 Managing APN Groups for an Account or Sub Account

An APN group contains one or more APNs. The service provider can bundle one or more APNs into an APN group and assign the APN group to one or more accounts.

Note: APNs need to be set up in WING Digital Hub prior to the creation of APN groups.

- APN groups are "virtual" entities; they exist in the WING Digital Hub only.
- Each APN can be associated with any number of APN groups.
- A public APN group must not contain any private APN.

4.5.1 Assigning an APN Group to an Account or Sub Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub account to open the account or sub-account details window.
3. Click **APN Group** to view the list of APN groups and their associated APNs in two tables.
4. Click the **Create APN Group** icon + at the right of the APN group name table to assign an APN group to an account or sub account.
5. In the APN group window,
   - Enter an APN group name of your choice.
   - Select the APNs, which you need to include in the APN group, from the **Available APNs** list and click the **Right Arrow** icon > to shift them to the **Selected APNs** list.
     The selected APNs are included in the APN group.
6. Click **OK** to assign the APN group to the account or sub account.

   The newly assigned APN group, along with the selected APN details, appears in the list of APN group for that account or sub account.

4.6 Managing Network Profiles for an Account or Sub Account

4.6.1 Assigning a Network Profile to an Account or Sub Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub account to open the account or sub-account details window.
3. Click **Network Profile** to view the list of network profiles in a table.
4. Click the **Assign Network Profile** icon + at the top right corner of the table to assign a network profile to an account or sub account.
5. In the network profile window, select the network profiles that you need to assign from the **Available Network Profiles** list and click the **Right Arrow** icon > to shift them to the **Selected Network Profiles** list.

   Clicking the **Right Double Arrow** icon » will shift all the network profiles from the **Available Network Profiles** list to the **Selected Network Profiles** list.
6. Click **OK** to assign the network profiles.

   The newly assigned network profiles appear in the list of network profiles for that account.

4.7 Managing Security Policies for an Account or Sub Account

Enterprise customers require a mechanism to control the connectivity of IoT devices to avoid situations that could result in IoT fraud such as security breaches, device misuse, etc.

For this purpose, WING Digital Hub provides a mechanism where enterprise users can configure security policies that are enforced by WING Digital Hub in real-time (during CCR initiate diameter request) to provide the necessary control over connectivity. Control, such as “Data Service Control” or “SMS Service Control”, is provided for services based on IMEI and MSISDN.

4.7.1 Security Policy Filters

WING Digital Hub provides security policies to enable a mechanism of “Allow List” and “Deny List”, which helps control data permissions for the IMSI of each SIM. This mechanism enables an enterprise account to manage such allow lists/deny lists.

- **Allow List:** Data is only allowed when a device's IMEI is included in the allow list. Any non-listed IMEI or MSISDN is blocked.
- **Deny List:** Data is not allowed when the device's IMEI is included in the deny list. Any non-listed IMEI or MSISDN is allowed.

4.7.1.1 IMEI Allow/Deny List Filter

The IMEI allow/deny list filter controls the connectivity based on device ID (IMEI). The IMEI allow/deny list validation is only relevant for the data service and it is enforced during the data session creation.

4.7.1.2 MSISDN Allow/Deny List Filter

An MSISDN allow/deny list filter controls the SMS service based on the other party’s MSISDN number.

4.7.1.3 Allow-List vs. Deny-List

An allow-list defines the boundary of allowed criteria whereas a deny-list defines the boundary of criteria for denial.

Multiple security policies can be assigned to account and sub-account levels. The security policy service checks the effective allow-list and deny-list to respectively allow or deny a request.

4.7.2 Account Hierarchy and Security Policy

Security Policy can be assigned at following levels in hierarchy.

- **Account-Level Security Policy:** An enterprise can create a security policy at master account or sub account level that is available/applicable for the hierarchy below that level. Policies applied at account/sub-account level are automatically effective for all SIMs directly assigned to that account and sub-account. In case a security policy needs to be applied at different levels in account hierarchy, it is possible for the parent account to share its security policies with its sub-account.

4.7.3 Creating or Editing a Security Policy for an Account or Sub Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub account to open the account or sub account details window.
3. Click **Security Policy** to view the list of security policies in a table.
4. Perform any of the following actions, as required:
   - Click the **Add Security Policy** icon ADD SECURITY POLICY at the top right corner of the table to add a security policy to an account.
   - Click the **More** icon corresponding to a security policy and then select the **Edit** icon to edit the security policy.
5. In the security policy window, configure the following parameters:

Table 4-4: Security Policy Parameters

Parameter	Description
Policy Name*	Enter a unique security policy name.
Description	Enter the description of the security policy.
Default Response	Select the **Default Response** toggle button and enable or disable it for assigning the security policy to the account.

6. Click **Create** to create a new security policy.

   The newly created security policy appears in the list of security policies for that account.

4.7.4 Viewing Security Policy Details for an Account or Sub Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub account to open the account or sub account details window.

3. Click **Security Policy** to view the list of security policies in a table.
4. Click the **View Details** icon corresponding to a security policy to open the security policy details window.
5. In the security policy window, you can view the security policy details in a table.

4.7.5 Deleting a Security Policy from an Account or Sub Account

Note: You can delete a security policy only if its status is **Inactive**.

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub account to open the account or sub account details window.
3. Click **Security Policy** to view the list of security policies in a table.
4. Click the **More** icon ⋮ corresponding to a security policy and then select the **Delete** icon to delete the security policy.
5. In the confirmation window, click **Confirm** to confirm the deletion.

4.7.6 Activating/Deactivating a Security Policy for an Account or Sub Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub account to open the account or sub account details window.
3. Click **Security Policy** to view the list of security policies in a table.
4. Click the **More** icon ⋮ corresponding to a security policy and then select the **Change Status** icon to change the status to active/inactive of the security policy.

   The security policy appears with the new status of active/inactive in the list of security policies in the table.

4.7.7 Adding Filters to a Security Policy for an Account or Sub Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub account to open the account or sub account details window.
3. Click **Security Policy** to view the list of security policies in a table.
4. Click the **Add Filter** icon corresponding to a security policy to add filters to the security policy.
5. In the add filters window, configure the following parameters:

Table 4-5: Filters Parameters

Parameter	Description
Service	Select the service for applying filters from the list: • **Data (IMEI)** • **SMS (MSISDN)**
SMS Flow	This field is visible only if SMS (MSISDN) service is selected. Select the SMS flow for applying filters: • **MO** • **MT** • **MO/MT**
List Type	Select the list type of the selected service to apply filters: • **Range:** Enter the IMEI/MSISDN range if a contiguous range is available**.** • **List:** Add IMEI/MSISDN numbers by clicking the **Add** icon or import a list of numbers by clicking the **Import** icon. • **Prefix:** Enter a prefix value.
Filter Type	Select the **Filter Type** toggle button and enable or disable it for allowing or denying the selected filters to the security policy.

6. Click **OK** to apply the filters to the security policy.

   The newly added filters appear in the list of filters for that security policy.

4.8 Managing Rate Plan for an Account or Sub-Account

4.8.1 Assigning a Rate Plan to an Account or Sub-Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub-account to open the account or sub-account details window.
3. Click **Rate Plan** to view the list of rate plans in a table.
4. Click the **Assign Rate Plan** icon + at the top right corner of the table to assign a rate plan to an account.
5. In the rate plan window, select the rate plan that you need to assign from the **Available Rate Plans** list and click the **Right Arrow** icon > to shift them to the **Selected Rate Plans** list.

   Clicking the **Right Double Arrow** icon » will shift all the rate plans from the **Available Rate Plans** list to the **Selected Rate Plans** list.
6. Click **OK** to assign the rate plans.

The newly assigned rate plan appear in the list of rate plans for that account.

4.8.2 Selecting a Rate Plan as default

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub-account to open the account details window.
3. Click **Rate Plan** to view the list of rates plans in a table.
4. Click the **Action** icon corresponding to a rate plan to set the rate plan as default for the account.
5. Click **OK** to set the default rate plan.

4.9 Managing Add-on Bundle for an Account or Sub Account

4.9.1 Assigning an Add-on Bundle to an Account or Sub Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub-account to open the account details window.
3. Click **Add-on Bundle** to view the list of add-on bundles in a table.
4. Click the **Assign Add-on Bundle** icon + at the top right corner of the table to assign an add-on bundle to an account.
5. In the Assign Add-on Bundle window, select the add-on bundles that you need to assign from the **Available Add-on Bundle** list and click the **Right Arrow** icon > to shift them to the **Selected Add-on Bundle** list.

   Clicking the **Right Double Arrow** icon » will shift all the add-on bundles from the **Available Add-on Bundle** list to the **Selected Add-on Bundle** list.
6. Click **OK** to assign the add-on bundles.

   The newly assigned add-on bundles appear in the list of add-on bundles for that account.

4.9.2 Deleting an Add-on Bundle from an Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub-account to open the account details window.
3. Click **Add-on Bundle** to view the list of add-on bundle in a table.

4. Click the **Delete** icon 🗑 corresponding to an add-on bundle to remove the add-on bundle from the account.
5. Click **OK** to delete the add-on bundle.

4.10 Managing Roaming Profiles for an Account or Sub Account

4.10.1 Assigning a Roaming Profile to an Account or Sub Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub-account to open the account or sub account details window.
3. Click **Roaming Profile** to view the list of roaming profiles in a table.
4. Click the **Assign Roaming Profile** icon + at the top right corner of the table to assign a roaming profile to an account.
5. In the roaming profile window, select the roaming profiles that you need to assign from the **Available Roaming Profiles** list and click the **Right Arrow** icon > to shift them to the **Selected Roaming Profiles** list.

   Clicking the **Right Double Arrow** icon » will shift all the network profiles from the **Available Roaming Profiles** list to the **Selected Roaming Profiles** list.
6. Click **OK** to assign the roaming profiles.

   The newly assigned roaming profiles appear in the list of roaming profiles for that account.

4.10.2 Deleting a Roaming Profile from an Account or Sub-Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub-account to open the account details window.
3. Click **Roaming Profile** to view the list of roaming profiles in a table.
4. Click the **Delete** icon 🗑 corresponding to a roaming profile to remove the roaming profile from the account.
5. Click **OK** to delete the roaming profile.

4.10.3 Selecting a Roaming Profile as default

1. Click **Accounts** in the top menu to view the list of accounts in a table.

2. Click the **View Details** icon corresponding to an account or sub-account to open the account or sub-account details window.
3. Click **Roaming Profile** to view the list of roaming profiles in a table.
4. Click the **Action** icon corresponding to a roaming profile to set the roaming profile as default for the account.
5. Click **OK** to set the default roaming profile.

4.11 Managing MSISDN Pool for an Account or Sub-Account

4.11.1 Assigning a MSISDN Pool to an Account or Sub-Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub-account to open the account or sub-account details window.
3. Click **MSISDN Pool** to view the list of MSISDN Pools in a table.
4. Click the **Assign MSISDN Pool** icon at the top right corner of the table to assign a MSISDN Pool to an account.
5. In the MSISDN Pool window, select the MSISDN Pools that you need to assign from the **Available MSISDN Pools** list and click the **Right Arrow** icon to shift them to the **Selected MSISDN Pools** list.

   Clicking the **Right Double Arrow** icon will shift all the MSISDN Pools from the **Available MSISDN Pools** list to the **Selected MSISDN Pools** list.
6. Click **OK** to assign the MSISDN Pools.

   The newly assigned MSISDN Pools appear in the list of MSISDN Pools for that account.

4.12 Managing Reports for an Account or Sub Account

4.12.1 Viewing Reports for an Account or Sub Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub account to open the account or sub account details window.
3. Click **Reports** to view the list of enabled reports for the account in a table.

   The enabled reports appear in the list of reports for that account.

4.12.2 Editing Reports for an Account or Sub-Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub-account to open the account or sub-account details window.
3. Click **Reports** to view the list of enabled reports for the account in a table.

   The enabled reports appear in the list of reports for that account.
4. Click the **Edit Report** icon EDIT REPORT at the top right corner of the table to enable Report Template.

4.13 Managing Custom Fields for an Account or Sub Account

4.13.1 Introduction to Custom Fields for Accounts or Sub Accounts

By adding their own attributes to their accounts and sub-accounts, enterprise users can use it to suit their processes and business.

So, custom fields allow enterprise users to create their own custom attributes, and also allows each account to assign a value to one or more attributes.

An attribute is defined using the following parameters:

- Name
- Type
  - Text
  - Number
  - Date
  - Time
  - Time Stamp
  - True/False
  - Enumeration
- Description
- Propagate option: If the user selects the **Propagate** option, a custom value can be propagated to be visible at N-1 level accounts. If **Propagate** option is not selected, custom field will be available on that account level.

Custom fields can be created for accounts and tied to sub-accounts as well. Same custom field can be used for single account or multiple accounts.

All created custom fields are available as options under the **Choose Columns** icon in the account menu.

The value for a custom field can be inserted via **View Details** option for each account or sub account.

4.13.2 Managing Custom Fields for an Account or Sub Account

The Custom Fields page displays all the created custom fields as well as provides the interface to create new custom fields.

You can search for a specific custom field by entering text in the **Search** field, or filter the custom field list by name, type, description, or last update parameters.

You can also reverse the order of the displayed custom field list by hovering over and clicking **Sort** that appears on any of these parameter names.

4.13.2.1 Adding or Editing a Custom Field

1. Click **Accounts→Custom Fields** in the top menu to view the list of custom fields in a table.
2. Perform any of the following actions, as required:
   - Click the **Create Field** icon + FIELD at the top right of the table to create a new custom field.
   - Click the **Edit** icon corresponding to a custom field to edit the custom field.
3. In the Add/Edit Field window, configure the following parameters:

Table 4-6: Custom Field Parameters

Parameter	Description
Name*	Enter the name of the custom field.
Type*	Select the type of custom field from the list: • **Text** • **Number** • **Date** • **Time** • **Time Stamp** • **True/False** • **Enumeration**
Description*	Enter the description. **Note:** The description length can be of maximum 100 characters.

Parameter	Description
Propagate	Select the **Propagate** toggle button to enable propagating the custom value to be visible to N-1 level accounts.

4. Click **Create** to create the account.

4.13.2.2 Deleting a Custom Field

1. Click **Accounts→Custom Fields** in the top menu to view the list of custom fields in a table.
2. Click the **Delete** icon corresponding to a custom field to delete the custom field.
3. In the confirmation window, click **Confirm** to confirm the deletion.

4.13.2.3 Setting Custom Field Value for an Account or Sub Account

1. Click **Accounts** in the top menu to view the list of accounts in a table.
2. Click the **View Details** icon corresponding to an account or sub account to open the account or sub account details window.
3. In the account details window, click the **Custom Fields** tab to display the custom field details associated with the account or sub account.
4. Enter the value for a particular custom field under the **Value** column to set it. You can set the custom field value as per the following custom field types:
   - Text
   - Number
   - Date
   - Time
   - Time Stamp
   - True/False
   - Enumeration

Chapter 5

Rating

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5 Rating

Rating defines the cost for usage at which units of data, SMS, and voice services are charged.

Depending on the CSP's network capabilities, WDH could manage online (Gy/Diameter and Radius) and offline (CDRs).

Offline charging is based on offline Call Data Records (CDR). CDRs are collected periodically from each network node (e.g. PGW or SMSC) and then aggregated and mediated to a common format and anomalies removed. The mediated CDRs are then guided to be rated by the Rating Engine based on applicable rate plan for the Subscription. The rating engine identifies chargeable events and applies charges as per values configured in the rate plan and the business logic. The output of the rating engine is a rated CDR Offline for the following services:

- **Data**
- **SMS**
- **Voice**

5.1 About Rate Plans

5.1.1 Introduction to Rate Plans

Rate plans define for a Subscription the available allowances per service and charges associated with using those services, split by zone.

Each subscription in WING Digital Hub requires to have assigned a valid rate plan in order to have access to mobile network services. A subscription must have an active status to access the various services and begin accruing charges.

Each account must have at least one rate plan (a default rate plan) associated with it, before any Subscriptions can be assigned to the account. Accounts can have multiple rates plans associated with them and once a CSP gives access to a rate plan, account users can associate that rate plan with any of the Subscriptions in its own account. A single rate plan can be assigned to multiple subscriptions. Any change in the rate plan will impact all subscriptions associated with that plan.

Each rate plan can be shared across multiple customer accounts or can be exclusive to a single customer account.

5.1.2 Rates and Types of Services

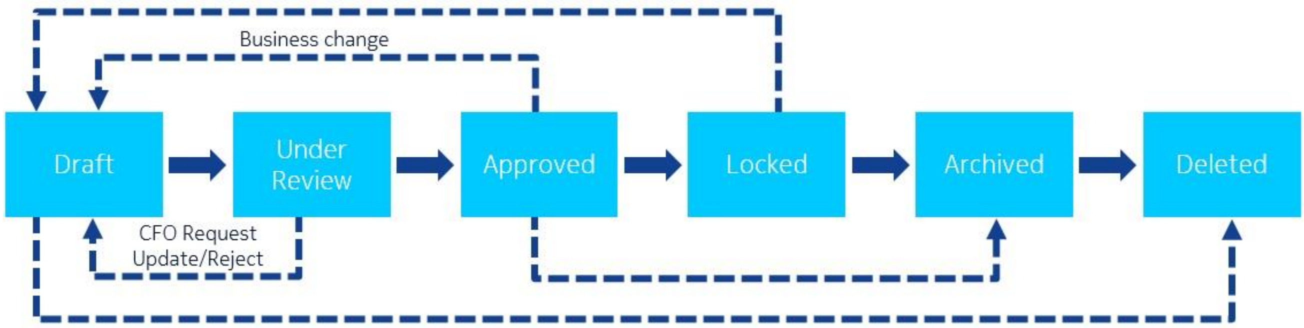
- **Packet-Switched Data Service:** Data traffic is usually rated in units of KB, MB, or GB. There is no distinction between incoming or outgoing data transfer.
- **Short Message Service (SMS):** SMS is measured per message whether Mobile Originated (MO) or Mobile Terminated (MT). MO and MT messages can be rated differently. These rates are defined when creating a rate plan.
- **Circuit-Switched Voice Telephony:** Voice services are rated in units of seconds and minutes. MO and MT calls can be rated differently.

5.1.3 Lifecycle States of a Rate Plan

A rate plan can have the following states:

- **Draft:** When a rate plan is created, its initial state is **Draft.** In this state, a rate plan can be edited or deleted.
- **Under Review:** After the details of a rate plan have been set up, it can be submitted for review to an approver and its state is **Under Review**. It cannot be edited in this state. Only users with appropriate privileges can approve rate plans.
- **Approved:** When a rate plan has been approved, it is available for use and can be assigned to a subscriber. It cannot be edited in this state.
- **Locked:** A rate plan that has reached or surpassed its expiry date or its campaign duration can be placed in a **Locked** state. In this state, any subscribers who have previously been assigned to the plan can continue to use this plan, but no new subscribers can be assigned.
- **Archived:** A rate plan that has been cleared of its relationships and is archived for record keeping is placed in **Archived** state. A plan in this state cannot be linked to any account or subscription.
- **Deleted:** A rate plan that has been marked for permanent erasure from the system is placed in **Deleted** state. This record is auto-cleaned once the cooling off period has expired.

Figure 5-1: Rate Plan Lifecycle



5.2 Types of Rate Plans

WING Digital Hub provides the following rate plan.

5.2.1 Individual Plan

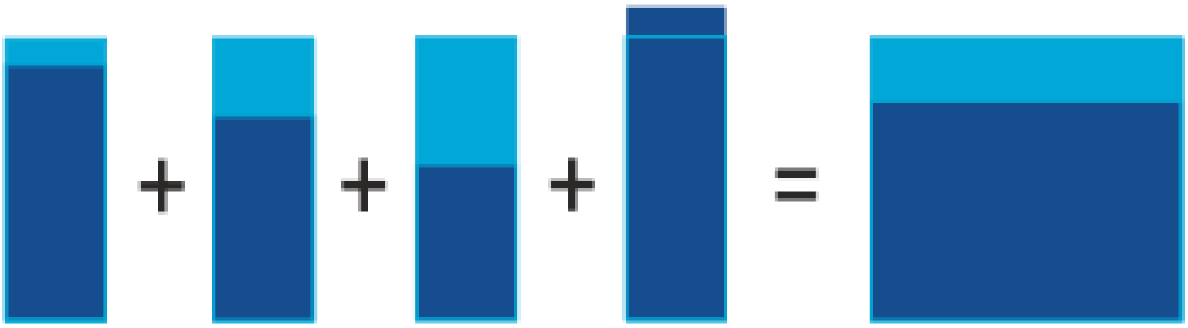
A rate plan which is associated to a single subscription. Once subscription excess its allowance during the bill cycle, it is charged overage (excess charge). No sharing of quotas between Subscriptions.

5.2.2 Flex Pool Plan

A flex-pool rate plan is a type of rate plan where volume is distributed among multiple subscriptions, instead of a single subscription. So, in a flex-pool plan, each Subscription adds its allowance to the overall pool.

In a flex-pool, the total data volume is calculated by the amount of included data of each Subscription in the pool. At the same time, the entire pool of Subscriptions can share the total volume. Hence, the total volume is flexible and grows when adding Subscription cards to the pool.

Figure 5-2: Example of Flex-Pool Plan



Example: Assuming the rate plan “Euro Data – 100”, the flexible data volume amounts to 4 x 100 MB = 400 MB. This data volume is shared by all SIMs in the pool. One SIM may use more than 100 MB and other SIMs may use less than 100 MB. The combined volume should stay below 400 MB.

5.2.3 Fixed Pool Plan

A fixed pool plan is a one where pool size is independent from the number of subscriptions in the pool, addition or deletion of subscriptions from the pool does not alter pool size.

A quota for each service is defined at pool level. Subscriptions are then assigned to the pool and can consume the services defined in the pool. The full pool quota is available to each of the subscriptions which is using the pool rate plan at a time, i.e. there is no limit defined per subscription.

5.3 Subscription types for rate plans

All three rate plan types above are available for both post-paid and prepaid-like plans.

5.3.1 Post-Paid (pay monthly) Rate Plans

Post-paid (or pay monthly) rate plans have a defined Monthly Recurring Charge (MRC), which is applied to the subscriptions on a monthly basis. If the total consumption for a particular service is more than the one defined, the excess consumption will be charged as overage. Overage charges are defined per zone in the rate plan.

5.3.1.1 Post-paid rate plan types

The post-paid rate plans can be of following types:

- Post-Paid Individual (Solo) Plan
- Post-Paid Flex-Pool Plan
- Post-Paid Fixed-Pool Plan

Table 5-1: Post-Paid Rate Plans

Parameter	Description
Post-Paid Individual (Solo) Plan	
Charging	• Monthly Recurring Charges (MRC) are billed monthly but calculated on daily basis. • Optional trial allowance per service and duration or expiry date. • Usage allowance per service is set up monthly but accumulated daily. • Subscription is charged overage (= excess charge) after allowance is exhausted during the bill cycle. • No ceiling for excess charges.
Rates	Based on rate plans setup. Quota is used first. Overage is charged based on rates setup.
Renewal	Renewal is set to automatic.
Post-Paid Flex-Pool Plan	
Charging	• Monthly Recurring Charges (MRC) are billed monthly but calculated on daily basis. All SIMs in the pool pay the same MRC. • Optional trial allowance per service and duration or expiry date.

Parameter	Description
	• Usage allowance per service is set up monthly but accumulated daily. Pool allowance is the total allowance per SIM. Pool grows as SIMs are added and shrinks as they are moved out of the plan. • Subscription is charged overage (= excess charge) after pool allowance is exhausted during the bill cycle. • No ceiling for excess charges.
Rates	Based on rates setup. Quota is used first. Overage is charged based on rates setup.
Renewal	Renewal is set to automatic.
Post-Paid Fixed-Pool Plan	
Charging	• Monthly Recurring Charges (MRC) are billed monthly but calculated on daily basis. All SIMs in the pool pay the same MRC. • Optional trial allowance per service and duration or expiry date. • Usage allowance per service is set up monthly but accumulated daily. Pool allowance is configured at rate plan setup. It does not vary with the number of SIMs. • Pool is charged overage (= excess charge) after pool allowance is exhausted during the bill cycle. • No ceiling for excess charges.
Rates	Based on rates setup. Quota is used first. Overage is charged based on rates setup.
Renewal	Renewal is set to automatic.

SIM MRC charges are mandatory for individual plans and flex pool plans as both the quota and base charge is defined at SIM level and optional for fixed pool plans. Pool MRC is mandatory for fixed pool plans and optional for flex pools.

5.3.1.2 Tiered and Volume Rating

To encourage enterprises to activate more SIMs on their rate plans, WING Digital Hub offers better rates with increasing SIM volume through its tiered and volume rating feature.

Postpaid Individual Plans, Postpaid Flex Pool Plans and Postpaid Fixed Pool Plans monthly recurring SIM charges (SIM MRC) and data usage can be configured with Tiered or Volume Rating (but tiered and volume rating do not apply to any one-off charges, e.g. activation fee, nor any pool charges, e.g. pool MRC).

In both tiered and volume rating, the rate changes as the overall unit volume increases.

- **Tiered Rating:** Different rates are applied to SIMs in different tiers

- **Volume Rating:** One rate is applied to overage on all SIMs, based on the total number of SIMs.

5.3.1.3 One-off Fees

Currently, the following one-off fees are available:

- **Activation Fee**

  SIM level and pool activation fees can be defined in the rate plan. On initial activation of the SIM or the pool, an activation will be applied to the invoice feed for that bill period.

- **Reactivation Fee**

  Reactivation fee is a fee applied at SIM level when a SIM which has been moved into a deactivated state is subsequently reactivated again. In general, once a SIM is put into a deactivated state, it will then be retired, otherwise if the SIM is required to be put out of use for a temporary period, the suspended state should be used. In the event that a deactivated SIM is reactivated, this fee (if defined) will be applied.

- **Network Access Fee**

  Network access fee is a fee for accessing any network service (data, SMS, Voice) during the bill cycle. This is applied one-time per bill cycle regardless of the number of network accesses made.

5.3.2 Prepaid Rate Plans (prepaid bundles)

Prepaid rate plans (or prepaid bundles) are plans that do not have a defined monthly recurring charge (MRC). Instead, there is a single charge upfront, which enables the bundle to be used across multiple billing cycles. A validity period is configured for a prepaid-like. Once the prepaid credit is exhausted, service(s) per zone/s defined is suspended unless the plan renewal configuration is set to automatic.

- **Autorenewal on Quota Exhaustion**

  Where autorenewal is not enabled, on exhaustion of the quota in each zone, services will be blocked in that zone. Where autorenewal is enabled for that zone, the full plan will autorenewal (i.e. all quotas reset, new validity period expiry calculated, new bundle charge applied).

- **Autorenewal on Validity Period Expiry**

  When autorenewal on validity period is "on" and when the validity period expiry date is reached, the full rate plan will be renewed i.e., all quotas will be reset, a new validity period expiry date will be calculated and a charge applied. Any quota remaining at validity period expiry is lost.

Where autorenewal on validity period expiry is selected as “off” during configuration of a prepaid rate plan, when the validity period expiry is reached, any remaining quotas should become unavailable / expired as the Subscription is transitioned to a “Suspended” state.

It is considered prepaid-like, rather than genuinely prepaid, as the charge will appear in the invoice feed at the end of the month in which the bundle was activated, rather than the charge being made completely in advance of any quota being granted.

5.3.2.1 Pre-paid bundle types

Depending on the rate plan type there are three prepaid bundles:

- **Prepaid Individual Bundle plan**

  A prepaid individual bundle plan is associated to a single subscription. It has defined allowance/quota per service, per zone, per SIM. It has defined static validity period for the individual bundle (configured in months).

- **Prepaid Flex-Pool Bundle plan**

  A prepaid flex-pool bundle plan is a special type of rate plan where volume is distributed among multiple SIMs, instead of a single subscription.

  It has defined allowance/quota per service, per zone, per SIM added to the pool. It has defined static validity period for the pool (configured in months).

- **Prepaid Fix-pool Bundle plan**

  A prepaid fixed-pool plan is the type of rate plan where pool size is independent of the number of SIMs in the pool.

  It has defined static quota per service, per zone for the pool. It has defined static validity period for the pool (configured in months).

Table 5-2: Prepaid Rate Plans

Parameter	Description
Prepaid Individual Bundle plan	
Charging	• No Monthly Recurring Charges (MRC) at SIM level. • Prepaid bundle charge to be added for the SIM, on activation of the SIM on the individual prepaid plan. • Validity period expiry for the bundle is set at the activation of the SIM. • Usage allowance per service, per zone is set up at the activation of the SIM. • No trial allowances for prepaid plans. • Subscription service is denied on exhaustion of quota or expiration of validity period unless autorenewal conditions are configured. • No overage charges since autorenewal service is denied. • No impact to rating on SIM suspension. On suspension of SIM: o The bundle allowance/quota does not change o The expiry date of the validity period does not change
Rates	Based on rate plans setup. Quota is used, no overage is permitted.
Renewal	Autorenewal could be configured in the rate plan based on exhaustion of one or more quotas, or expiry of the validity period.
Prepaid Flex-Pool Bundle plan	
Charging	• No monthly recurring charges at SIM level (SIM MRC). • No monthly recurring charges at pool level (pool MRC). • Prepaid bundle charges to be added per SIM, on activation of each SIM added to the flex-pool. • Validity period expiry for the flex-pool bundle is set at activation of the first SIM in the flex-pool, configured in months. It does not change on addition of further SIMs to the flex-pool. • Usage allowances per service (per zone) are shared across all SIMs within the flex pool. Usage allowances/quotas are updated on addition/deletion of SIMs to the flex-pool (incremented/decreasing by per SIM quotas). • No trial allowances for prepaid plans. • All subscriptions in the pool are denied service on exhaustion of pool quotas or expiration of validity period, unless autorenewal conditions are configured. • No overage charges since autorenewal service is denied. • No impact to rating on SIM suspension. On suspension of SIM: o The bundle allowance/quota does not change o The expiry date of the validity period does not change.

Parameter	Description
Rates	Based on rate plans setup. Quota is used, no overage is permitted.
Renewal	Autorenewal can be configured in the rate plan, based on exhaustion of one or more quotas, or expiry of the validity period.
Prepaid Fix-pool Bundle plan	
Charging	• No monthly recurring charges at SIM level (SIM MRC). • No monthly recurring charges at pool level (pool MRC). • Prepaid bundle charges to be added per pool, on activation of the first SIM in the pool. • Validity period expiry for the fixed-pool bundle is set at activation of the first SIM in the fixed-pool, configured in months. It does not change on addition of further SIMs to the fixed-pool. • Usage allowances per service is static. It is not affected by addition of SIMs to the fixed-pool or removal of SIMs from the pool. • No trial allowances for prepaid plans. • All subscriptions in the pool are denied service on exhaustion of pool quotas or expiration of validity period, unless autorenewal conditions are configured. • No overage charges since autorenewal service is denied. • No impact to rating on SIM suspension. On suspension of SIM: o The bundle allowance/quota does not change o The expiry date of the validity period does not change.
Rates	Based on rate plans setup. Quota is used, no overage is permitted.
Renewal	Autorenewal could be configured in the rate plan, based on exhaustion of one or more pools, or expiry of the validity period.

5.3.2.2 Add-Ons Bundles

Separate add-on bundles can be bought to provide additional quota, to be used within the same validity period as the original bundle available to the SIM/pool. They are applicable at SIM level for individual rate plans and at pool level for pooled rate plans.

Add-on bundles will be for an individual service only, i.e., data, SMS, or voice, but not for combination of services and will be available for only one originating zone at a time. Multiple add-on bundles can be purchased for a particular SIM/pool.

Add-on bundles will inherit the validity period of the prepaid plan the SIM is using and not be applicable for quotas where ‘Auto Renewal on Exhaustion’ is enabled because the prepaid bundle will auto-renew.

5.4 Rate Plans

The Rate Plans page displays all the created rate plans.

You can search for a specific rate plan by entering text in the Search field, or filter the rate plans list by rate plans, rate plan type, end time, status, or action parameters.

You can also reverse the order of the displayed rate plans list by hovering over and clicking **Sort** that appears on any of these parameter names.

5.4.1 Viewing Rate Plan Details

1. Click **Rating→Rate Plans** in the top menu to view the list of rate plans in a table.
2. Click the **View Details** icon corresponding to a rate plan to open the rate plan details window.
3. In the Rate Plan window, you can view the rate plan details corresponding to the following tabs:
   - General
   - Subscription Rates
   - Rating Zones

Table 5-3: Rate Plan Parameters

Parameter	Description
General section	
Rate Plan Name*	Unique name for the rate plan.
Plan Start / Plan End Date	Start Date and End Date for the rate plan.
Subscription Type*	Subscription could be of the following type: • **Pay Monthly:** This is the postpaid plan option. • **Prepaid:** This is the prepaid plan option.
Tiered or Volume Rating (Optional)	**Note:** This field is visible only if the subscription type is **Pay Monthly** and for customers who have opted for this feature. Could be: • **SIM MRC and/or Usage:** • **Volume** • **Both** • **Blank**
Plan Validity Period (Month)*	**Note:** This field is visible only if the subscription type is **Prepaid.** Plan validity period in months.

<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>Rate Plan Type</td><td>Rate plan type could be:
• Individual Plan: Consumption of each SIM card is charged individually.
• Flex-Pool Bundle: Data is shared across a number of SIMs, where all the SIM cards can use any amount of data up to the total quota allocated to that plan.
• Fixed-Pool Bundle: A quota for each service is defined at pool level. Each SIM card can use full pool quota allocated to that rate plan, there is no limit defined per SIM.</td></tr>
<tr><td>Services Enabled*</td><td>The services applicable for the rate plan could be:
• SMS
• Data
• Voice</td></tr>
<tr><td colspan="2">Trial section
Note:
1. This section is visible only if the subscription type is Pay Monthly.
2. Trial comes to an end when the trial allowance for any service is used up or when the service has been in Trial state for a given duration.</td></tr>
<tr><td>SMS</td><td>Number of messages allowed for the trial duration.</td></tr>
<tr><td>Data</td><td>Amount of data per KB/MB/GB allowed for the trial duration.</td></tr>
<tr><td>Voice</td><td>Duration of voice calls (in minutes) allowed for the trial duration.</td></tr>
<tr><td>Trial Duration</td><td>Number of days of trial duration.</td></tr>
<tr><td>Trial Expiry Date</td><td>Date when trial will expire.</td></tr>
<tr><td colspan="2">Subscription Rates section</td></tr>
<tr><td rowspan="2">Rate per Subscription*</td><td>For Pay Monthly subscription type, enter the rate per subscription charges comprised of the following parameters:
Monthly Recurring Charge (per SIM): Charges incurred every month on a subscription.
Activation Fee: One-time charge for initial activation.
Network Access Fee (One Time): One-time charge incurred once the SIM consumes network resources.
Reactivation Fee: Charges incurred when the SIM comes back to service after suspension.</td></tr>
<tr><td>For Prepaid subscription type, rate per subscription charges comprised of the following parameter:
Bundle Charge (per SIM): bundle charges incurred per subscription.</td></tr>
</table>

Parameter	Description
Rate per Pool	**Note:** Rate per Pool options are disabled when postpaid Rate Plan Type is **Solo**. For **Pay Monthly** subscription type, rate per pool charges comprised of the following parameters: **Pool Monthly Recurring Charge:** Charges incurred every month on a pool plan. **Pool Activation Fee:** One-time charge for initial activation of a pool plan.
	Note: Rate per Pool option is disabled when prepaid Rate Plan Type is **Individual Bundle**. For **Prepaid** subscription type, rate per pool charges comprised of the following parameter: **Bundle Charge (per Pool):** Bundle charges incurred per pool.
Rating Zones section In this section, charges for voice, SMS, and data on the basis of zones and rating groups	
Zone Rates→Data service, SMS Service, Voice Service	
Originating Zone	This field displays the zone from which the data, SMS and voice call originates.
Destination Zone	**Note:** This field is visible only for SMS and voice service. This field displays the zone to which the SMS or voice call terminates.
Rating Group	**Note:** This field is visible only for data service. This field defines the rating for data for the selected rating group and rating zone.
Included Messages	**Note:** This field is visible only for SMS service. Number of SMS messages included, and applicable between the selected originating and destination zone.
Included Minutes	**Note:** This field is visible only for voice service. Number of minutes included for voice calls, and applicable between the selected originating and destination zone.
Included Data	**Note:** This field is visible only for data service. Data volume included for the selected rating group and rating zone.
Overage Rate	**Note:** This field is visible only if the subscription type is **Pay Monthly.** Overage rate for SMS messages (n° messages), voice calls (voice unit) or data (KB/MB/GB)
Voice Rounding	**Note:** This field is visible only for voice service. Rounding off criteria for voice calls from the list.

Parameter	Description
Data Rounding	**Note:** This field is visible only for data service. Rounding off criteria for data from the list.

5.5 Rating Resources

The Rating Resources page displays all the rating resources available in the system

5.5.1.1 Introduction to Rating Zones

A zone is a regional entity covering, in the simplest case, a single country. Instead of a single country, zones can also cover a list of countries and a legal or geographic combination of countries, like the EU or continents such as Asia.

All rate plans are linked to a rating zone. A rating zone is a collection of zones for the purpose of charging one monthly fee for all of the zones.

In a rating zone model, by defining a single rate for an entire zone, the subscriber does not have to care which network is used. Since the service provider will mix different networks in a rating zone in the rate plan calculations, the charges will depend on the rates of these underlying networks.

5.5.1.2 Zones and Bands

Zones are added in a rate plan to identify the rates and quotas applied to a particular collection of networks. For data, just a zone is sufficient for this definition, but for SMS and voice services, it is necessary to know the originating and destination zones. Therefore, for SMS and voice services, bands are defined using pairs of zones and it is to these bands that quotas and rates are assigned.

5.5.2 Rating Zones

The Rating Zones page displays all the created rating zones

You can search for a specific rating zone by entering text in the Search field, or filter the rating zones list by zone name, description, network count, or creation date parameters.

You can also reverse the order of the displayed rating zones list by hovering over and clicking **Sort** that appears on any of these parameter names.

5.5.2.1 Viewing a Rating Zone

1. Click **Rating→Rating Resources→Rating Zones** in the top menu to view the list of rating zones in a table.
2. Click the **View Details** icon corresponding to a rate plan to open the rate plan details window.
3. In the Rate Plan window, you can view the rate plan details corresponding to the following tabs:
   - General
   - Added networks

Table 5-4: Rating Zone Parameters

Parameter	Description
General Section	
Zone Name*	Enter the name of the rating zone.
Description	Enter a description for the rating zone. **Note:** The description length can be of maximum 100 characters.
Added Networks Section	
Included Networks	Displays the list of included networks in the rating zone: country, network name, TADIG, MCC, or MNC parameters.

5.6 Service Catalog

5.6.1 Introduction to Service Catalog

The service catalogue allows to create and manage products, which are offered to accounts "on top" of the connectivity fees defined in rate plans. Each one of these products is referred to as a "Service Fee".

There can be two types of Service fee:

- **Account Related Add-Ons:** The service and rates apply to the entire account. For example: VPN fee, private APN fee, etc.
- **SIM Related Add-Ons:** The service and rates apply as an additional charge for each SIM in the account. For example: security package, optional support service, etc.

The subscriptions and their associated service fee charges are part of the Monthly Rating Report (MRR), which is used to feed the CSP's billing system to generate the invoice in an account.

With the service catalogue, WING Digital Hub therefore enables to specify how other charges can be charged. They can be charged as:

- **One-Time/Non-Recurrent Charge (NRC)**
- **Monthly Recurring Charge (MRC)**

5.6.2 Service Fee Summary

The Service Fee Summary page displays all the created service fees.

You can search for a specific service fee summary by entering text in the Search field related to categories such as, service fee name, associated account/subscription, charge code, remark, amount, bill cycle, or date parameters.

You can also reverse the order of the displayed service fee summary list by hovering over and clicking **Sort** that appears on any of these parameter names.

5.6.2.1 Viewing Service Fee Summary Details

1. Click **Rating→Service Catalogue→Service Fee Summary** in the top menu to view the list of service fee summary in a table.

   The table displays all the service fee summary details present in the WING Digital Hub.

Table 5-5: Service Fee Parameters

Parameter	Description
Name*	Name of the service fee.
Association Level*	Association level: • **Account:** The service and rates apply to the entire account. • **SIM:** The service and rates apply as an additional charge for each SIM in the account.
Charge Code*	Charge code, which is the unique identifier for the type of service fee applied.
Description	Remark about service fee

Parameter	Description
Amount	Quantity to apply
Bill cycle	Number of billing cycles to apply
Date	When the service fee was created

5.6.2.2 Exporting Service Fee Summary

You can export the service fee summary data present in the WING Digital Hub in the form of an excel file. A typical exported excel file contains details such as service fee name, associated account/subscription, charge code, remark, amount, bill cycle, and date.

1. Click **Rating**→**Service Catalogue**→**Service Fee Summary** in the top menu to view the list of service fee summary in a table.
2. Click the **Export Service Fee Summary** icon at the top of the page and then select **Export Page Data** to export the service fee summary details corresponding to that page in an excel file.

   The file gets downloaded and saved in your PC.

5.7 Discounts

5.7.1 Introduction to Discounts

Discount is the monetary concession given on the listed price of product and service. Discounts are applicable on recurring fees of services/products. One-time fees or Non-Recurring Charges (NRC) are not eligible for discounts.

The discounts are determined at the assignment of the chargeable items (e.g., rate plan) to the account. This implies that discounts are not part of the rate plan definition.

Discounts will be passed on to all the subscriptions directly attached to the account with that rate plan assigned. Discounts will be given to the customer for finite number of bill cycles as defined on discount assignment.

5.7.2 Discount Summary

The Discount Summary page displays the discount summary of all the created discounts as well as provides the interface to assign discounts to accounts.

You can search for a specific discount summary by entering text in the Search field related to categories such as, account name, rate plan, charge code, discount category, amount, from bill cycle, number of bill cycles, or to bill cycle parameters.

You can also reverse the order of the displayed discount summary list by hovering over and clicking **Sort** that appears on any of these parameter names.

5.7.2.1 Viewing Service Fee Summary Details

1. Click **Rating→Discount→Discount Summary** in the top menu to view the list of discount summary in a table.

   The table displays all the service fee summary details present in the WING Digital Hub.

Table 5-6: Service Fee Summary Details

Parameter	Description
Discount Name	Discount name.
Account name	Account to which discount was assigned
Rate Plan	Rate plan to which discount was assigned.
Charge Code	Charge code, which is the unique identifier for the type of service fee applied
Iterations of Bill Cycle	Number of iterations of bill cycle.
Discount (%)*	Discount value in percentage.
Assignment Date	Date when the discount was applied.

5.7.2.2 Exporting Discount Summary

You can export the discount summary data present in the WING Digital Hub in the form of an excel file. A typical exported excel file contains details such as account name, rate plan, charge code, discount category, amount, from bill cycle, number of bill cycles, and to bill cycle.

1. Click **Rating→Discount→Discount Summary** in the top menu to view the list of discount summary in a table.
2. Click the **Export Discount Summary** icon at the top of the page and then select **Export Page Data** to export the discount summary details corresponding to that page in an excel file.

The file gets downloaded and saved in your PC.

5.8 Commitments

5.8.1 Introduction to Commitments

Commitments refer to an approach where the enterprises have a contractual commitment with the CSPs to achieve particular targets for a given period and when such targets are not met, a penalty charge is calculated and applied on them accordingly.

In WING Digital Hub, there are three types of commitments:

- **Revenue commitment**

  Revenue applies to the sum of the charges against an enterprise account within WING Digital Hub.

- **Subscription commitment**

  A subscription commitment is where an enterprise has committed to have a minimum number of subscriptions on WING Digital Hub.

- **Inactive SIM commitment**

  This commitment is in the form of a time period for which the SIM is permitted to be inactive (grace period) without any charge applied for the SIM, after which a charge will be applied, even if not activated. When the SIM is activated, the penalty fee will no longer apply, normal charging will resume.

5.8.1.1 Commitment Penalties

When the commitment is not met for an account, a **penalty fee** is applied to that account.

- **Penalty Fee for Revenue Commitment**

For revenue commitments, penalty fee is the difference between the commitment and the achieved revenue, such as to bring the overall revenue up to the commitment value.

Commitment Fee Added = (Committed Revenue – Actual Revenue)

- **Penalty Fee for Subscription Commitment**

For subscription commitments, the difference between the commitment and the achieved subscription volume will be multiplied by a per SIM fee defined in the configuration of the commitment.

Commitment Fee Added = (Committed # SIMs – Actual # SIMs) x Per SIM Charge

- **Inactive subscription commitment:**

Fee is applied in each bill period when the SIM remains inactive (Enterprise Inventory / Trial states). The commitment penalty fee will be equal to the MRC for the rate plan the SIM is on

5.8.1.2 Multiple Commitments

At any given time, a particular account can have a revenue commitment against it OR a subscription commitment against it, but it cannot have both.

Each account can have only one commitment against it for any given period, but it is possible to have multiple commitments configured for the same account for different periods. However, these commitments must be sequential, and no overlap is permitted. For example, enterprise account 1 has revenue commitment of 25k€ for months 1-6, then revenue commitment of 40k€ for months 7-12; these will be configured as two commitments against enterprise account 1.

5.8.2 Commitment Summary

The Commitment Summary page displays the commitment summary of all the created commitments as well as provides the interface to assign commitments to accounts.

You can search for a specific commitment summary by entering text in the Search field related to categories such as, commitment category, account name, commitment type, charge code, value, penalty fee per SIM, first bill period, or cycles parameters.

You can also reverse the order of the displayed commitment summary list by hovering over and clicking **Sort** that appears on any of these parameter names.

5.8.2.1 Viewing Commitment Summary Details

Click **Rating→Commitment→Commitment Summary** in the top menu to view the list of commitment summary in a table.

The table displays all the commitment summary details present in the WING Digital Hub.

Table 5-7: Commitment Parameters

Parameter	Description
Commitment Category	Commitment name
Account Name	Account to which the commitment is assigned.

Parameter	Description
Commitment Type	Commitment type could be: • Revenue • Subscription • Inactive SIM
Charge Code	Charge code, which is the unique identifier for the type of commitment category applied.
Value	• If commitment type is revenue, amount of committed revenue • If commitment type is Subscription, number of committed subscriptions. • If commitment type is Inactive SIM activation, number of inactive days **Note:** committed revenue amount is applicable in account's currency.
First Bill Period*	First billing cycle to which the commitment needs to be applied.
Number of Billing Cycles*	Billing cycles to which the commitment needs to be applied.
Per Subscription Penalty Fee*	Penalty fee per subscription

5.8.2.2 Exporting Commitment Summary

You can export the commitment summary data present in the WING Digital Hub in the form of an excel file. A typical exported excel file contains details such as commitment category, account name, commitment type, charge code, value, penalty fee per SIM, first bill period, number of bill cycles, and action.

1. Click **Rating→Commitment→Commitment Summary** in the top menu to view the list of commitment summary in a table.
2. Click the **Export Commitment Summary** icon at the top of the page and then select **Export Page Data** to export the commitment summary details corresponding to that page in an excel file.

The file gets downloaded and saved in your PC

Chapter 6

Reports

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6 Reports

A report, in WING Digital Hub, is a data record or a set of data records that meets the criteria that you define. The data is displayed in rows and columns. You can filter, group, or display them in a graphical chart. Every report is stored in a folder. Folders can be public, hidden, or shared, and can be set to read-only or read/write.

6.1 Reporting Types and Account Hierarchy

WING Digital Hub provides two different levels of reporting considering the account hierarchy:

- **CSP Reports:** Contain information related to all accounts, subscriptions within a CSP. These reports are accessible for roles CSP admin and CSP user.
- **Enterprise Reports:** Contain information related to all accounts, subscriptions within an enterprise account. These reports are accessible for roles enterprise admin, enterprise user, CSP admin, and CSP user.

There are two types of reporting in WING Digital Hub:

- **Off-the-Shelf Reports:** These predefined reports are available at both levels. Although they are enabled for CSPs by default, they need to be enabled for enterprise accounts by someone with CSP admin role. They will have same report names, but different data. These reports are available via WING Digital Hub portal and API.
- **Reports of Batch File Executions:** Batch executions may include SIM upload, assignment, provisioning, etc. From the batch executions page, all details of the generated reports are shown allowing their download. Batch execution details can be filtered by type and status parameters.

6.2 Reports Management

From user perspective, reports have a simple lifecycle, enabled/disabled and deleted.

When reports are enabled, it is configured how often the report is going to be generated, daily or monthly. On the other hand, all reports can be disabled once they are no longer used, although they can be enabled again at any time.

All reports are retained for six months from creation date. During this period, they are accessible via WING Digital Hub portal and APIs. After that time, as per the policy, the oldest reports are deleted first.

There are two categories considering the data availability in the report:

- **Snapshot Reports:** These reports show data till that time.

- **Delta Reports:** These reports show data of the last 24 hours.

6.3 Off-the-Shelf Reports

6.3.1 Introduction to Off-the-Shelf Reports

Off-the-shelf reports are predefined reports available on the portal and via API. Details of these reports are as given below:

Note 1: The table shows the reports that are available to an Enterprise user. There are other reports also that are only available to the CSP users and can be enabled for an Enterprise user by requesting to CSP.

Note 2: WING Digital Hub supports downloading of reports from the portal in '.txt (pipe delineated)' format.

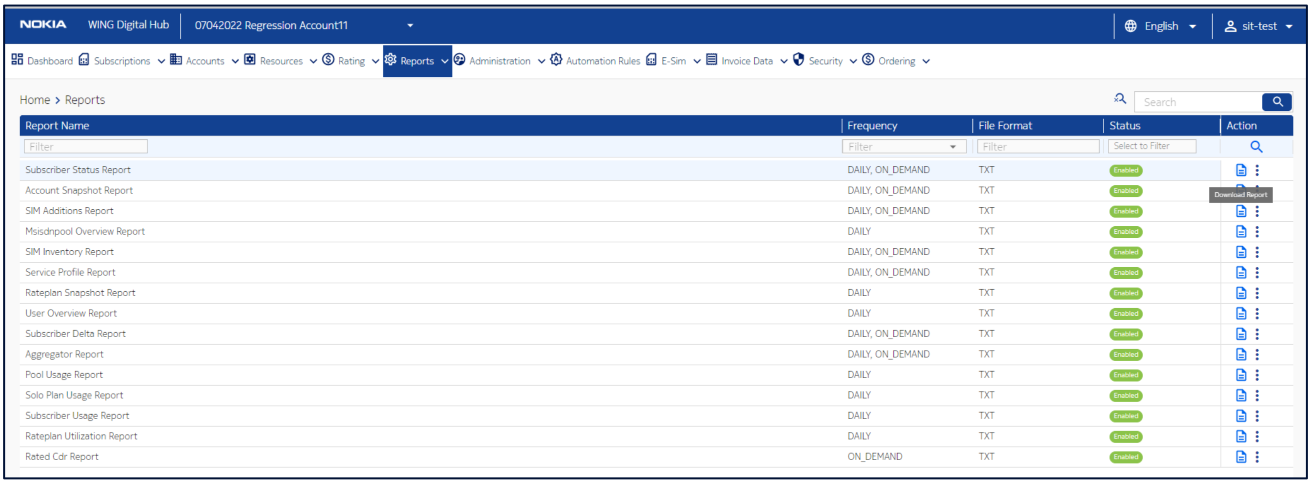
Table 6-1: Off-the-Shelf Reports

Report Name	Frequency	Category	Description
Account Snapshot Report	Daily	Snapshot	Contains static data of all enterprise accounts in WING Digital Hub. Each line contains all the data for an account.
SIM Additions Report	Daily	Delta	Provides a report of all SIMs activated at the end of the previous day. SIM availability in 'Enterprise Inventory' is different from SIM activated. This report captures the SIMs activated, i.e. from "Enterprise-Inventory" state to 'Trial or Activated' states.
Subscriber Delta Report	Daily	Delta	Contains details of any changes to a given ICCID. Changes are related to SIM state and rate plan. This report provides a log of all changes taking place for a SIM.
Subscriber Status Report	Daily	Snapshot	Contains list of ICCIDs along with their associated rates plans, SIM state, and account ID within the reporting period. SIM billing status captured will be the one at the EOD. Hence every ICCID will only ever have 1 status against it for the day.
Pool usage report	Monthly	Delta	Contains a summary by rate plan (for pool rate plans), rate plan type (fixed, flex) and rating zone, of usage charges based on each SIM's assigned rate plan and rating zone. Does not include activation fees, subscription fees, or other charges
Solo plan usage report	Monthly	Delta	Contains a summary of non-pooled usage by SIM, of usage charges per each SIM's assigned rate plan and rating zone. Does not include activation fees, subscription fees, or other charges.

Report Name	Frequency	Category	Description
			Note: This report contains the details about the usage done for the **Individual** rate plan.

6.3.2 Downloading Off-the-Shelf Reports

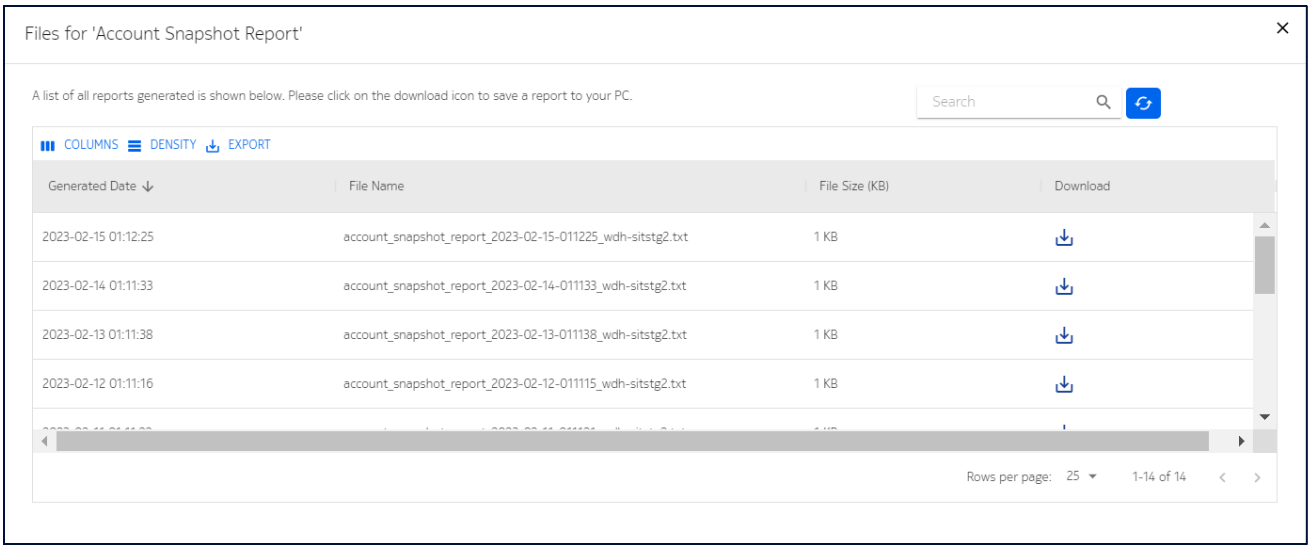
Figure 6-1: Downloading Off-the-Shelf Report



1. Click **Reports→Off-the-Shelf Reports** in the top menu to view the list of off-the-shelf reports in a table.
2. Click the **Download Report** icon  corresponding to a report to download the report.

   A list of reports is generated in the Report Files window.

Figure 6-2: Report File Window



3. In the Report Files window, click the **Download** icon corresponding to the required report.

   The report gets downloaded and saved in your PC.

6.3.3 Enabling/Disabling Off-the-Shelf Reports

1. Click **Reports→Off-the-Shelf Reports** in the top menu to view the list of off-the-shelf reports in a table.
2. Click the **Enable/Disable** icon corresponding to a report to enable/disable the report.

   The report gets enabled/disabled and appears with the new status in the table.

6.4 Reports of Batch File Executions

The Batch Executions page allows you to view the details of your various batch executions and also download their corresponding reports.

You can filter the batch execution details list by type, status, or start time parameters.

You can also reverse the order of the displayed batch execution details list by hovering over and clicking **Sort** that appears on any of these parameter names.

You can also refresh your operations by clicking the **Refresh** icon given at the top right corner of the table.

6.4.1 Viewing Batch Execution Details

1. Click **Reports→Batch Executions** in the top menu to view the list of batch execution details in a table.

2. Click the **View Details** icon corresponding to an execution to open the batch execution details window.
3. In the execution details window, you can view the details of the batch execution.

6.4.2 Downloading Reports

1. Click **Reports→Batch Executions** in the top menu to view the list of batch execution details in a table.
2. Click the **Download Report** icon corresponding to a batch execution to download the report.

   The report gets downloaded and saved in your PC.

   The downloaded report consists of the following parameters:

Table 6-2: Report Parameters

Report Parameter	Description
Batch ID	Displays the unique batch ID.
Execution Summary	Displays the execution summary of the operation: **Success:** Number of SIMs that were successful in completing the batch execution. **Failed:** Number of SIMs that failed in completing the batch execution. **Invalid:** Number of SIMs that were provided invalid data for completing the batch execution.
Execution Time	Displays the time taken in milliseconds to complete the batch execution.

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Chapter 7

Administration

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7 Administration

Administration module, the nerve center of WING Digital Hub, refers to the creation and maintenance of users, user groups, roles, and IP-Whitelist.

To manage the WING Digital Hub workflow effectively, an account administrator can create multiple users, and delegate different roles to the users. Assigning appropriate roles effectively ensures that each user's abilities are aligned within the scope of their service in the organization. Account administrators can organize a collection of users into groups, which can be assigned to accounts.

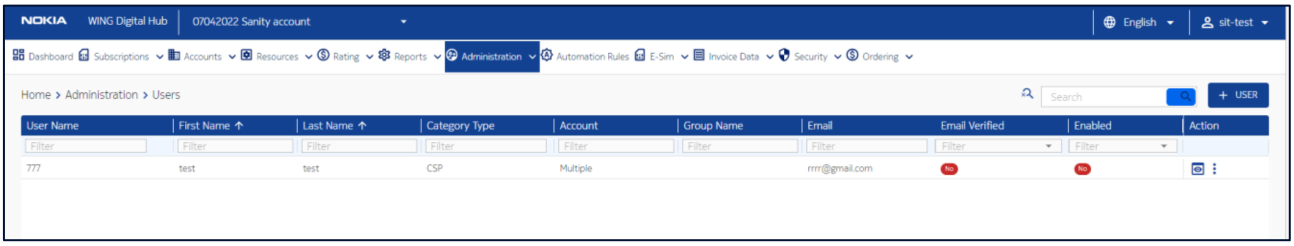
Users, user groups, their roles, and IP whitelist can be managed in the Administration module of WING Digital Hub.

7.1 Users

Users can represent various entities within an organization, such as an employee or a customer that requires access to WING Digital Hub. The management of users is possible through the users page.

The Users page displays all the created users as well as provides the interface to add new users.

Figure 7-1: Users



You can search for a specific user by entering text in the Search field, or filter the users list by user name, first name, last name, category type, account, group name, email, email verified, or enabled parameters.

You can also reverse the order of the displayed users list by hovering over and clicking **Sort** that appears on any of these parameter names.

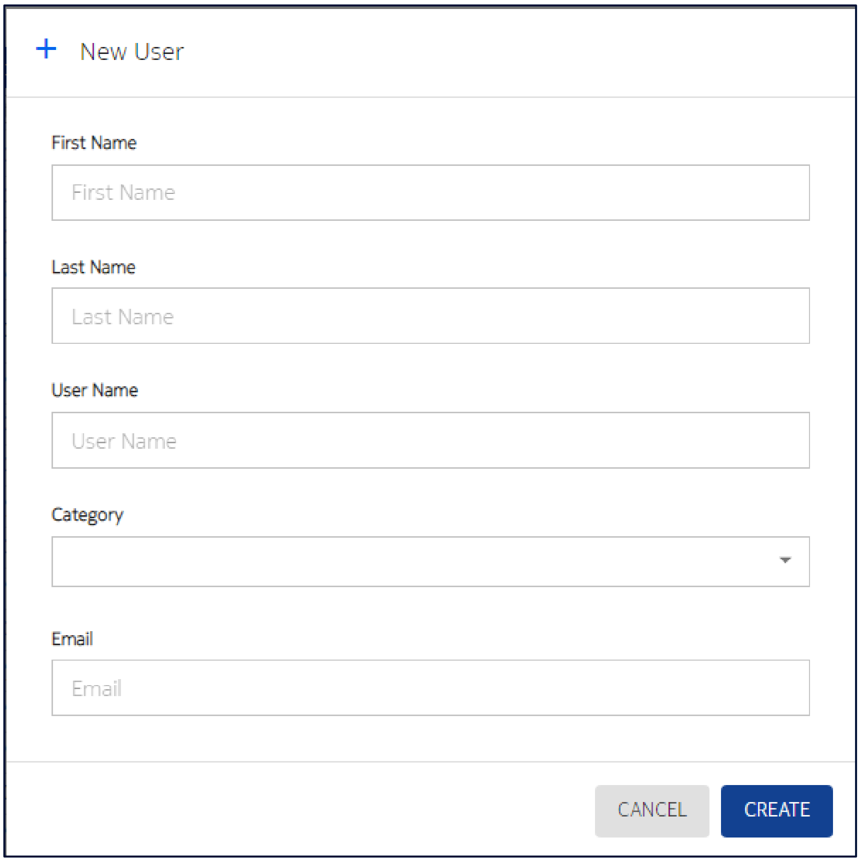
7.1.1 Creating or Editing a User

1. Click **Administration→Users** in the top menu to view the list of users in a table.
2. Perform any of the following actions, as required:

- Click the **Add User** icon 

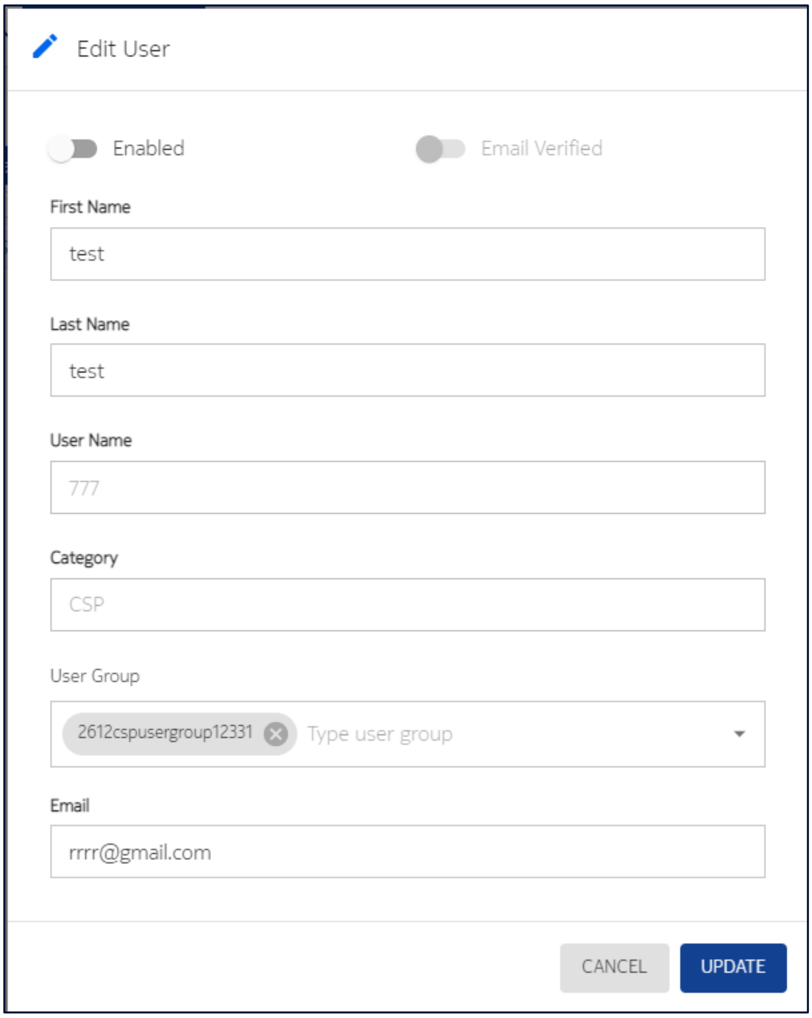
at the top right of the table to create a new user.

Figure 7-2: Create New User



- Click the **More** icon ⋮ corresponding to a user and then select the **Edit** icon to edit the user.

Figure 7-3: Edit User



3. Configure the following parameters:

Table 7-1: User Parameters

Parameter	Description
First Name **Last Name**	Enter the first name and last name of the user.
User Name	Enter the user name of the user.
Category Type	Select the category type of the user. **Note:** It can be Account or Group for an account level user.
Select Account	Select the account for the user.
User Group	This field is visible only when the account is selected and in the edit user window. Select the user group for the user.

Parameter	Description
Email	Enter a valid email ID of the user.
Enabled	This field is visible only in the edit user window. Select the **Enabled** toggle button and enable it to enable the user. On enabling the user, an automatic email is sent to the user for email verification and password reset.
Email Verified	This field is visible only in the edit user window. The **Email Verified** toggle button gets automatically enabled after the user has verified the email ID, which is sent to them after the user gets enabled.

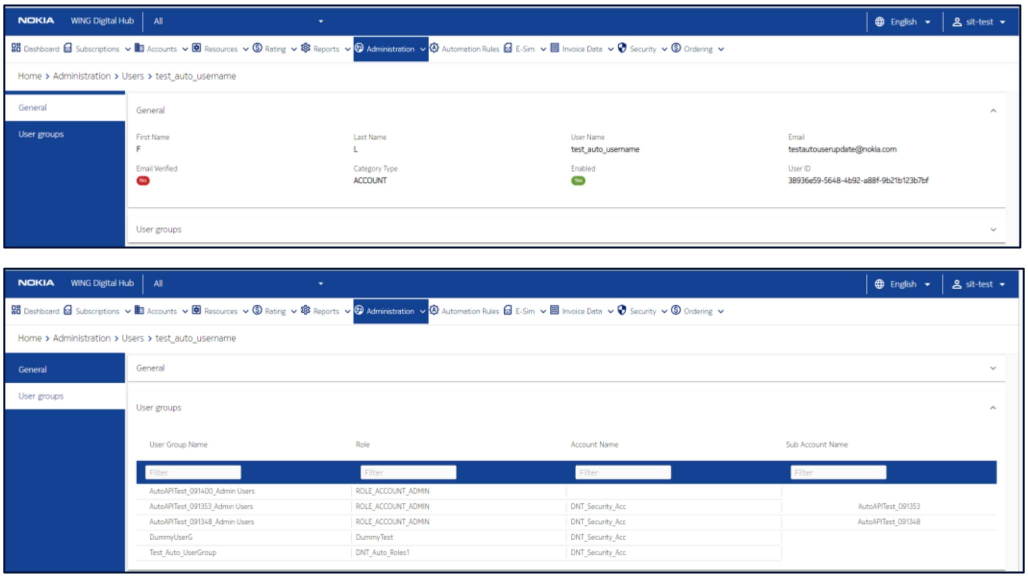
4. Perform any of the following actions, as required:
   - Click **Create** to create the new user.
   - Click **Update** to update the changes made to the user details.

   The newly created or updated user appears in the list of users in the table.

7.1.2 Viewing User Details

1. Click **Administration→Users** in the top menu to view the list of users in a table.
2. Click the **View Details** icon corresponding to a user to open the user details window.

   Figure 7-4: User Details



3. In the user details window, you can view the details of the user corresponding to the following tabs:
   - General
   - User groups

Table 7-2: User Details

Field	Description
General Tab	
First Name	First name of the user.
Last Name	Last name of the user.
User Name	User name to access WDH.
Email	Email address to access WDH.
Email Verified	Indicates whether the email address is verified or not.
Category Type	Type of the user category. For example, CSP_Admin, CSP. Account, or Group.
Enabled	Indicates whether the user is enabled or not.
User ID	Indicates the user ID.
User groups	
User Group Name	Name of the user group for this user.
Role	Role of the user.
Account Name	Account name in WING Digital Hub.
Sub Account Name	Sun Account name in WING Digital Hub.

7.1.3 Enabling a User

Note: You can only enable a disabled user.

1. Click **Administration→Users** in the top menu to view the list of users in a table.
2. Click the **More** icon ⋮ corresponding to a user and then select the **Enabled** icon to enable the user.

   The user gets enabled and appears with 'Yes' status under the enabled column.

7.1.4 Disabling a User

Note: You can only disable an enabled user.

1. Click **Administration→Users** in the top menu to view the list of users in a table.
2. Click the **More** icon ⋮ corresponding to a user and then select the **Disabled** icon to disable the user.

   The user gets disabled and appears with 'No' status under the enabled column.

7.1.5 Deleting a User

1. Click **Administration→Users** in the top menu to view the list of users in a table.
2. Click the **More** icon ⋮ corresponding to a user and then select the **Delete** icon 🗑 to delete the user.
3. In the confirmation window, click **Confirm** to confirm the deletion.

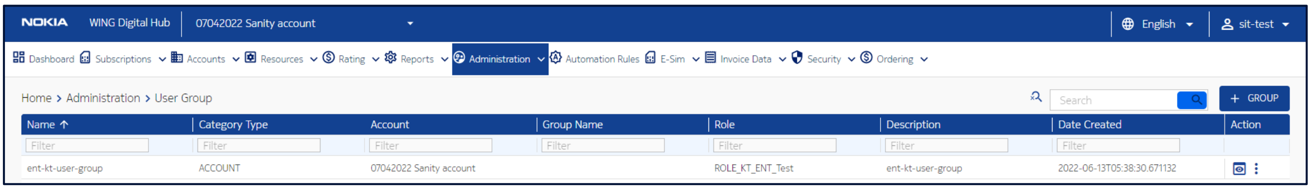
7.2 User Groups

A user group is a set of users who have similar functionalities, roles, or permissions. This helps in speeding up the top-down build-up of organizational structure for any account that needs to be put in place effectively, quickly, and accurately.

The management of user groups is possible through the User Groups page.

The User Groups page displays all the created user groups as well as provides the interface to add new users groups.

Figure 7-5: User Groups



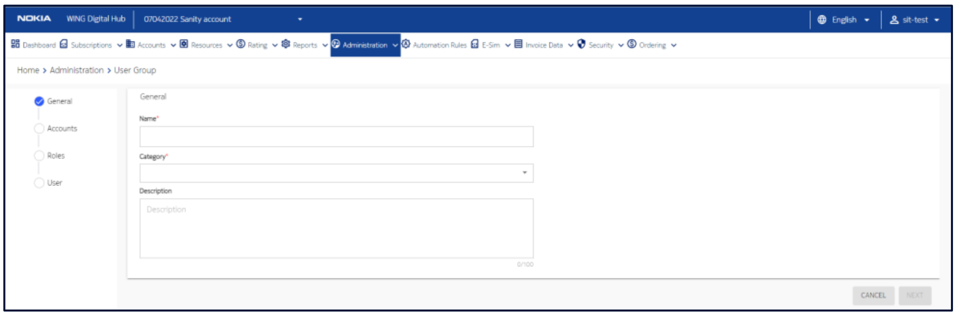
You can search for a specific user group by entering text in the Search field, or filter the user groups list by name, category type, account, role, description, or date created parameters.

You can also reverse the order of the displayed user groups list by hovering over and clicking **Sort** that appears on any of these parameter names.

7.2.1 Creating or Editing a User Group

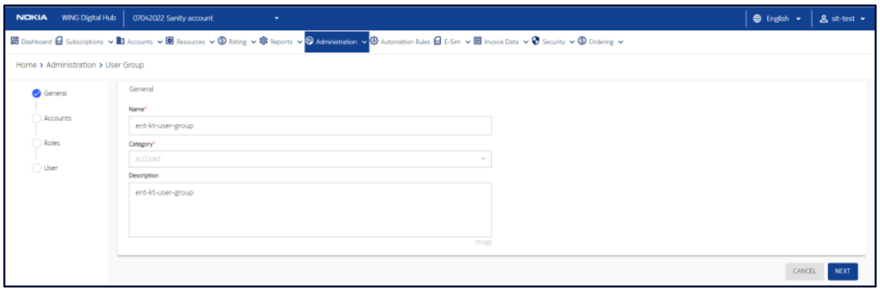
1. Click **Administration→User Groups** in the top menu to view the list of user groups in a table.
2. Perform any of the following actions, as required:
   - Click the **Add Group** icon [+ GROUP] at the top right of the table to create a new user group.

Figure 7-6: Create User Group



- Click the **More** icon corresponding to a user group and then select the **Edit** icon to edit the user group.

Figure 7-7: Edit User Group



3. Configure the following parameters:

Table 7-3: User Group Parameters

Parameter	Description
General	
Name*	Enter the name of the user group.
Category*	Select the user group category from the following options: • **Account** • **Group**
Description	Enter the description of the user group.
Accounts	
Select Account*	Select the account.
Select Group*	Select the group.
Roles	
Select Role	Select the role from the roles list available for your account.
User	

Parameter	Description
Available Users	Displays the list of available users.
Selected Users	Displays the list of all the selected users.

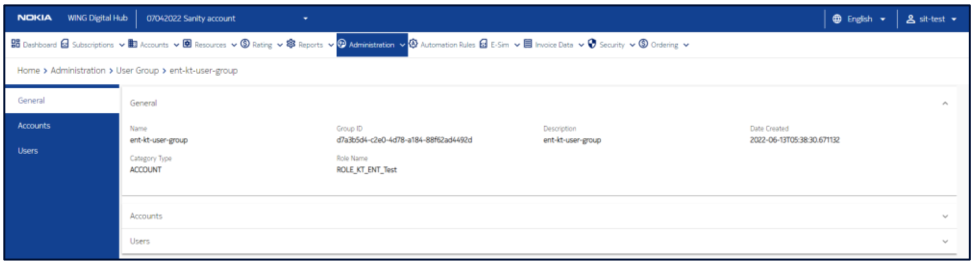
4. Perform any of the following actions, as required:
   - Click **Create** to create the new user group.
   - Click **Update** to update the changes in the edited user group.

   The newly created or edited user group appears in the list of user groups in the table.

7.2.2 Viewing User Group Details

1. Click **Administration→User Groups** in the top menu to view the list of users in a table.
2. Click the **View Details** icon corresponding to a user group to open the user group details window.

   Figure 7-8: User Group Details



3. In the user group details window, you can view the details of the user group corresponding to the following tabs:
   - General
   - Accounts
   - Users

7.2.3 Deleting a User Group

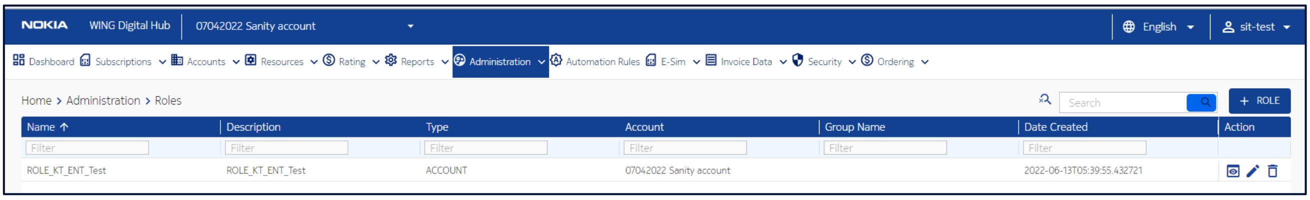
1. Click **Administration→User Groups** in the top menu to view the list of user groups in a table.
2. Click the **More** icon ⋮ corresponding to a user group and then select the **Delete** icon to delete the user.
3. In the confirmation window, click **Confirm** to confirm the deletion.

7.3 Roles

A role is the designated activity of a user in a business setting. Roles are assigned to users to define their abilities within the scope of their services. The management of roles for users is possible through the roles page.

The Roles page displays all the created roles for users as well as provides the interface to add new roles.

Figure 7-9: Roles



You can search for a specific role by entering text in the Search field, or filter the roles list by name, description, type, account, group name, or date created parameters.

You can also reverse the order of the displayed roles list by hovering over and clicking **Sort** that appears on any of these parameter names.

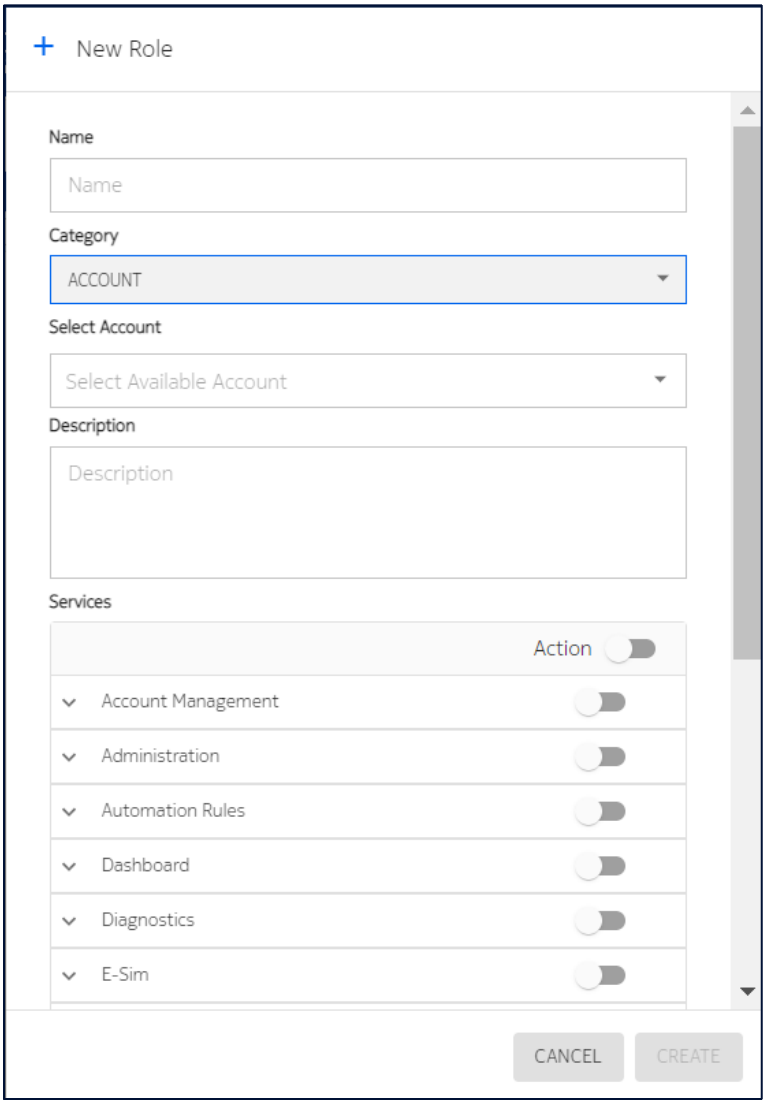
7.3.1 Creating or Editing a Role

Note: You can only create a role that is either at an equal level or at a lower level than yours in the user hierarchy. For example, a CSP user can create a CSP role or an account role, however, an Account user can only create an account role.

1. Click **Administration→Roles** in the top menu to view the list of roles in a table.
2. Perform any of the following actions, as required:
   - Click the **Create New Role** icon 

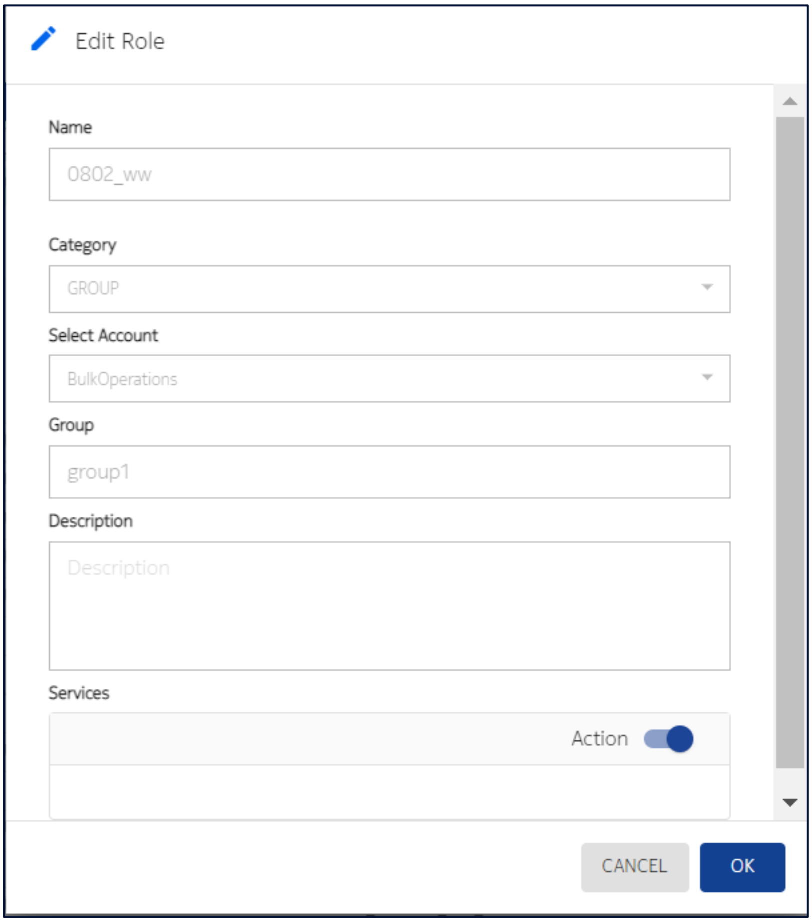
 at the top right of the table to create a new role.

Figure 7-10: Create New Role



- Select the **Edit** icon to edit the role.

Figure 7-11: Edit Role



3. Configure the following parameters:

Table 7-4: Role Parameters

Parameter	Description
Name	Enter the name of the role.
Category	Select the role category from the following options: • **Account** • **Group**
Select Account	Select the account of the role.
Description	Enter the description of the role.
Services This parameter is only visible when you select the category. Select the following toggle buttons and enable them to assign the following services/permissions to the role.	
Action	Enables all available services and therefore assigns all services/permissions to the user.

Parameter	Description
Account Management	
Accounts	Enables all available account related services and therefore assigns all account related services/permissions to the user.
Manage Accounts	Allows the user to create accounts and manage the accounts status.
Assign APN	Allows the user to assign an APN to account.
Assign APN Group	Allows the user to assign an APN group to account.
Assign Network Profile	Allows the user to assign a network profile to account.
Assign Rate Plan	Allows the user to assign a rate plan to account.
Assign Roaming Profile	Allows the user to assign a roaming profile to account.
Assign MSISDN Pool	Allows the user to assign MSISDNs to an account.
Manage Security Policies	Allows the user to manage the security policies of an account.
Fetch Rating	Allows the user to fetch the ratings of an account.
Account Custom Fields	Allows the user to manage custom fields.
Administration	
Administration	Enables all available administration related services and therefore assigns all administration related services/permissions to the user.
Users	Toggling shows or hides the Users option menu.
Add User	Allows the user to create, edit, and delete a user.
User Groups	Toggling shows or hides the User Groups option menu.
Add Group	Allows the user to create, edit, and delete a user group.
Roles	Toggling shows or hides the Roles option menu.
Add Role	Allows the user to create, edit, and delete a role.
IP-Whitelist	Toggling shows or hides the IP Whitelist option menu.
Add IP	Allows the user to create, edit, and delete an IP whitelist.
Automation Rules	

Parameter	Description
Automation Rules	Enables all available automation rules related services and therefore assigns all automation rules related services/permissions to the user.
Create Automation Rules	Allows the user to create, edit, copy, and delete automation rules and also get access to all details tabs.
Change Automation Rules Status	Allows the user to change the status of automation rules (options will be displayed depending on the workflow).
Dashboard	
Dashboard	Enables all available dashboard related services and therefore assigns all dashboard related services/permissions to the user.
Subscriptions	Toggling shows or hides the subscriptions section.
Usage	Toggling shows or hides the usage section.
Diagnostics	
Diagnostics	Allows the user to view and manage diagnostics.
Cancel Location	Allows the user to access the cancel location feature. See Canceling Location
Subscriber	Allows the user to manage subscriber related diagnostics.
E-Sim	
E-Sim Management	Allows the user to manage the eSIMs..
E-Sim Subscriptions	Allows the user to view and manage the eSIM Subscriptions.
Purge Subscriptions	Allows the user to purge the eSIM Subscriptions.
Profiles History	Allows the user to view the Profiles history.
Transactions History	Allows the user to check the Transactions history.
Invoice	
Invoice Data	Enables all available invoice related services and therefore assigns all invoice related services/permissions to the user.
Account Invoice Feeds	Toggling shows or hides the Account Invoice Feeds option menu.
Invoice Adjustments	Toggling shows or hides the Invoice Adjustments option menu.
Adjustment Summary	Toggling shows or hides the Adjustment Summary option menu.

Parameter	Description
View Account Invoice Feed	Allows the user to view invoice feed.
View Sub Account Invoice Feed	Allows the user to view sub-account invoice feed.
Approve Invoice Feeds	Allows the user to approve invoice feeds.
Invoice Data API Call	Allows the user to use the API call for invoice data.
Create Charge Code	Allows the user to create a charge code.
Ordering	
Ordering	Allows the user to manage orders.
My Orders	Allows the user to view and manage the orders.
Account Defaults	Allows the user to view and manage default options of an account.
Orders	Allows the user to view and manage the orders.
SIM Orders	Allows the user to view and manage SIM orders.
Approved SIM Orders	Allows the user to view and manage the approved SIM orders.
Approved eSIM Orders	Allows the user to view and manage the approved eSIM orders.
SIM Change Status	Allows the user to view and manage the SIM change status.
ESIM Change Status	Allows the user to view and manage the eSIM change status.
Ordering Administration	Allows the user to manage ordering administration.
eSIM/SIM Products	Allows the user to view and manage the eSIM/SIM products.
E-SIM Orders	Allows the user to view and manage the eSIM orders.
Add Products	Allows the user to add products.
Assign Account	Allows the user to assign account.
Unassign	Allows the user to unassign order.
Change Status	Allows the user to change the status of order.
View SIM Product	Allows the user to view SIM product.
Notifications	Allows notifications.
Rating Management	

Parameter	Description
Rating Management	Enables all available rating related services and therefore assigns all rating related services/permissions to the user.
Rate Plans	Toggling shows or hides the Rate Plans option menu.
Rating Resources	Toggling shows or hides the Rating Resources option menu.
Rating Zones	Toggling shows or hides the Rating Zones option menu.
Service Catalog	Toggling shows or hides the Service Catalog option menu.
Service Fee Change Status	Toggling shows or hides the Service Fee Change Status.
Assign Accounts	Allows the user to assign accounts to rate plans.
Service Fee Summary	Allows the user to view service fee summary.
Unassign Service Fee	Allows the user to unassign service fee.
Discount	Allows the user to manage discount.
Assign Discount	Allows the user to assign discount.
Discount Summary	Allows the user to view discount summary.
View Plans	Allows the user to view rate plans.
Commitment	Allows the user to manage the account commitment.
Add-on Bundle	Allows the user to manage add-on bundles.
Reports	
Reports	Enables all available reports related services and therefore assigns all reports related services/permissions to the user.
Batch Executions	Toggling shows or hides the Batch Executions option menu. Allows the user to view the list of reports corresponding to a batch execution and also download them.
Off-the-Shelf Reports	Toggling shows or hides the Off-the-Shelf Reports option menu. Allows the user to view the list of off-the-shelf reports and also download them.
Disable Report	Allows the user to disable a report.
Generate Report	Allows the user to generate a report.
Resource Management	
Resources	Enables all available resources related services and therefore assigns all resources related services/permissions to the user.

Parameter	Description
APN	Toggling shows or hides the APN option menu.
QoS	Toggling shows or hides the QoS option menu.
Network Profile	Toggling shows or hides the Network Profile option menu.
Create APN	Allows the user to create, edit, and delete APNs and also get access to all details tabs.
IP Pools	Toggling shows or hides the IP Pools option menu.
MSISDN Pools	Toggling shows or hides the MSISDN Pools option menu.
Roaming Profile	Toggling shows or hides the Roaming Profile option menu.
Network Interface	Allows the user to update the network interface.
Security	
Audit Logs	Allows the user to view audit log.
SIM State Change Allows the user to change the status of a subscription (options will be displayed depending on the workflow).	
Retire	Allows the user to change the status of a subscription to retire.
Activate	Allows the user to change the status of a subscription to activate.
Suspend	Allows the user to change the status of a subscription to suspend.
Deactivate	Allows the user to change the status of a subscription to deactivate.
Purge	Allows the user to change the status of a subscription to purge.
Subscriptions	
Subscriptions	Enables all available subscription related services and therefore assigns all subscription related services/permissions to the user.
SIM	Toggling shows or hides the SIM option menu.
SIM Workflow	Allows the user to view SIM workflow.
Move SIMs	Allows the user to move SIM cards.
Bulk Changes	Allow the user to perform bulk changes.
Tag SIMs	Allows the user to tag SIM cards.
Purge Subscriptions	Allows the user to purge subscriptions.
Security Policy	Toggling shows or hides the Security Policy tab.
Security Policy Lookup	Allows the user to view security policy lookup.
Assign Tags	Allows the user to assign tags.

Parameter	Description
Change APN Group	Allows the user to change APN groups of a subscription.
Change Network Profile	Allows the user to change the network profile of a subscription.
Change Roaming Profile	Allows the user to change the roaming profile of a subscription.
Change Rate Plan	Allows the user to change the rate plan of a subscription.
CDR History	Allows the user to view the CDR history.
Usage Summary	Allows the user to view the Usage Summary.
Session Details	Allows the user to view the Session Details.
Show Custom Fields	Allows the user to view the Custom Fields.
Show SMS	Allows the user to view the SMSs.
Show Add-on Bundle	Allows the user to view Add-on Bundle.
Send SMS	Allows the user to send SMS.
Probe Events	Allows the user to probe events.
Terminate Session	Allows the user to terminate session.
Assign Add-on Bundled	Allows the user to assign add-on bundle to a subscription.
Group Subscription	Allows the user to group SIMs
Bulk Group Subscriptions	Allows the user to group SIMs in bulk.
Tags	Toggling shows or hides the Tags option menu.
Create Tags	Allows the user to add a tag.
Custom Fields	Toggling shows or hides the Custom Fields option menu.
Create Field	Allows the user to add a custom field.
Subscription Groups	Toggling shows or hides the Subscription Groups option menu.
Create Group	Allows the user to create Groups.

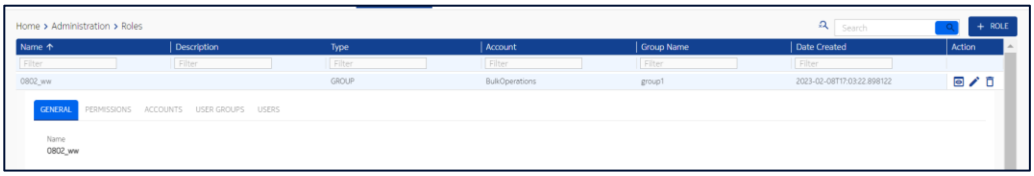
4. Click **Create** to create the new role with the selected permissions.

   The newly created role appears in the list of roles in the table.

7.3.2 Viewing Role Details

1. Click **Administration→Roles** in the top menu to view the list of roles in a table.
2. Click the **View Details** icon corresponding to a role to open the role details window.

   Figure 7-12: Role Details

3. In the role details window, you can view the role details corresponding to the following tabs:
   - General
   - Permissions
   - Accounts
   - User Groups
   - Users

7.3.3 Deleting a Role

1. Click **Administration→Roles** in the top menu to view the list of roles in a table.
2. Click the **Delete** icon to delete the role.
3. In the confirmation window, click **Delete** to delete the role.

7.4 IP-Whitelist

Some Enterprises want to ensure that their users only access the portal from a specific set of machines/IP addresses to increase the overall security of the system.

IP Whitelist page contains a list of IP entries that have been marked as whitelisted by the Enterprise administrator.

IP whitelists can be defined on account and sub-account level. IP lists can be defined by an individual IP or an IP range. Both IPv4 and IPv6 protocols are supported in WING Digital Hub.

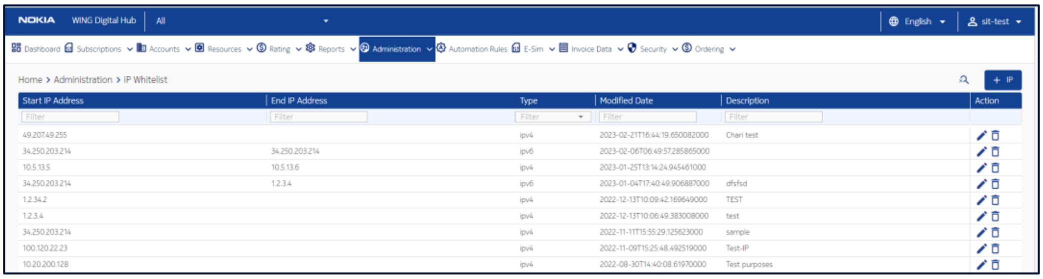
The validation of the IP address will be done after a successful user login. The result of IP validation will have effect on user access rights and their rights to perform actions on the portal.

A user can access the portal and perform actions if either there is no entry on IP whitelist for the CSP/Enterprise, or the IP address of the user is in the IP whitelist.

If the Enterprise have specified the IP entries in the whitelist but the IP address of the user is not in the IP whitelist, then the user cannot perform any actions on the portal.

The IP Whitelist page displays all the whitelisted IP entries as well as provides the interface to add new IPs.

Figure 7-13: IP Whitelist

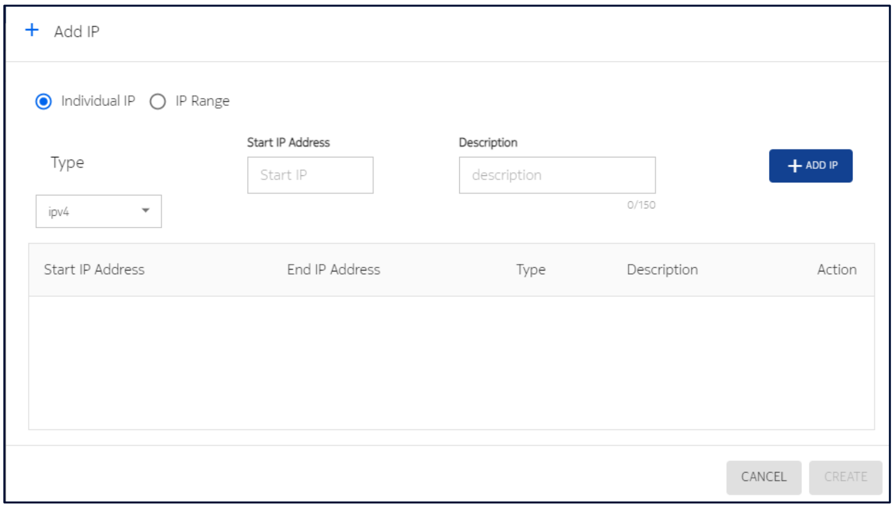


You can search for a specific IP by filtering the IP list by start IP address, end IP address, type, modified date, or description parameters.

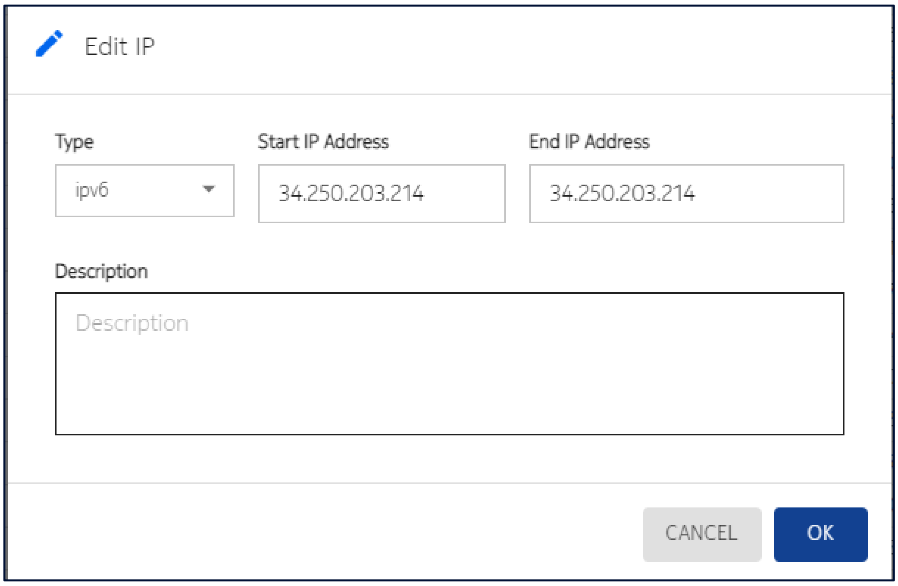
You can also reverse the order of the displayed IP list by hovering over and clicking **Sort** that appears on any of these parameter names.

7.4.1 Creating or Editing an IP Whitelist

1. Click **Administration→IP Whitelist** in the top menu to view the list of whitelisted IP entries in a table.
2. Perform any of the following actions, as required:
   - Click the **Add IP** icon  at the top right of the table to create a new IP whitelist entry.

   - Click the **Edit** icon corresponding to an IP whitelist entry to edit the IP whitelist entry.



3. In the Add IP window, configure the following parameters:

Table 7-5: IP Whitelist Parameters

Parameter	Description
IP Category	Select the IP category from the following options: • **Individual IP** • **IP Range**
Type	Select the IP type from the list: • **IPv4** • **IPv6**
Start IP Address End IP Address	The End IP Address field is visible only if you have selected the IP Range option in IP category. Enter the start IP address and end IP address.
Description	Enter the description of the IP entry.
Add IP icon	Click the **Add IP** icon  to add the IP entry. The added IP entry appears in the table at the bottom in the Add IP window.

Note: Editing only Type, Start IP Address and Description parameters can be modified

4. Click **Create** to create the new IP whitelist entry.

The newly created IP whitelist entry appears in the list of whitelisted IP entries in the table.

7.4.2 Deleting an IP Whitelist

1. Click **Administration**→ **IP Whitelist** in the top menu to view the list of whitelisted IP entries in a table.
2. Click the **Delete** icon 🗑 corresponding to an IP whitelist entry to delete the IP whitelist entry.
3. In the confirmation window, click **Confirm** to confirm the deletion.

Chapter 8

Automation Rules

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8 Automation Rules

Automation Rules allow a user to be more proactive through the automated trigger of 'actions', which are based on a given 'business rule' or 'trigger event'. It means that when certain events happen, the remediation or follow-up tasks are triggered, notifications are sent, actions are taken, and results are handled proactively.

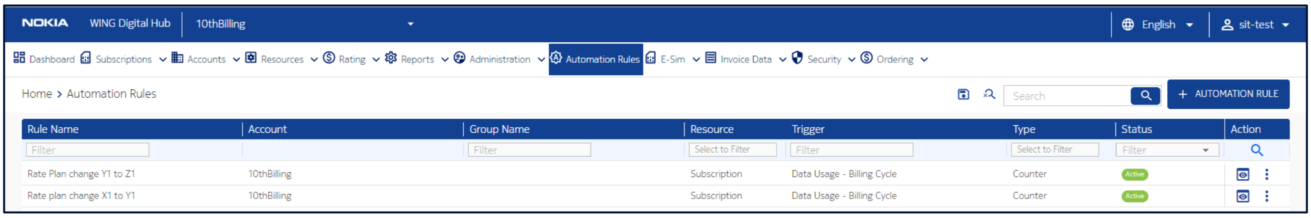
8.1 About Automation Rules

8.1.1 Introduction to Automation Rules

The WING Digital Hub Portal provides a flexible automation framework to meet different business and operational needs of enterprise account users.

The main target audience who uses the automation rules is the account/enterprise users, therefore each rule will exist attached to an account.

Figure 8-1: Automation Rules menu



To define an automation rule, the user needs to define several parameters/configurations:

1. **Rule Definition:**
   To identify the rule and define it.
2. **Resource Selection:**
   To identify the resources (subscriptions, rate plan, account) that will be monitored.
3. **Trigger Selection:**
   To identify which event will possibly trigger an action (triggers can be events or counter based).
4. **Notification:**
   To configure a notification (email or SMS)
5. **Actions:**
   To define which action will be executed in the event the trigger was fired.

To simplify the lifecycle of rules, there will be two possible states: **Active** and **Inactive**.

Depending on the rule trigger, the rule will either be executed based on an event or periodically.

In certain cases, depending on the rule that is implemented, some input might be asked to the user, for example, the threshold value to compare the data usage.

8.1.2 Rule Definition

An automation rule can be identified and defined using the following parameters:

- Name
- Description
- End date

8.1.3 Resource Selection

The resources, which can be subject to monitoring for the definition of events/conditions in automation rules are listed in the table below.

Table 8-1: Resource Selection

S.No.	Resource Type
1.	Account • Automatically filled with the account selected in the context.
2.	Rate Plan • Select the rate plan from the list.
3.	Subscription Subscription can be further filtered by: • All SIMs • List of ICCID (displays a multi-selection window with filtering, limit 100) • List of IMSI (displays a multi-selection window with filtering, limit 100) • Rate Plan (select a rate plan)) • Tag (select a tag)

8.1.4 Trigger Selection

Trigger types can be of following types:

- Event-based (based on events such as session start, session stop, new country, lifecycle management, etc.)
- Usage-based (based on counters built from usage events)
- Analytics-based (sessions and SMSs after a period - billing cycle, 24 hours)

The different triggers that can be triggered and their description, resource, frequency, service type, user input fields, and actions taken are given in the table below.

Table 8-2: Trigger Selection

S.No.	Trigger Name	Description	Resource	Frequency	Service Type	User Input Field(s)	Action(s)
Event-based triggers							
1.	Data Session Start - Billing Cycle	Detects when the data session starts (in current billing cycle).	Subscription	When a session starts	Data		
2.	Data Session Stop - Billing Cycle	Detects when the data session stops (in current billing cycle).	Subscription	When a session stops	Data		
3.	Data Security Policy violation	Monitors and detects the violation of a data security policy. It happens when an IMEI that is not allowed has tried to initiate a data session.	Subscription	When data security policy gets violated	Data		• Suspend • Change Network Profile • Change APN • Change Roaming Profile
4.	SIM Status Changed	Monitors and detects a change in SIM lifecycle state.	Subscription	When the state of the SIM changes	Provisioning	State **Note**: The State can be any one of the SIM Lifecycle State. If the value of state is configured as **Any**, then this rule monitors all state transitions.	• Change rate plan • Change network profile • Change APN • Change roaming profile
5.	SIM IMEI Changed	Monitors and detects a change in the last known IMEI of a SIM.	Subscription	When the IMEI of the SIM changes	Provisioning		• Suspend • Block data (billing cycle) • Change network profile • Change APN

S.No.	Trigger Name	Description	Resource	Frequency	Service Type	User Input Field(s)	Action(s)
							• Change roaming profile
6.	SIM Rate Plan Changed	Detects a change in the price plan of the SIM.	Subscription	When SIM rate plan changes	Provisioning	Rate Plan **Note**: The trigger can detect any change in the rate plan. If the value of Rate Plan is **Any**, then the rule monitors all the rate plan transitions.	
7.	SIM Location (Country) Changed	Detects a change in the last known location (country) where the SIM data was used. The detection is based on service usage.	Subscription	When the location (country) where the SIM is used changes	Provisioning		• Suspend • Change rate plan • Block Data (billing cycle) • Block SMS (billing cycle) • Change network profile • Change APN • Change roaming profile
8.	Registration in a Zone	Detects when a SIM gets registered in a specific zone. This trigger is based on the location update event.	Subscription	When a SIM gets registered in a specific zone	Provisioning	Zone	• Suspend • Change rate plan • Block Data (billing cycle) • Block SMS (billing cycle)

S.No.	Trigger Name	Description	Resource	Frequency	Service Type	User Input Field(s)	Action(s)
							• Change network profile • Change APN • Change roaming profile
9.	SMS Security Policy violation	Monitors and detects a violation in SMS security policy.	Subscription	When SMS security policy gets violated	SMS		• Suspend • Change network profile • Change APN • Change roaming profile
10.	SMS-MO Received	Detects an SMS is sent from the device to WDH	Subscription	When SMS is received from the device	SMS		
Usage-based triggers							
1.	Data Sessions Count - 24hrs	Counts the number of data sessions in current 24 Hours duration (for all locations). It is triggered when the data session count exceeds the value entered by the user.	Subscription	When a session starts or updates	Data	Value	
2.	Data Sessions Count - Billing Cycle	Counts number of data sessions in the current billing cycle (for all locations). It is triggered when the data session count exceeds the value entered by the user.	Subscription	When a session starts or updates	Data	Value	
3.	Data Usage - 24hrs	Checks the data usage within current 24 Hours (for all locations). It is triggered when the data usage exceeds the value entered by the user.	Subscription	When a session starts or updates	Data	Value, Unit(KB, MB, GB)	• Suspend • Change rate plan • Block Data (24 Hours)

S.No.	Trigger Name	Description	Resource	Frequency	Service Type	User Input Field(s)	Action(s)
							• Change network profile • Change APN • Change roaming profile
4.	Data Usage - Billing Cycle	Checks the data usage in current billing cycle (for all locations). It is triggered when the data usage exceeds the value entered by the user.	Subscription	When a session starts or updates	Data	Value, Unit(KB, MB, GB)	• Suspend • Change rate plan • Block Data (billing cycle) • Change network profile • Change APN • Change roaming profile
5.	Data Usage in Country - Billing Cycle	Checks the data usage in current billing cycle (for a specified country). The location value is MCC.	Subscription	When a session starts or updates	Data	Value, Unit(KB, MB, GB), Country	• Suspend • Change rate plan • Block Data (billing cycle) • Change network profile • Change APN • Change roaming profile
6.	Data Usage in Zone - Billing Cycle (Percentage Quota)	Checks the data usage in current billing cycle (for a specified zone) in percentage of quota. The location value is Zone ID. It is triggered when data usage exceeds the percentage quota value entered	Subscription	When a session starts or updates	Data	Value, Zone	• Suspend • Change rate plan • Block Data (billing cycle) • Change network profile

S.No.	Trigger Name	Description	Resource	Frequency	Service Type	User Input Field(s)	Action(s)
		by the user in a specific zone.					• Change APN • Change roaming profile
7.	Data Usage in Zone - Billing Cycle	Checks the data usage in current billing cycle (for a specified zone). The location value is Zone ID. It is triggered when data usage in a specific zone for a billing cycle exceeds the value entered by the user.	Subscription	When a session starts or updates	Data	Value, Unit(KB, MB, GB), Zone	• Suspend • Change rate plan • Block Data (billing cycle) • Change network profile • Change APN • Change roaming profile
8.	SMS MO Count - 24hrs	Counts the number of SMSs sent (for all the locations) within the current 24 Hours. It is triggered when the count of SMS MO in 24 Hours duration exceeds the value entered by the user.	Subscription	When a session starts or updates	SMS	Value	• Suspend • Change rate plan • Block SMS (24 Hours) • Change network profile • Change APN • Change roaming profile
9.	SMS MO Count - Billing Cycle	Counts the number of SMSs sent (for all the locations) within the current billing cycle. It is triggered when the count of SMS sent exceeds the value entered by the user.	Subscription	When a session starts or updates	SMS	Value	• Suspend • Change rate plan • Block SMS (billing cycle) • Change network profile • Change APN

S.No.	Trigger Name	Description	Resource	Frequency	Service Type	User Input Field(s)	Action(s)
							• Change roaming profile
10.	SMS MO Count in Country - Billing Cycle	Counts the number of SMSs sent (for a specified country) within the current billing cycle. The location value is MCC.	Subscription	When a session starts or updates	SMS	Value, Country	• Suspend • Change rate plan • Block SMS (billing cycle) • Change network profile • Change APN • Change roaming profile
11.	SMS MO Count in Zone - Billing Cycle (Percentage Quota)	Counts the number of SMSs sent within the current billing cycle (for a specified zone) in percentage of quota. The location value is zone ID.	Subscription	When a session starts or updates	SMS	Value, Zone	• Suspend • Change rate plan • Block SMS (billing cycle) • Change network profile • Change APN • Change roaming profile
12.	SMS MO Count in Zone - Billing Cycle	Counts the number of SMSs sent within the current billing cycle (for a specified zone). The location value is zone ID.	Subscription	When a session starts or updates	SMS	Value, Zone	• Suspend • Change rate plan • Block SMS (billing cycle) • Change network profile • Change APN • Change roaming profile

S.No.	Trigger Name	Description	Resource	Frequency	Service Type	User Input Field(s)	Action(s)
13.	Data Usage - 24hrs	Checks the data usage (for all the locations) within the current 24 Hours.	Rate Plan	When a session starts or updates	Data	Value, Unit(KB, MB, GB)	
14.	Data Usage - Billing Cycle	Checks the data usage (for all the locations) within the current billing cycle.	Rate Plan	When a session starts or updates	Data	Value, Unit(KB, MB, GB)	
15.	Data Usage in Country - Billing Cycle	Checks the data usage (for a specified country) within the current billing cycle. The location value is MCC.	Rate Plan	When a session starts or updates	Data	Value, Unit(KB, MB, GB), Country	
16.	Data Usage in Zone - Billing Cycle (Percentage Quota)	Checks the data usage within the current billing cycle (for a specified zone) in percentage of quota. The location value is zone ID.	Rate Plan	When a session starts or updates	Data	Value, Zone	
17.	Data Usage in Zone - Billing Cycle	Checks the data usage (for a specified zone) within the current billing cycle. The location value is zone ID.	Rate Plan	When a session starts or updates	Data	Value, Unit(KB, MB, GB), Zone	
18.	SMS MO Count - 24hrs	Counts the number of SMSs sent (for all the locations) within the current 24 Hours.	Rate Plan	When a session starts or updates	SMS	Value	
19.	SMS MO Count - Billing Cycle	Counts the number of SMSs sent (for all the locations) within the current billing cycle.	Rate Plan	When a session starts or updates	SMS	Value	
20.	SMS MO Count in Country - Billing Cycle	Counts the number of SMSs sent (for a specified country) within the current billing cycle. The location value is MCC.	Rate Plan	When a session starts or updates	SMS	Value	

S.No.	Trigger Name	Description	Resource	Frequency	Service Type	User Input Field(s)	Action(s)
21.	SMS MO Count in Zone - Billing Cycle (Percentage Quota)	Counts the number of SMSs sent within the current billing cycle (for a specified zone) in percentage of quota. The location value is zone ID.	Rate Plan	When a session starts or updates	SMS	Value, Country	
22.	SMS MO Count in Zone - Billing Cycle	Counts the number of SMSs sent (for a specified zone) within the current billing cycle. The location value is zone ID.	Rate Plan	When a session starts or updates	SMS	Value, Zone	
23.	Active Subscription Count (Rate Plan)	Counts the number of active subscriptions for a specified price plan.	Rate Plan	Periodically (One hour)		Value	
24.	Active Subscription Count (Account)	Counts the number of active subscriptions for a specified account.	Account			Value	
Analytics-based triggers							
1.	No Data Sessions	Checks periodically whether any data session has started within a specified period of time.	Subscription	Periodically (One hour)	Data	Value, Unit (Hours, Days)	• Suspend
2.	No SMS Sent	Checks periodically if there has been any SMS sent for a given subscription.	Subscription	Periodically (One hour)	SMS	Value, Unit (Hours, Days)	• Suspend • Change rate plan • Change network profile • Change APN • Change roaming profile

8.1.5 Notifications

WING Digital Hub portal has the capability of providing different notification modes such as email and SMS.

- **Email**

This notification type is an e-mail sent to a specific recipient when the Automation rule trigger condition is met.
The user can specify the Recipient name, the Subject, and the Message body.
A template Subject and Message Body will be available during the rule creation and variable placeholders will be replaced by the contextual information at runtime.

- **SMS**
  This notification type is an SMS to a specific recipient when the Automation rule trigger conditions is met.
  The user can specify the Recipient MSISDN and the Message body.
  A template Message Body will be available during the rule creation and variable placeholders will be replaced by the contextual information at runtime.

Portal users can get email or SMS notifications in different scenarios such as:

- Notifications for predefined automation rule

Notifications provide real time update to users and enable them to take quick actions in different scenarios.

8.1.6 Actions

Automation rules support the following actions:

Table 8-3: Actions supported by Automation Rules

Action Type	Description
Suspend	This action triggers a Suspend SIM lifecycle state on the Subscription for which the trigger has fired. The user can get it reset at the end of the current billing cycle.
Change Rate Plan	This action triggers a provisioning operation, Change Rate Plan. The user can get it reset at the end of the current billing cycle.
Block Data (Billing cycle)	This action blocks the data service for the duration of current billing cycle. It automatically resets at the end of the current billing cycle.
Block SMS (Billing Cycle)	This action blocks SMS service for the duration of the current billing cycle. It automatically resets at the end of the current billing cycle.
Change Network Profile	This action triggers a provisioning operation, Change Network Profile. The user can get it reset at the end of the current billing cycle.
Change APN	This action triggers a provisioning operation, Change APN. The user can get it reset at the end of the current billing cycle.
Change Roaming Profile	This action triggers a provisioning operation, Change Roaming Profile. The user can get it reset at the end of the current billing cycle.

8.2 Managing an Automation Rule

The Automation Rules page displays all the created automation rules as well as provides the interface to add new automation rules. You can also export the automation rules when in the context of an account.

You can search for a specific automation rule by entering text in the Search field, or filter the automation rules list by rule name, account, group name, resource, trigger, type, or status parameters.

You can also see all automation rules associated with a specific account or sub-account by selecting the account from the **Account Context Dropdown** list All and sub-account from the **Sub Account Context Dropdown** list All displayed at the top of the page. You can then select the user group from the **Group Context Dropdown** list All.

You can also reverse the order of the displayed automation rules list by hovering over and clicking **Sort** that appears on any of these parameter names.

8.2.1 Creating or Editing an Automation Rule

Note: You can edit an automation rule only if its status is **Inactive**.

1. Click **Automation Rules** in the top menu to view the list of automation rules in a table.
2. Select an account, sub account and user group from their respective context dropdown list, at the top of the page.

   The automation rules associated with the selected account, sub account, and group appear in the list of automation rules in the table.
3. Perform any of the following actions, as required:
   - Click the **Create Automation Rule** icon + AUTOMATION RULE at the top right of the table to create an automation rule.
   - Click the **More** icon ⋮ corresponding to an automation rule and then select the **Edit** icon to edit the automation rule.
4. Configure the following parameters:

Figure 8-2: Create Automation Rules

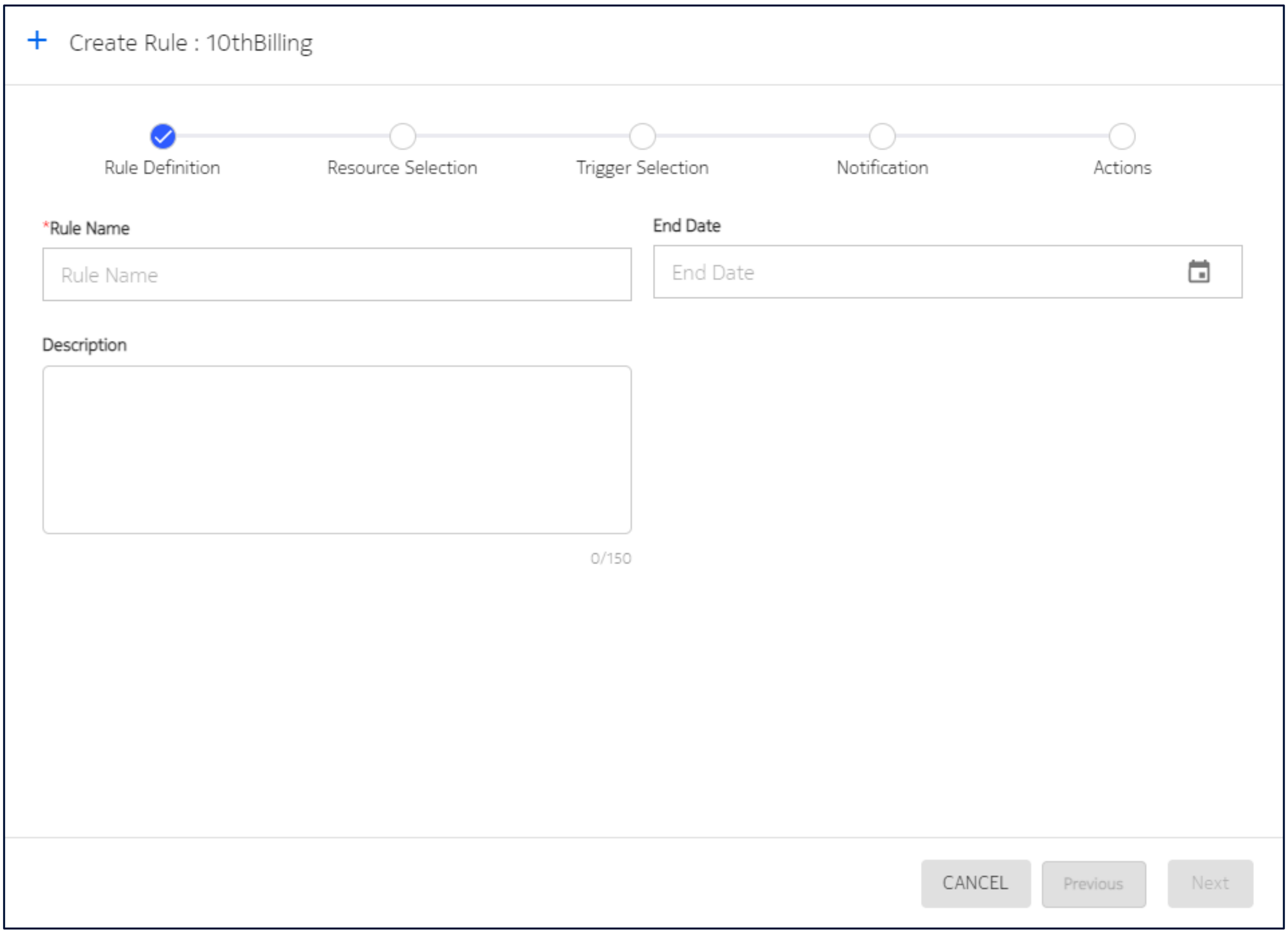


Table 8-4: Automation Rule Parameters

Parameter	Description
Rule Definition section	
Rule Name*	Enter a unique name for the rule.
End Date	Select the end date for the rule.
Description	Enter the description for the rule.
Resource Selection section	

<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>Resources Type*</td><td>Select the resources type from the list:
Account
Displays the name of the selected account.
Rate Plan
Select the rate plan from the list.
Subscription
Select the selection mode and its corresponding resources from the available options:
All SIMs
ICCID
IMSI
Rate Plan
Tag</td></tr>
<tr><td colspan="2">Trigger Selection section</td></tr>
<tr><td>Trigger Type*</td><td>Select the trigger type from the list:
Select the trigger type from the list (depending on resource type selection):
All Triggers
All resource types
Event: For example, session start/stop, new country, lifecycle management
Subscription resource types
Counter: Based on counters of usage events
Account, rate plan, subscription resource types
Analytics: Sessions and SMSs after a period (billing cycle, 24 hours)
Subscription resource types</td></tr>
<tr><td>Triggers*</td><td>Select the condition to trigger a rule from the list.</td></tr>
<tr><td>Value*</td><td>Enter the threshold value.
Note: This parameter is only for the triggers that needs a value to be defined. For example, Data Sessions Count - 24hrs.</td></tr>
<tr><td>Unit*</td><td>Select the unit for the threshold value.
Note: This parameter is only for the triggers that needs a threshold value defined in some units. For example, KB, MB, or GB for the Data Usage - Billing Cycle trigger.</td></tr>
<tr><td>Zone*</td><td>Select the zone.
Note: This parameter is only for the triggers that needs a zone to be defined. For example, Data Usage in Zone - Billing Cycle trigger.</td></tr>
<tr><td>*Country</td><td>Select the country.</td></tr>
</table>

Parameter	Description
	Note: This parameter is only for the triggers that needs a zone to be defined. For example, Data Usage in Country - Billing Cycle trigger.
Notification section	
Notification Type	Select the notification type from the list: • **None** • **Send Email** • **Send SMS**
Recipient*	Enter the email address of the recipient.
Subject*	**Note:** This field is visible only if the notification type is "Send Email". Enter the subject of the email.
Message*	Displays the template for notification message with tags. This message can be edited. The following tags can used in the message: • **imsi** This tag gets replaced with actual IMSI at run time. • **iccid** This tag gets replaced with actual ICCID at run time. • **msisdn** This tag gets replaced with actual MSISDN at run time. • **value** This tag gets replaced with actual value at run time. For example, The Subscription (IMSI : {imsi}) has reached the configured threshold ({value}) for SMS MO Count - Billing Cycle.
Actions section	
Action*	Select an action to be taken when the rule is triggered from the list. • **None** • **Suspend** • **Change Rate Plan** • **Block Data (Billing Cycle)** • **Block SMS (Billing Cycle)** • **Change Network Profile** • **Change APN** • **Change Roaming Profile**

5. Click **Create** to create a new automation rule.

The newly created automation rule appears in the list of automation rules in the table.

8.2.2 Exporting Automation Rule

1. Click **Automation Rules** in the top menu to view the list of automation rules in a table.
2. Select an account, sub account and user group from their respective context dropdown list, at the top of the page.

   The automation rules associated with the selected account, sub account, and group appear in the list of automation rules in the table.
4. Click the **Export Automation Rule** icon at the top right corner of the page to download the automation rules details corresponding to that page in an excel file.

8.2.3 Viewing Automation Rule Details

1. Click **Automation Rules** in the top menu to view the list of automation rules in a table.
2. Click the **View Details** icon corresponding to an automation rule to open the automation rule details window.
3. In the automation rule window, you can view the automation rule details corresponding to the following tabs:
   - **General**
   - **IMSI**
     Displays the IMSI.
   - **ICCID**
     Displays the ICCID.
   - **MSISDN**
     Displays the MSISDN.

Figure 8-3: View Details - Automation Rules

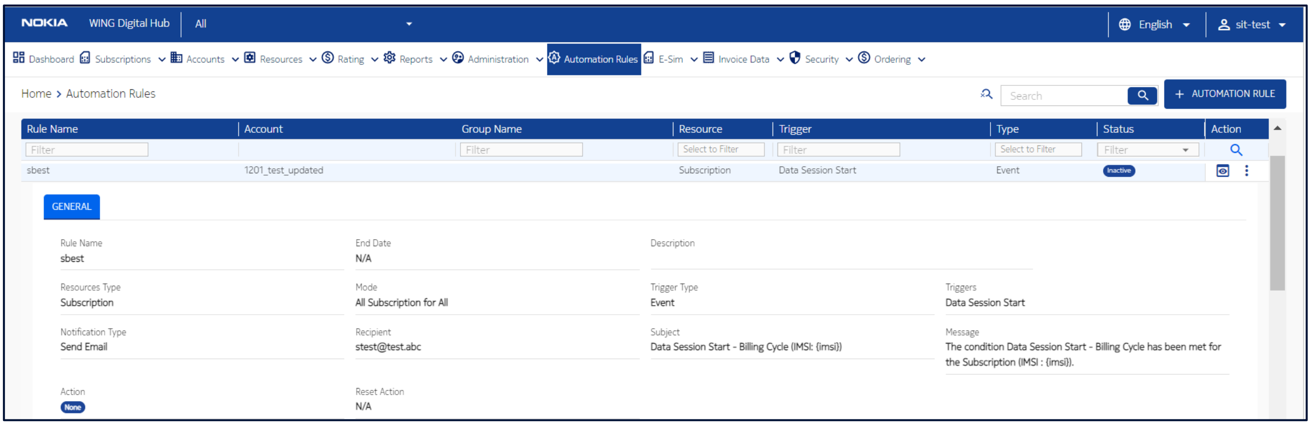


Table 8-5: View Automation Rules – General tab

Parameter	Description
Rule Name	Name of the automation rule.
End Date	Date till when the rule is applicable.
Description	Description of the rule.
Resource Type	Type of resource for the rule.
Mode	Mode for the rule.
Trigger Type	Trigger type associated with the rule.
Triggers	Trigger name.
Notification Type	Notification type for the rule.
Recipient	Recipient e-mail ID or contact number depending on the notification type.
Subject	Subject of the notification message.
Message	The notification message.
Action	Action associated with the trigger defined in the rule.
Reset Action	Displays whether the action will reset after the completion of current billing cycle or not.

8.2.4 Activating an Automation Rule

1. Click **Automation Rules** in the top menu to view the list of automation rules in a table.
2. Click the **Activate** icon corresponding to an automation rule to activate the automation rule.
3. In the activate window, click **Confirm**.

8.2.5 Disabling an Automation Rule

1. Click **Automation Rules** in the top menu to view the list of automation rules in a table.
2. Click the **Disable** icon corresponding to an automation rule to disable the automation rule.
3. In the Disable window, click **Confirm**.

   The automation rule appears with the **Inactive** status in the list of automation rules in the table.

8.2.6 Deleting an Automation Rule

1. Click **Automation Rules** in the top menu to view the list of automation rules in a table.
2. Click the **Delete** icon corresponding to an automation rule to delete the automation rule.
3. In the delete window, click **Confirm**.

   The automation rule appears with the **Deleted** status in the list of automation rules in the table. No further actions can be performed on the deleted automation rule. .

Chapter 9

Invoice Data

NOKIA

9 Invoice Data

9.1 Invoice Feed

The Account Invoice Feed offers the benefit to Enterprise users to visualize the approved invoice data with all the charges.

Within the bill preview feature, account-level totals are displayed, to give the headline "account total" and the high-level breakdown of charges. These are then further broken down and also available at SIM level. So, all charges are shown in a hierarchical manner to facilitate the identification of unexpected charges or higher charges.

The CSP controls when the billing data is made available to the enterprise to view within the WING Digital Hub GUI, allowing the CSP to make the necessary adjustments before the enterprise can review the data. So, the adjustments are also visible.

The Account Invoice Feeds page allows you to view the details of approved account invoice feeds that you are authorized to view.

You can search for a specific account invoice feed by entering text in the Search field, or filter the list by accounts total, account name, account ID, external account ID, bill period, currency, active subscriptions, data volume (MB), SMS volume (message), voice volume (minutes).

You can choose to display the columns that you want to view on the Account Invoice Feeds page by clicking the **Choose Columns** icon and selecting/unselecting the checkboxes of the available columns that are displayed in the pop-up window.

You can also reverse the order of the displayed account invoice feeds list by hovering over and clicking **Sort** that appears on any of these parameter names.

On selection of a specific account, a split-screen view of the account invoice feed will be shown. The top half of the screen will be the summary of the account.

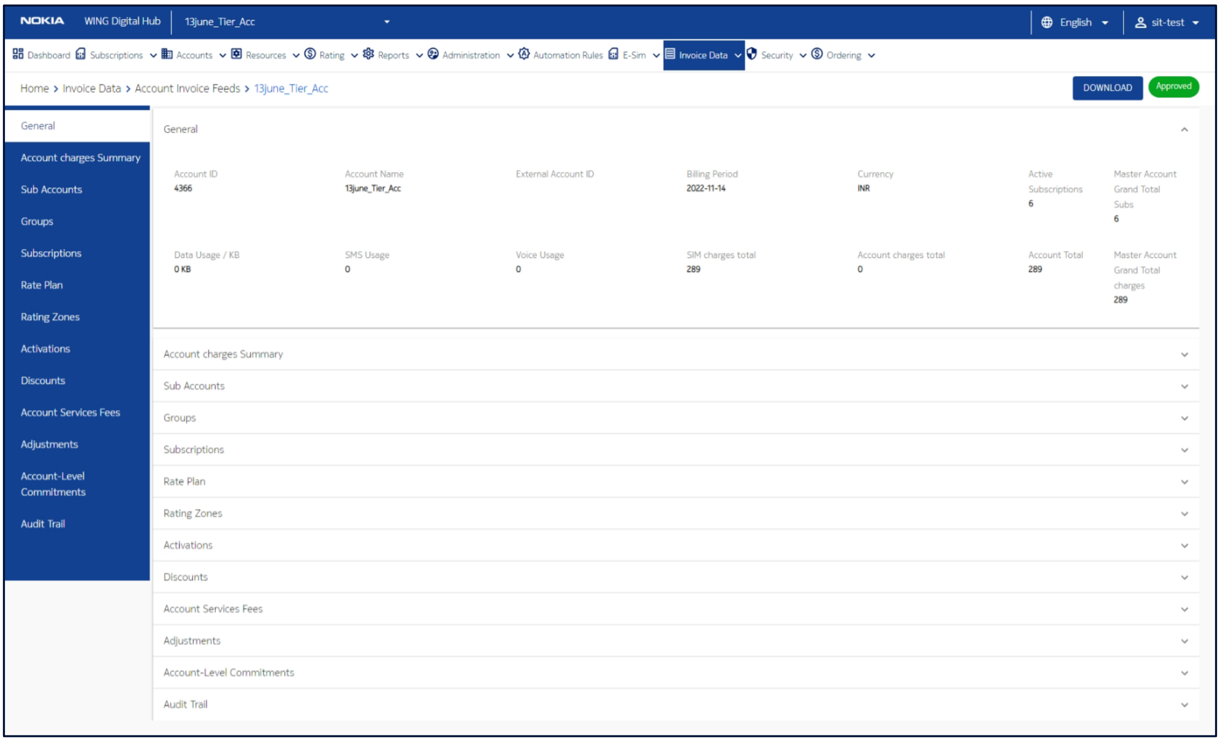
Within the bill preview feature, account-level totals are displayed, to give the headline "account total" and the high-level breakdown of charges. These are then further broken down in the different tabs and also available at SIM level.

9.1.1 Viewing Account Invoice Feed Details and Tabs

1. Click **Invoice Data→Account Invoice Feeds** in the top menu to view the list of account invoice feeds in a table.

2. Click the **View Details** icon corresponding to an account invoice feed or the Account ID link to open the account invoice feed details window.
3. The account invoice feed details window displays the following tabs:
   - General
   - Account Charges Summary
   - Sub-Accounts
   - Groups
   - Subscriptions
   - Rate Plan
   - Rating Zones
   - Activations
   - Discounts
   - Account Services Fees
   - Adjustments
   - Account Level Commitments
   - Audit Trail

Figure 9-1: Account Invoice Feed Details



Note: The coming sections describe the above-mentioned tabs in detail.

9.1.1.1 General

Table 9-1: General Parameters

Parameter	Description
Account ID	Account identifier in WING Digital Hub, which is populated during account creation.
Account Name	Account name in WING Digital Hub.
External Account ID	This field is attached to the account on creation in WING Digital Hub to allow CSPs and Enterprises to reference out to another system.
Billing Period	The first day of the bill period. For example, 2023-01-13 covers the bill period from 13th Jan 2023 (00:00) to 12th Feb 2023 (23:59).
Currency	The currency configured for the account.
Active Subscriptions	Number of SIMs that are in lifecycle states beyond Enterprise Inventory (i.e., have been in an activated state) during the bill cycle; not including SIMs that have been retired for the entire bill cycle.
Master Account Grand Total Subs	The total number of SIMs for this master account and all the sub-accounts created within this master account.
Data Usage (KB)	Total data volume consumption in KB for all SIMs in the account.
SMS Usage	Total SMS consumption (in count) for all SIMs in the account.
Voice Usage	Total voice call consumption in seconds for all SIMs in the account.
SIM Charges Total	The total of all SIM charges for all SIMs in the account. The following are summed: MRC (SIM and Pool), overage charges, access fees and activation charges (all types) and SIM level service fee. Discounts are included.
Account Charges Total	Total charges for the account that are NOT related to the SIM's plan usage or activation. This covers account-level service fees and adjustments.
Accounts Total	The total of all charges for the account including subscription-level fees (recurring charges, overage charges, one-off charges, discounts) and account-level fees (service fees, adjustments, and commitment fees). For master accounts, this will refer to charges related to the master account itself only. (No underpinning subaccount charges considered – for that total, see "Master Account Grand Total Charges".
Master Account Grand Total Charges	The total of all the charges for this master account and all its sub-accounts. This total includes the subscription-level fee (recurring charges, overage

Parameter	Description
	charges, one-off charges, and discounts) and account-level fee (service fee, adjustments, and commitment fee).
Approved button	The **Approved** button at the top right of the page indicates the status of the account invoice feed published to enterprise.
Download button	The **Download** button at the top right of the helps you to download the account invoice feed publishing to enterprise.

9.1.1.2 Account Charges Summary

Table 9-2: Account Charges Summary Parameters

Parameter	Description
Recurring SIM Charges	The total of all monthly recurring fees for the SIMs in the account. Sum of pro-rated MRCs for all SIMs and pools; discounts are included.
Total SIM MRC	The total of all recurring SIM charges for all SIMs in the account.
Total Pool MRC	The total of all recurring pool charges for all pools in the account.
Overage charges	The total of all overage charges for the SIMs in the account.
Data Overage	The total of overage charges incurred for data usage on all SIMs in the account.
SMS Overage	The total of overage charges incurred for SMS usage on all SIMs in the account.
Voice Overage	The total of overage charges incurred for voice usage on all SIMs in the account.
One-Time Charges	The total of all one-time SIM level fees including the sum of activation fees (SIM, pool, and reactivation), network access fees, and SIM services fees for all SIMs in the account.
Activation Fees	The total of all types of activation fees for all SIMs in the account.
Network Access Fees	The total of network access fees for all SIMs in the account. It includes the fees for accessing any network service (data, SMS, voice) during the bill cycle. This is applied one-time per bill cycle regardless of the number of network accesses made.
Account Charges	Total charges for the account that are NOT related to the SIM's plan usage or activation. This covers account-level service fees and adjustments.
Total Account Services Fees	The total of all account-level service fees for the account.
Total Adjustments	The total of all adjustments for the account.

Parameter	Description
Commitment Penalty	The total of commitment penalties.
Total SIM services fees	The total fee of SIM services.

9.1.1.3 Sub-Accounts

It displays a table with the sub accounts (if any) of the main account.

Table 9-3: Sub-Accounts Table

Field	Description
Active Subscriptions	Number of SIMs that are in lifecycle states beyond Enterprise Inventory (i.e., have been in an activated state) during the bill cycle; not including SIMs that have been retired for the entire bill cycle.
Total SIM Charges	The total of all SIM charges for all SIMs in the account. All subscription-level fees are added including MRC (SIM and pool), overage charges, access fees and activation charges (all types), SIM-level service fees, and discounts.
Account Name	Sub-Account name in WING Digital Hub.
Sub-Account ID	Sub-Account ID in WING Digital Hub.
External Sub-Account ID	This field is attached to the sub-account on creation in WING Digital Hub to allow CSPs to reference out to another system.
Total Charges (Sub-Account)	The total of all charges for the sub-account including subscription-level fees (recurring charges, overage charges, one-off charges, discounts) and account-level fees, adjustments, and commitment fees.
Total Account Charges	Total charges for the sub-account that are NOT related to the SIM's plan usage or activation. This covers account-level service fees and adjustments.
Recurring SIM Charges (Sub-Account)	The total of all monthly recurring fees for the SIMs in the sub-account. Sum of pro-rated MRCs for all SIMs and pools; discounts are included.
Overage Charges	The total of all overage charges for the SIMs in the sub-account.
One-Off Charges	The total of all one-time SIM level fees including the sum of activation fees (SIM, pool, and reactivation), and network access fees.
Status	Displays **Approved** as the status of the Account Invoice Feed.

9.1.1.4 Groups

It displays a table with the groups (if any) of the main account.

Figure 9-2: Account Invoice Feed – Groups Detail

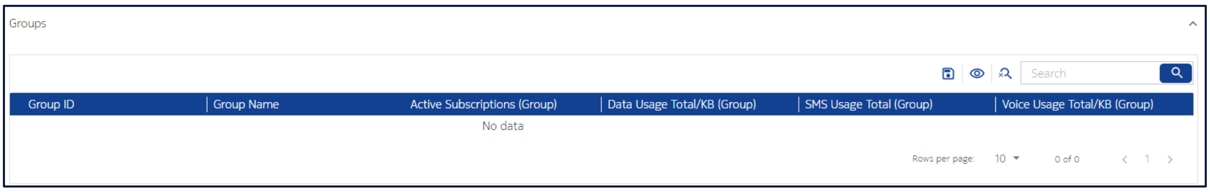
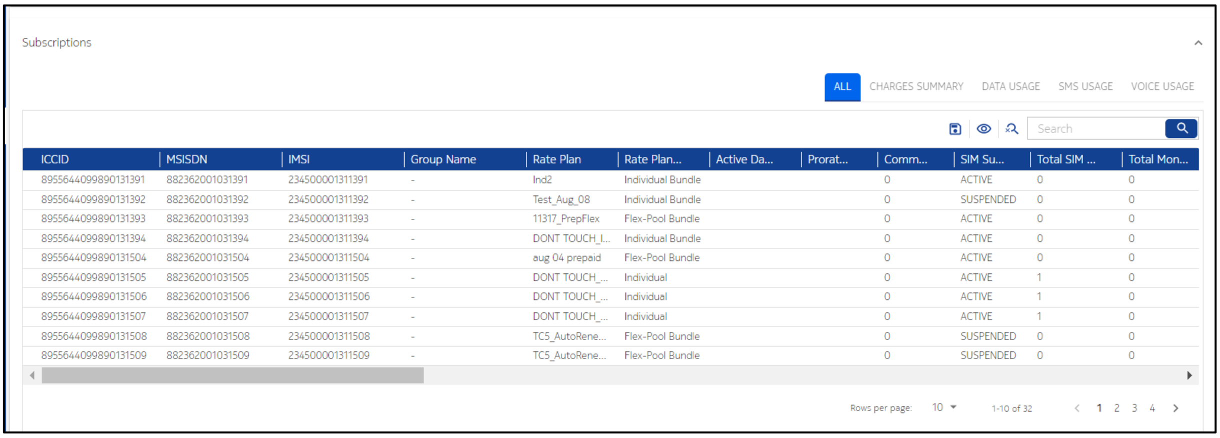


Table 9-4: Groups Table

Field	Description
Group ID	Group ID in WDH
Group Name	Group Name in WDH
Active Subscription (Groups)	Number of SIMs within the group which have been active during the bill period. (Have been active on one or more days in the bill period)
Data Usage Total /KB	Total data consumption in KB for all SIMs in the group
SMS Usage Total	Total SMS consumption (count) for all SIMs in the group
Voice Usage Total	Total voice consumption for all SIMs in the group

9.1.1.5 Subscriptions

Figure 9-3: Subscriptions Tab



ICCID	MSISDN	IMSI	Group Name	Rate Plan	Rate Plan...	Active Da...	Prorat...	Comm...	SIM Su...	Total SIM ...	Total Mon...
8955644099890131391	882362001031391	234500001311391	-	Ind2	Individual Bundle			0	ACTIVE	0	0
8955644099890131392	882362001031392	234500001311392	-	Test_Aug_08	Individual Bundle			0	SUSPENDED	0	0
8955644099890131393	882362001031393	234500001311393	-	11317_PrepFlex	Flex-Pool Bundle			0	ACTIVE	0	0
8955644099890131394	882362001031394	234500001311394	-	DONT TOUCH_I...	Individual Bundle			0	ACTIVE	0	0
8955644099890131504	882362001031504	234500001311504	-	aug 04 prepaid	Flex-Pool Bundle			0	ACTIVE	0	0
8955644099890131505	882362001031505	234500001311505	-	DONT TOUCH_...	Individual			0	ACTIVE	1	0
8955644099890131506	882362001031506	234500001311506	-	DONT TOUCH_...	Individual			0	ACTIVE	1	0
8955644099890131507	882362001031507	234500001311507	-	DONT TOUCH_...	Individual			0	ACTIVE	1	0
8955644099890131508	882362001031508	234500001311508	-	TC5_AutoRene...	Flex-Pool Bundle			0	SUSPENDED	0	0
8955644099890131509	882362001031509	234500001311509	-	TC5_AutoRene...	Flex-Pool Bundle			0	SUSPENDED	0	0

9.1.1.5.1 Subscriptions Tab

Table 9-5: Subscriptions Tab – ALL Summary Fields

Field	Description
ICCID	ICCID identifying the SIM.
MSISDN	Mobile number linked to the ICCID and IMSI.
IMSI	IMSI identifying the SIM.
Group Name	Name of the Group which holds the SIM (if any).
Rate Plan	Rate plan assigned to the SIM.
Rate Plan Type	The type of rate plan - individual, flex pool, fixed etc.
Active Days in Plan	Active days for the current bill period. These are the number of days that the SIM is on the rate plan in the bill period and is used to calculate the prorate factor.
Prorate Factor	It is based on the number of active days that the SIM is on the rate plan in the bill period. For example, prorate factor is 1 if active days is 30 in a 30-day month. Similarly, prorate factor is 0.5 if active days is 15 in a 30-day month.
Commitment charges	Commitment penalty applied for this SIM for SIM-level commitments
SIM Subscriber Status	Current SIM billing status at the end of bill cycle as per SIM lifecycle. Possible values are Enterprise-Inventory, Trial, Active, Suspended, Retired.
Total SIM Charges	The total of all charges for the SIM. It includes MRC (subscription/pool), overage charges, activation charges, access charges, service fees (one-off or recurring), and discounts.
Total Monthly Recurring Charges	Total recurring fees for the month for the SIM (SIM MRC plus pool MRC). These are total charges that include prorated monthly charges and advance monthly rate charges.
Total One-Time Charges	The total of all one-time SIM level fees. It includes the network access fee, activation fee, and one-time service fee for the SIM.
SIM Service fee Total	Total value of all SIM-level service fees (recurring and one-time fees) applicable for this SIM

Field	Description
Activation Fee	Fee for activation/reactivation (device move into Active state), pool activation. If the device was already active before this billing cycle, this value will be zero.
Network Access Fee	Fee for accessing any network service (data, SMS, voice) during the bill cycle. This is applied one-time per bill cycle regardless of the number of network accesses made.
Overage Charge	The total of all overage charges for the SIM.
Data Charge	Total overage charges for data usage billed for a period. It includes all zones - home and roaming.
SMS Charge	Total overage charges for SMS billed for a period. It includes all zones - home and roaming. It is the value charged for overage for the sum of MO and MT for SMS in a particular bill period.
Voice Charge	Total overage charges for voice billed for a period. It includes all zones - home and roaming. It is the value charged for overage for the sum of MO and MT for voice in a particular bill period.
Zone Name	Name of the rating zone as per rate plan linked to this ICCID
Voice Usage	Total voice usage in a particular billing period.
Voice Volume MO	Total voice volume MO in a particular billing period.
Voice Volume MT	Total voice volume MT in a particular billing period.
Voice overage usage	Total voice overage usage in a particular billing period.
MO voice charges	Total MO voice charges in a particular billing period.
MT voice charges	Total MT voice charges in a particular billing period.
SMS Usage	Total volume of all SMS messages consumed by the ICCID (units). Includes all zones. For pool plans, this indicates volume consumed by all ICCIDs in the pool.
MO SMS Usage	Total Mobile originate SMS for the SIM.
MT SMS Usage	Total Terminate SMS for the SIM.
SMS Overage Usage	Overage usage for SMS billed for a period. Includes all zones. Value charged for overage in a particular bill period.

Field	Description
MO SMS charges	Total MO SMS charges in a particular billing period.
MT SMS charges	Total MT SMS charges in a particular billing period.
Plan Data Allowance	Total data allowance for the rate plan.
Data Usage (KB)	Total data usage in KB for a particular billing period.
Data Overage Usage (KB)	Total KB of overage data usage in a particular billing period.
Data Overage Rate (KB)	Total KB of overage data rate in a particular billing period.

9.1.1.5.2 Subscriptions Details – Data Usage

Table 9-6: Subscriptions – Data Usage Parameters

Field	Description
ICCID	ICCID identifying the SIM.
IMSI	IMSI identifying the SIM.
MSISDN	Mobile number linked to the ICCID and IMSI.
Rate Plan	Rate plan assigned to the SIM.
Rate Plan Type	The type of rate plan - solo, flex pool, fixed etc.
Zone Group Name	Name of the rating zone group as per the rate plan linked to this ICCID.
Plan Data Allowance	Data allowance per SIM in home zone as per the rate plan. For example, in case of flex pool having 10 SIMs with 1 GB allocated to each SIM, the flex pool becomes 10 GB but the data this field holds will be 1 GB for each SIM.
Data Usage (MB)	Total volume of all data consumed by the ICCID in all zones (home and roaming). For pool plans, this indicates volume consumed by all ICCIDs in the pool (Total Data Usage Volume).
Data Overage Usage	Total volume of all data usage above data plan allowance for the month. It includes all zones - home and roaming. For pool plans, this indicates overage volume for the pool; not tied to any specific ICCID.

Field	Description
Data Overage Rate	Rate configured in the rate plan for charging excess usage, as per the home zone.
Data Charge	Overage charges for data usage billed for a period. It includes all zones - home and roaming.

9.1.1.5.3 Subscriptions Details – SMS Usage

Table 9-7: Subscriptions – SMS Usage Parameters

Field	Description
ICCID	ICCID identifying the SIM.
IMSI	IMSI identifying the SIM.
MSISDN	Mobile number linked to the ICCID and IMSI.
Rate Plan	Rate plan assigned to the SIM.
Zone Group Name	Name of the rating zone group as per the rate plan linked to this ICCID.
SMS Usage (Msg)	Total volume of all SMS messages consumed by the ICCID (units) in all zones (home and roaming). For pool plans, this indicates volume consumed by all ICCIDs in the pool (Total SMS Usage Volume).
SMS Overage Usage	Total volume of all SMS usage above SMS plan allowance for the month. It includes all zones - home and roaming.
SMS Charge	Total overage charges for SMS billed for a period. It includes all zones - home and roaming. It is the value charged for overage for the sum of MO and MT for SMS in a particular bill period.

9.1.1.5.4 Subscriptions Details – Voice Usage

Table 9-8: Subscriptions – Voice Usage Parameters

Field	Description
ICCID	ICCID identifying the SIM.
IMSI	IMSI identifying the SIM.
MSISDN	Mobile number linked to the ICCID and IMSI.

Field	Description
Rate Plan	Rate plan assigned to the SIM.
Zone Group Name	Name of the rating zone group as per the rate plan linked to this ICCID.
Voice Usage	Total volume of all voice consumed by the ICCID (minutes) in all zones (home and roaming). For pool plans, this indicates volume consumed by all ICCIDs in the pool (Total Voice Usage Volume).
Voice Overage Usage	Total volume (in minutes) of all voice usage above voice plan allowance for the month. It includes all zones - home and roaming.
Voice Charge	Total overage charges for voice billed for a period. It includes all zones - home and roaming. It is the value charged for overage for the sum of MO and MT for voice in a particular bill period.

9.1.1.6 Rate Plan

Table 9-9: Rate Fields

Field	Description
Rate Plan Name	The name of rate plan in WING Digital Hub.
Rate Plan Type	The type of rate plan - solo, flex pool, fixed etc.
SIMs Using Rate Plan	Number of SIMs in the account that are assigned to this rate plan.
Total Recurring Charges	The total of all MRCs per SIM, for all SIMs in the account on that rate plan (SIM and Pool MRCs).
Overage Charge (Rate Plan)	Total overage charges for the SIMs in the account using the rate plan.
Data Charge (Rate Plan)	Total overage charges incurred for data usage on all SIMs in the account using the rate plan.
SMS Charge (Rate Plan)	Total overage charges incurred for SMS usage on all SIMs in the account using the rate plan.
Voice Charge (Rate Plan)	Total overage charges incurred for voice usage on all SIMs in the account using the rate plan.
Total One-Time Charges	The total of all one-time SIM level fees including the sum of activation fees (SIM, pool, and reactivation), network access fees, and one-time SIM services fees for all SIMs in the account assigned to the rate plan.

Field	Description
Activation Charge (Rate Plan)	The total of all types of activation charges for all SIMs in the account using the rate plan.
Network Access Fees	The total of network access fees for all SIMs in the account using the rate plan. It includes the fees for accessing any network service (data, SMS, voice) during the bill cycle. This is applied one-time per bill cycle regardless of the number of network accesses made.
Total Charge (Rate Plan)	The total charge for all SIMs in the account using the rate plan, including all subscription-level fees for SIMs on the rate plan (i.e., MRC, overage charges, activation charges, discounts). There are no service fees, adjustments, and minimum revenue commitments considered here, as these are at account level only.

9.1.1.7 Rating Zones

Table 9-10: Rating Zones Fields

Field	Description
Rating Zone Name	The name of rating zone in WING Digital Hub.
SIMs Using Rating Zone	Number of SIMs in the account that have usage in this rating zone.
Total Monthly Recurring Charges	The total of all MRCs per SIM, for all SIMs in the account on that rate plan (SIM and Pool MRCs).
Data Charges (Rate Plan Zone)	Total overage charges incurred for data usage on all SIMs in the account using the rate plan.
SMS Charges (Rate Plan Zone)	Total overage charges incurred for SMS usage on all SIMs in the account using the rate plan.
Voice Charges (Rate Plan Zone)	Total overage charges incurred for voice usage on all SIMs in the account using the rate plan.
Total Overage Charges (Rate Plan Zone)	Total overage charges for the SIMs in the account using the rate plan.
Total Charges (Rating Zone)	The total charge for all SIMs in the account using the rate plan zone group, including all subscription-level fees for SIMs on the rate plan zone group (i.e., MRC, overage charges, activation charges, discounts). There are no service fees, adjustments, and minimum revenue commitments considered here, as these are at account level only.

9.1.1.8 Activations

Table 9-11: Activations Fields

Field	Description
ICCID	ICCID identifying the SIM.
IMSI	IMSI identifying the SIM.
MSISDN	Mobile number linked to the ICCID and IMSI.
Date Activated	The date on which the SIM was activated, and activation charge applied.

9.1.1.9 Discounts

Table 9-12: Discounts Fields

Field	Description
ICCID	ICCID identifying the SIM.
IMSI	IMSI identifying the SIM.
MSISDN	Mobile number linked to the ICCID and IMSI.
Discount Type	This will be the name as configured by the user or will be TIERED MRC / VOLUME MRC / TIERED USAGE / VOLUME USAGE.
Charge Code	Unique identifier for the type of discount applied.
Discount Value (%)	The value of the percentage discount applied to the charge.
Discount Amount	The calculated monetary value of the discount.
Tier Limit	The upper limit of the number of SIMs within the tier for which the rate has been applied.
Tier Rate	The rate which is applied to that tier. This will be the MRC rate for MRC tiered/volume rating or will be the overage rate for USAGE tiered/volume rating. Will be blank for discount.
Tier Rate Unit	The unit for the rate which is configured for the tier. This is applicable only for usage tiered/volume rating. It will be KB/MB/GB and blank for flat discounts and MRC tier/volume rating.

9.1.1.10 Account Service Fees

Table 9-13: Account Service Fees Fields

Field	Description
Fee Name	The name of the service fee, e.g., device charges, APN setup fee.
Fee Type	Type of service catalogue fee. Possible values: Commitment Penalty, Adjustment, Service Fee (Account).
Charge Code	Charge code populated by the customer for the fee/charge
Fee Amount	The monetary value of the fee.

9.1.1.11 Adjustments

Table 9-14: Adjustments Fields

Field	Description
Adjustment ID	Unique ID of the added adjustment.
Adjustment Name	Name of the adjustment type, as configured by the customer.
Charge Code	Charge code populated by the customer for the fee/charge.
Adjustment Comment	Detailed description for the adjustment reasoning. This may include a particular event/scenario or something similar to provide extra details; not just the category of the adjustment.
Adjusted Amount	Monetary value of the adjustment.
Added while review	Indicates whether an adjustment is added during the preview window, or earlier in the month
Date Adjustment Added	Date on which the adjustment was added to system.

9.1.1.12 Account-Level Commitments

Table 9-15: Account-Level Commitments Fields

Field	Description
Commitment	Name of the Commitment, as configured by the customer
Commitment Fee Type	Revenue or Subscription
Commitment Penalty Fee	Charge code populated by the customer for the fee/charge

9.1.1.13 Audit Trail

Table 9-16: Audit Trail Fields

Field	Description
Action	Action related to the account invoice feed, e.g., production of draft feed, addition of an adjustment, approval of the feed.
Date	Date on which the action related to the account invoice feed was completed.
User	User who completed the action related to the account invoice feed (can be system also).

9.1.2 Download Account Invoice Feeds

You can export the account invoice feeds data present in the WING Digital Hub in the form of an excel file. A typical exported excel file contains details such as account name, account ID, external account ID, bill period, currency, active subscriptions, data volume, SMS volume, voice volume, accounts total, status, and action.

1. Click **Invoice Data→Account Invoice Feeds** in the top menu to view the list of account invoice feeds in a table.

2. Select the Invoice feed from the list, and then click the **Download button** DOWNLOAD at the top of the **Account Invoice Feed Details** page to export the account invoice feed details corresponding to that page in an excel file.

   See Viewing Account Invoice Feed Details and Tabs

   The file gets downloaded and saved in your PC.

   You can also select a specific tab of the Invoice feed, like the Rating Zones tab, and then click the **Export** icon of that specific tab.

Chapter 10

Security

NOKIA

10 Security

WING Digital Hub provides its users the facility to view audit logs, which constitute all defined actions that a user or API performs on the portal.

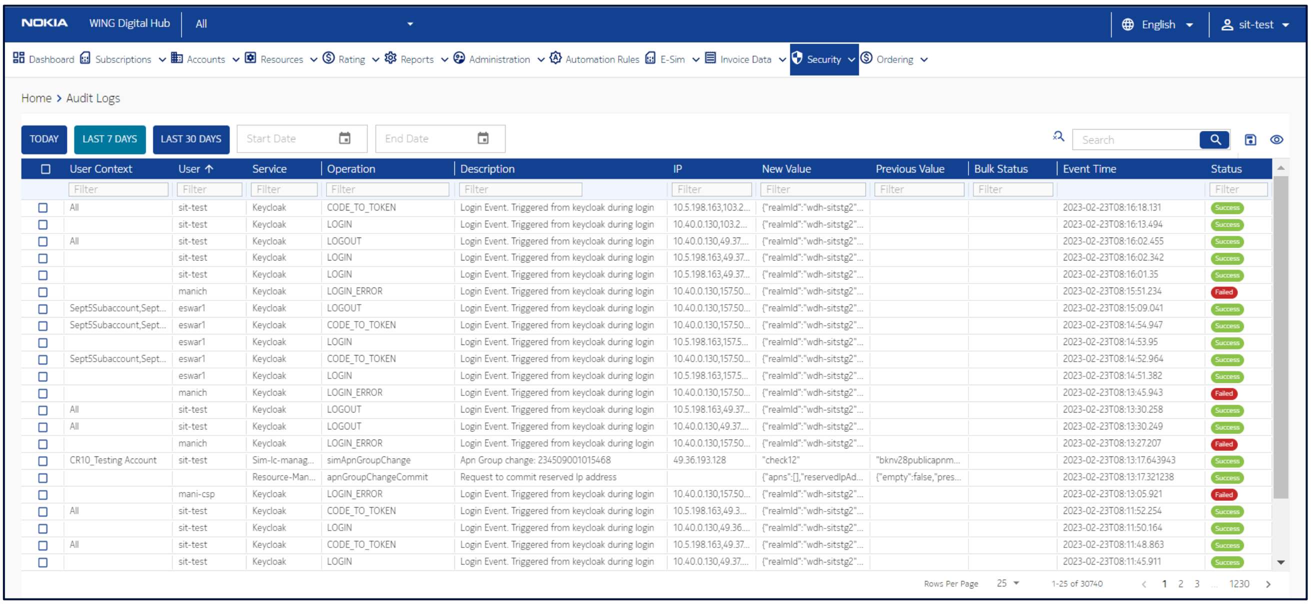
The following actions are recorded:

- Created
- Modified
- Deleted
- Assigned
- Unassigned
- Bulk File Import

The Audit Logs page allows you to view the details of all audit logs on the portal.

You can search for a specific audit log by entering text in the Search field, or filter the list by user context, user, entity, service, operation, description, IP, new value, previous value, bulk status, event time, or status parameters.

Figure 10-1: Audit Logs page



You can choose to display the columns that you want to view on the Audit Logs page by clicking the **Choose Columns** icon and selecting/unselecting the checkboxes of the available columns that are displayed in the pop-up window.

You can also reverse the order of the displayed audit logs list by hovering over and clicking **Sort** icon that appears on any of these parameter names.

10.1 Viewing Audit Logs

1. Click **Security→Audit Logs** in the top menu to view the list of audit logs in a table.
2. Select the **Start Date** and **End Date** to view the audit logs for the selected period.

   Or select one of these buttons, today TODAY, Last 7 days LAST 7 DAYS or Last 30 days LAST 30 DAYS to view audit logs of a few days determined specifically.

   The audit logs for the selected period are displayed in a table containing the following information:

   - **User Context:** All, Accounts, or Sub-accounts
   - **User:** Username
   - **Service**
   - **Operation:** Created, Modified, Deleted, Assign, Unassign, or Bulk
   - **Description:** Description of the performed action
   - **IP:** IP address from where the action was performed
   - **New Value:** Target resource name of the operation. For the delete action, this value is empty.
   - **Previous Value:** Previous resource name. For the created action, this value is empty.
   - **Bulk Status:** Only applicable for bulk operations. Shall display a link to the batch file result.
   - **Event Time:** Date and time type
   - **Status:** Success or Failed

10.2 Exporting Audit Logs

You can export the account invoice feeds data present in the WING Digital Hub in the form of a CSV file.

1. Click **Security→Audit Logs** in the top menu to view the list of audit logs in a table.
2. Click the **Export Audit Logs** icon at the top of the page and then select **Export All Data** to export the audit log details corresponding to that page or select the **Export selected rows** to export the audit log details corresponding to the selected rows in an excel file.

   The file gets downloaded and saved in your PC.

Chapter 11

Ordering

NOKIA

11 Ordering

11.1 Introduction to SIM/eSIM Profile Ordering

WING Digital Hub provides online support to enterprises to place order for additional physical SIMs (that exist in the CSP inventory or new) and eSIM Profiles to the CSP.

SIM ordering is an optional feature; therefore, a request needs to be placed with WING to enable SIM ordering in CSP profile. CSP then creates the enterprise account and enables it to use the SIM ordering service.

Note: SIM ordering feature is disabled by default.

11.1.1 SIM Ordering Benefits

SIM ordering feature provides the following benefits to its Enterprise users:

- Allows Enterprise user to request SIMs and eSIM Profiles to CSP from WDH GUI
- Allows the setup and management of new SIM order entries
- Allows a CSP user to place and manage an order on behalf of any of its enterprises
- Allows one product per order

11.1.2 SIM Ordering Catalogue

- CSP user creates a catalogue of SIMs and eSIM Profiles available with the information about format, hardware, software features, branding, pricing, and MOQ
- CSP user assigns catalogue items to Enterprise accounts
- WING Digital Hub restricts the Enterprise user to select SIM and eSIM Profiles types that the CSP user has enabled for that Enterprise account

11.1.3 Subscriptions

There is an optional column, **Order ID** in **Subscriptions→SIM**

Note: This column is not displayed by default. But it can be enabled if required.

11.1.4 Notifications

The user gets email notifications based on different life cycle of the SIM ordering.

- The Enterprise user gets email notifications based on different life cycle of the SIM ordering.
- Enterprise user involved in the process is notified about the status of different transactions of the order.

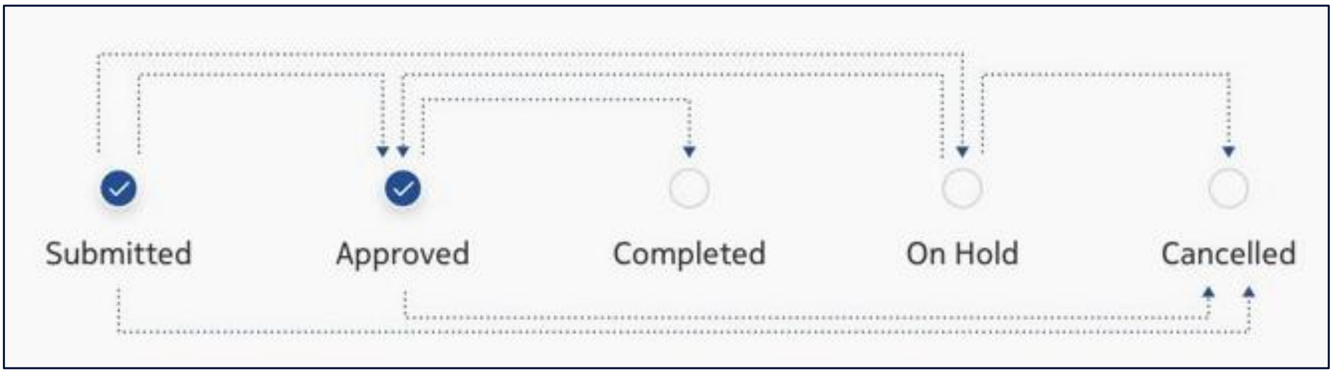
- In WING Digital Hub, Enterprise user can configure the email address for notifications.

11.1.5 Lifecycle States of an Order

An order can have the following states:

- **Submitted:** The eSIM Profile/Physical SIM order created and submitted by the Enterprise user.
- **On hold:** The order has incorrect information and/or some information is missing and must be verified.
- **Approved:** The order is accepted by the CSP user, and the fulfilment process begins.
- **Cancelled:** Enterprise user can cancel the order before it is approved. CSP user can cancel in submitted or approved states but the user must add an explanatory reason for cancellation.
- **Completed:** CSP user has completed the provisioning of SIM information and resources and assigns the SIM product from CSP inventory to Enterprise account. Tracking information added and SIMs are shipped.

Figure 11-1: Order Status



11.2 Types of SIM Ordering

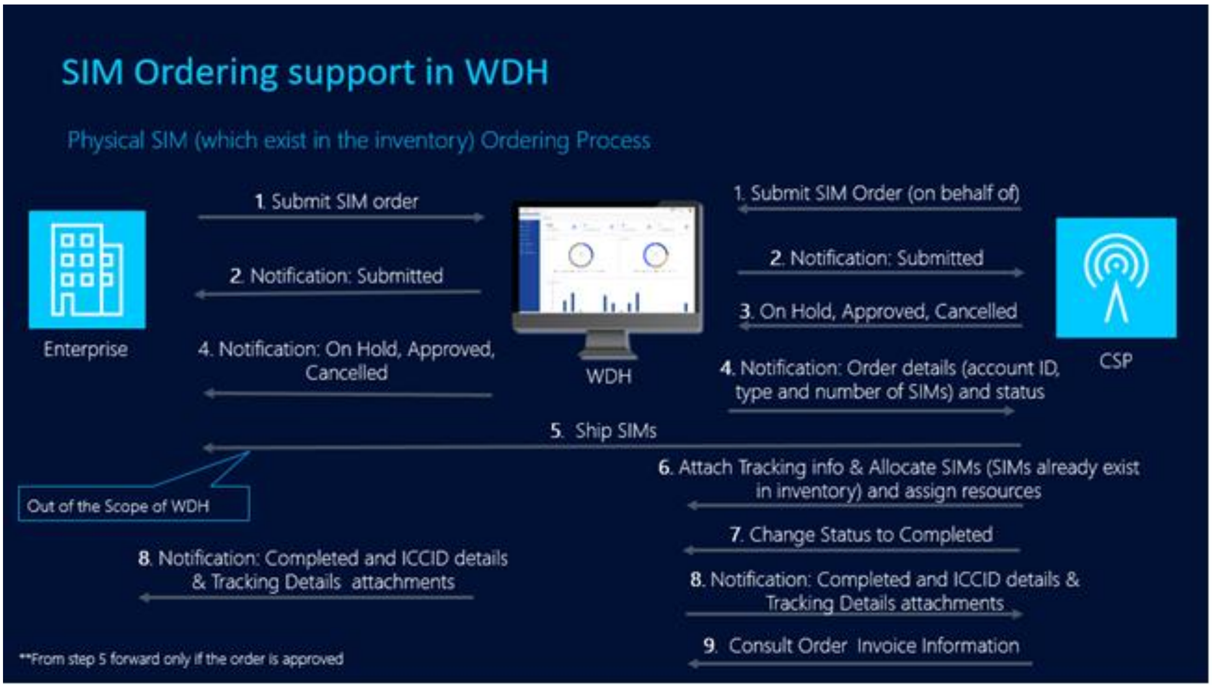
WING Digital Hub supports the following two ordering processes:

- Physical SIMs (which exist in inventory) Ordering Process
- eSIM Profile/New SIMs Ordering Process

11.2.1 Physical SIMs – Ordering Process

The ordering process of physical SIMs (that exist in inventory) is depicted in the below figure.

Figure 11-2: Ordering Process of physical SIMs (that exist in inventory)



The Ordering process consists of the following steps:

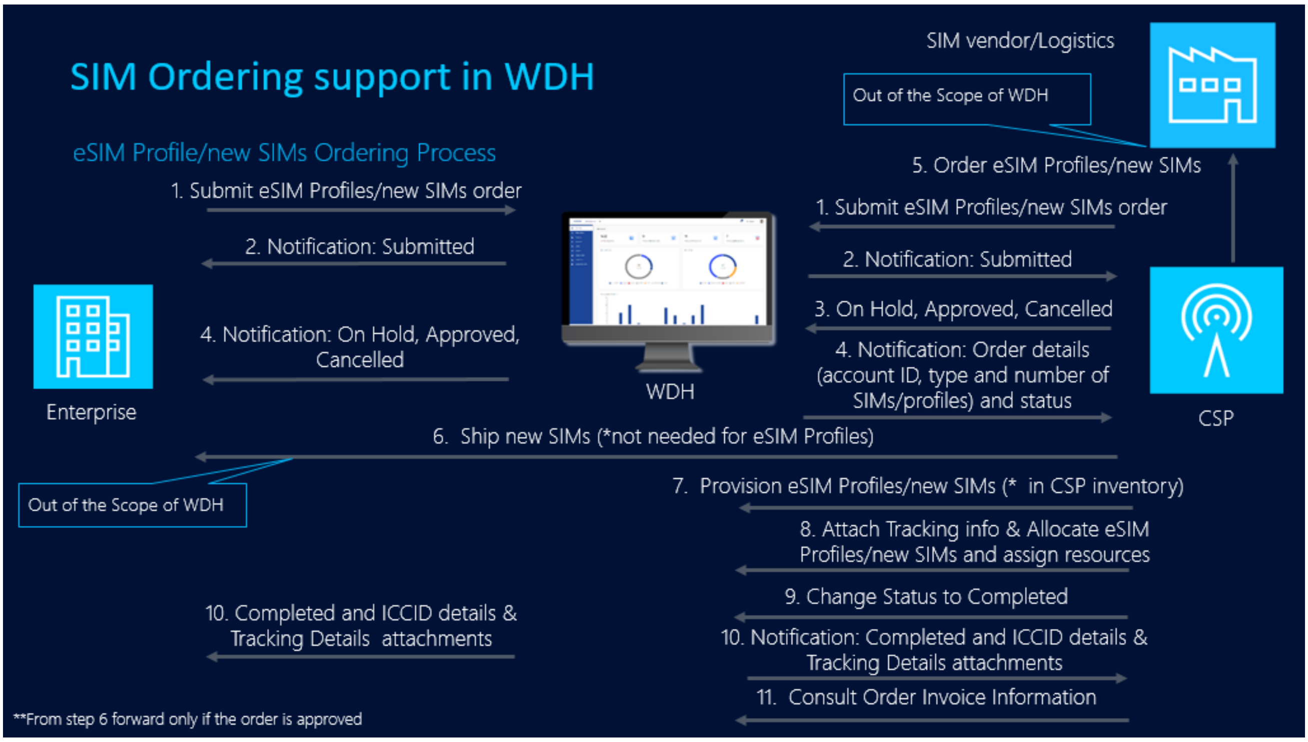
1. Enterprise user submits the order form with the relevant information and parameters (purchase order number, account ID, order Owner details, SIM product type, quantity, price and shipping information, etc.). Default resources are included, or they can be customized.
2. A new record is created in the ordering database with **Submitted** status and Enterprise user receives a notification email with the confirmation of the order and **Submitted** status.
3. Depending on whether the order has been approved or not, Enterprise user receives a notification email with **Approved**, **On Hold**, or **Cancelled** status (explaining the rejection reason)

   If the order has been approved, it cannot be modified. In case the order needs to be changed, it must be cancelled and a new one submitted (copy functionality can be used so that all data need not be set again).
4. In case the order has been approved, the Enterprise user receives the physical SIMs (this is out of scope of WING)
5. SIMs are allocated in the Enterprise account and resources are assigned.
6. When the order status is **Completed**, Enterprise user receives a notification email with **Completed** status.

11.2.2 eSIM Profiles/New SIMs – Ordering Process

The ordering process of eSIM profile/new SIMs is depicted in Figure 11-2 below and consists of the following steps:

Figure 11-3: Ordering Process of eSIM Profile/New SIMs



The Ordering process consists of the following steps:

1. Enterprise user submits the order form by including all the necessary information and data (purchase order number, account ID, order Owner details, SIM/eSIM Profile product type, quantity, price and shipping information, etc.). Default resources are included, or they can be customized
2. A new record is created in the ordering database with **Submitted** status and Enterprise user receives a notification email with the confirmation of the order and **Submitted** status.
3. Depending on whether the order has been approved or not, Enterprise user receives a notification email with **Approved**, **On Hold**, or **Cancelled** status (explaining the rejection reason).

   If the order has been approved, it cannot be modified. In case the order needs to be changed, it must be cancelled and a new one submitted (copy functionality can be used so that all data need not be set again).
4. If the order is for new physical SIMs, SIMs are shipped to the Enterprise (this is out of scope of WING). This step is not necessary for eSIM profiles ordering.
5. The eSIM profiles or new SIMs are provisioned in CSP inventory in WING Digital Hub.

6. eSIM Profiles or new SIMs are allocated in the Enterprise account and the resources are assigned.
7. When the order status is **Completed**, Enterprise user receives a notification email with **Completed** status.

11.3 Account Defaults

WING Digital Hub provides a mechanism where Enterprise users can configure Account information by default to avoid having to introduce all the requested fields when creating a new order.

1. Click **Ordering→Account Defaults** in the top menu to edit the information by default.
2. In the **Edit Account Default** window, configure the following parameters:

Table 11-1: Account Default Parameters for an Order

Parameter	Description
Order Owner section **Note:** These fields will be automatically filled if **Default Order Owner Details** is selected when creating an order	
Order Owner Name*	Enter the name of the owner for the order.
Order Owner Email*	Enter the email address of the owner for the order.
Order Owner Phone*	Enter the phone number of the owner for the order.
Shipping Details section **Note:** These fields will be automatically filled if **Default Shipping Details** is selected when creating an order.	
Contact name*	Enter the name of contact for the order.
State/Province	Enter the State/Province where the product of the order is going to be sent.
Contact phone number*	Enter the phone number of the contact for the order.
Contact email address*	Enter the email address of the contact for the order.
Country*	Enter name of the country where the product of the order is going to be sent.
Business name	Enter the Business name.
Address 1*	Enter the Address 1where the Product of the order is going to be sent

Parameter	Description
Address 2	Enter the Address 2 where the Product of the order is going to be sent
Postcode/Zip code*	Enter the Postcode/ZIP Code where the Product of the order is going to be sent
City/Town*	Enter the City/Town where the Product of the order is going to be sent
Email Notifications section	
Email recipients*	Enter the email address of the recipient • Click the Add Recipient icon ADD RECIPIENT at the right to add more email recipients. • Click the Delete icon corresponding to an email to delete it from the list of recipients.

11.4 Managing SIM/eSIM Profile Orders

The following actions can be performed with a SIM/eSIM profile order by an Enterprise user:

- Creating or submitting a new order
- Editing an existing order (before approval)
- Viewing an order
- Copying an old order (parameters are copied and can be modified except the order number; a new order number is created for a new SIM order)
- Cancel an order
- Exporting SIM/eSIM Profile order

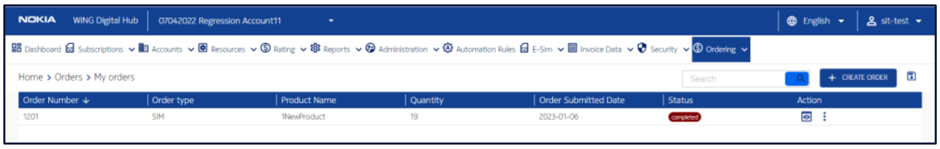
11.4.1 Creating or Editing an Order

Note 1: You can edit an order only if its status is **Submitted** or **Onhold**.

Note 2: Editing an order, the Order type field cannot be modified.

1. Click **Ordering→My orders** in the top menu to view the list of orders entries in a table.

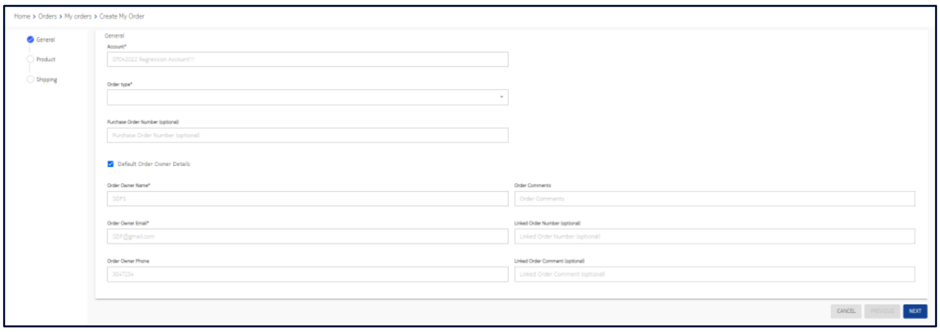
   Figure 11-4: Ordering→My orders

2. Perform any of the following actions, as required:

- Click the **Create Order** icon at the top right of the table to create an order.

Figure 11-5: Ordering→My orders→Create My Order



- Click the **More** icon corresponding to an automation rule and then select the **Edit icon** to edit the order.

3. In the **Create Order** window, configure the following parameters:

Table 11-2: Order Parameters

Parameter	Description
General section	
Account*	Account name selected by default
Order type*	Select the Order type from the list: : • **SIM** • **eSIM**
Purchase Order Number (Optional)	Enter the Purchase Order Number
Default Order Owner details	Allows user to select the Default Order Owner details defined in **Account Default** section
Order Owner Name*	**Note:** This field must be filled only if Default Order Owner Details is not selected. Enter the Owner name of the order.
Order Comments	Enter the comments for the order.
Order Owner Email*	**Note:** This field must be filled only if Default Order Owner Details is not selected. Enter the Owner email of the order.
Linked Order Number (optional)	Enter the Linked Order Number.

Parameter	Description
Order Owner Phone	**Note:** This field can be filled only if **Default Order Owner Details** is not selected. Enter the phone number of the order owner.
Linked Order Comment (optional)	Enter the comment linked with the order.
Product section	
Product*	Select a product from the list.
Quantity	**Note:** This field has to be filled according to the information given about the **Minimum Order Quantity** shown on its right side. Enter the quantity of the product for the order.
Use default Provisioning values	Allows you to select the **Default Provisioning** values defined.
APN group*	Enter the APN group value
Rate plan*	Enter the Rate plan value
Network profile*	Enter the Network profile value
Roaming profile*	Enter the Roaming profile value
Shipping section **Note:** Shipping tab only applicable for order type SIM	
Default Shipping Details	Allows user to select the default shipping details defined in **Account Default** section
Contact name*	Enter the Contact name for the order
State/Province	Enter the State/Province where the Product of the order is going to be sent
Contact phone number*	Enter the Contact phone number for the order
Contact email address*	Enter the Contact email address for the order
Country*	Enter the Country where the Product of the order is going to be sent
Business name	Enter the Business name

Parameter	Description
Shipping Comments	Enter the Comments for the shipping
Address 1	Enter the Address 1where the Product of the order is going to be sent
Address 2	Enter the Address 2 where the Product of the order is going to be sent
Postcode/ZIP Code*	Enter the Postcode/ZIP Code where the Product of the order is going to be sent
City/Town*	Enter the City/Town where the Product of the order is going to be sent

4. Click **Create** to create a new order entry.

The newly created order entry appears in the list of orders in the Order Details table.

11.4.2 Viewing an Order Detail

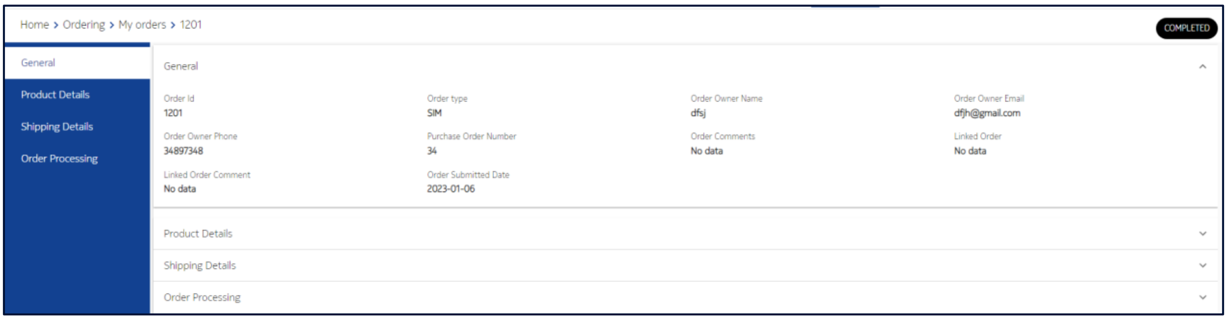
1. Click **Ordering→My orders** in the top menu to view the list of orders entries in a table.
2. Click the **View Details** icon corresponding to an order to open the order details window.
3. In the order window, you can view the order details corresponding to the following tabs:
   - General
   - Product Details
   - Shipping Details
   - Order Processing

Note: The coming sections describe the above-mentioned tabs in detail.

11.4.2.1 General

Click this tab to know the general information about the Order. For example, **Order ID**, **Order type**, **Order Owner Name**, **Order Owner Email**, **Order Owner Phone**, **Purchase Order Number**, **Order Comments**, **Linked Order**, **Linked Order Comment**, and **Order Submitted Date**.

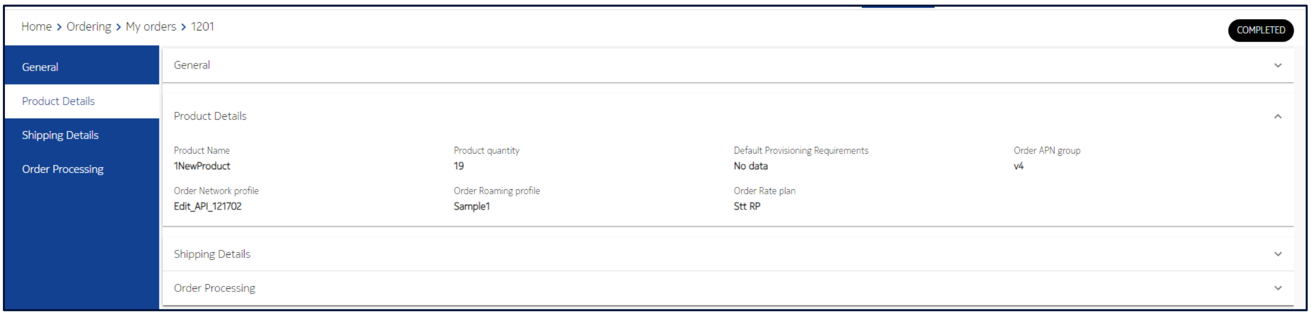
Figure 11-6: General



11.4.2.2 Product Details

The **Product Details** tab displays information of the product selected in the order, such as **Product Name**, **Product quantity**, **Default Provisioning Requirements**, **Order APN group**, **Order Network profile**, **Order Roaming profile**, and **Order Rate plan**.

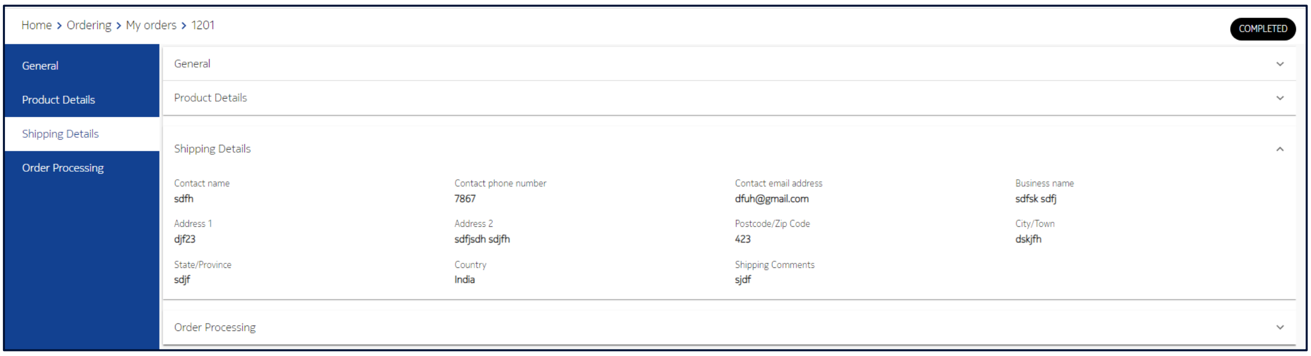
Figure 11-7: Product Details



11.4.2.3 Shipping Details

Click this tab to know the general information about shipping details of the order.

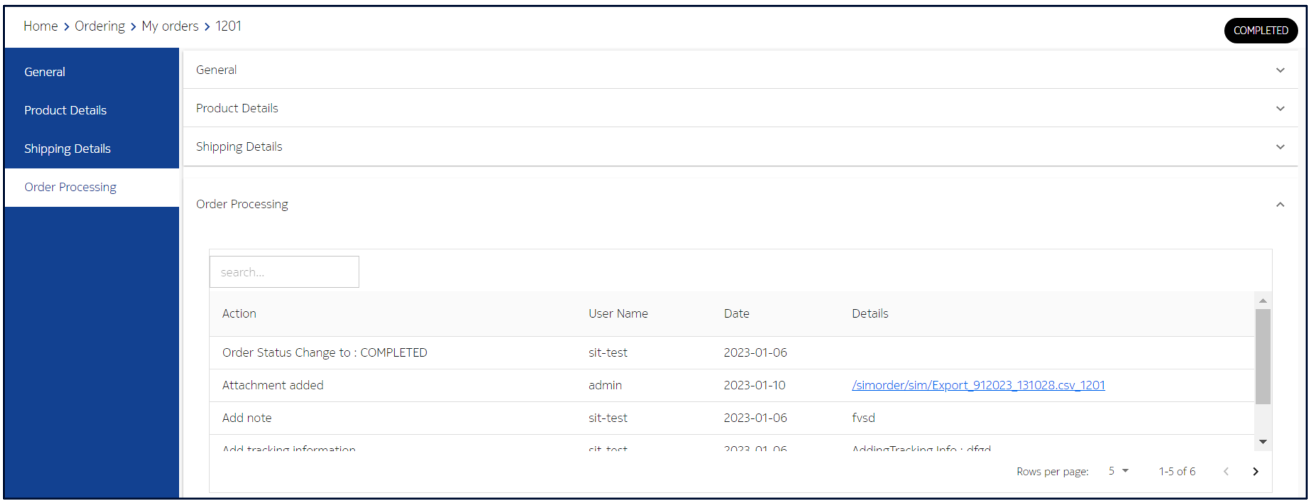
Figure 11-8: Shipping Details



11.4.2.4 Order Processing

Click this tab to know general information about the process of the order.

Figure 11-9: Order Processing



11.4.3 Copying an Order

Note 1: You can edit an order only if its status is **Submitted** or **Onhold**.

Note 2: Editing an order, the Order type field cannot be modified.

1. Click **Ordering→My orders** in the top menu to view the list of orders in a table.
2. Click the **More** icon corresponding to a user and then select the **Copy** icon to copy the order.
3. In the confirmation window, the **Order Id** to be copied is displayed and then click **Confirm** to confirm the deletion.

11.4.4 Cancelling an Order

Note: You can cancel an order only if its status is **Submitted**, **Approved**, and **Onhold**.

1. Click **Ordering→My orders** in the top menu to view the list of orders in a table.
2. Click the **More** icon corresponding to a user and then select the **Cancel** icon to cancel the order.
3. In the confirmation window, select cancellation reason from the list and click **Confirm** to confirm the deletion.

11.4.5 Exporting the SIM/eSIM Profile Order

1. Click **Ordering→My orders** in the top menu to view the list of orders in a table.
2. Click the **Export** icon from the top of the table.

The file gets downloaded and saved in your PC.

Glossary

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Glossary

A

Account	A legal entity (enterprise, institution, etc.) that has a contractual relationship with the Communication Service Provider.
AO	Application Originating
API	Application Program Interface
APN	Access Point Name. This is the name of the gateway between the mobile network and the public internet.
APN type	An APN can be of two types: • Public: The APN can be used by any account. • Private: The APN can be used by the associated account(s) only.
AT	Application Terminating

B

Batch	The WING Digital Hub internal identifier of a SIM batch or SIM pool.

C

CAPEX	Capital Expenditures
CCR	Credit Control Request
CDR	Charging Data Record
CMG	Cloud Mobile Gateway
CMP	Connectivity Management Platform
CS	Circuit Switched
CSD	Circuit Switched Data
CSP	Communication Service Provider
CSV	Comma-Separated Values

E

eSIM	Embedded SIM

G

GPRS	General Packet Radio Service
GUI	Graphical User Interface

H

HLR	Home Location Register
HSS	Home Subscriber Server

I

ICCID	Integrated Circuit Card Identifier This is a unique identifier assigned to the UICC or the profile in an eUICC context.
IMEI	International Mobile Equipment Identification: A unique identifier of a mobile device.
IMSI	International Mobile Subscriber Identity: An internationally standardized unique number to identify a mobile subscriber. The IMSI consists of a Mobile Country Code (MCC), a Mobile Network Code (MNC) and a Mobile Station Identification Number (MSIN). An IMSI is usually presented as a 15-digit number but can be shorter.
IoT	Internet of Things
IP	Internet Protocol

M

MCC	Mobile Country Code
MME	Mobility Management Entity
MNC	Mobile Network Code

MO	Mobile Originating
Mobile subscriber	The uniquely identifiable user of a cellular network subscribing to services provided by a mobile network operator.
MRC	Monthly Recurring Charge
MSIN	Mobile Station Identification Number (MSIN).
MSISDN	Mobile Station International ISDN Number: The standard international telephone number used to identify a given subscriber.
MSISDN pool	MSISDN pools are used to group MSISDNs. Each MSISDN that is known to the WING Digital Hub must be associated with an MSISDN pool.
MT	Mobile Terminating

N

Network group	A group comprising the different networks (MCC/MNC-pairs) of one roaming partner of a network provider.
Network interface	Provides access to the core system in which the IMSI is hosted.
Network provider	Delivers the logical resources for objects managed in the WING Digital Hub system, such as ICCIDs, IMSIs, or MSISDNs. This term is used as a synonym for: • SIM card providers: The entity that supplies the SIM card to the WING Digital Hub. • Connectivity providers: The entity that provides connectivity for the SIM card.

P

PDN	Packet Data Network
PGW	Packet Data Network Gateway

R

RAT	Radio Access Technology
Roaming Profile	A default list of roaming networks that are allowed for the subscriber to use.

S

Service Profile	Describes an allowed combination of service settings (service on/off) per interface provider (for example, data on/off, MO SMS on/off, MT SMS on/off).
SGSN	Serving GPRS Support Node
SIM	Subscriber Identification Module
SIM Card Provider	Synonym for network provider
SIM LC state	SIM Lifecycle State
SLA	Service Level Agreement
SMS	Short Message Service
SMS (AO)	SMS (Application Originated)
SMS (AT)	SMS (Application Terminated)
SMSC	SMS Center
SMS (MO)	SMS (Mobile Originated)
SMS (MT)	SMS (Mobile Terminated)
Subscriber Group	A grouping of mobile subscribers that can be used to assign mobile subscriber settings to a group of mobile subscribers such as applied APN groups, security profile, etc.

U

UE	User Equipment
UL	Uplink

V

VLR	Visitor Location Register

W

WING	Worldwide IoT Network Grid designates the Nokia WING Global IoT solution which empowers this IoT connectivity management platform

Z

Zone	A list of networks or network groups combined by political/ geographical criteria, such as countries, regions, etc.

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