



USER GUIDE

IZO™ PRIVATE CLOUD PORTAL

For more information, visit us at www.tatacommunications.com

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ABOUT THE USER MANUAL

How to Use the Manual

This user manual is designed to help all IZO™ Private Cloud application user. We've organised it into the following chapters.

- [IZO™ Private Cloud](#) introduces you to the application and lists its key features.
- [Getting Started](#) explains the application interface, provides details about user roles and the tasks they can perform.
- The remaining sections cover the application's features and lists instructions about how to perform each task in the IZO™ Private Cloud portal.

Tips for getting the most from this manual

- Read the [Application Interface](#) section to understand the navigational elements in the IZO™ Private Cloud portal.
- Review the introduction to each section for an overview of the relevant functionality.
- Refer to procedure details to learn how to perform a specific task.
- Search tasks in the Table of Contents or Index.
- For a complete understanding of the IZO™ Private Cloud portal, read the entire user manual.

Intended audience

This user manual is designed for all users who use the IZO™ Private Cloud portal.

Assumptions

Users have login credentials to IZO™ Private Cloud.

Document Conventions

Document Conventions	Description
Bold	Indicates references to keys, menus, numbered captions, sections, and button names
Bulleted List	Indicates an unordered series of concepts, items or options
Numbered List	Indicates the sequence of processes, events or steps
	Indicates important information that emphasises or supplements information to the main content, which may apply only in special cases
	Indicates additional information that helps users understand the benefits and capabilities of the application
	Indicates the failure to take or avoid a specific action that could result in loss of data
	Indicates key takeaways of a section

IZO™ PRIVATE CLOUD

IZO™ Private Cloud is an OpenStack-based cloud solution that enables you to manage your infrastructure - from application development to business-critical workloads across colocation, hosting, and public and private cloud environments.

The benefits of IZO™ Private Cloud

- Integrate, manage and control your distributed IT environments using built-in automation, orchestration and management tools on a single platform
- Manage multiple IT environments together to establish a customised architecture that suits your enterprise application requirements
- Select hypervisors, operating systems and storage of your choice
- Access Information Technology Infrastructure Library-aligned processes (ITIL) backed by enterprise Service Level Agreements (SLAs)
- Protect your infrastructure from unauthorised access and internet-based threats by using integrated security with ITIL-aligned processes
- Scale resources up and down - plus burst into cloud platforms when needed.

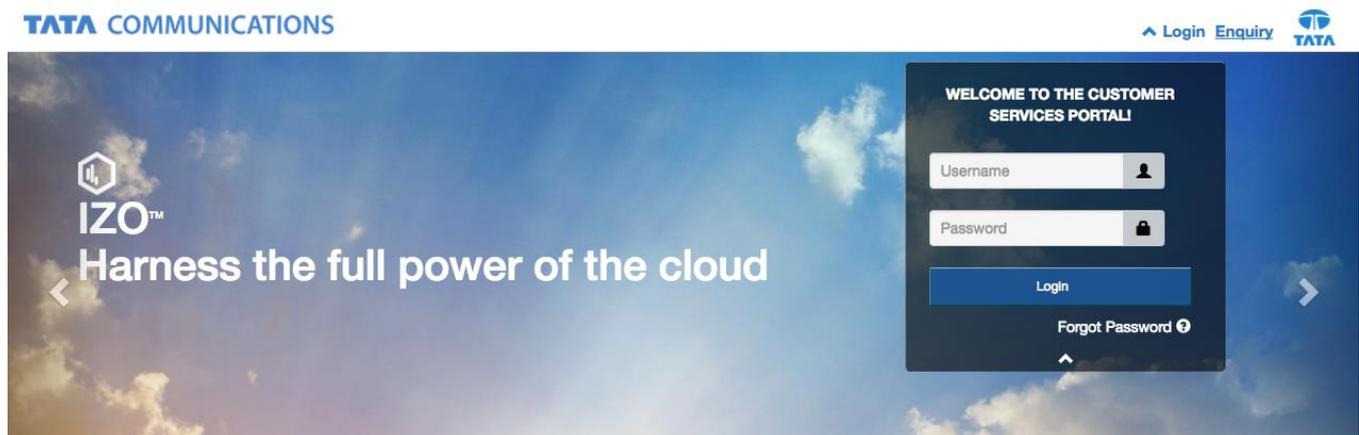
GETTING STARTED

This chapter covers:

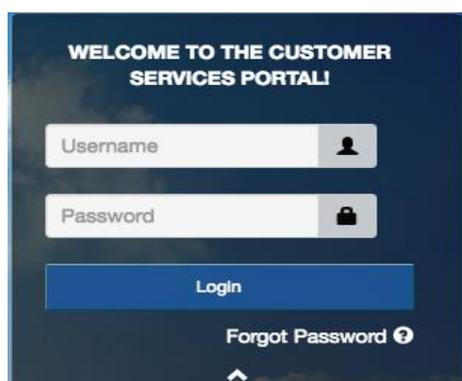
- [Logging on to the IZO™ Private Cloud portal](#)
- [User roles](#)
- [Logging out of the IZO™ Private Cloud portal](#)

Logging on to the IZO™ Private Cloud Portal

1. Launch IZO™ Private Cloud using <https://ipcloud.tatacommunications.com>
2. Enter your username and password.



3. Click **LOGIN** to display the IZO™ Private Cloud **HOME** page:



User Roles

All users with access to Tata Communication's IZO™ Private Cloud portal are categorised into one of three roles:

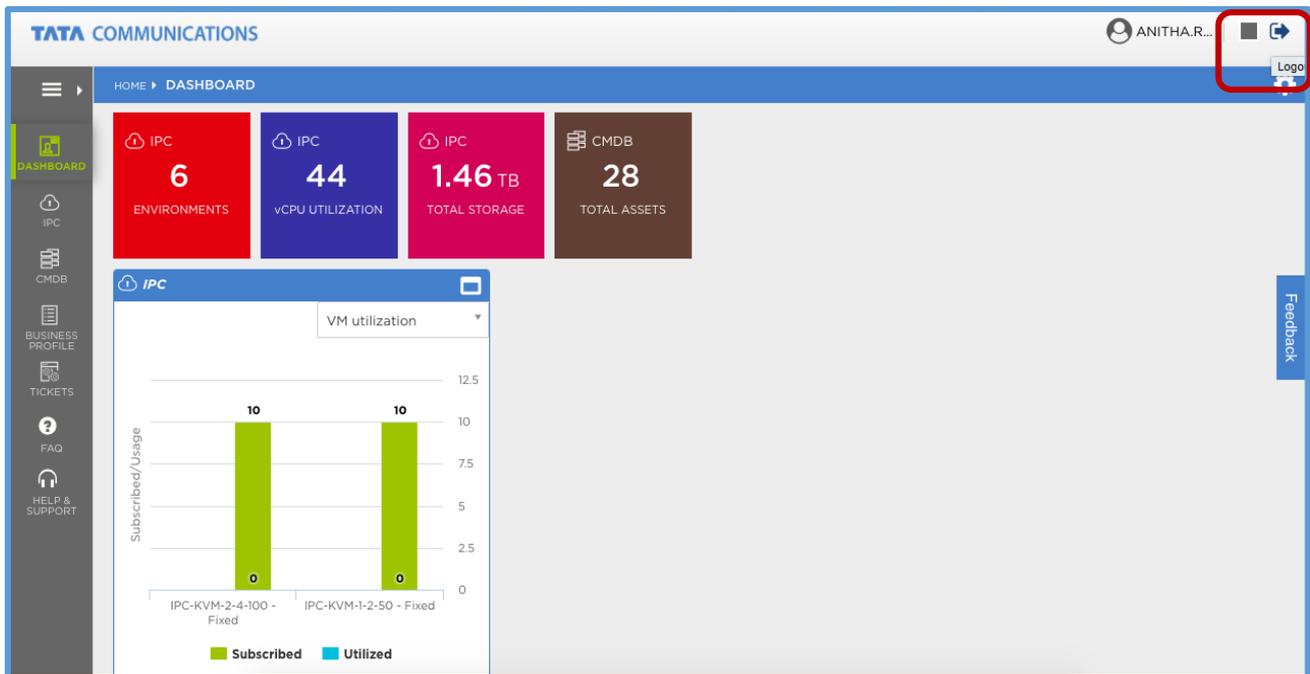
- Master User
- Power User
- Standard User

Each category defines each user's level of access to the portal's different features. We configure the roles before the portal credentials are handed over to you.

You can view a list of activities that users can perform in the portal based on their access level in the [User Roles and Activities](#) section.

Logging out of the IZO™ Private Cloud Portal

1. On the IZO™ Private Cloud **HOME** page, there's a logout icon at the top right corner
2. Click **LOG OUT**. This will log you out of the portal.



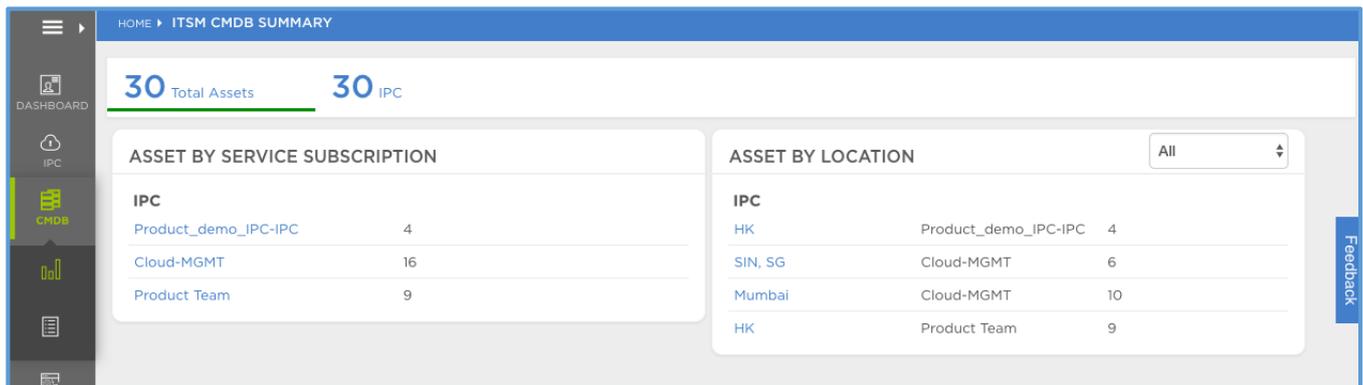
The screenshot displays the IZO™ Private Cloud Portal dashboard. At the top right, the user profile 'ANITHA.R...' is visible, with a red box highlighting the 'Logout' icon. The dashboard features a navigation menu on the left and a main content area with several widgets. The top row includes four summary cards: '6 ENVIRONMENTS', '44 vCPU UTILIZATION', '1.46 TB TOTAL STORAGE', and '28 TOTAL ASSETS'. Below these is a 'VM utilization' chart showing 'Subscribed' and 'Utilized' values for two VM types: 'IPC-KVM-2-4-100 - Fixed' and 'IPC-KVM-1-2-50 - Fixed'. The chart shows 10 units subscribed and 0 units utilized for both. A 'Feedback' button is located on the right side of the dashboard.

APPLICATION INTERFACE

IZO™ Private Cloud's main navigational elements include tabs, icons and buttons that enable you to navigate to web pages and perform certain tasks. Here we explain how to navigate through the portal using the interface elements.

PAGE

A page is one of a collection of web documents that make up a web site. The screengrab below displays the **CMDB SUMMARY** page:



HOME ► ITSM CMDB SUMMARY

30 Total Assets 30 IPC

ASSET BY SERVICE SUBSCRIPTION

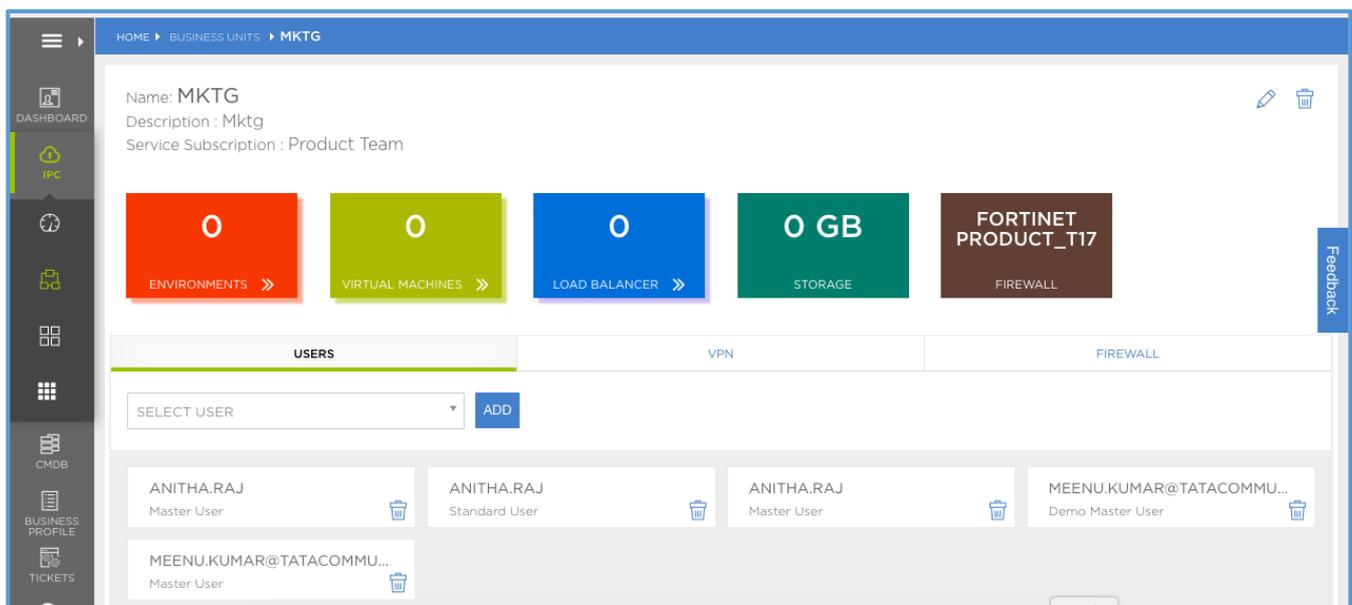
IPC	Count
Product_demo_IPC-IPC	4
Cloud-MGMT	16
Product Team	9

ASSET BY LOCATION All

IPC	Location	Count
HK	Product_demo_IPC-IPC	4
SIN, SG	Cloud-MGMT	6
Mumbai	Cloud-MGMT	10
HK	Product Team	9

TAB

A tab is a labelled group of options used for navigation within a page. The screengrab below displays the **USERS** tab of the **Marketing Business Unit**:



HOME ► BUSINESS UNITS ► MKTG

Name: MKTG
Description: Mktg
Service Subscription: Product Team

0 ENVIRONMENTS » 0 VIRTUAL MACHINES » 0 LOAD BALANCER » 0 GB STORAGE FORTINET PRODUCT_T17 FIREWALL

USERS VPN FIREWALL

SELECT USER [] ADD

ANITHA.RAJ Master User	ANITHA.RAJ Standard User	ANITHA.RAJ Master User	MEENU.KUMAR@TATACOMMU... Demo Master User
MEENU.KUMAR@TATACOMMU... Master User			

This Business Unit also includes the **VPN** and **FIREWALL** tabs.

TABLE

A table or data grid lists records with details categorised under related headings. The screenshot below displays the **ASSET DETAILS** table in the **CMDB LIST** page:

The screenshot shows a dashboard with a sidebar on the left containing navigation icons for CHUB, BUSINESS PROFILE, TICKETS, FAQ, and HELP & SUPPORT. At the top, there are three status indicators: 4 Total Assets, 0 Virtual Machines, and 0 Volumes. A search bar labeled 'SEARCH ASSETS' is present. The main content area displays a table with the following data:

ASSET NAME	CATEGORY	SERVICE SUBSCRIPTION	LOCATION
PtMeWyfG95VKe7x	Network	Product_demo_IPC-IPC	HK
PtMeWyfG95VKe7x	Subnet	Product_demo_IPC-IPC	HK
McsdVQgYGBL4j28	Network	Product_demo_IPC-IPC	HK
McsdVQgYGBL4j28	Subnet	Product_demo_IPC-IPC	HK

Records : 4

TEXT BOX

A text box enables you to enter or type information (alphabetical, numeric or alphanumeric values) specific to the field:

The screenshot shows the 'ADD ENVIRONMENT' form. It includes sections for 'ENVIRONMENT DETAILS' and 'ZONE INFO'. In the 'ENVIRONMENT DETAILS' section, there are fields for 'Service Subscription' (Future Now Enterprises), 'Business Unit' (Pay BU), and 'Environment Name'. The 'Environment Name' text box, containing the placeholder 'Eg: Production Environment', is highlighted with a red border. The 'ZONE INFO' section includes 'Zone Name' (Eg: Web zone) and 'Firewall' (SELECT). A 'Summary' sidebar on the right shows 'Environment Details' with 'Firewall' set to 'Single' and 'LAN Backup' set to 'False'.

DROP-DOWN LIST

A drop-down list enables you to select a value from the list that's displayed by clicking the arrow beside it:

The screenshot shows the 'ENVIRONMENTS' page with a breadcrumb trail: HOME > BUSINESS UNITS > PAY BU > ENVIRONMENTS. A large grey box with a plus sign is on the left. The 'Business Unit' field is a drop-down list with 'SELECT' as the current value. The drop-down menu is open, showing options: 'All', 'DemoBU', 'Mktg-1', and 'Product'. The 'All' option is highlighted in blue. The drop-down menu is highlighted with a red border.

CHECK BOX

A check box allows you to enable a particular feature or select a particular option:

Environment Name: DemoEnv

Zone Name:

No of IPs: 10

Production IP Range: Auto IPAM

Hypervisor Choice:

Image:

Flavor:

- SASIPC-ESXI-4-8-100 - Monthly | 8192MB RAM | 4 VCPU | 100GB Disk
Availability : 4 out of 10 | Hypervisor : ESXI | Storage : SAS-NA-ISCSI
- SASIPC-ESXI-2-4-100 - Monthly | 4096MB RAM | 2 VCPU | 100GB Disk
Availability : 9 out of 10 | Hypervisor : ESXI | Storage : SAS-NA-ISCSI

Storage:
Hypervisor : ESXI

Do you want to reserve an IP address? YES NO

NAVIGATION ICONS

The IZO™ Private Cloud portal has a navigation pane on the left that displays all the features of the portal. Click the available buttons or icons to access features of your choice. The landing page for each feature and the portal’s subsequent web pages are displayed on the right pane. The availability of the buttons or icons in the left navigation pane depends on the role assigned to you.

View a list of portal activities that users can perform based on their level of access in the [User Roles and Activities](#) section.

The table below displays the button or icon options that are available in the left navigation pane of the portal.

Navigation Icon	Description
	Enables you to navigate to the portal landing page.
	On expansion, enables you to navigate to the DASHBOARD , BUSINESS UNITS , ENVIRONMENTS and APPLICATIONS pages.
	On expansion, enables you to navigate to the CMDB SUMMARY and CMDB LIST pages.

	<p>On expansion, enables you to navigate to the ITSM DASHBOARD and the INCIDENT and REQUEST pages.</p>
	<p>This section gives details of immediate Helpdesk support and Escalation matrix from Level 1-5</p>
	<p>Enables you to view a relevant list of Frequently Answered Questions.</p>

BUSINESS UNITS

Introduction

A Business Unit is an organisational entity that consumes virtual resources using IZO™ Private Cloud. For example, let's imagine that the company ABC Inc. has subscribed to IZO™ Private Cloud. The different business units in the portal for company ABC could be classified based on its various departments (e.g. Finance, Marketing, HR, Engineering and so on) or locations (North Zone, South Zone or Central Zone etc). IZO™ Private Cloud enables you to define the resource limit that can be consumed by a particular Business Unit.



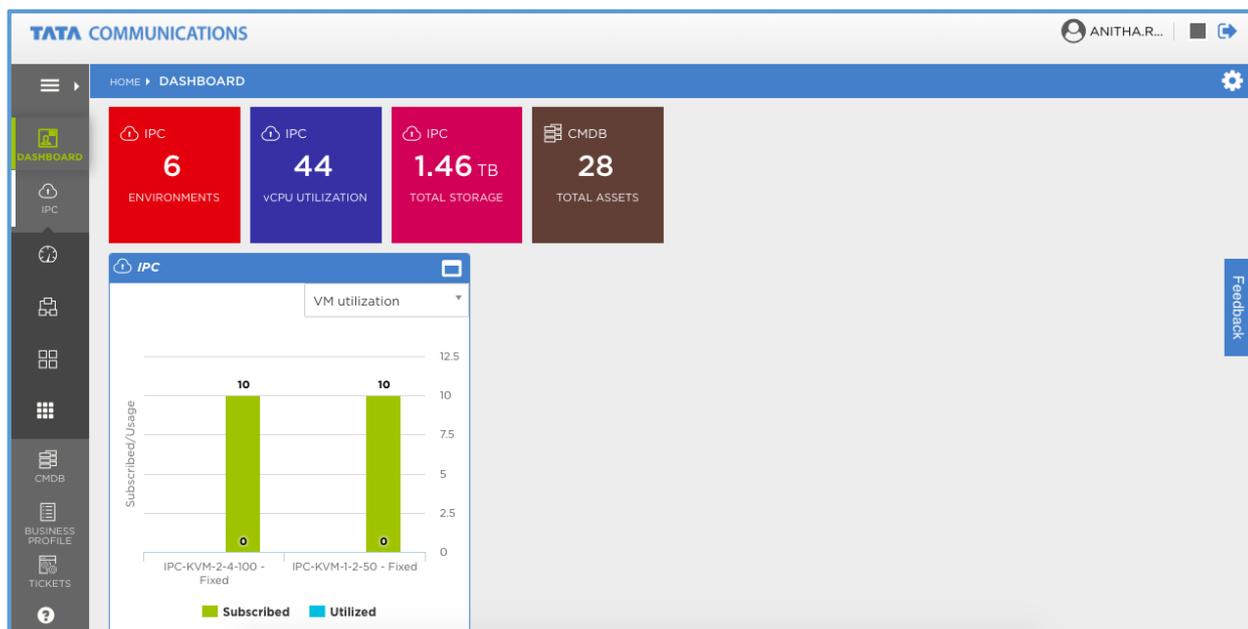
A Business Unit is an organisational entity that consumes virtual resources using IZO Private Cloud. IZO Private Cloud enables you to define the resource limit that can be consumed by a particular Business Unit.

This Business Units section covers:

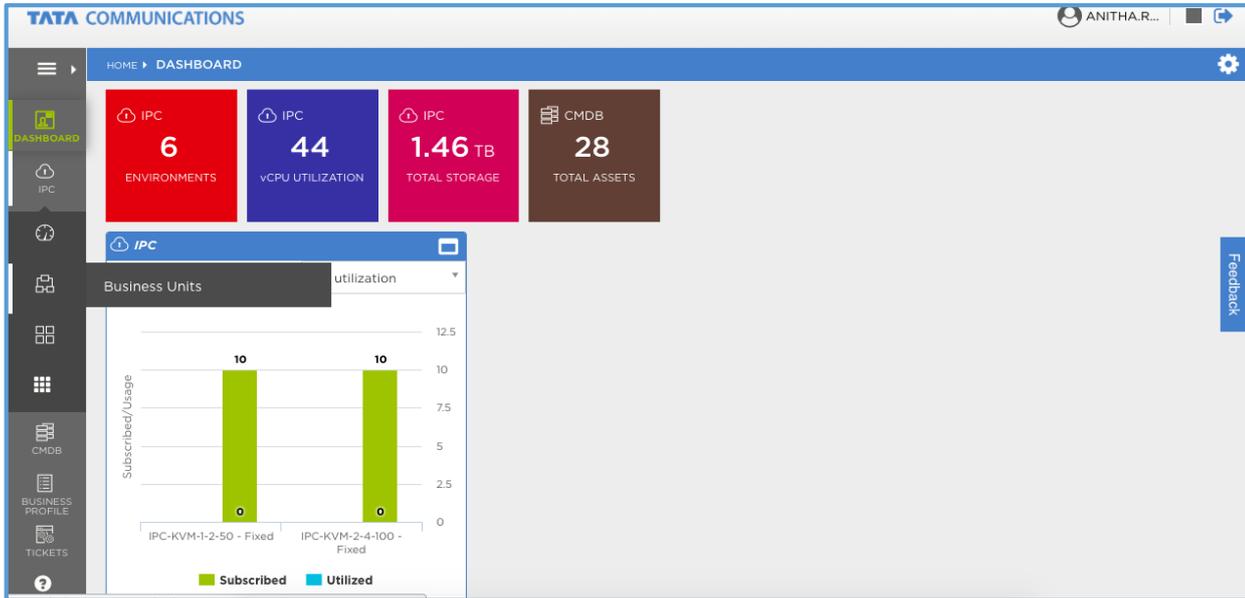
- [Navigating to Business Units](#)
- [Creating a Business Unit](#)
- [Adding a user to a Business Unit](#)
- [Creating VPN users in a Business Unit](#)

Navigate to Business Units

1. In the left navigation pane, click **IPC**.



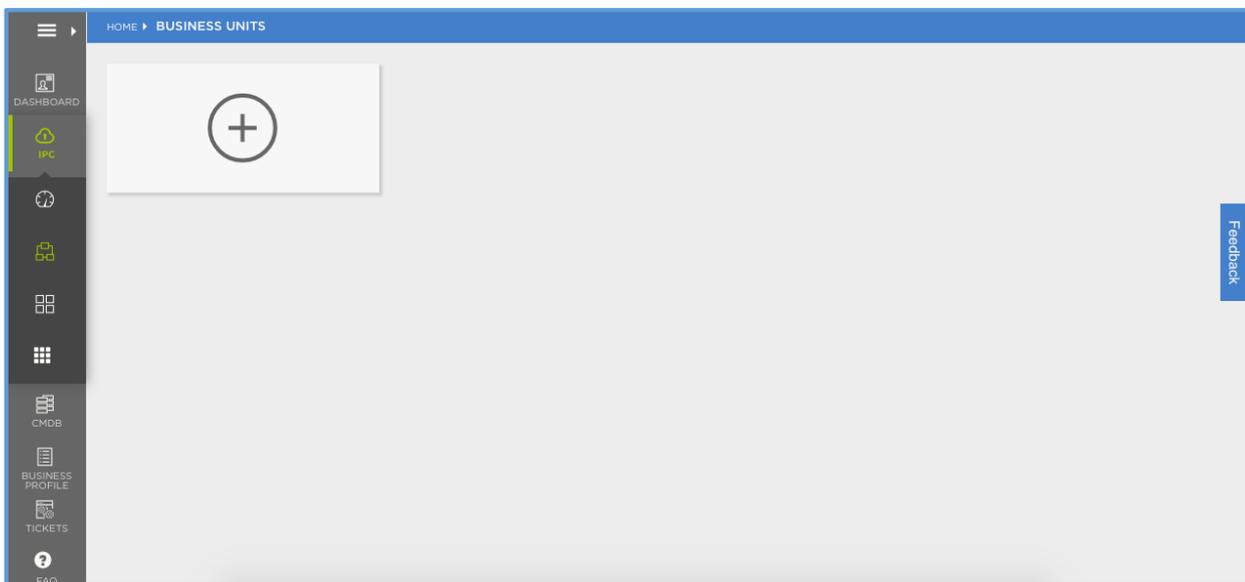
2. In the expanded list of options, click **Business units**.



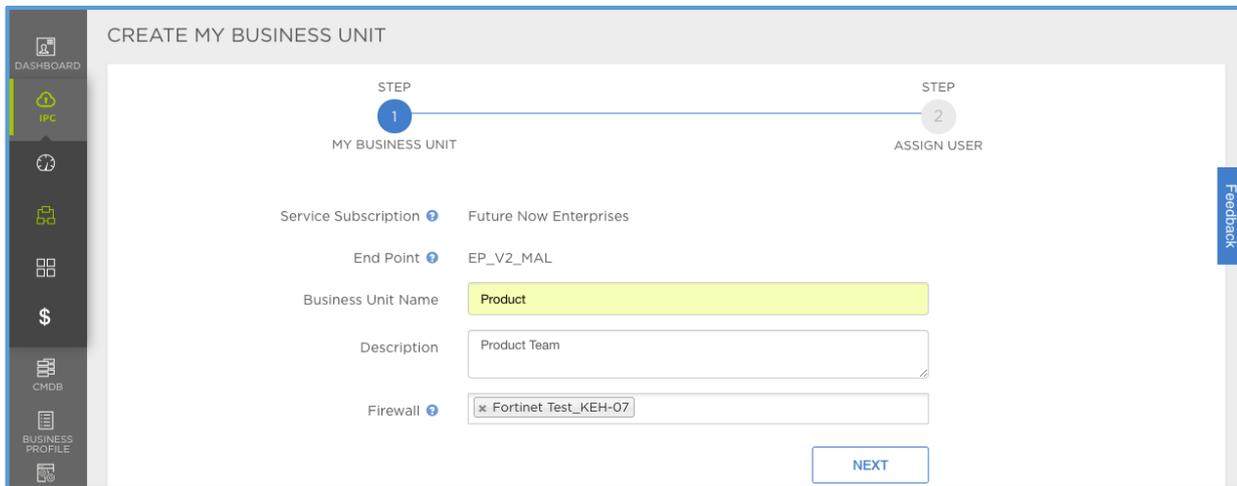
The **BUSINESS UNITS** page is displayed showing existing units.

Creating a Business Unit

1. In the **BUSINESS UNITS** page, click the + icon.



2. In the **MY BUSINESS UNIT** section of the **CREATE MY BUSINESS UNIT** page, enter the following information.
 - a. The option where the BU needs to be created - selecting from the drop-down list that shows all the Tata Communications services to which you have subscribed e.g. IZO™ Private Cloud, DDoS Service and IZO™ Cloud Storage.



CREATE MY BUSINESS UNIT

STEP 1: MY BUSINESS UNIT

STEP 2: ASSIGN USER

Service Subscription: Future Now Enterprises

End Point: EP_V2_MAL

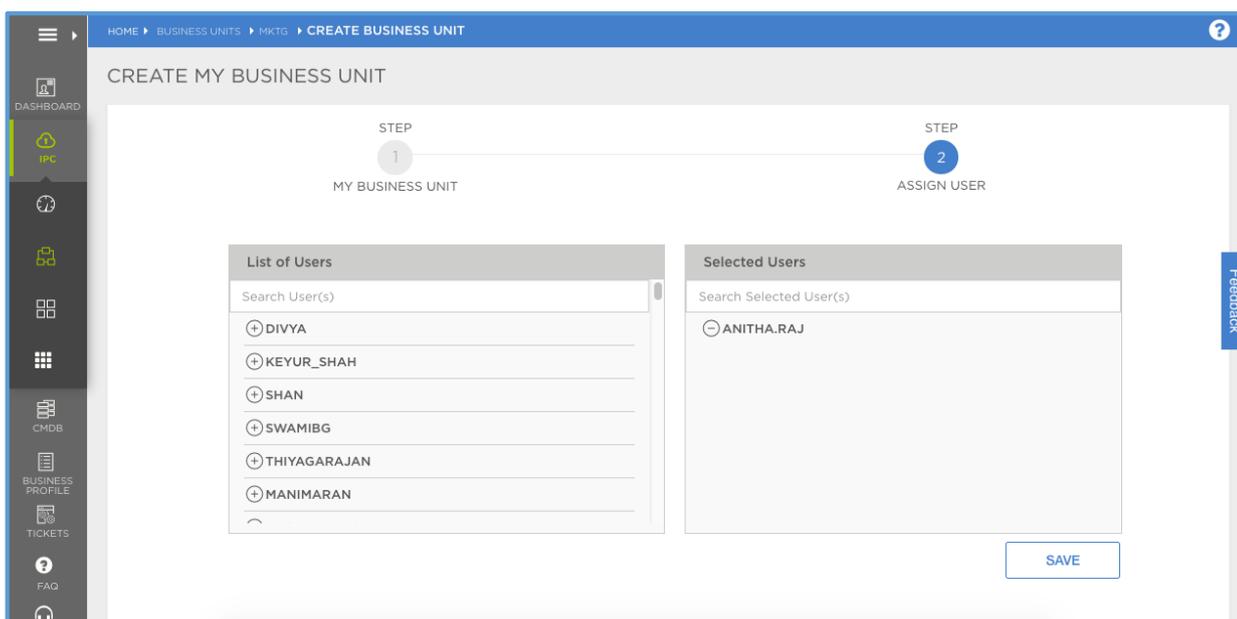
Business Unit Name: Product

Description: Product Team

Firewall: Fortinet Test_KEH-07

NEXT

- a. In the **Business Unit Name** field, enter the name of the Business Unit.
 - b. In the **Description** field, enter any relevant description related to the Business Unit.
 - c. From the **Firewall** drop-down, select the required virtual domains (VDOMs) for the Business Unit. The Firewall drop-down displays the VDOMs you have purchased.
3. Click **Next**.
4. In the **ASSIGN USER** section of the **CREATE MY BUSINESS UNIT** page, select your username from the **List of Users** picker.



CREATE MY BUSINESS UNIT

STEP 1: MY BUSINESS UNIT

STEP 2: ASSIGN USER

List of Users

Search User(s)

- ⊕ DIVYA
- ⊕ KEYUR_SHAH
- ⊕ SHAN
- ⊕ SWAMIBG
- ⊕ THİYAGARAJAN
- ⊕ MANIMARAN

Selected Users

Search Selected User(s)

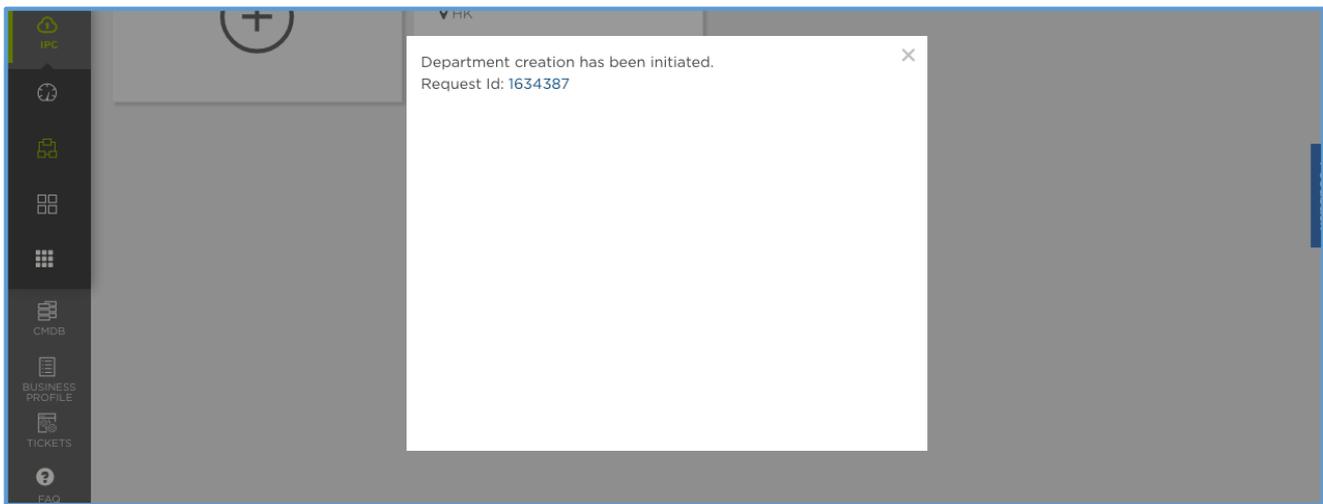
- ⊖ ANITHA.RAJ

SAVE

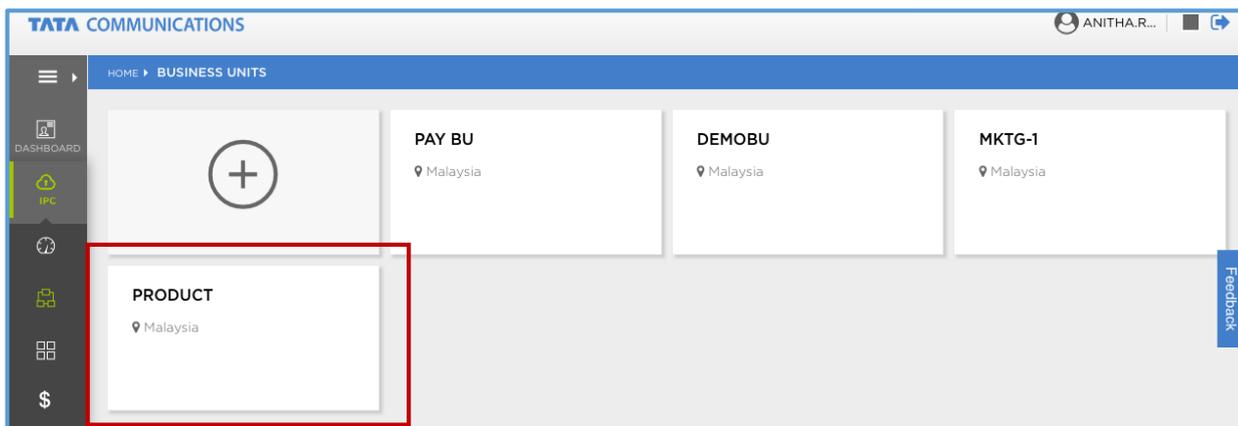


Note: It is mandatory that you select your username to [add to?] the **Selected Users** list of the Business Unit.

5. Select any additional users you want to add to the **Selected Users** list. The selected users are added to the **Selected Users** list.
6. Click **Save**. The message 'Department creation has been initiated' appears with the Request Id. On clicking the Request Id, you'll be redirected to the Business Unit creation ticket.

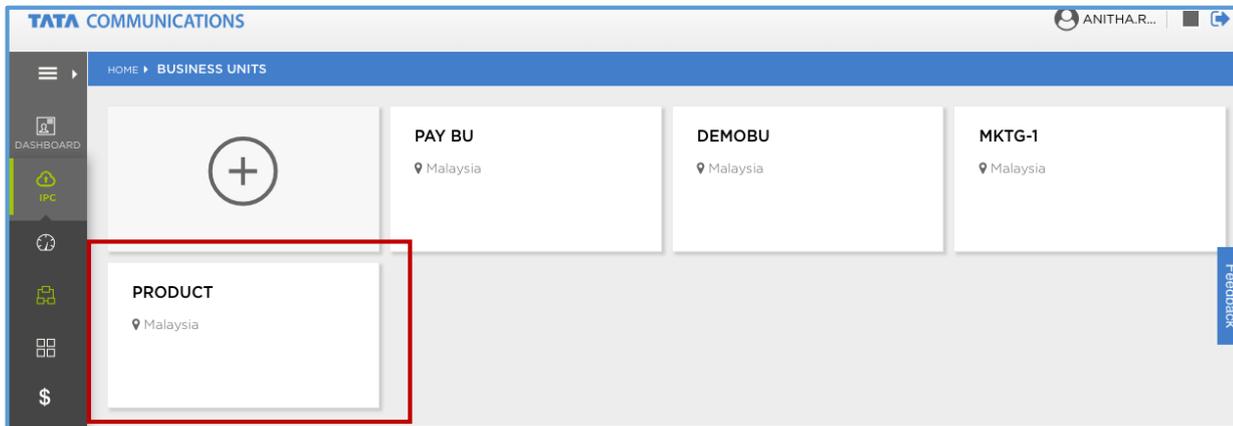


Once created, the new Business Unit is displayed in the **BUSINESS UNITS** page.

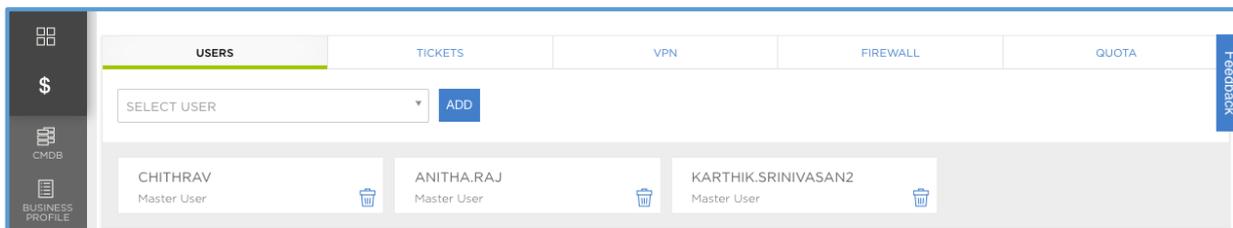


Adding a user to a Business Unit

1. Navigate to the **BUSINESS UNITS** page.
2. Select the Business Unit to which you want to add users.



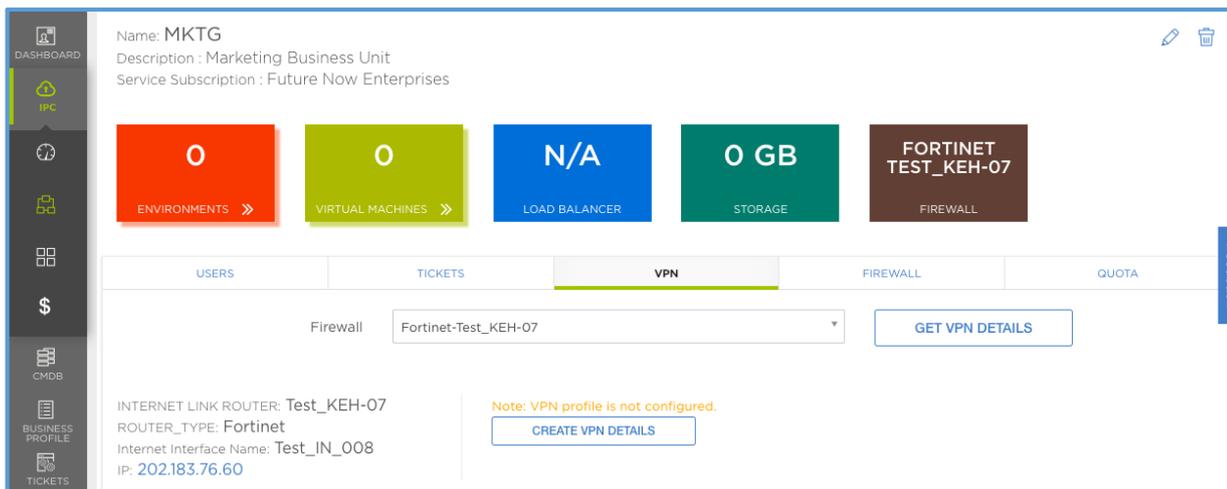
3. In the **USERS** tab of the selected Business Unit, expand the **USERS** drop-down list. This displays users who have access to the service and their user privileges. Select the user whom you want to add to the Business Unit and click **Add**.



The selected user is added to the Business Unit.

Creating VPN Users in a Business Unit

1. Navigate to the **BUSINESS UNITS** page.
2. Select the Business Unit in which you want to create VPN users.
3. Select the **VPN** tab in the selected Business Unit.
4. The **Firewall VDOM** gets auto-populated.



Name: MKTG
Description : Marketing Business Unit
Service Subscription : Future Now Enterprises

ENVIRONMENTS 0 VIRTUAL MACHINES 0 LOAD BALANCER N/A STORAGE 0 GB FIREWALL FORTINET TEST_KEH-07

USERS TICKETS **VPN** FIREWALL QUOTA

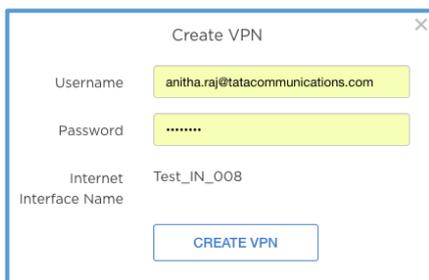
Firewall Fortinet-Test_KEH-07 GET VPN DETAILS

INTERNET LINK ROUTER: Test_KEH-07
ROUTER_TYPE: Fortinet
Internet Interface Name: Test_IN_008
IP: 202.183.76.60

Note: VPN profile is not configured.
CREATE VPN DETAILS

The VDOM details and the **CREATE VPN DETAILS** button are displayed.

5. Click **CREATE VPN DETAILS**. The **CREATE VPN** dialogue box appears.
6. In the **CREATE VPN** dialogue box:
 - a. In the **Username** field, enter the VPN user's name.
 - b. In the **Password** field, enter the VPN user's password.



Create VPN

Username anitha.raj@tatacommunications.com

Password

Internet Interface Name Test_IN_008

CREATE VPN

7. Click **CREATE VPN**. The message regarding the VPN user creation appears.



180.87.31.60 VPN created successfully!

OK

The VPN user created is displayed in the VPN tab.

The screenshot shows a web interface with three tabs: 'USERS', 'VPN', and 'FIREWALL'. The 'VPN' tab is active. At the top, there is a 'Firewall' dropdown menu set to 'Fortinet-Product_T17' and a 'GET VPN DETAILS' button. Below this, the configuration details are shown: 'INTERNET LINK ROUTER: Product_T17', 'ROUTER_TYPE: Fortinet', 'Internet Interface Name: Prod_IN_026', and 'IP: 180.87.31.60'. A yellow note states 'Note: VPN profile is configured.' with a 'DELETE VPN DETAILS' button. A 'CREATE VPN USER' button is located in the bottom right. The 'VPN USERS' section displays a table with one entry: 'ANITHA.RAJ@TATACOMMUN'. A 'Feedback' button is on the right side of the interface.

ENVIRONMENTS

Introduction

Environments are groups of compute, network and storage that provide a ready template for standard users to spin up virtual machines, created by the master user.

Within an environment, VMs are grouped into Zones. When creating an Environment, you can configure Hypervisor options, Image options, Flavour options, and the Zone's method of storage. We pre-configure these options for you at Tata Communications depending on your solution.



Environments are groups of compute, network and storage that provide a ready template for standard users to spin up Virtual Machines, created by the Master User.

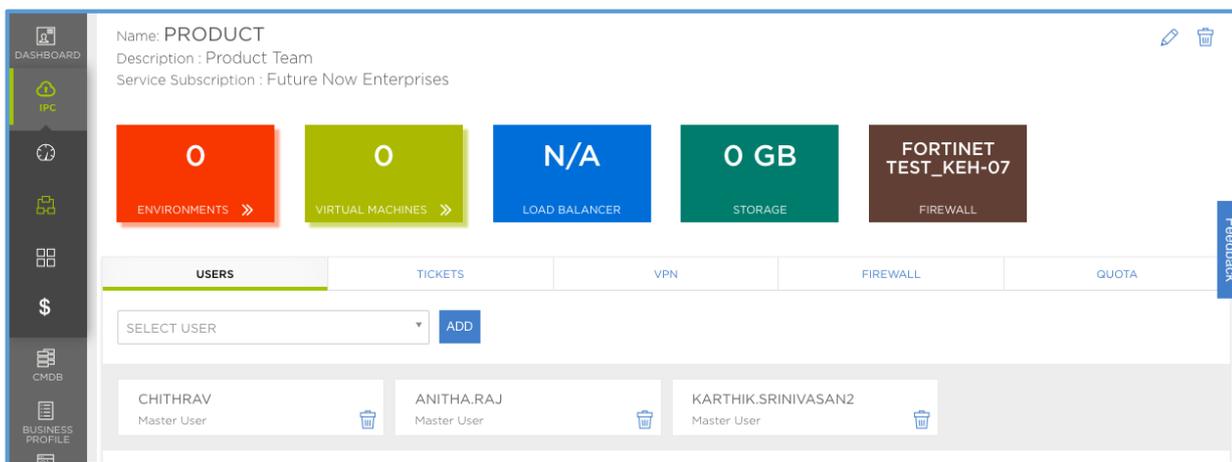
The Environments section covers the following:

- [Navigating to Environments](#)
- [Creating an Environment](#)

Navigate to Environments

From the **BUSINESS UNITS** page:

1. Select the required BUSINESS UNIT



2. Click the **ENVIRONMENTS** tab.

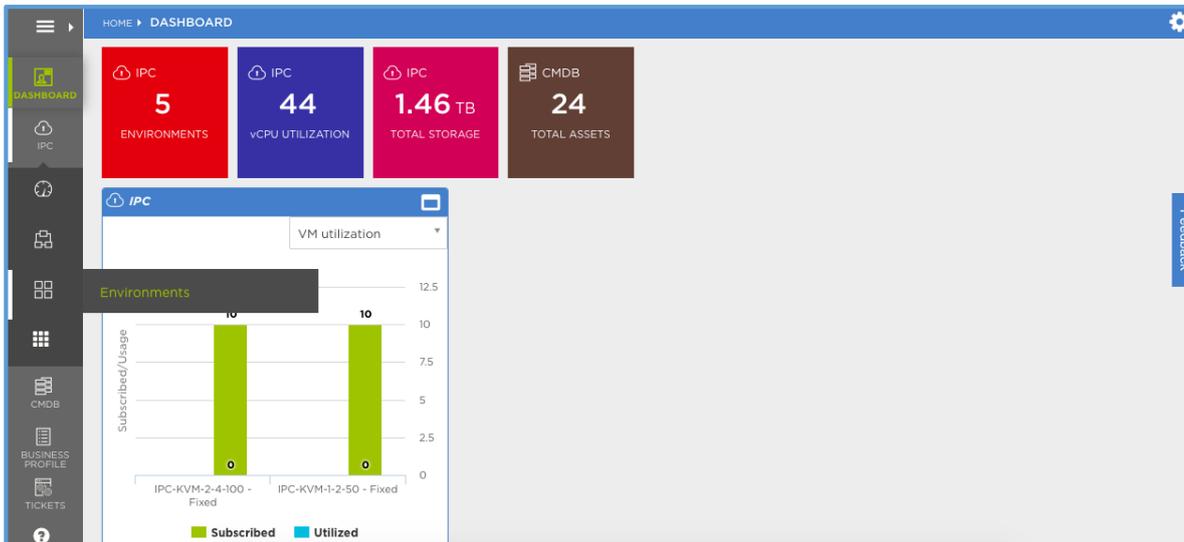


Note: The **Environments** tab displays the number of Environments created for the Business Unit.

This displays the **ENVIRONMENTS** page for the selected Business Unit.

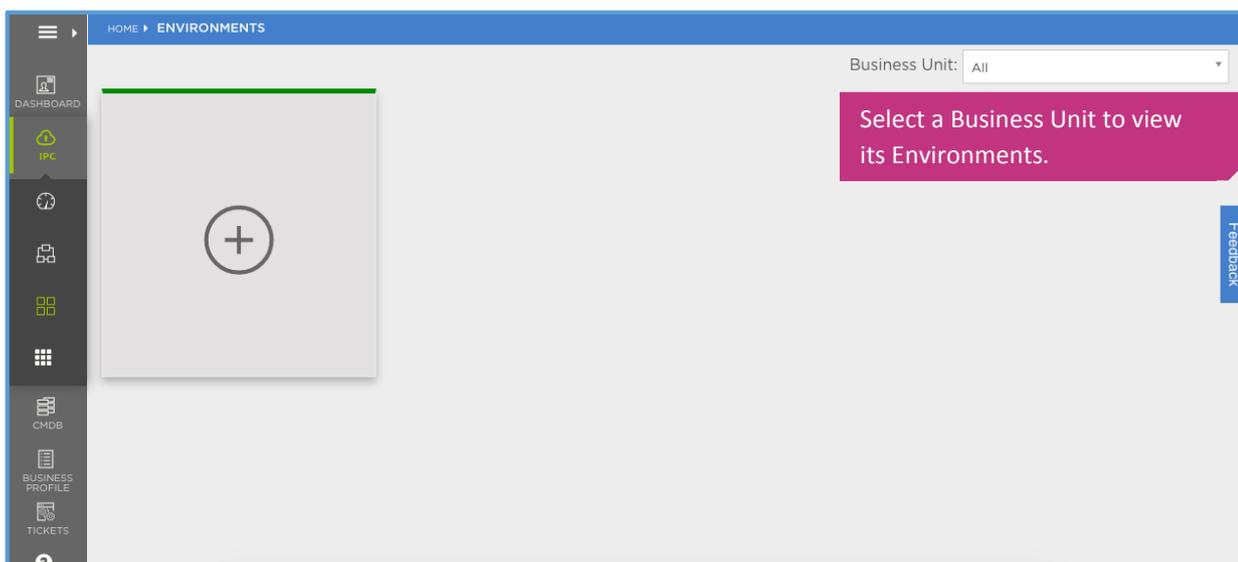
To navigate to the **ENVIRONMENTS** page from the **HOME** page:

1. From the left pane on the **HOME** page, expand **IPC**.
2. From the **IPC** drop-down, select **Environments**. This displays the **ENVIRONMENTS** page featuring all the Environments created in the portal.



Creating an Environment

1. Navigate to the **ENVIRONMENTS** page.



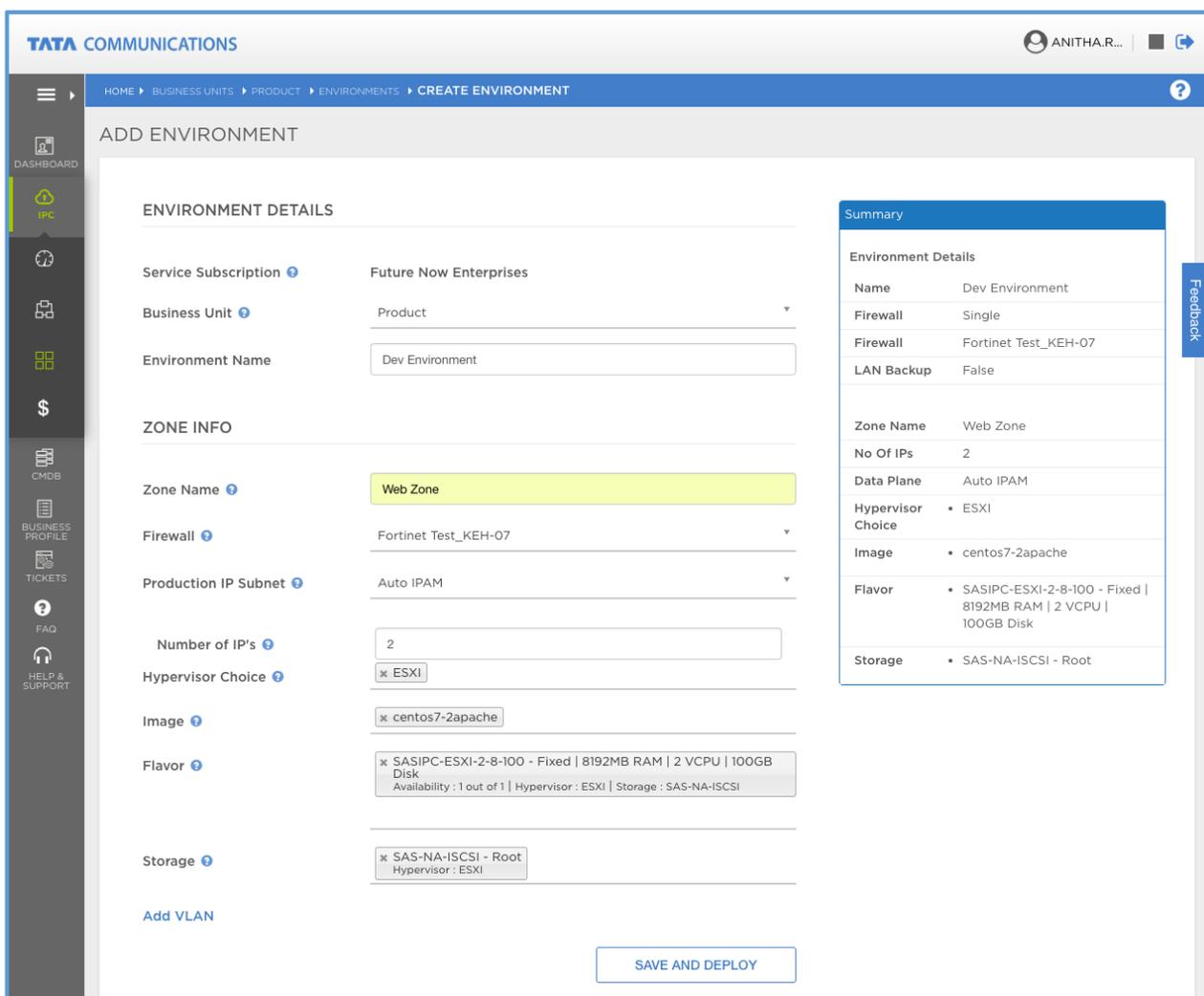
Click the + icon. This displays the **ADD ENVIRONMENT** page.

2. In **ENVIRONMENT DETAILS**, populate the following:



Note: Fields with drop-downs show options pre-configured by Tata Communications' admin.

- a) From the **Service Subscription** drop-down, choose the required service from those to which you have subscribed.
- b) From the **Business Unit** drop-down, choose the Business Unit for which you want to create an Environment.
- c) In the **Environment Name** field, key in your name preference.



TATA COMMUNICATIONS ANITHA.R... 

HOME ▶ BUSINESS UNITS ▶ PRODUCT ▶ ENVIRONMENTS ▶ CREATE ENVIRONMENT ?

ADD ENVIRONMENT

ENVIRONMENT DETAILS

Service Subscription  Future Now Enterprises

Business Unit  Product

Environment Name

ZONE INFO

Zone Name  **Web Zone**

Firewall  Fortinet Test_KEH-07

Production IP Subnet  Auto IPAM

Number of IP's 

Hypervisor Choice 

Image 

Flavor 
Availability : 1 out of 1 | Hypervisor : ESXI | Storage : SAS-NA-ISCSI

Storage 
Hypervisor : ESXI

[Add VLAN](#)

[SAVE AND DEPLOY](#)

Summary

Environment Details

Name	Dev Environment
Firewall	Single
Firewall	Fortinet Test_KEH-07
LAN Backup	False
Zone Name	Web Zone
No Of IPs	2
Data Plane	Auto IPAM
Hypervisor Choice	• ESXI
Image	• centos7-2apache
Flavor	• SASIPC-ESXI-2-8-100 - Fixed 8192MB RAM 2 VCPU 100GB Disk
Storage	• SAS-NA-ISCSI - Root

[Feedback](#)

3. In the **ZONE INFO** section, populate the following details:
 - i. In the **Zone Name** field, enter your name preference.
 - ii. Select the **Firewall** from the drop-down list.
 - iii. From the **Production IP Subnet** field, choose your preferred IP address management method.
 - iv. In the **Number of IPs** field, enter the number of VMs you want to add to the Zone.

- v. From the **Hypervisor Choice** drop-down, enter your preference.
- vi. From the **Image** drop-down, choose the OS for your VMs.
- vii. From the **Flavour** drop-down, choose your preferred VM configurations.

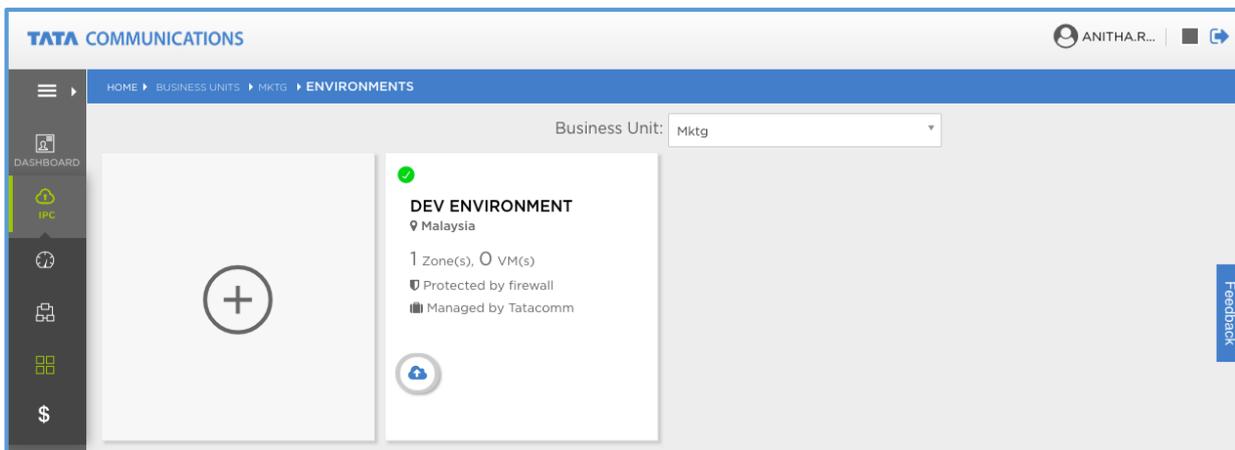


Note: You will be billed for your VM usage based on the Flavor you choose. Usage charges either vary periodically or are fixed. Variable charges depend on your daily or monthly usage. The fixed charge option requires you to pay a fixed charge irrespective of whether your VMs were ON or OFF for a day or month.

- viii. From the **Storage** drop-down, choose your preferences. SAS and SATA are the two storage types we offer. Select your preference depending on performance required.
4. Now check the details entered and click **SAVE & DEPLOY**.
This displays the following confirmation message along with the Request Id for Environment creation.

Environment deployment has been initiated
Request Id: 1645826

You will then be directed to the **ENVIRONMENT** home page where you will need to click the **DEPLOY** icon. Once the Request ID is processed, a green tick mark appears on the newly created Environment tab on the **ENVIRONMENTS** page.



ORCHESTRATION CAPABILITIES

Introduction

The IZO™ Private Cloud platform provides you with an advanced automation and orchestration layer. The process automation layer facilitates ongoing operational and support tasks for IZO™ Private Cloud management covering users, performance, alerts and service assurance etc.

Cloud orchestration helps to create, update and manage IT resources and related software components as a single unit and deploy them in an automated, reusable template. Snapshots, applications and OS images can also be made as templates. IZO™ Private Cloud's self-service capabilities via the web portal offer various options for administrators and authorised end users to provision and manage resources on the fly.

This section discusses the following IZO™ Private Cloud orchestration capabilities:

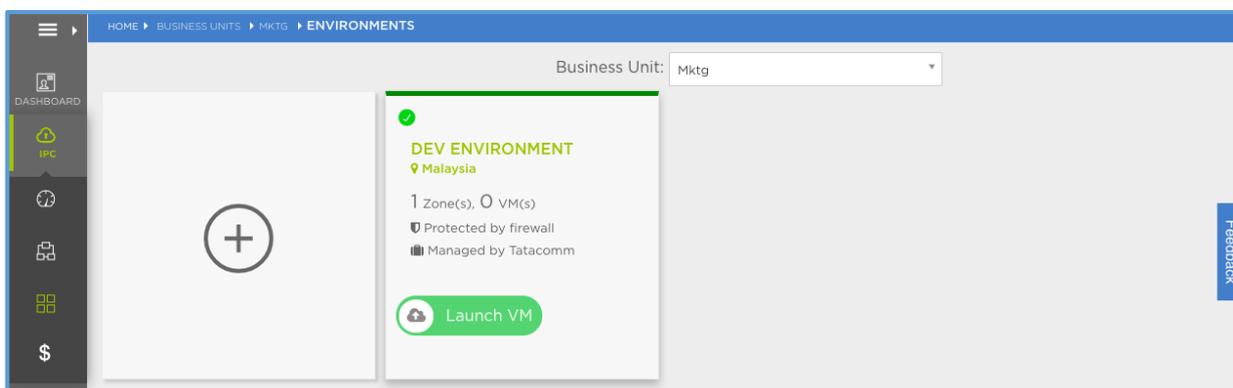
- [Launching VMs in a Zone](#)
- [VM actions](#)
- [Configuring Firewall rules](#)
- [Viewing network topology](#)

Launching VMs in a Zone

You can spin up VMs in a Zone based on your IT requirements by choosing the required Hypervisor, Image, Flavour and Storage. When launching a VM, you can also schedule VM snapshots.

To launch a VM in a Zone:

1. Select an Environment.
2. Click the **LAUNCH VM** button on the required Zone tab. This displays the **LAUNCH VM** page. Click **Select** option.



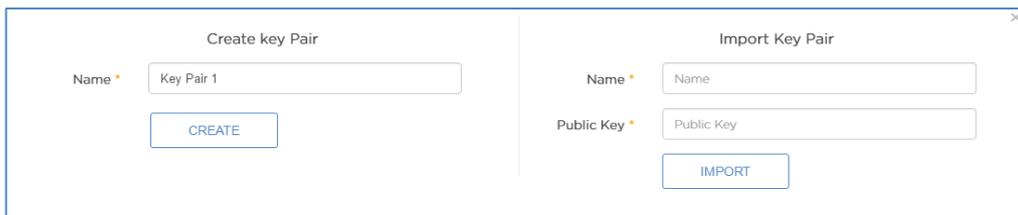
3. In the **VM Name** field, key in the name of the instance.



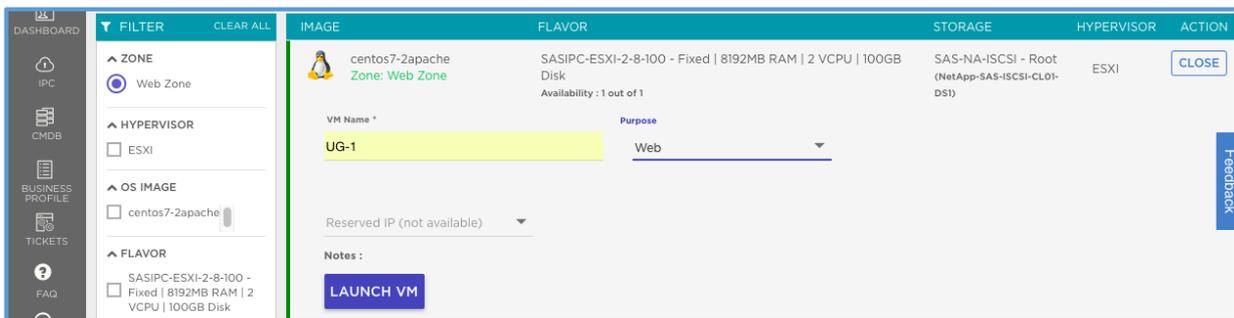
Note: Fields with drop-downs show options pre-configured by Tata Communications' admin.



4. Select the VM's purpose from the drop-down list.
5. In the case of KVM, from the **Key Pair** drop-down, choose a Key Pair (optional).
6. You can either create a key pair or import a key pair by selecting + in the **Key Pair** field.



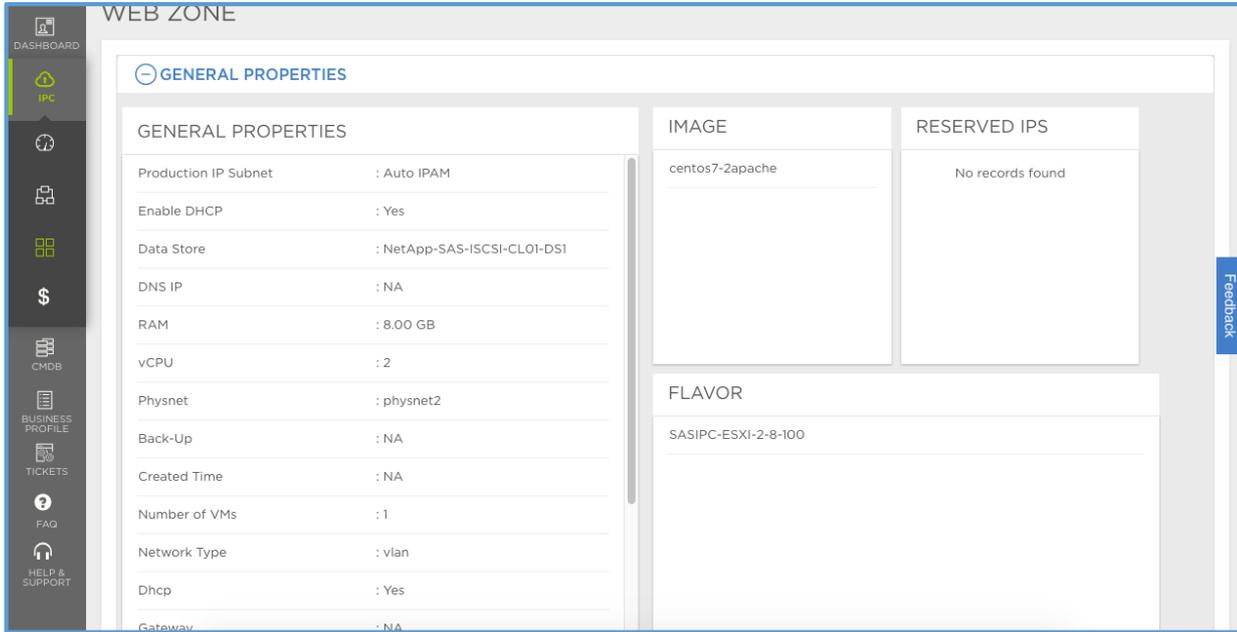
7. In the **Schedule Snapshot** field, select **Yes** or **No**.
8. From the **Schedule Snapshot** on the drop-down, choose a schedule for the snapshot.



9. Click **LAUNCH INSTANCE**. This displays the following confirmation along with the Request Id for the VM Instance.

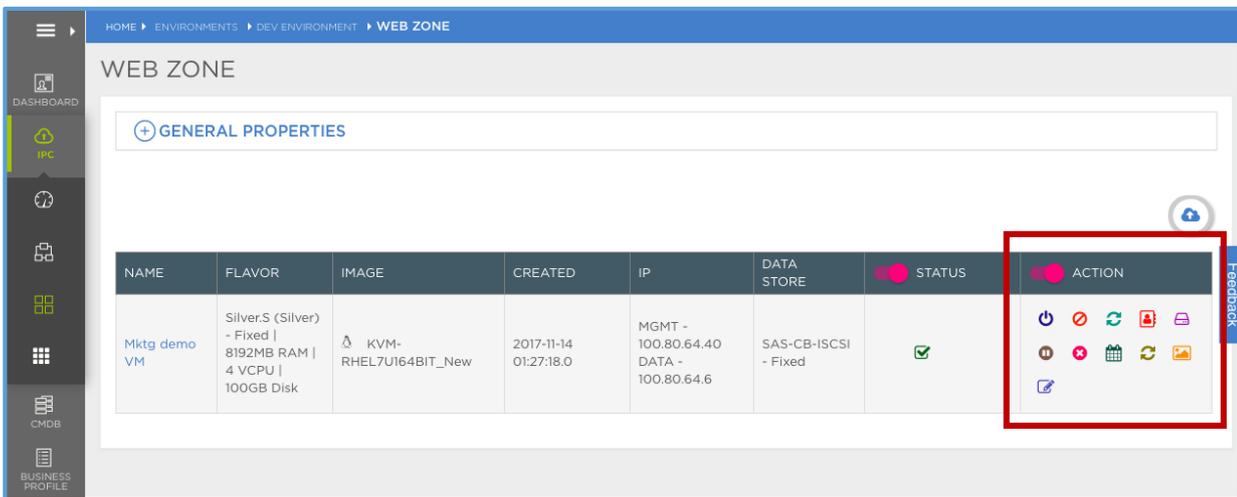


Once the request ID is processed, the VM is reflected in the Zone page.



VM Actions

A set of VM actions you can perform is available on the Zone dashboard:



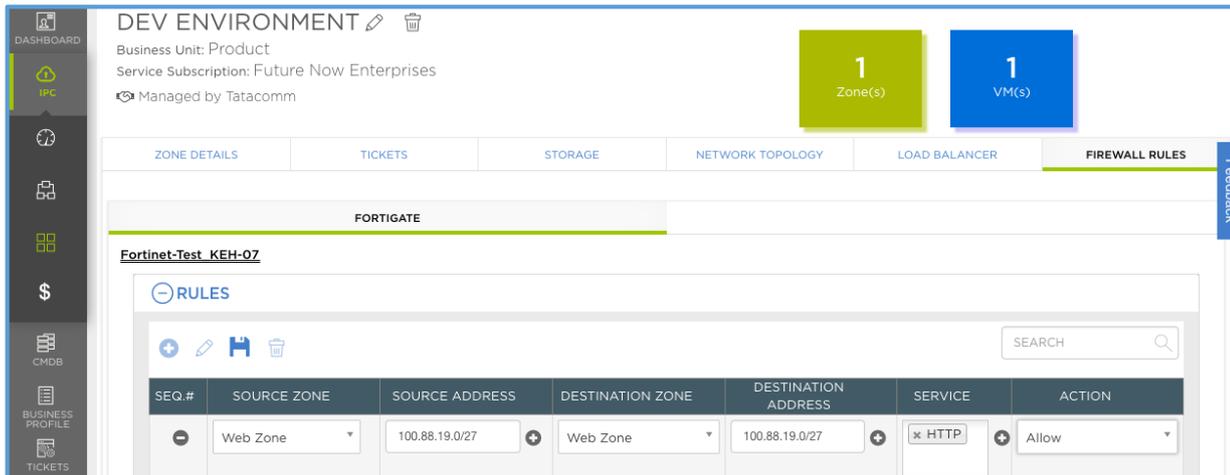
These actions are listed in the table below:

VM Actions	Description
Shut Off/Start VM	VM is shut down closing all running applications (comparable to the shutdown option on a PC).
Suspend/Resume VM	VM is inactive and the contents are stored on the disk (comparable to the hibernate option on a PC).
Soft Reboot VM	A type of VM restart without the need to interrupt the power.
Associate Public IP	This is used to NAT the private IP into public IP to communicate to the server over the Internet.
Attach Volume	Additional Volumes can be created and attached to the VM.
Pause/Unpause VM	VM is inactive and the VM content is stored in RAM (comparable to the sleep option on a PC).
Terminate VM	VM is terminated and no further actions can take place on the VM - unless and until the VM is re-launched.
Schedule Snapshot	The Schedule Snapshot option offers a 7-day retention period. We retain latest 7 days snapshot.
Hard Reboot VM	A type of VM restart in which the power to the VM is physically turned OFF and back ON again.
Create Snapshot	This creates a one-off instant snapshot.
Rename VM	This Hostname rename option operates at portal rather than OS level.

Configure Firewall Rules

IZO™ Private Cloud's portal enables its users to define the rules on its deployed firewalls.

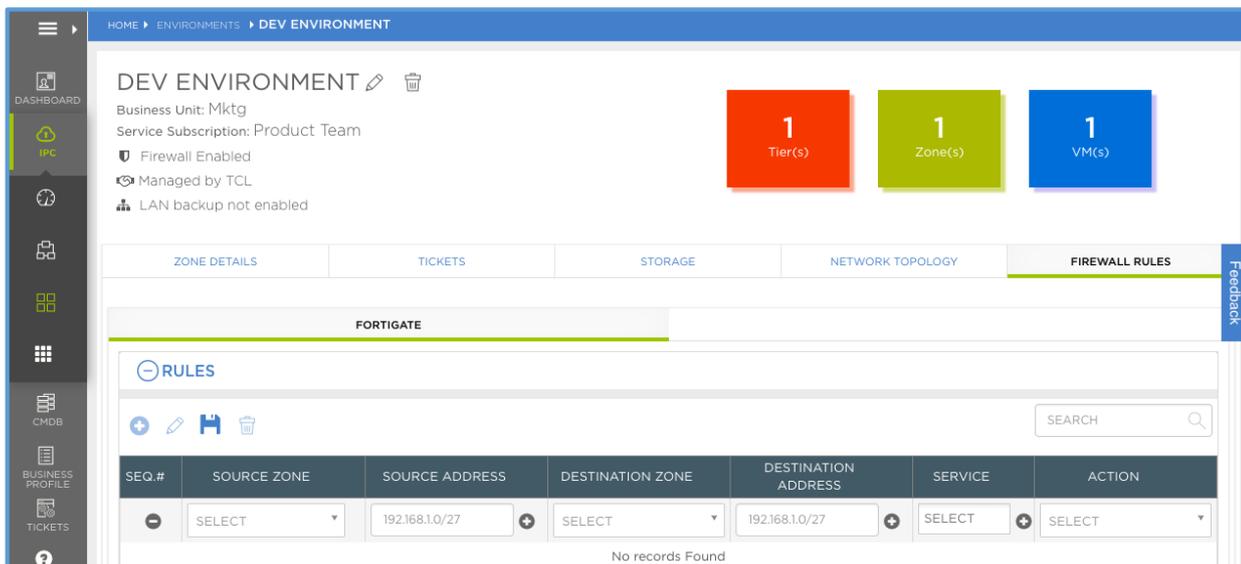
1. Click the **FIREWALL RULES** tab of an Environment.
2. Select the Firewall in which you want the rules to be applied. In the example shown below, only one VDOM was selected for the Environment. You can, however, select multiple VDOMs - in which case you must select one in which you configure the Firewall rules.



The screenshot shows the 'DEV ENVIRONMENT' dashboard. It includes a sidebar with navigation options like DASHBOARD, IPC, and TICKETS. The main content area displays environment details: Business Unit: Product, Service Subscription: Future Now Enterprises, and Managed by Tatacomm. There are two status boxes: '1 Zone(s)' and '1 VM(s)'. The 'FIREWALL RULES' tab is selected, showing a 'FORTIGATE' section for 'Fortinet-Test_KEH-07'. Below this is a 'RULES' table with a search bar and a table with the following data:

SEQ.#	SOURCE_ZONE	SOURCE_ADDRESS	DESTINATION_ZONE	DESTINATION_ADDRESS	SERVICE	ACTION
	Web Zone	100.88.19.0/27	Web Zone	100.88.19.0/27	HTTP	Allow

3. In the **RULES** table, click **Add**. This displays a row to configure a Firewall rule.



The screenshot shows the 'DEV ENVIRONMENT' dashboard with environment details: Business Unit: Mktg, Service Subscription: Product Team, Firewall Enabled, Managed by TCL, and LAN backup not enabled. There are three status boxes: '1 Tier(s)', '1 Zone(s)', and '1 VM(s)'. The 'FIREWALL RULES' tab is selected, showing a 'FORTIGATE' section for 'Fortinet-Test_KEH-07'. Below this is a 'RULES' table with a search bar and a table with the following data:

SEQ.#	SOURCE_ZONE	SOURCE_ADDRESS	DESTINATION_ZONE	DESTINATION_ADDRESS	SERVICE	ACTION
	SELECT	192.168.1.0/27	SELECT	192.168.1.0/27	SELECT	SELECT

No records Found

4. From the **Source Zone** drop-down, select a source. Its IP address is auto-populated in the **Source Address** field.
5. From the **Destination Zone** drop-down, select a destination. Its IP address is auto-populated in the **Source Address** field.
6. From the **Service** drop-down, select the required service types.
7. From the **Action** drop-down, select whether you want to allow or deny the configured rule.
8. Click **Save**. The message 'Firewall rule creating initiated!' appears with a Request Id. On clicking the Request Id, you will be redirected to the Firewall rule creation ticket.

Firewall rule creating initiated !
Request Id: 1648602

Once the Firewall rule has been created, it will be reflected in the FIREWALL RULES page.

DEV ENVIRONMENT

Business Unit: Product
Service Subscription: Future Now Enterprises
Managed by Tatacomm

1 Zone(s) 1 VM(s)

ZONE DETAILS TICKETS STORAGE NETWORK TOPOLOGY LOAD BALANCER FIREWALL RULES

FORTIGATE

Fortinet-Test_KEH-07

RULES

SEQ.#	SOURCE ZONE	SOURCE ADDRESS	DESTINATION ZONE	DESTINATION ADDRESS	SERVICE	ACTION
1	Web Zone	100.88.19.0/27	Web Zone	100.88.19.0/27	HTTP	accept

Viewing Network Topology

Based on the launched VMs, security profiles and firewalls added, IZO™ Private Cloud creates a network topology for a particular Environment. You can view it in the Environment's **Network Topology** tab. It enables you to better understand your infrastructure's connectivity.

DEV ENVIRONMENT

Business Unit: Product
Service Subscription: Future Now Enterprises
Managed by Tatacomm

1 Zone(s) 1 VM(s)

ZONE DETAILS TICKETS STORAGE NETWORK TOPOLOGY LOAD BALANCER FIREWALL RULES

Fortinet-Test_KEH-07

Web Zone 100.88.19.0/27

ZONES

Introduction

A Zone refers to a logical network (VLAN) segregated through a firewall. You can create multiple Zones within an Environment to launch VMs.

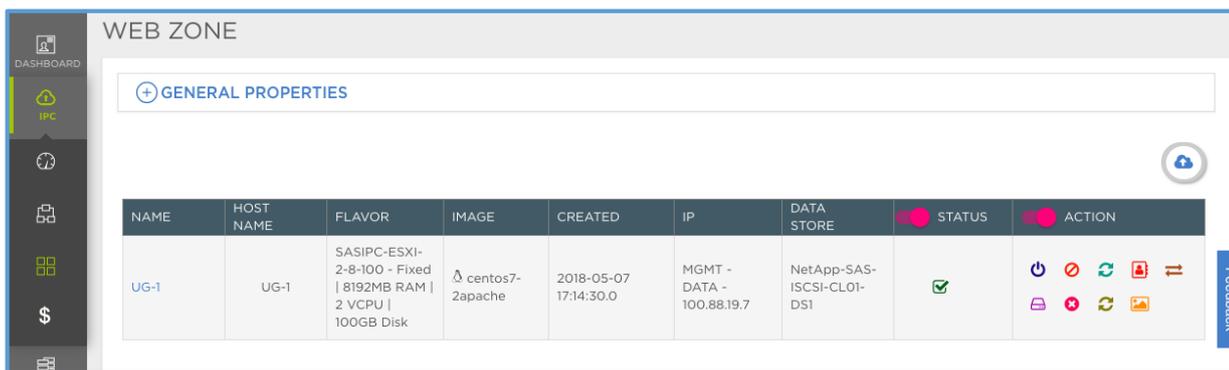


A Zone refers to a logical network (VLAN) segregated through a firewall.

Attaching a Volumes to a VM

You can create additional Volumes under the **STORAGE** tab of an Environment. Alternatively, you can perform this task by selecting **Attach Volumes** from the VM's Action drop-down on a Zone's dashboard.

1. From the Actions drop-down of the Volume, click Attach Volume



NAME	HOST NAME	FLAVOR	IMAGE	CREATED	IP	DATA STORE	STATUS	ACTION
UG-1	UG-1	SASIPC-ESXI-2-8-100 - Fixed 8192MB RAM 2 VCPU 100GB Disk	centos7-2apache	2018-05-07 17:14:30.0	MGMT - DATA - 100.88.19.7	NetApp-SAS-ISCSI-CL01-DS1	✔	     

2. In the dialogue box that appears, select the VM to which you want to attach the Volume and click **Attach**.

Create & Attach Volume ✕

Name*

Type*

Hypervisor

Size (in GB)* / 50 = 2
(Storage in the units of 50)

The message 'Attach Volume Initiated' appears.

3. In the message dialogue box, click **OK**.

Once the Volume is attached, it appears in the **Attached Volume** section under storage tab inside an Environment. Attached additional volume to VM can be detached, deleted and resized through actions drop down.

ZONE DETAILS	TICKETS	STORAGE	NETWORK TOPOLOGY	LOAD BALANCER	FIREWALL RULES
					Discover from KVM Discover
FREE VOLUMES (0)					
NAME	SIZE	TYPE	CREATED TIME	ACTIONS	
No records found					
ATTACHED VOLUMES (2)					
SEARCH ATTACHED VOLUMES <input type="text"/>					
NAME	SIZE	TYPE	CREATED TIME	ATTACHED TO	ACTIONS
MALXEFWEB77Vvmdk	100 GB		NA	UG-1	NO OPTION
Vol 1	1 GB	SAS-NA-ISCSI	NA	UG-1	

4. You can detach a Volume by selecting **Detach Volume** in the **Actions** row of a Volume which will then move to **Free Volumes** section in the Environment's **Storage** tab which can be attached again to the same VM or any other VM in the same Zone.

NAME	SIZE	TYPE	CREATED TIME	ATTACHED TO	ACTIONS
Mktg demo VM_201711140122_std_disk	100 GB	cloudbyte	NA	/dev/vda Mktg demo VM	NO OPTION
Vol 1	50 GB	SAS-NA-FC	NA	/dev/vdb Mktg demo VM	<input checked="" type="checkbox"/> Detach Volume

ITSM (IT SERVICE MANAGEMENT)

Introduction

The IT Service Management (ITSM) ticketing tool is a flagship feature of Tata Communications IZO™ Private Cloud. ITSM provides a comprehensive audit of the changes made to your cloud environment from the date of its creation to meet industry compliance mandates. Tickets are assigned to the Tata Communications Global Service Management Centre (GSMC) Cloud Operations team, which provides full streamed support services to ensure optimal performance and prompt resolution. The time taken to resolve issues depends on the commitment given in the Service Level Agreements (SLAs) and the issue's complexity.

There are two types of tickets: Incidents and Requests. The ITSM (IT Service Management) section covers both in detail:

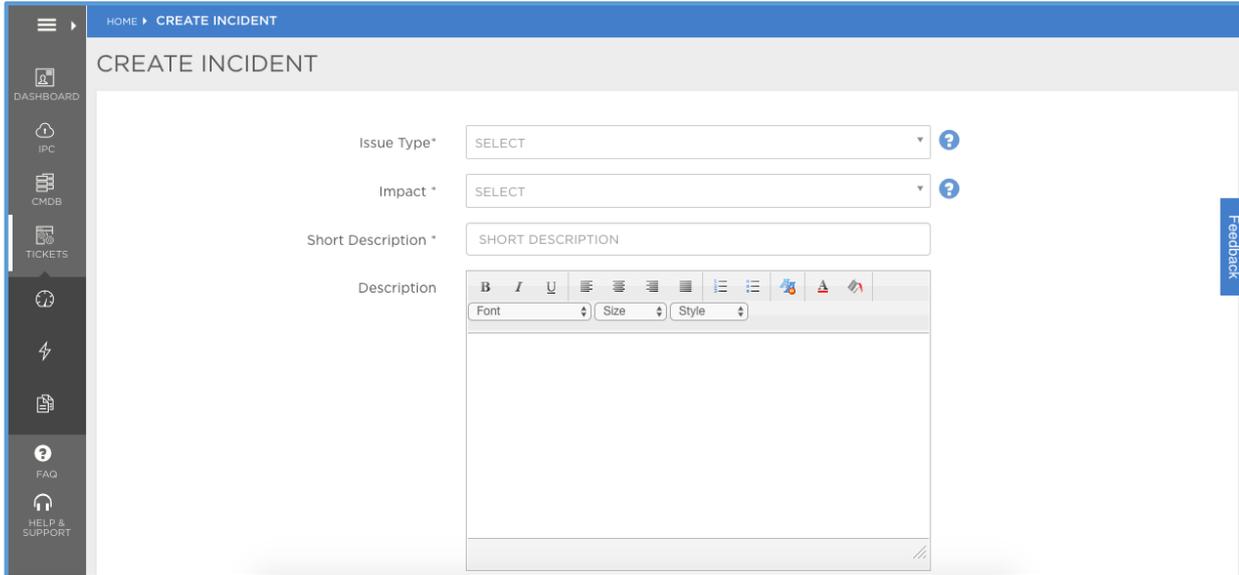
- [Incidents](#)
- [Creating an Incident](#)
- [Viewing Incidents](#)
- [Service Requests](#)
- [Creating a Service Request](#)
- [Viewing Service Requests](#)

Incidents

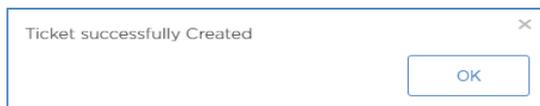
You can raise an Incident ticket when there is a deviation from the regular operation of the portal's features - such as VM crashing, unavailability etc. Incident tickets are created proactively for managed assets. For unmanaged assets, you will need to report in by creating a new Incident.

Creating an Incident

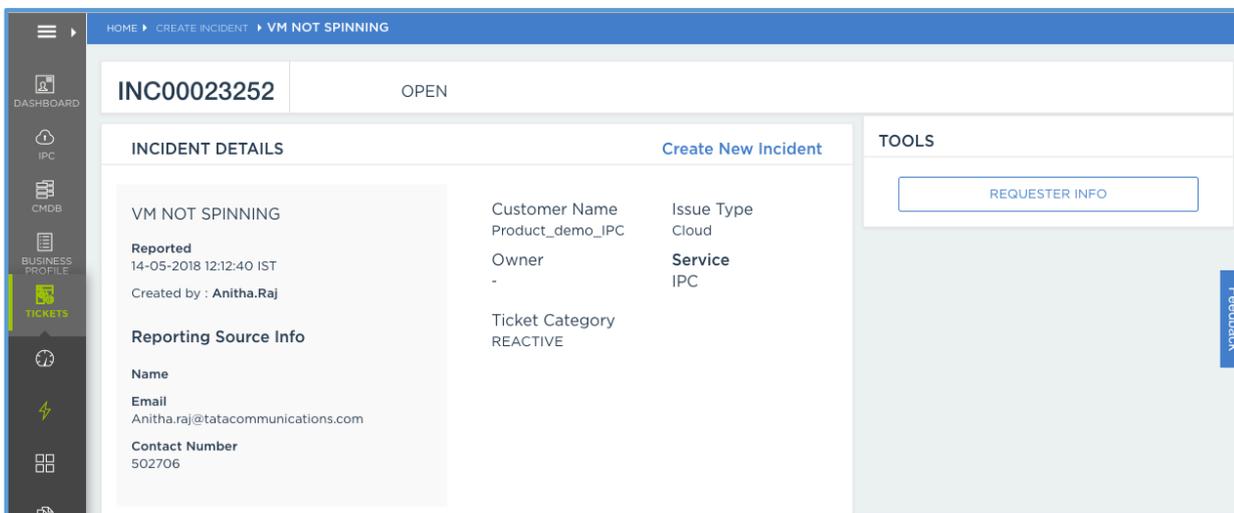
1. In the left navigation pane, click **TICKETS**.
2. In the expanded list of options, click **Incident**. This displays the **Incident** drop-down list.
3. Click **Create**. This displays the **CREATE INCIDENT** page.
4. From the **Issue Type** drop-down, select your preference.
5. From the **Impact** drop-down, select the level.
6. In the **Short Description** field, key in brief summary of the Incident.
7. In the **Description** field, key in the Incident details.
8. In the **Attachment** field, click **Choose File** to attach any files relevant to the Incident.



9. Click **Submit**. The message ‘Ticket successfully created’ appears.

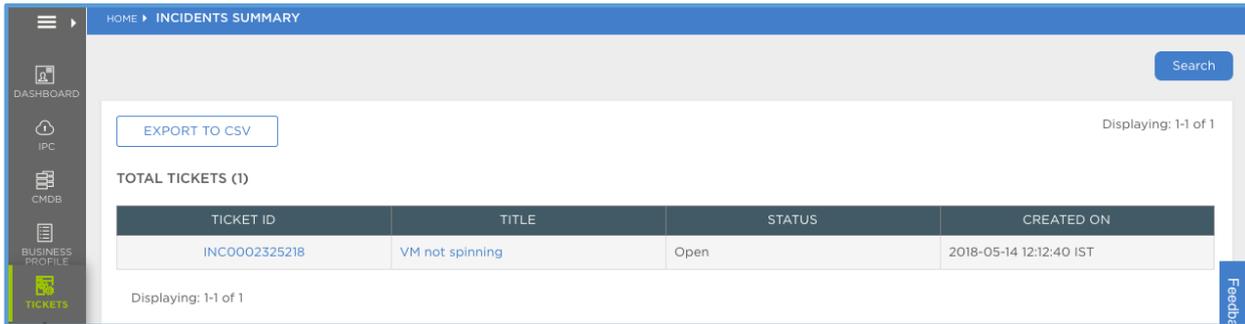


10. In the message dialogue box, click **OK**. This displays the Incident details.



Viewing Incidents

1. In the left navigation pane, click **TICKETS**.
2. In the expanded list of options, click **Incident**. This displays the **Incident** drop-down list.
3. Click **View**. This displays the **INCIDENTS SUMMARY** page.



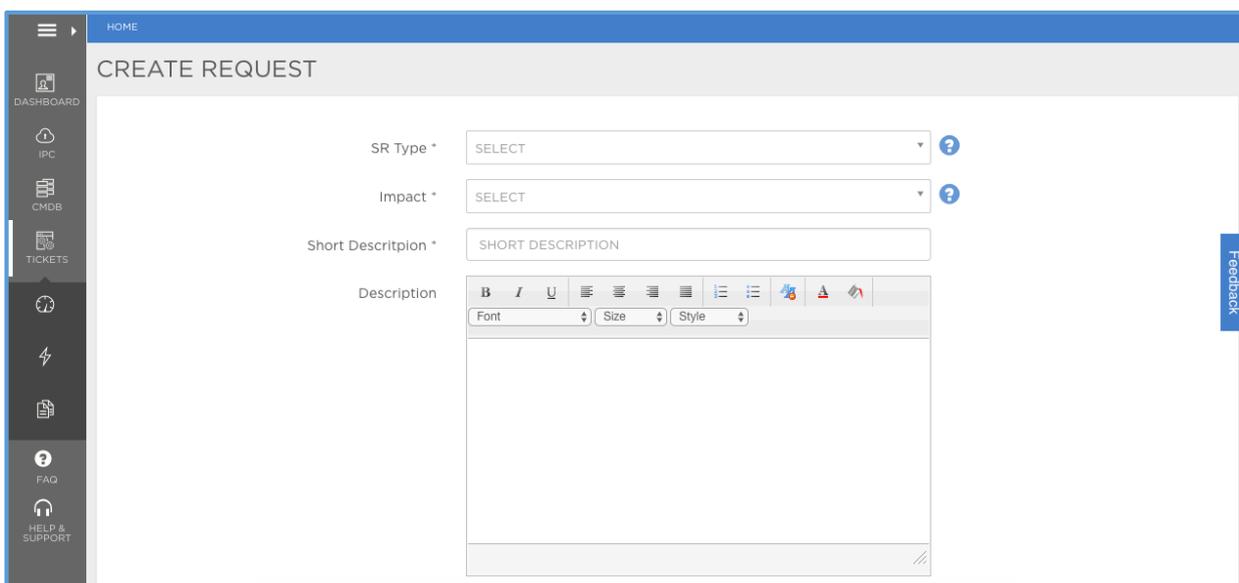
TICKET ID	TITLE	STATUS	CREATED ON
INCO002325218	VM not spinning	Open	2018-05-14 12:12:40 IST

Service Requests

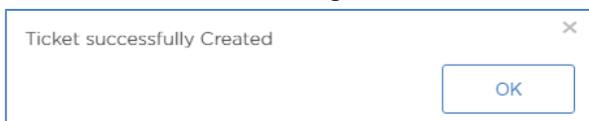
A Service Request is raised for every action performed on the portal. Although self-provisioning is a customer option, the GSMC Cloud Operations team can also perform provisioning steps for the user. The user can raise a Service Request to provision the resources, and the ticket will be assigned to the GSMC Cloud Operations team.

Creating a Service Request

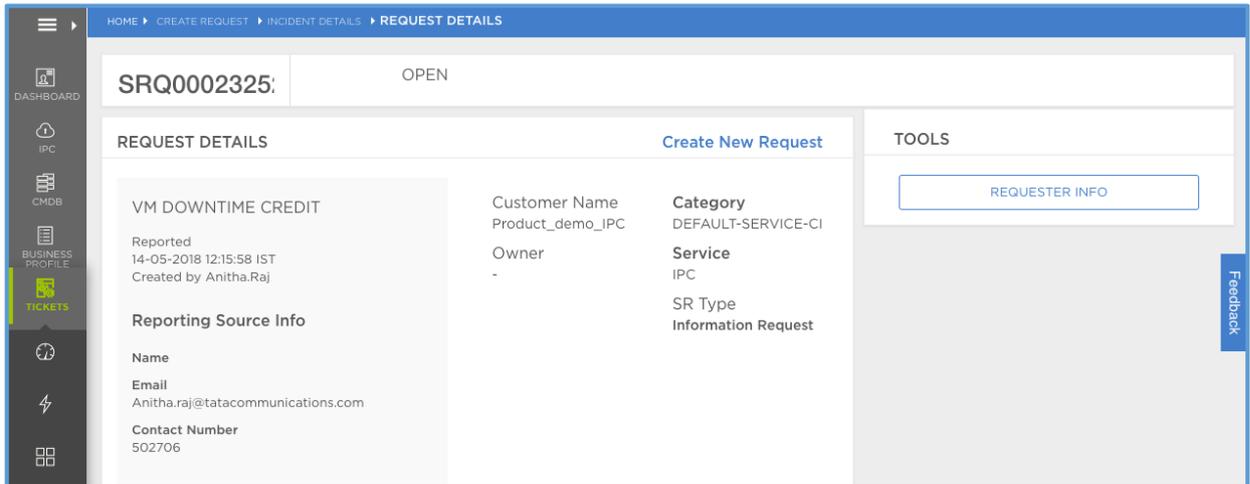
1. In the left navigation pane, click **TICKETS**.
2. In the expanded list of options, click **Incident**. This displays the **Incident** drop-down list.
3. Click **Create**. This displays the **CREATE REQUEST** page.
4. From the **SR Type** drop-down, select the request type.
5. From the **Impact** drop-down, select the chosen level.
6. In the **Short Description** field, key in a brief summary of the Service Request.
7. In the **Description** field, key in the Service Request details.
8. In the **Attachment** field, click **Choose File** to attach any files relevant to the Service Request.



9. Click **Submit**. The message 'Ticket successfully created' appears.

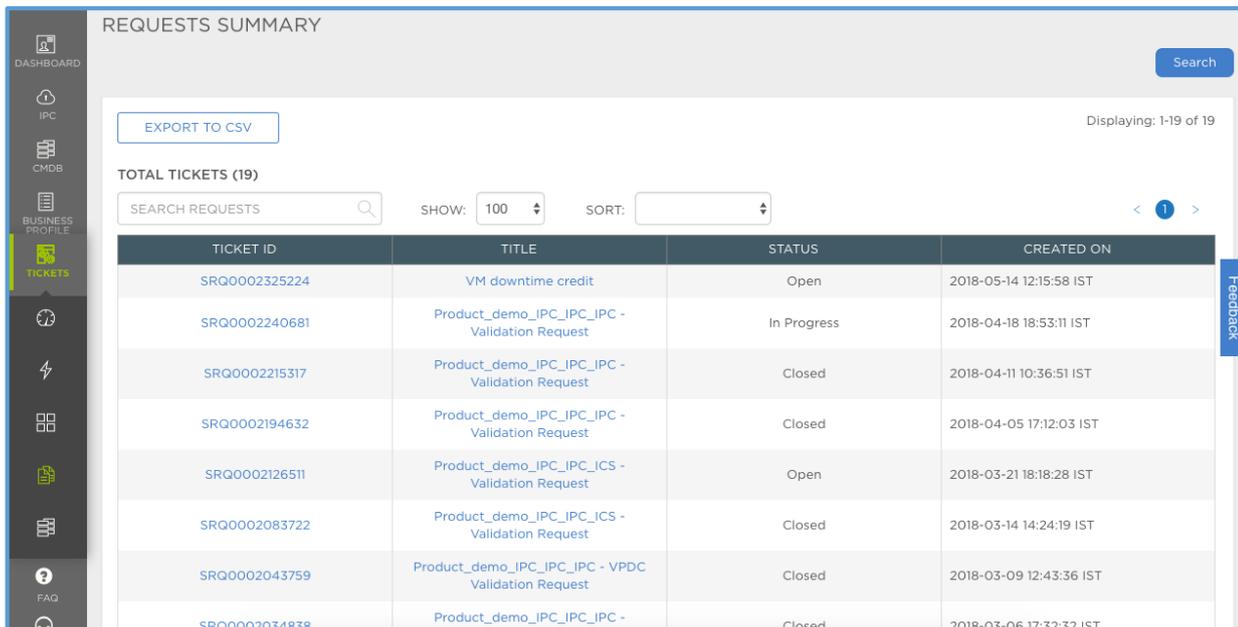


10. In the message dialogue box, click **OK**. This displays the Service Request details.



Viewing Service Requests

1. In the left navigation pane, click **TICKETS**.
2. In the expanded list of options, click **Request**. This displays the **Request** drop-down list.
3. Click **View**. This displays the **REQUESTS SUMMARY** page.



CMDB (CONFIGURATION MANAGEMENT DATABASE)

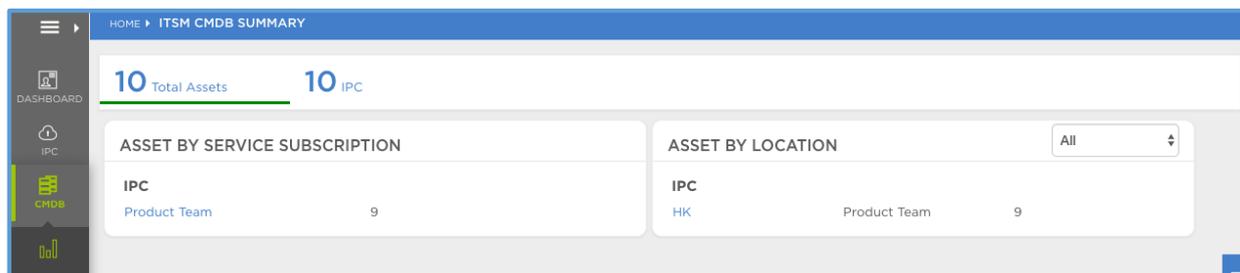
Introduction

The Configuration Management Database (CMDB) displays all information about assets deployed and classifies the information by type, location and other parameters.

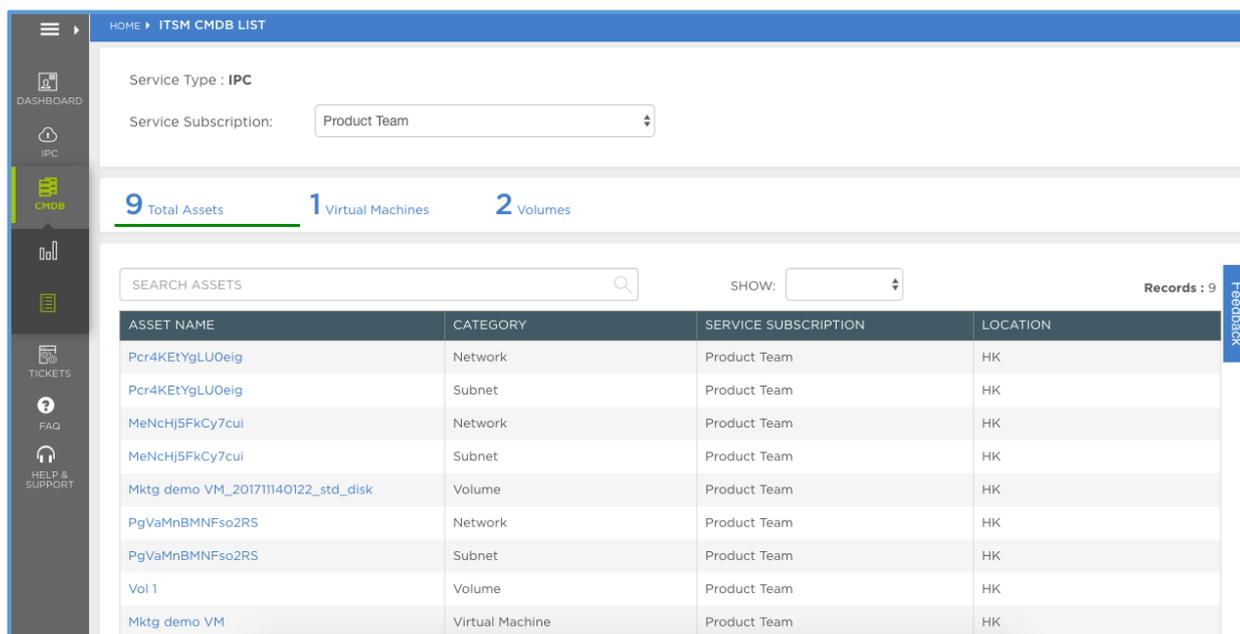
The Configuration Management Database (CMDB) is a database that displays all information about assets deployed and classifies the information by type, location and other parameters.

The CMDB icon on the left navigation pane displays the navigation options to the **CMDB SUMMARY** and **CMDB LIST** pages.

The **CMDB SUMMARY** page displays assets by type, location, category and subscription status. The page includes **Asset by service subscription and location lists** that enable you to select and view assets engaged with.



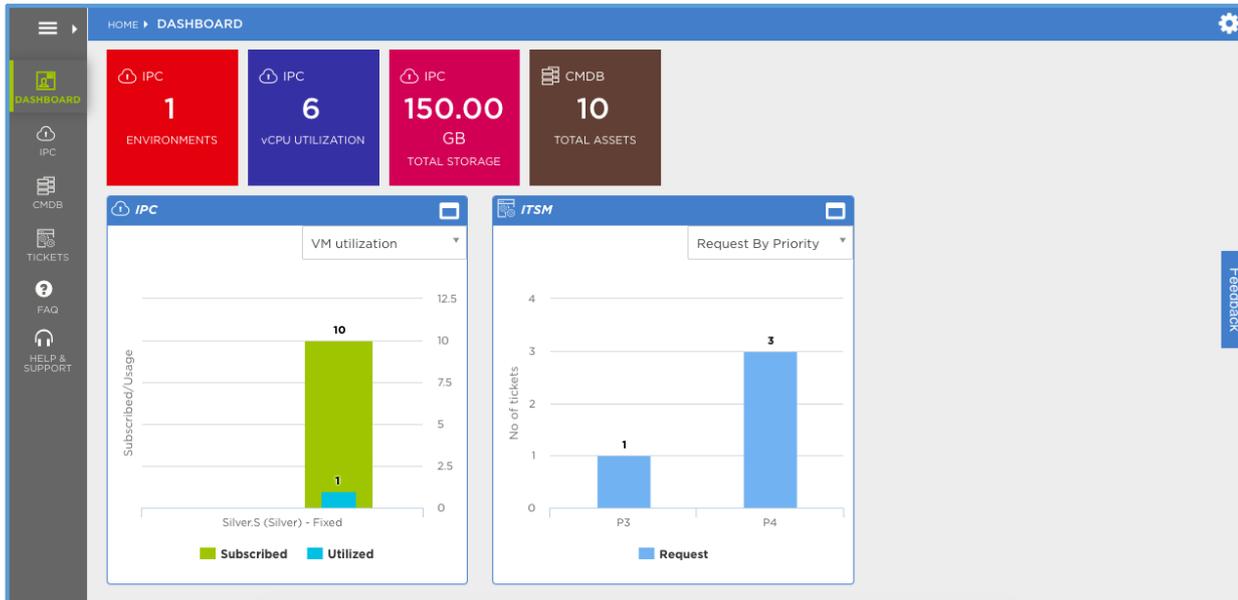
The **CMDB LIST** page details all the assets engaged with the portal.



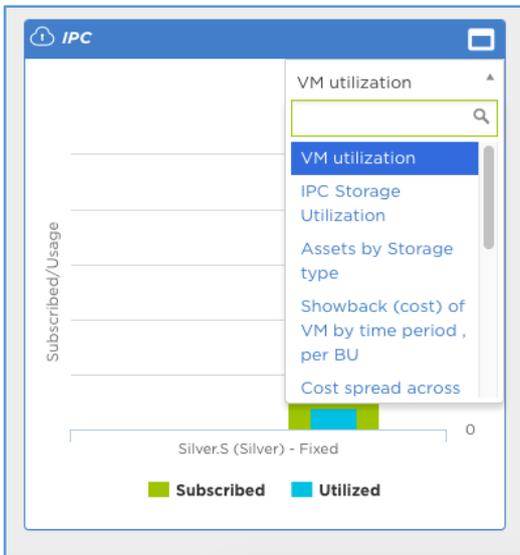
HOME DASHBOARD

Introduction

The Home dashboard displays a list of all virtual resources and their overall consumption. The example below shows resource utilisation in IPC and the Incidents logged in the portal.



Select a resource type from the **IPC** drop-down displayed on the dashboard to view the resource’s utilisation. View Incidents by priority or category by selecting the respective option from the **ITSM** drop-down.



USER ROLES AND ACTIVITIES

Tata Communications preconfigures three types of user roles for all IZO™ Private Cloud Portal users:

- Master User
- Power User
- Standard User

Each user role has an associated set of tasks, and a user in a particular user role can perform only those tasks that are pre-defined for that role as shown below:

Activities	Master User	Power User	Standard User
Create Business Units	Yes	No	No
Assign Users	Yes	No	No
Create VPN and VPN Users	Yes	No	No
Create Environments	Yes	Yes	No
Create Firewall Rules	Yes	Yes	Yes
Launch VMs	Yes	Yes	Yes
Perform VM Actions	Yes	Yes	Yes
View/Create Tickets	Yes	Yes	Yes
View Asset Summary	Yes	Yes	Yes

SERVICE VARIANTS

Tata Communications offers four VM configurations as shown below. The standard deliverables and service levels vary depending on the IZO™ Private Cloud offering type - i.e. managed or unmanaged and whether the customer is receiving service in or outside of India (e.g. USA/UK/Singapore).

Features/Plans of IZO™ Private Cloud	Tiny	Bronze	Silver	Gold
vCPU	1	2	4	8
Virtual Machine Memory (in GB) (Committed)	2	4	8	16
Virtual Machine Disk Space (in GB)* (committed)	50	50	100	200
99.9% Uptime Guarantee**	Signed SLA	Signed SLA	Signed SLA	Signed SLA
VM High Availability	Default	Default	Default	Default
Operating System Options***	Yes	Yes	Yes	Yes
For India Only				
Data Transfer (GB/month - India only)	100	100	100	100
Committed IOPS for SAS storage	50	50	50	50

Customers in the UK and Singapore must subscribe to one of Tata Communications' capped bandwidth plans (up to 4 Mbps per VPS, which can be pooled, when required, to meet greater bandwidth demands) for an additional monthly charge. Customers in India may purchase additional data transfer in increments of 1 GB.

* Including operating system partition. We recommend keeping 50 GB for OS partition and additional space to be used for applications and data requirements

** Managed VM service type has 99.9% guarantee on individual VM level and on platform level both whereas Unmanaged VM has 99.9% uptime guarantee on Platform level only

*** Operating system will be charged additionally. A freely available OS environment is bundled.

Note: Additional vCPU, RAM and storage can be provided at additional cost.

CONTACT INFORMATION

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IZO™ Private Cloud Team

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