Xorcom
Multi-Tenant Manager

User Manual
(for version 1.0.12)
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1. Introduction

About this Documentation

The revision number of this document that appears on the first page, and in the headings of all subsequent pages, indicates the version of the Xorcom MT Manager that corresponds to this manual. For example, the heading MT Manager User Manual (for version 1.0.10) on the first page of this manual indicates that the documentation has been updated to describe features that were available up to, and including, release v1.0.10 of the product.

What is Xorcom MT Manager?

Xorcom MT Manager is a web-based interface for creating and managing multiple independent instances of Complete PBX 5 that are physically located on a single server.

Xorcom MT Manager allows an appropriately installed and configured installation of a Xorcom MT Manager server to manage multiple Complete PBX 5 tenants.

Xorcom MT Manager implements a simplified licensing procedure for tenants as well as a simple billing system based on extension usage.

The user interface can be used to:

- Create, manage, or delete resellers
- Create, manage, or delete resource plans
- Create, manage, or delete tenants
- Allocate resources to tenants
- Start or stop tenants
- Check log of the Xorcom MT Manager system

Features

- Xorcom MT Manager allows multiple Complete PBX 5 systems to share the same physical server, while each Complete PBX 5 tenant remains completely independent of each other.
- Each Complete PBX 5 tenant on the system is invisible to all other tenants on the Xorcom MT Manager system.
- Each Complete PBX 5 tenant can be configured individually and independent of other tenants. This allows each Complete PBX 5 tenant to install additional software packages without affecting other tenants.
- One, or more, resellers can be hosted on the Xorcom MT Manager system, allowing a Complete PBX 5 tenant to be managed by a specific reseller.
- The Xorcom MT Manager system can be managed by one, or more, resellers. Each reseller can log into the Xorcom MT Manager using his own unique username and password.
- Each reseller can only see Complete PBX 5 tenants that are managed by the reseller, so information about tenants belonging to other resellers is not visible to currently logged-in reseller.
Xorcom MT Manager administrators can create resource plans for each Complete PBX 5 tenant that determine the maximum resources (disk space, memory, and CPU) that can be utilized by each tenant. The Xorcom MT Manager system will enforce these limits for each tenant, even if there are system-wide resources that remain free.

Implementation of Linux Containers virtualization technology delivers a highly-efficient hosting system that requires less resources than traditional Virtual Machine hypervisors.

SSL protocol is used for both the Xorcom MT Manager and the web management interface, providing enhanced security.

Xorcom MT Manager provides increased protection from external attacks as tenants are not connected directly to the internet. Additional security is provided by having SSH and AMI connectivity firewall-protected. SIP/RTP communication passes through built-in proxy servers that also provide infrastructure hiding.

Configuring Complete PBX 5

Before you begin to create Complete PBX 5 tenants in Xorcom MT Manager, there are a few configuration steps that you should complete in Complete PBX 5 before you start, such as:

- Time settings and NTP servers
- Default email address to be used by Complete PBX 5 system notifications
- System storage notification thresholds
- Automated tasks to manage the system, such as backup, cleanup, etc.

Some specific Complete PBX 5 configurations, such as firewall management, are managed globally for all tenants. These dialogs will be hidden from individual tenants in each tenant’s Complete PBX 5 user interface.
Using Xorcom MT Manager

Accessing the User Interface

1. You can access Xorcom MT Manager with any up-to-date web browser, including Mozilla Firefox, Google Chrome, Opera, and Microsoft Edge.

2. You can manage Xorcom MT Manager from any hardware device running any standard operating system. The system transparently adapts to all operating systems, whether it be a smartphone, tablet, Windows, MAC, or Linux.

User Interface Conventions

Across the top of the user interface there is a navigation bar that contains a number of components.

**Product Name**

![Image of the product name section]

**Expand/Collapse button**

You can gain screen space by collapsing the left-hand navigation menu. Click on the compress/expand button whenever you want to change the current display mode.

![Image of the expanded and collapsed view]

Do this by pressing the compress/expand button located in the upper left side of each dialog. This is how your screen would look normally:
And this is how your screen will look after clicking the compress/expand button:

**Notification Icon**

Click on this icon to show system notifications.

**About Icon**

Clicking the person icon shows a menu for the current user which is logged into the management system, as well as providing access to the user profile for the current user. This menu can also be used to logout from the system.
Dialogs

The left-hand side of the user interface shows the available dialogs. The compress/expand button determines whether just icons are displayed (compress mode), or icons and text are displayed (expand mode).

Search Box

Each dialog contains a Search Box, which activates a search mechanism which allows you to find a specific object, or to filter a group of objects.

Type any part of the name of the object that you want to look for, and all objects that match your filter will be displayed. The search mechanism is case-insensitive, so it does not matter whether you type BLUE, blue, or Blue.

Create Icon

Use the create icon at the top of the dialog to add a new item, such as a new tenant or a new reseller.
Sorting

Clicking on an attribute heading in any dialog will cause the data to be sorted according to the selected attribute.

Tenants

Clicking on the attribute heading a second time will cause the order of the sort to be reversed.
Hyperlinks

Data that is colored blue, such as a tenant name, behaves as a hyperlink, so you can click on the data and view the configuration of the selected item. For example, in the screen below, clicking on Blue Voice will open the edit dialog for that reseller.

Mandatory fields are indicated by an asterisk after the field name, e.g. Hostname* indicates that the Hostname field is mandatory. In the dialog below, you can see that Hostname, Image Versions, and Resource Plan Name fields are mandatory.
2. Dialogs

Login Dialog

![Login Dialog](image)

**Username**, the username of the administrator who manages Xorcom MT Manager.

**Password**, the password of the administrator who manages Xorcom MT Manager. Xorcom MT Manager enforces a policy of password security. The password cannot be short, and should not include repeating patterns (like 123123123123123). The password may consist of upper- and lower-case characters, numbers, and special symbols, but should not include spaces. As you enter a password, a colored bar will be displayed below the password to indicate the strength of your password; ranging from red, indicating a weak password; to green, indicating a strong password.

Access to the system can be defined in the Resellers dialog. Give each reseller a unique username and password, which allows each reseller to have administrative access to the Xorcom MT Manager and enables him to manage his tenants. Resellers cannot see details of tenants that belong to other resellers.
**Current User**

Clicking the About icon at the top right of the user interface shows information about the current user, the current version of the user interface, and the logout dialog.

![Signed in as admin](...)

The first entry in the dialog indicates the name of the user who is currently logged into the system. In this example, the current user is **admin**.

**Profile Section**

This section show information about the currently logged-in user, and allows the user to make changes as well as changing his password.

### Profile

<table>
<thead>
<tr>
<th>Name *</th>
<th>admin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td><a href="mailto:admin@xorcom.com">admin@xorcom.com</a></td>
</tr>
</tbody>
</table>

**Name**, Username used to log into the Xorcom MT Manager

**Email**, email address of the user

**Password**, data should only be entered in this field if the user wants to change his password. This field will be blank when you open the dialog. Xorcom MT Manager enforces a policy of password security. The password cannot be short, and should not include repeating patterns (like 123123123123123). The password may consist of upper- and lower-case characters, numbers, and special symbols, but should not include spaces. As you enter a password, a colored bar will be displayed below the password to indicate the strength of your password; ranging from red, indicating a weak password; to green, indicating a strong password.

**Confirm Password**, if the user has chosen to change his password, the password must be retyped here for confirmation. This field will be blank when you open the dialog.
If you make any changes, do not forget to click on the **Save** button at the bottom of the dialog to save the changes.

---

**About Section**

Displays the current version of Xorcom MT Manager that you are using. Click anywhere outside the About dialog or on the close ✗ icon in order to close this dialog.

---

**Logout Section**

Click on **Logout** if you want to leave the Xorcom MT Manager user interface.
### Tenants Dialog

A licensed tenant can configure an unlimited number of extensions. Monthly license billing is based on the average number of extensions that exist during the billing period.

Resellers can only see tenants that belong to him. Details of tenants that are not managed by the currently logged-in reseller will not be displayed.

### All Tenants

#### Tenants

<table>
<thead>
<tr>
<th>Serial Number</th>
<th>Hostname</th>
<th>Customer</th>
<th>Reseller</th>
<th>Status</th>
<th>Extensions</th>
<th>Resource Plan</th>
<th>Version</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSV</td>
<td>Blue Voice</td>
<td>Blue Voice</td>
<td></td>
<td>●</td>
<td>-</td>
<td>Large</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VGB</td>
<td>Best Telecom</td>
<td>Best Telecom</td>
<td></td>
<td>●</td>
<td>-</td>
<td>Basic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V0002789</td>
<td>FRM</td>
<td>V0002789</td>
<td>Blue Voice</td>
<td>●</td>
<td>16</td>
<td>Medium</td>
<td>5.0.63</td>
<td></td>
</tr>
</tbody>
</table>

- **Serial Number**: the serial number that was issued by Xorcom to identify a tenant.
- **Hostname**: the logical name given to the host where the tenant system is located. This field is mandatory when defining a new tenant. You can click any name in this field in order to edit the selected tenant.
- **Customer**: a free-text system name allocated by the Xorcom MT Manager administrator to identify a tenant.
- **Reseller**: the name of the Xorcom reseller, selected from the dropdown list, who manages the tenant. Use the Resellers dialog to define valid resellers. You can click any name in this field in order to edit the selected reseller.
- **Status**: the current status of the tenant. ● indicates that the host is running; ○ indicates that the host is stopped.
- **Extensions**: the number of active extensions currently defined by the tenant. This field is automatically populated by the Xorcom MT Manager, based on the actual number of extensions defined by the tenant.
- **Resource Plan**: indicates the name of the resource plan that has been allocated to the tenant.
- **Version**: the version of Complete PBX 5, selected from the dropdown list, which is used by the tenant. This field is mandatory when defining a new tenant.

**Actions:**

- ![Click to access host](icon.png) Click on this icon to access the host for the selected tenant.
Click on this icon to edit the details for the selected tenant.

Click on this icon to stop the selected tenant.

Click on this icon to restart a stopped tenant.

Creating a New Tenant

Click on the **Create** icon at the top of the Tenants dialog to open the Create Tenant dialog, where you can create a new tenant.

**Create Tenant**

**PBX SETTINGS**

<table>
<thead>
<tr>
<th>Hostname *</th>
<th>Assigned Reseller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Resource Plan Name</td>
</tr>
<tr>
<td>Image Versions *</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Memory (GB)</th>
<th>Disk Space (GB)</th>
<th>CPU Cores</th>
</tr>
</thead>
</table>

**COMPANY INFO**

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Name</td>
<td>Address</td>
</tr>
<tr>
<td>Phone</td>
<td>Notes</td>
</tr>
</tbody>
</table>

**WHITELIST**

<table>
<thead>
<tr>
<th>IP Address</th>
<th>Description</th>
<th>AMI</th>
<th>SSH</th>
<th>Web</th>
<th>SIP</th>
<th>Actions</th>
</tr>
</thead>
</table>

**PBX SETTINGS Section**

Use this section to define basic information for the tenant.
Hostname*, the IP domain name given to the host where the tenant system is located. This field is mandatory when defining a new tenant. This field is not case-sensitive.

Customer, a free-text system name allocated by the Xorcom MT Manager administrator to identify a tenant. This name will appear in the upper left corner of the Complete PBX 5 user interface for the tenant, and in the About dialog for the tenant. This name will also be propagated to the Xorcom Licensing Server and will be used in the monthly billing report.

Image Versions*, the version of Complete PBX 5, selected from the dropdown list, that should be used by the tenant system. This field is mandatory when defining a new tenant.

Assigned Reseller, the name of the Xorcom reseller, selected from the dropdown list, who manages the tenant. Use the Resellers dialog to define resellers.

Resource Plan Name*, if you choose a resource plan (that has been defined by the Xorcom MT Manager Administrator in the Settings dialog), the Memory, Disk Space, and CPU Cores fields will be automatically filled with the values associated with the selected plan. These values will be read-only, and cannot be altered. However, if you choose Custom, you can provide custom values for the Memory, Disk Space, and CPU Cores fields.

Memory, a read-only field if a resource plan is selected, that defines the maximum amount of available memory that can be used by the tenant. You can manually enter a value if Custom resource plan is selected. Units for this field are in GB.

Disk Space, a read-only field if a resource plan is selected, that defines the maximum amount of available disk space that can be used by the tenant. You can manually enter a value if Custom resource plan is selected. Units for this field are in GB.
**CPU Cores**, a read-only field if a resource plan is selected, that defines the maximum amount of CPU Core that can be used by the tenant. You can manually enter a value if Custom resource plan is selected. Units for this field are number, or part of, of available cores allocated to the tenant. The number can be entered as a fraction of a core, e.g. 0.2

**COMPANY INFO Section**

Allows you define some information about the tenant. None of the fields in this section are mandatory.

**COMPANY INFO**

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Email</th>
<th>Contact Name</th>
<th>Address</th>
<th>Phone</th>
<th>Notes</th>
</tr>
</thead>
</table>

**Company Name**, free-text field where you can define the name of the company associated with the tenant.

**Contact Name**, free-text field where you can define the name of the contact for the company associated with the tenant.

**Phone**, free-text field where you can define the phone number of the company associated with the tenant.

**Email**, field where you can define the email address of the company associated with the tenant.

**Address**, free-text field where you can define the address of the company associated with the tenant.

**Notes**, free-text field where you can add any additional notes regarding the company associated with the tenant.

**WHITELIST Section**

Allows you to define IP addresses that the tenant can use to access parts of the software. These addresses will not be checked by the Complete PBX 5 intrusion detection mechanism.
**Address,** IP address, in physical notation, that is being whitelisted.

**AMI,** check this box if you want to allow the IP address access to the Asterisk Manager Interface. (AMI)

**SSH,** check this box if you want to allow the IP address access to have SSH access (port 22) to manage CompletePBX.

**HTTP,** check this box if you want to allow the IP address access to have HTTP access (port 80) to manage CompletePBX.

**HTTPS,** check this box if you want to allow the IP address access to have HTTPS access (port 443) to manage CompletePBX.

**SIP,** check this box if you want to allow the IP address access to have SIP access (port 5060).

**Actions,** click on the icon if you want to remove the selected IP address from the whitelist.

**Add Row,** click on this button to add another row, which will allow you to whitelist another IP address.

When you have completed defining a new tenant, click on the **Create** button at the bottom of the dialog to save the configuration, or click on the **Back** button to discard the configuration.
Resellers Dialog

This dialog is only visible to users who have been given full administrative rights on the Xorcom MT Manager system.

All Resellers

Resellers

<table>
<thead>
<tr>
<th>Username</th>
<th>Display Name</th>
<th>Company Name</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>mickey</td>
<td>The Phone Guys</td>
<td>The Phone Guys, Inc.</td>
<td></td>
</tr>
<tr>
<td>blue123</td>
<td>Blue Voice</td>
<td>Blue Voice Telecom, LLC</td>
<td></td>
</tr>
<tr>
<td>btelecom</td>
<td>Best Telecom</td>
<td>Best Telecom Ltd.</td>
<td></td>
</tr>
<tr>
<td>crtvoice</td>
<td>Crystal Voice</td>
<td>Crystal Voice Cloud Systems, Inc.</td>
<td></td>
</tr>
<tr>
<td>docean</td>
<td>Clear Ocean</td>
<td>Clear Ocean Voice Services, Inc.</td>
<td></td>
</tr>
</tbody>
</table>

Username, the username of a reseller that will be used to login to the Xorcom MT Manager system. You can click any name in this field in order to edit the selected reseller.

Display Name, the display name for the reseller that will be used in the Xorcom MT Manager system, and for billing purposes.

Company Name, the company name that is associated with the reseller.

Actions:
- Click on this icon to edit the details of the selected reseller.
- Click on this icon to delete the selected reseller.
Creating a New Reseller

Click on the +Create icon at the top of the Resellers dialog to open the Create Reseller dialog, where you can create a new reseller.

**Create Reseller**

- **Username**, a free-text field to identify the reseller. This will used as the username to log into Xorcom MT Manager.
- **Display Name**, this is the name that will be displayed throughout the Xorcom MT Manager system, and the billing system.
- **Email Address**, the email address to be used to contact the reseller.
- **Company Name**, free-text field to store the company name of the reseller. This name will be used in the billing system.
- **Contact Name**, free-text field to store the name of the person at the reseller who will be the primary contact.
- **Phone**, phone number that can used to contact the reseller.
- **Password**, a password to be associated with the reseller. This will be used as the password to log into Xorcom MT Manager. Xorcom MT Manager enforces a policy of password security. The password cannot be short, and should not include repeating patterns (like 123123123123123). The password may consist of upper- and lower-case characters, numbers, and special symbols, but should not include spaces. As you enter a password, a colored bar will be displayed below the password to indicate the strength of your password; ranging from red, indicating a weak password; to green, indicating a strong password.
- **Confirm Password**, confirm the password that was entered in the Password field, by entering again the password associated with the reseller.
- **Address**, free-text field to store the address of the reseller.
- **Notes**, free-text field to store any additional notes about the reseller.
When you have completed defining a new reseller, click on the **Create** button at the bottom of the dialog to save the configuration, or click on the **Back** button to discard the configuration.
**Settings Dialog**

This dialog is only visible to users who have been given full administrative rights on the Xorcom MT Manager system.

**LICENSE CREDENTIALS**

<table>
<thead>
<tr>
<th>Username</th>
<th>cpbxmt-damo187</th>
</tr>
</thead>
<tbody>
<tr>
<td>Password</td>
<td>**************</td>
</tr>
</tbody>
</table>

**DEFAULT PARAMETERS**

- **External Interface**: eth0
- **Over-Provision Policy**
  - Memory: 3.85 GB
  - Disk Space: 36.08 GB
  - CPU Cores: 2
  - Over-Provision: 200%
  - Total Allowed: 7.7 GB
  - Currently Allocated: 6.25 GB

**Resource Allocation Plans**

<table>
<thead>
<tr>
<th>Plan Name</th>
<th>Description</th>
<th>Memory</th>
<th>Disk Space</th>
<th>CPU Cores</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium</td>
<td>Up to 30 Extensions</td>
<td>0.5 GB</td>
<td>4 GB</td>
<td>1</td>
<td>In Use</td>
</tr>
<tr>
<td>Large</td>
<td>Up to 50 Extensions</td>
<td>0.8 GB</td>
<td>5 GB</td>
<td>2</td>
<td>In Use</td>
</tr>
<tr>
<td>Basic</td>
<td>Up to 10 Extensions</td>
<td>0.5 GB</td>
<td>4 GB</td>
<td>0.8</td>
<td>In Use</td>
</tr>
<tr>
<td>Mega</td>
<td>Big System</td>
<td>1.5 GB</td>
<td>8 GB</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

[Add row]
**LICENSE CREDENTIALS Section**

**LICENSE CREDENTIALS**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Username</td>
<td>cpbxmt-demo187</td>
</tr>
<tr>
<td>Password</td>
<td>**********</td>
</tr>
</tbody>
</table>

**Username**, username used to access the Xorcom licensing server.

**Password**, password used to access the Xorcom licensing server.

**DEFAULT PARAMETERS Section**

Use this dialog to manage the network interface and create resource plans.

**DEFAULT PARAMETERS**

<table>
<thead>
<tr>
<th>External Interface</th>
<th>eth0</th>
</tr>
</thead>
</table>

**Over-Provision Policy**

<table>
<thead>
<tr>
<th></th>
<th>Memory</th>
<th>Disk Space</th>
<th>CPU Cores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server Resource</td>
<td>3.85 GB</td>
<td>36.08 GB</td>
<td>2</td>
</tr>
<tr>
<td>Over-Provision</td>
<td>200 %</td>
<td>100</td>
<td>1000 %</td>
</tr>
<tr>
<td>Total Allowed</td>
<td>7.7 GB</td>
<td>36.08 GB</td>
<td>20</td>
</tr>
<tr>
<td>Currently Allocated</td>
<td>6.25 GB</td>
<td>51 GB</td>
<td>11.4</td>
</tr>
</tbody>
</table>

**External Interface**, allows you configure which available network interface on the Complete PBX 5 system should be used by tenants. A drop-down list of all available network devices is displayed.
Over-Provision Policy Section

This dialog shows total available memory, disk, and CPU resources, and allows you to configure how much to over-provision the system. You can configure, as a percentage of the available resource, how much over-provisioning to allocate on the system.

<table>
<thead>
<tr>
<th>Server Resource</th>
<th>Memory</th>
<th>Disk Space</th>
<th>CPU Cores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.85 GB</td>
<td>36.08 GB</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Over-Provision</th>
<th>Memory</th>
<th>Disk Space</th>
<th>CPU Cores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>200 %</td>
<td>100 %</td>
<td>1000 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Allowed</th>
<th>Memory</th>
<th>Disk Space</th>
<th>CPU Cores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7.7 GB</td>
<td>36.08 GB</td>
<td>20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Currently Allocated</th>
<th>Memory</th>
<th>Disk Space</th>
<th>CPU Cores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6.25 GB</td>
<td>51 GB</td>
<td>11.4</td>
</tr>
</tbody>
</table>

- **Server Resource**, displays the total available resources on the Xorcom MT Manager system.
- **Over-Provision**, allows a Xorcom MT Manager administrator to determine over-provisioning, by configuring a percentage for each resource. For example, using a value of 100% would configure the system to use 100% of available resource, without adding any over-provisioning, while a value of 200% would allow double the available resource to be allocated.
- **Total Allowed**, shows the total resource that can be made available to tenants on the system.
- **Currently Allocated**, shows how much of the resource has already been allocated to tenants.

Over-provisioning of disk space is not allowed, as the disk space allocated to each tenant is dedicated to the tenant as soon as the tenant is created.
Resource Allocations Plans Section

<table>
<thead>
<tr>
<th>Plan Name</th>
<th>Description</th>
<th>Memory</th>
<th>Disk Space</th>
<th>CPU Cores</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium</td>
<td>Up to 30 Extensions</td>
<td>0.5 GB</td>
<td>4 GB</td>
<td>1</td>
<td>In Use</td>
</tr>
<tr>
<td>Large</td>
<td>Up to 50 Extensions</td>
<td>0.8 GB</td>
<td>5 GB</td>
<td>2</td>
<td>In Use</td>
</tr>
<tr>
<td>Basic</td>
<td>Up to 10 Extensions</td>
<td>0.5 GB</td>
<td>4 GB</td>
<td>0.8</td>
<td>In Use</td>
</tr>
<tr>
<td>Mega</td>
<td>Big System</td>
<td>1.6 GB</td>
<td>8 GB</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Plan Name, a free-text field used to name the resource plan.

Description, a free-text field used to describe the resource plan.

Memory, defines the maximum amount of available memory that can be used by a tenant who is associated with this resource plan. Units for this field are in GB.

Disk Space, defines the maximum amount of available disk space that can be used by the tenant who is associated with this resource plan. Units for this field are in GB.

CPU Cores, defines the maximum amount of CPU Core that can be used by the tenant who is associated with this resource plan. Units for this field are the number of available cores allocated to the tenant. The number can be entered as a fraction of a core, e.g. 0.2

Actions, indicates the status of this resource plan, e.g. whether the resource plan is in use. If a resource plan is not in use by any tenant, a delete icon will be shown.

Click on the Add Row button to create a new resource allocation plan.
**Reports Dialog**

The reports dialog provides information regarding extension usage for tenants.

### Reports

**USAGE**

<table>
<thead>
<tr>
<th>Date</th>
<th>04/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report Type</td>
<td>Month-to-date</td>
</tr>
</tbody>
</table>

**Month-to-date** - Average usage for the current month up to today

**Current** - Exact usage for today

**Estimated** - Estimated average usage up to the end of the current month

**Full Month** - Historical average usage for the entire selected month

**Date**, click on the date icon to receive a dropdown of months, and select the month and year that you want to create a report for.

**Report Type**, select the report type that you want. There are four report types available.

- **Month-to-date** – shows average extension usage for the current month, up until now
- **Estimated** – provides an estimate of average extension usage for the entire current month, based on usage up to today.
- **Current** – show actual extension usage today
- **Full Month** – shows the average usage for the entire selected month

If you select a month other than the current month, the only available report option is the Full Month report.

**Download**, click on the Download button to receive the selected report in csv format. The fields that are displayed in the report are:

- Hostname
- Serial Number
- System Name
- Reseller Name
- Extensions
Log Dialog

Resellers can only see log details relating to tenants that belong to him. Log details for tenants that are not managed by the currently logged-in reseller will not be displayed.

<table>
<thead>
<tr>
<th>Time</th>
<th>Type</th>
<th>Message</th>
<th>User</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019-01-21 12:07:42</td>
<td>Login</td>
<td>User logged in</td>
<td>admin</td>
<td>81.218.177.19</td>
</tr>
<tr>
<td>2019-01-21 08:00:15</td>
<td>Login</td>
<td>User logged in</td>
<td>admin</td>
<td>81.218.177.19</td>
</tr>
<tr>
<td>2019-01-20 20:20:28</td>
<td>Login</td>
<td>User logged in</td>
<td>admin</td>
<td>81.218.177.19</td>
</tr>
<tr>
<td>2019-01-20 19:57:19</td>
<td>Login</td>
<td>User logged in</td>
<td>admin</td>
<td>81.218.177.19</td>
</tr>
<tr>
<td>2019-01-20 19:06:05</td>
<td>Tenant customer name changed</td>
<td>Tenant RYL customer name changed to &quot;The Royal Palace&quot;</td>
<td>admin</td>
<td>81.218.177.19</td>
</tr>
<tr>
<td>2019-01-20 19:06:04</td>
<td>Tenant customer name changed</td>
<td>Tenant RYL customer name changed to &quot;V0002796&quot;</td>
<td>admin</td>
<td>81.218.177.19</td>
</tr>
<tr>
<td>2019-01-20 19:06:02</td>
<td>Tenant Started</td>
<td>Started tenant RYL</td>
<td>admin</td>
<td>81.218.177.19</td>
</tr>
</tbody>
</table>

Time, timestamp of the event.

Type, type of event, such as:

- Created tenant
- Tenant Removed
- Tenant Started
- Tenant Stopped
- Tenant system name changed
- Reseller Created
- Reseller Removed
- Login
- Logout

Message, detail associated with the event.

User, the user who triggered the event.

Address, the IP address from which the event was triggered.
Server for Xorcom MT Manager

System Requirements

- Xorcom MT Manager can be installed on a virtual machine (VM) hosted by a cloud provider, or on a private server.
- The server must have a direct connection to the Internet.
- In order to ensure server scalability and survivability, the server should be installed on a VMware virtual machine.

The server storage must be based on solid-state drives (SSDs).

Configuring DNS

- Xorcom MT Manager must have a legal and accessible Fully Qualified Domain Name (FQDN) as all SIP and HTTPS protocol requests are handled using FQDN.
- The DNS server must be configured to resolve the server FQDN as well as all of its first-level sub-domains to the server physical IP address (e.g. 1.2.3.4). Usually it is necessary to define an “A” DNS record for the server FQDN and a “CNAME” DNS record for the sub domains:

  A        mt.example.com    1.2.3.4
  CNAME    *.mt.example.com  mt.example.com

- If the DNS server is configured properly then you will be able to ‘ping’ both the server domain name and any its first-level sub-domains:

  $ ping demo.xorcom.com
  PING demo.xorcom.com (159.65.133.199) 56(84) bytes of data.
  64 bytes from 159.65.133.199 (159.65.133.199): icmp_seq=1 ttl=49
  64 bytes from 159.65.133.199 (159.65.133.199): icmp_seq=2 ttl=49

  $ ping dent-clinic.demo.xorcom.com
  PING demo.xorcom.com (159.65.133.199) 56(84) bytes of data.
  64 bytes from 159.65.133.119 (159.65.133.199): icmp_seq=1 ttl=49
  64 bytes from 159.65.133.119 (159.65.133.199): icmp_seq=2 ttl=49
Web Server SSL Configuration

The Xorcom MT Manager server has its own HTTP server that provides access to the Xorcom MT Manager user interface, and also to the user interfaces for the tenant PBXs, e.g.

https://demo190.xorcom.com – URL for accessing the Xorcom MT Manager user interface
https://dent-clinic.demo.xorcom.com – URL for accessing “dent-clinic” tenant PBX user interface

In order to allow proper behavior of the HTTPS protocol, a wild-card SSL certificate is configured on the web server. A wild-card SSL certificate allows securing any of first-level sub-domains on a single domain name. For example, if the certificate has the following domain names written in the X.509 “Subject Alternative Name” (SAN) extension:

    demo.xorcom.com
    *.demo.xorcom.com

then any of the following URLs will be properly handled from the SSL point of view:

    https://demo.xorcom.com
    https://customer1-pbx.demo.xorcom.com
    https://bestpbx.demo.xorcom.com

SIP Phone Configuration at the Customer Site

- The address of the SIP server in SIP phone configuration must be defined as:
  <tenantPBX_name>.<MT_server_FQDN>
  For example: dent-clinic.demo.xorcom.com
- When a user dials 2001, the SIP phone sends an INVITE request to the dent-clinic.demo.xorcom.com that is resolved to the MT Server IP address (e.g. 1.2.3.4):
  INVITE sip:2001@dent-clinic.demo.xorcom.com
- The MT Server SIP proxy analyzes the domain name in the request line and forwards the request to the “dent-clinic” tenant PBX that is located on the server internal NATed network.

Security

- Tenant PBXs are not connected directly to the network
- SSL is used for the user interface
- SSH and AMI connection to the tenant PBXs is managed by a firewall
- SIP routing is performed using the URI domain name, e.g.
  INVITE sip:2001@dent-clinic.demo.xorcom.com
  Typical attacks are performed using the server IP address, e.g.
  INVITE sip:2001@81.34.17.200
  Security from external attacks is enhanced as the tenant name is difficult to guess.
**Topology hiding**

The outgoing SIP messages do not contain any information about the tenants. Usually, an outgoing SIP request would look like this:

```
INVITE sip:2004@192.168.0.178:5060 SIP/2.0
Via: SIP/2.0/UDP 10.159.65.227:5060;branch=z9hG4bK058ede32
Contact: sip:2003@10.159.65.227:5060
Remote-Party-ID: "ext2003" <sip:2003@dent-clinic.xorcom.com>;party=calling;privacy=off;screen=no
Content-Length: 308

v=0
o=root 1986801268 1986801268 IN IP4 10.159.65.227
s=GHJ
c=IN IP4 10.159.65.227
```

The request that is sent out from the Xorcom MT server does not contain the tenant internal IP address, and will look like this:

```
INVITE sip:2004@192.168.0.178:5060 SIP/2.0
Record-Route: <sip:192.168.0.31;r2=on;lr>
Record-Route: <sip:127.0.0.8;tr=sr-02Sdn6md.6mFnu2rufAnK0QjGRzn2AQ>
Via: SIP/2.0/UDP 192.168.0.31;branch=z9hG4bK9c8.28oc96b060563562effd487a490aa92d.0
Via: SIP/2.0/UDP 127.0.0.8;branch=z9hG4bKsr-7-S4.U0z3XRV1Eth3otz3o7L.6pF.60QrULF3qdndKwdIKw-j07dr6tyVmhHBJS2wQgQ65qFhnGxMrJw.3q7fBG1S3U0*
Contact: <sip:127.0.0.8;tr=sr-02Sdn6d3qrt3otz3o7L.6pF.60QrULF3qpd>
Content-Length: 324

v=0
o=root 1986801268 1986801268 IN IP4 192.168.0.31
s=GHJ
c=IN IP4 192.168.0.31
```