



# **Hitachi Dynamic Replicator - Scout RX Server Deployment Guide**



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## Conventions

Keywords, command buttons and other such fields are enclosed in “ ” while being bold, for example, to denote  “**Next**” is used

Inputs for commands and Variables are shown in *Italics*

File names and paths are shown in **bold**

Commands are shown in **Courier new font**

Optional keywords and arguments are enclosed within [ ].



### Notes:

Contains suggestions or tips.



### Caution:

Contains critical information

# 1 Introduction to the RX server

The objective of the RX server is to consolidate backup administration from one single interface rather than depend on individual CX UI to monitor several CX servers. You will be able to monitor a group of CX servers on one interface thus simplifying monitoring and saving time. Some of the advantages of using the RX server are:

1. Centralized monitoring ability for all CX servers.
2. Dashboard with centralized and consolidated reports from all CX servers including CX health, bandwidth usage, alerts and license statistics.
3. Multi-tenant architecture

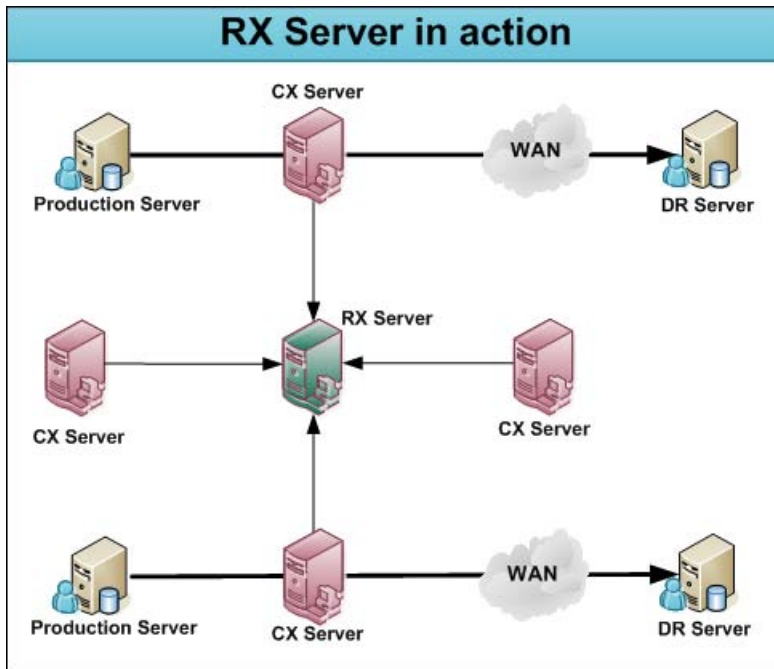


Figure 1

## 2 Before you begin

Ensure that an updated flash player plug-in is installed on your web browser before you access the RX UI.

## 3 Installing the RX server

### 3.1 Supported platforms

Table 1

Operating Systems	Required packages
RHEL5-32, RHEL5-64	proftpd php-5 php-mysql-5 httpd-2 mysql-5 mysql-server-5 perl-DBD-MySQL- php-pear-[0-9] php-ldap
RHEL5U1-32, RHEL5U1-64	Proftpd php-5.1 php-mysql-5.1 httpd-2 mysql-5 mysql-server-5 perl-DBD-MySQL- php-pear-[0-9] php-ldap
RHEL5U2-32, RHEL5U2-64, RHEL5U3-32, RHEL5U3-64	proftpd php-5.1 php-mysql-5.1 perl-URI httpd-2 mysql-5 mysql-server-5 perl-DBD-MySQL php-pear-[0-9] php-ldap

## 3.2 Deploying the RX server

Logon to the server intended to install the RX server and download the RX installer to any location (for example, “/tmp/RX”).

Navigate to the directory where the RX installer is downloaded and uncompress the installer using the following syntax

```
tar -xvzf <RX installer>
```

```
[root@imits117 RX]# pwd
/tmp/RX
[root@imits117 RX]# ls
InMage_RX_5.00.1_RHEL5-32_BETA_10Apr2009.tar.gz
[root@imits117 RX]# tar -xvzf InMage_RX_5.00.1_RHEL5-32_BETA_10Apr2009.tar.gz
DR-Scout-RX-RHEL5-32/
DR-Scout-RX-RHEL5-32/proftpd-1.3.0a-1.i386.rpm
DR-Scout-RX-RHEL5-32/inmagerx-5.00-1.i386.rpm
DR-Scout-RX-RHEL5-32/log_rotate/
DR-Scout-RX-RHEL5-32/log_rotate/proftpd
DR-Scout-RX-RHEL5-32/log_rotate/syslog
DR-Scout-RX-RHEL5-32/log_rotate/snmpd
DR-Scout-RX-RHEL5-32/log_rotate/logrotate.conf
DR-Scout-RX-RHEL5-32/log_rotate/scrollkeeper
```

Figure 2

You should find a “DR-Scout-RX-<type of OS>” folder, change into this directory and execute the install script

```
[root@imits117 RX]# ls
DR-Scout-RX-RHEL5-32 InMage_RX_5.00.1_RHEL5-32_BETA_10Apr2009.tar.gz
[root@imits117 RX]# cd DR-Scout-RX-RHEL5-32/
[root@imits117 DR-Scout-RX-RHEL5-32]# ./install.sh
Checking if CX server is already installed or not in the setup ...
Checking for an existing RX server installation ...
Checking for installation platform compatibility ...
End User Software License Agreement
```

Figure 3

Accept the license agreement by hitting the “y” key. You will then be prompted for the install directory, hit the enter key to install under the default directory “/home/rx”. The install script will then prompt for a port on which it will run, hit the enter key to default it to port 80. You will be prompted to choose one of the NIC when there are multiple network cards on the server.

```
Please press (Y/y) if you agree to the license terms and conditions: ①
y
useradd: warning: the home directory already exists.
Not copying any file from skel directory into it.
Where do you want to install the Reporting Server (default /home/rx ): ②
Installing required RPM packages ...
Installing RX Server ...
Generating a new Host id for RX.
Do you want to install RX server on a different port than port 80? (Y/N) [default
t N] : ③
NOTE: Changing the document root in /etc/httpd/conf/httpd.conf from /var/www/htm
l to /home/rx/admin ...
NOTE: Saved a copy of the previous httpd.conf file to /etc/httpd/conf/httpd.conf
.install_save ...
Creating RX server database ...

The following master/free NICs were detected as active on this system:

    1 : eth0 10.0.117.99

The network device and IP address present on the system are : eth0 and 10.0.11
7.99
```

Figure 4

The installation proceeds to completion and you will be returned back to the command prompt.

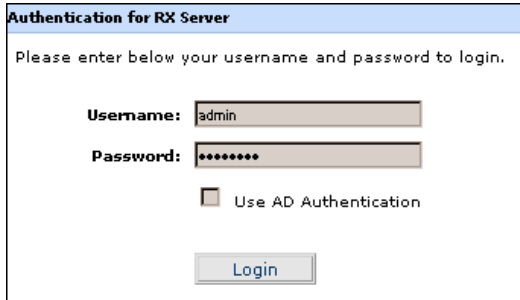


## 4 Logging in for the first time

Open the web browser and type in the IP address of the RX server; you should see the Login screen for the RX UI. You may login with the default credentials as follows

Username: admin

Password: password



The image shows a login window titled "Authentication for RX Server". It contains a message "Please enter below your username and password to login." Below this are two input fields: "Username:" with the text "admin" and "Password:" with masked characters "\*\*\*\*\*". There is a checkbox labeled "Use AD Authentication" which is unchecked. At the bottom is a "Login" button.

Figure 5



### Caution:

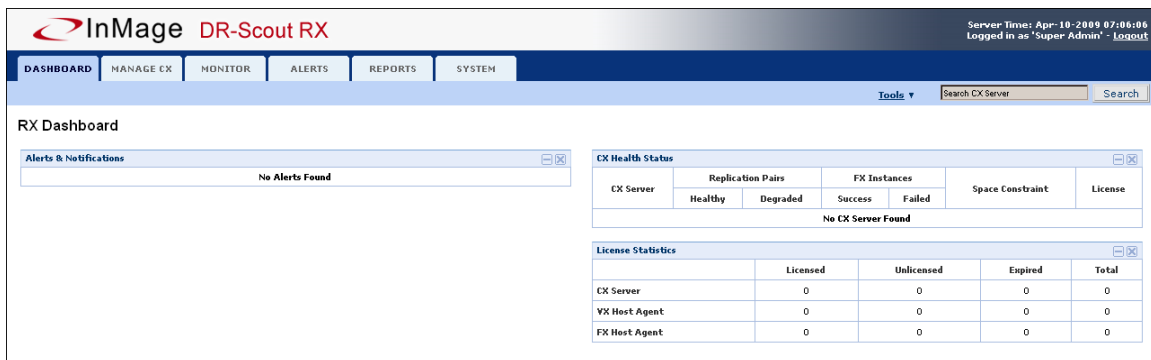
While logging in for the first time, do not check the “Use AD Authentication”

After logging in, you should see the “RX dashboard”, this is a read only screen. This screen displays

**Alerts & notifications** from all the CX servers tied to the RX server.

**CX Health Status:** Displays the list of CX servers, their VX and FX replication pairs along with space constraints and license.

**License Statistics:** Shows the number of licensed and unlicensed VX and FX agents along with the CX servers tied to this RX server.



The image shows the InMage DR-Scout RX dashboard. The top navigation bar includes tabs for DASHBOARD, MANAGE CX, MONITOR, ALERTS, REPORTS, and SYSTEM. The main content area is titled "RX Dashboard" and contains three sections: "Alerts & Notifications" (showing "No Alerts Found"), "CX Health Status" (showing "No CX Server Found"), and "License Statistics" (showing a table of license counts).

CX Server	Replication Pairs		FX Instances		Space Constraint	License
	Healthy	Degraded	Success	Failed		
No CX Server Found						

	Licensed	Unlicensed	Expired	Total
CX Server	0	0	0	0
VX Host Agent	0	0	0	0
FX Host Agent	0	0	0	0

Figure 6

## 5 Pointing CX servers to the RX

Once you logon, you will need to add CX servers to the RX server, this may be done in two ways.

### 5.1 Discover a CX through the RX

Click on “**Manage CX**” and then click on “**Discover CX**”. Enter the CX IP address along with the HTTP port and click on “**Discover**”. You may enter the IP range as well. Once the CX server(s) is discovered, select the desired CX servers and click on “**Register with RX**”. Doing this will tie the CX server to the RX server.

**InMage DR-Scout RX**

DASHBOARD | **MANAGE CX** | MONITOR | ALERTS | REPORTS | SYSTEM

MANAGE CX | **DISCOVER CX** | MANAGE CX GROUP

### Discover CX

**Discover CX through IP or IP Range**

10.0.119.55 - : 80

Example: 10.0.108.10 or 10.0.108.10-25

**CX Servers in the specified IP Range**

CX Server IP	Status	Host Name	Alias Name	CX Group	Select
<a href="#">10.0.119.55:80</a>		imist55.inmage.in	<input type="text" value="Zeus"/>	<input type="button" value="Select"/>	<input checked="" type="checkbox"/>

Figure 7

## 5.2 Point the CX to a desired RX

As an alternative to the previous approach, you may access the CX UI and point it to the RX server. Logon to the CX UI and click on “**System**” -> “**RX settings**” then enter the RX server’s IP address, the HTTP port on which it’s running. The “**Synchronization Interval**” is defaulted to five minutes; this indicates that the CX server updates the RX server every five minutes.

You may choose the “**PUSH Method**” when the CX server is behind a firewall. Click on Change Settings to save the settings and tie the CX server to the RX server.

System: RX Settings	
v5.10.1.DIT.1525.1 (DAILY_5-10-1_DIT_1525_Mar_06_2009_InMage).	
<a href="#">Monitoring</a>   <a href="#">Bandwidth Shaping</a>   <a href="#">CX Settings</a>   <a href="#">Agent Settings</a>   <a href="#">License Management</a>	
<a href="#">CX</a>   <a href="#">Versions and Patches</a>   <a href="#">User Documents</a>   <a href="#">Logs</a>   <a href="#">Agent Installers</a>   <a href="#">RX Settings</a>	
<b>RX Settings</b>	
RX IP Address	<input type="text" value="10.0.42.15"/>
HTTP Port	<input type="text" value="80"/>
Synchronisation Interval (minutes)	<input type="text" value="5"/>
Method for Data Synchronisation	<input checked="" type="radio"/> PULL Method (!) <input type="radio"/> PUSH Method (!)
<input type="button" value="Unregister RX"/> <input type="button" value="Change Settings"/>	

Figure 8



### Notes:

Click on the “Unregister RX” to stop the CX server from communicating with the RX server. You may however perform a similar action from the RX UI as well.

## 6 Group CX servers

After registering CX servers to the RX they appear as ungrouped CX servers. For better usability some CX machines serving a similar operation or department are grouped as one. For example, all CX servers involved in backing up the engineering department are grouped as “Engineering\_CX\_Servers”. You may create any number of CX groups through the RX UI and assign these groups to desired users to administer them.

## 6.1 Create CX Groups

To create a CX group, click on “Manage CX” -> “Manage CX Group” -> “Add New Group”



Figure 9

The interface changes as shown in the picture below. Enter the “CX Group Title” then you may either choose to select any of the ungrouped CX servers by selecting the “Show ungrouped CX servers” to be part of this new group or you may choose CX servers that already belong to another group by selecting the “Show Registered CX Servers”. Click on “Submit” to create the CX group

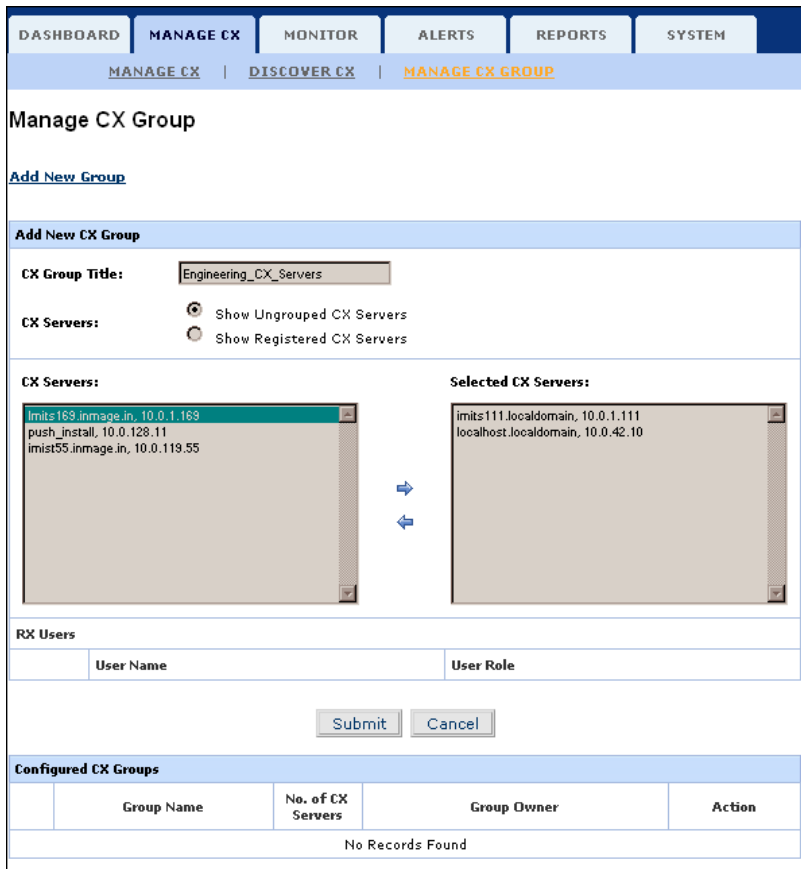


Figure 10

A message appears on the RX UI indicating that the CX group is created and the new group now shows under the “**Configured CX Groups**”.

**Manage CX Group**  
[Add New Group](#)  
 RX Group successfully created.

Configured CX Groups				
	Group Name	No. of CX Servers	Group Owner	Action
	Engineering_CX_Servers	2		<a href="#">EDIT</a>

[Remove Group](#)

Figure 11



**Notes:**

This is also the place where you can delete any of the CX groups. Deleting the CX groups will not delete the CX servers from the RX UI.

## 6.2 Add or remove CX servers from groups

Similarly you may change the group of a CX server through “**Manage CX**” -> “**Manage CX**”. You should see the list of all CX server groups. Select the desired CX servers and click on Change Group as shown below. Then select the group you want to move the CX servers to from the drop down list and click on “**Change**”. A confirmation appears, click on “**Ok**” to continue.

**Manage CX**

**Search**

Group	CX Server	
All		<a href="#">Search</a>

25 Items [Remove Selected](#) | [Change Group](#)

**Change Group**

Engineering\_CX\_Servers [Change](#)

**CX Groups**

☐ Ungrouped CX Servers

	CX Server	Registration Date	VX A	
			Licensed	Unli
<input checked="" type="checkbox"/>	<a href="#">lmits 169.inmage.in, 10.0.1.169</a>	2009-04-09 17:12:56	2	

Figure 12

To remove the CX server from the RX UI, select the CX servers and click on “**Remove Selected**”. The CX servers will no longer appear on the RX UI.

## 7 Monitor through the RX server

You may monitor all the CX servers through the “**Monitor**” screen. You may see the host level information through the “**Trouble View - Host Level**” screen and “**Trouble View - Pair Level**”

### 7.1 Host View

The host view shows all the CX servers with their licensed, unlicensed and expired VX, FX agents, healthy and degraded VX replications, completed and failed FX jobs, space constraints, license and the also offers the link to the respective CX UI. You may use the “**Search**” filters to close in on the desired CX servers.

Trouble View - Host Level

Search

Category

CX Server

All

Search

25 Items

CX Health Status

CX Server	VX Agents			FX Agents			Replication Pairs		FX Jobs		Space Constraint	License	CX UI
	Licensed	Unlicensed	Expired	Licensed	Unlicensed	Expired	Healthy	Degraded	Success	Failed			
imts111.localdomain, 10.0.1.111	3	4	0	0	1	0	2	0	0	0	NO	OK	<a href="#">View CX UI</a>
localhost.localdomain, 10.0.42.10	1	0	0	0	0	0	0	0	0	0	NO	OK	<a href="#">View CX UI</a>
imts169.inimage.in, 10.0.1.169	2	0	0	0	0	0	0	1	0	0	NO	OK	<a href="#">View CX UI</a>
push_install, 10.0.128.11	0	0	0	0	0	0	0	0	0	0	NO	OK	<a href="#">View CX UI</a>
imts155.inimage.in, 10.0.119.55	1	0	0	1	0	0	0	2	0	0	NO	OK	<a href="#">View CX UI</a>

Figure 13

### 7.2 Pair View

The pair level details shows the following details  
CX server’s hostname, IP address

- Replication pair’s source and target hosts along with their volumes.
- Replication stage: initial sync, Differential sync etc
- Current RPO: shows the current RPO of the replication pair
- Resync Required: shows “**yes**” when a resync is required for the replication pair and “**no**” when the resync is not required
- License: shows “**Ok**” when the license is valid or shows as “**Expired**” when the license is expired for any of the VX agents involved in that replication pair.

Trouble View - Pair Level

Search

Category

Current RPO

CX Server

All

All

Search

25 Pairs

Replication Health Status


CX Server	Source	Target	Replication Stage	Throttle	Current RPO	Resync Required	License	CX UI
imts111.localdomain, 10.0.1.111	W2K3-32MHC : F	ITGTW2K3-32MH : I	Differential Sync	NO	0.38 min	NO	OK	<a href="#">View CX UI</a>
imts169.inimage.in, 10.0.1.169	SRC.INIMAGE.NET : /dev/mapper/SDC-V1	imts169.inimage.in : /dev/sda8	Differential Sync	NO	0.45 min	NO	OK	<a href="#">View CX UI</a>
imts155.inimage.in, 10.0.119.55	LOCALHOST.LOCALDOMAIN : /dev/mapper/raj-v2	LOCALHOST.LOCALDOMAIN : /dev/mapper/raj-v3	Resyncing (Step 1)	NO	24.6 hrs	YES	OK	<a href="#">View CX UI</a>
imts155.inimage.in, 10.0.119.55	LOCALHOST.LOCALDOMAIN : /dev/mapper/raj-v4	InMageProfiler : P	Differential Sync	NO	23.87 hrs	NO	OK	<a href="#">View CX UI</a>
imts111.localdomain, 10.0.1.111	W2K3-32MHC : F	W2K3-32MHC : I	Differential Sync	NO	0.38 min	NO	OK	<a href="#">View CX UI</a>

Figure 14

## 8 Alerts

The “Alerts” shows the consolidated errors by all the CX servers pointed to this RX server. By default all the alert messages are shown on this screen, use the search options to narrow down your search.

Figure 15

Additionally you may flag desired alert messages by clicking on the  button. The flag appears active once you click it. This is especially useful when you need to quickly look up for the same alert message at a later time. You may choose view only the flagged alert messages by clicking on the “View Flagged Items”.

To delete the alert messages, select the alerts and click on “Remove Selected”. You may also delete alert messages older than thirty days by clicking on the “Clean Mails Older than 30 Days”





<div> 25 Mails Remove Selected View Flagged Items Clean Mails Older Than 30 Days </div>					
Inbox Mails					
	Flag	Message	Receive Date	Alert Category	CX Server
<input type="checkbox"/>		Skipping special file or directory: /home/svsystems/1e27723c-f7b3-486e-b2b2-0e7321a551 /dev/mapper/varun-v7/diffs /completed_diff_tso_51239299784451529_7073170_E1239299784451529_7073171_WE1.dat	2009-04-10 15:30:01	CX Debug Info	imits111.localdomain, 10.0.1.111
<input type="checkbox"/>		Skipping special file or directory: /home/svsystems/1e27723c-f7b3-486e-b2b2-0e7321a551 /dev/mapper/varun-v7/diffs /completed_diff_tso_512392991434892647_7073174_E12392991434892647_7073175_WE1.dat	2009-04-10 15:30:01	CX Debug Info	imits111.localdomain, 10.0.1.111
<input type="checkbox"/>		Skipping special file or directory: /home/svsystems/1e27723c-f7b3-486e-b2b2-0e7321a551 /dev/mapper/varun-v4/diffs /completed_diff_tso_512392886526491148_7072526_E12392886526491148_7072527_WE1.dat	2009-04-10 15:29:56	CX Debug Info	imits111.localdomain, 10.0.1.111
<input type="checkbox"/>		VX Agent down: NODE-1	2009-04-10 03:24:09	VX Agent Down	imits111.localdomain, 10.0.1.111

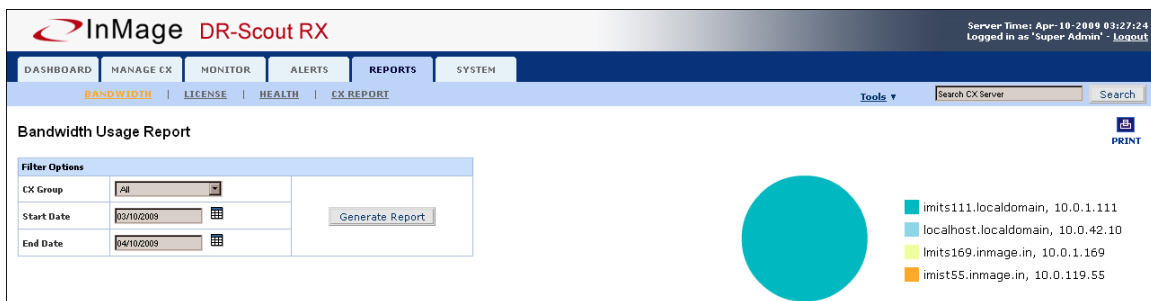
Figure 16

## 9 Reports

The CX server offers a range of reports useful for MIS which can be seen on the RX UI as part of the reports. Click on **“Reports”** and you will find four types of reports.

### 9.1 Bandwidth

All the CX servers tied to this RX server displays their bandwidth usage on this screen, you will need a flash player to see the graphs. You may generate this report for a group of CX servers by selecting from the **“CX Group”**. Furthermore you may also specify the start and end dates for the report to narrow down while trying to search for finer details.



The bandwidth report is also displayed in the same screen.

Bandwidth Usage Report [ Mar 10, 2009 - Apr 10, 2009 ]						
<div><div></div>test</div>						
	CX Server	Host Name	IP Address	Traffic In	Traffic Out	Total Traffic
	<a href="#">imits111.localdomain, 10.0.1.111</a>	W2K3-32MHC	10.0.33.5	0 B	0 B	0 B
		ITGTW2K3-32MH	10.0.58.29	0 B	0 B	0 B
	<a href="#">imist55.inmage.in, 10.0.119.55</a>	LOCALHOST.LOCALDOMAIN	10.0.119.90	0 B	0 B	0 B
<div><div></div>My CX</div>						
	CX Server	Host Name	IP Address	Traffic In	Traffic Out	Total Traffic
	<a href="#">localhost.localdomain, 10.0.42.10</a>	96-11	10.0.96.11	0 B	0 B	0 B
		Imits169.inmage.in	10.0.1.169	0 B	0 B	0 B
	<a href="#">Imits169.inmage.in, 10.0.1.169</a>	SRC.INMAGE.NET	10.0.119.14	2.66 KB	52.75 KB	55.4 KB

Figure 18



## 9.2 License

The license screen shows all the CX servers by default with the following details

- CX server, IP address: The CX server's host name followed by its IP address
- MAC address: A MAC address for each NIC on the CX server is shown here separated by a comma
- Expiry date: Date when the license will expire
- License Count: Number of VX license and FX licenses
- License Capacity: Applicable for capacity based license. This shows the capacity of data the license will support
- VX host License: This shows the used and available VX licenses for this CX server
- FX host license: This shows the used and available FX licenses for this CX server
- License Capacity: Shows the used and available capacity of the license.

CX Server	Mac Address	Expiry Date	License Count	License Capacity	VX Host License		FX Host License		License Capacity	
					Used	Free	Used	Free	Used	Free
imts111.localdomain, 10.0.1.111	00:16:46:96:d4:f6	Permanent	19 (10 vs. 9 f6)	0 GB	3	7	0	9	0 GB	0 GB
localhost.localdomain, 10.0.42.10	00:0c:29:25:ae:a7	Permanent	0 (0 vs. 0 f6)	2 GB	0	0	0	0	0 GB	2 GB
imts169.inimage.io, 10.0.1.169	00:16:09:ef:f5:f6	Permanent	19 (10 vs. 9 f6)	0 GB	3	6	0	9	0 GB	0 GB

Figure 19

## 9.3 Health

To see the health report of the CX server, select the “CX group” and then the desired CX server from the CX server and then click on the “Generate Report”. You will see the exact same health report as it appears on that CX UI.

Date	Data changes (in Mbytes)		Has RPD	Retention Window (Days)	No. of Issues RPD not met	Retention log reset?	Throttled Duration (Hours)	Protection Coverage
	With Compression	Without Compression						
Apr 03, 2009	0	0	0 min	0	0	N	0	0%
Apr 04, 2009	0	0	0 min	0	0	Y	0	0%
Apr 05, 2009	0	0	0 min	0	0	Y	0	0%
Apr 06, 2009	0.01	0.02	37.42 min	0	6.95	Y	0	3%
Apr 07, 2009	0.02	0.03	11.3 min	0.02	24	N	0.03	0%
Apr 08, 2009	0.03	0.05	2.62 hrs	0.38	24	N	0.06	0%
Apr 09, 2009	0	0	0 min	0	24	N	0	0%
Apr 10, 2009	0.12	0.17	17.32 hrs	1.13	0	Y	0.06	0%
Total:	0.18	0.27			78.95		0.15	0%

Figure 20

## 9.4 CX Report

This screen shows you a comprehensive report of the selected CX server. You will need to select the desired CX server and then click on **“Generate Report”**. In this screen you will see

- Configuration Server: Shows the CX configuration server’s name, IP address and how frequently it communicates with the RX server and finally the CX server’s heartbeat
- Process Server: Shows the list of process servers attached to the CX server along with the host name, IP address and their heartbeat.
- Graphs: Displays license information along with the replication pair/ FX job’s status.
- CX Statistics: Shows a report of the graphs
- Volume Protection Status: Shows all the VX pairs on the CX server along with their details
- File Protection Status: Shows all the FX jobs on the CX server along with their details
- Alerts & Notifications: All alert messages on the CX server are displayed here.

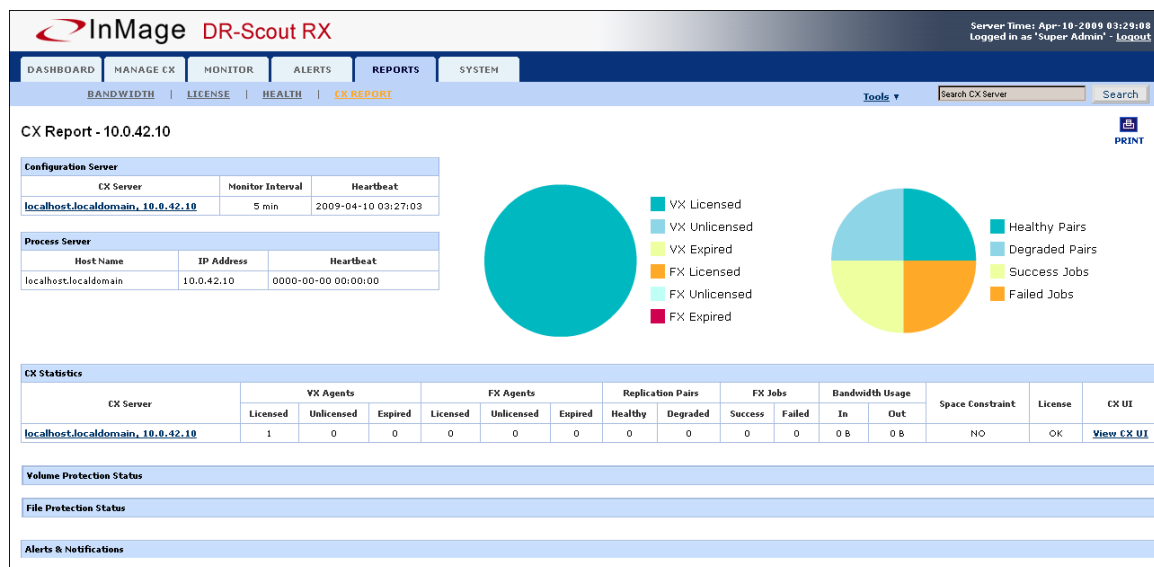


Figure 21

## 10 Administrative tasks

At times you will need to give restricted access to certain users; this may be done through the “**Manage Users**” as shown in the screen below.

### 10.1 Types of users

Module	Super Admin	Admin/Operator User	Monitor User
User/Role Management	Yes	No	No
Group Management	Yes	No	No
Discovery	Yes	Yes	No
Manage CX	Yes *	Yes **	No
Monitor Trouble View	Yes *	Yes **	Yes **
Manage Alerts & Notifications	Yes *	Yes **	No
Monitor Alerts & Notifications	Yes *	Yes **	Yes **
Reports (Bandwidth, Health, License)	Yes *	Yes **	Yes **
CX UI Access	Yes *	Yes **	Yes **
RX Backup/Restore	Yes	No	No
RX Settings	Yes	No	No

\* - For All CX

\*\* - For Assigned CX Group

## 10.2 Create/ remove users

Click on “Create New User”


DASHBOARD	MANAGE CX	MONITOR	ALERTS	REPORTS	SYSTEM	
MANAGE USERS   MANAGE ROLES   BACKUP & RESTORE   RX SETTINGS   AUDIT LOG						
Manage Users						
<a href="#">Create New User</a>						
RX User List						
Status	Full Name	Username	User Role	Creation Date	Action	
	RX Administrator	admin	Super Admin	2009-04-09 12:37:42	<a href="#">EDIT</a>	

Figure 22

The interface changes and you will be presented a screen asking for the user information. You will need to enter a valid email id, user name and password. There are three types of “**User Roles**” (refer to the [Types of users](#) section on page 19) select the desired user role. Additionally you may also assign any of the existing CX groups to the user. Click on “**Accept**” to create the user.


Manage Users	
<a href="#">Create New User</a>	
Add RX User	
Full Name:	<input type="text" value="Jonny black"/>
E-mail Address:	<input type="text" value="jblack@inimage.net"/>
User Name:	<input type="text" value="jblack"/>
<input type="checkbox"/>	Use AD Authentication
Enter Password:	<input type="password" value="....."/>
Re-enter Password:	<input type="password" value="....."/>
User Role:	<input type="text" value="Admin/Operator"/>
Assign CX Group:	<input type="text" value="Engineering_CX_Servers"/>
<input type="button" value="Accept"/> <input type="button" value="Cancel"/>	



Figure 23

A small message appears on the screen as shown below and the user is created.

### Manage Users

[Create New User](#)

 **RX User successfully created.**

RX User List					
Status	Full Name	Username	User Role	Creation Date	Action
	RX Administrator	admin	Super Admin	2009-04-09 12:37:42	<a href="#">EDIT</a>
	Jonny black	jblack	Admin/Operator	2009-04-10 05:26:07	<a href="#">EDIT</a>   <a href="#">DELETE</a>



**Notes:**

This is also the place where you can delete users or edit their privilege levels.

## 10.3 Manage roles

Apart from the three default user roles, you may create new user roles as and when required. Click on the “**Manage Roles**” and then click on “**Create New User Role**”

### Manage Roles

[Create New User Role](#)

Manage Roles		
Role	Privileges	Action
Super Admin	User/Role Management Group Management Discovery Manage CX Monitor Trouble View Manage Alerts & Notifications Reports (Bandwidth, Health, License) CX UI Access RX Backup/Restore RX Settings	
Admin/Operator	CX UI Access RX Settings	<a href="#">EDIT</a>   <a href="#">DELETE</a>
Monitor	Group Management Discovery Manage CX Monitor Trouble View Monitor Alerts & Notifications Reports (Bandwidth, Health, License) CX UI Access	<a href="#">EDIT</a>   <a href="#">DELETE</a>

**Figure 24**

Enter the new “**role name**” and select the desired privileges and click on “**Submit**” and a new role is created

### Manage Roles

Create User Role

Role Name

Privileges

☐ User/Role Management  
☐ Group Management  
☐ Discovery  
☐ Manage CX  
☐ Monitor Trouble View  
☐ Manage Alerts & Notifications  
☐ Monitor Alerts & Notifications  
☐ Reports (Bandwidth, Health, License)  
☐ CX UI Access  
☐ RX Backup/Restore  
☐ RX Settings

Submit

Cancel

Figure 25


Similarly you may also edit roles by clicking on the “**Edit**” link and then selecting the desired privileges.

Manage Roles		
Role	Privileges	Action
Super Admin	User/Role Management Group Management Discovery Manage CX Monitor Trouble View Manage Alerts & Notifications Reports (Bandwidth, Health, License) CX UI Access RX Backup/Restore RX Settings	
Admin/Operator	CX UI Access RX Settings	<a href="#">EDIT</a>   <a href="#">DELETE</a>
Monitor	Group Management Discovery Manage CX Monitor Trouble View Monitor Alerts & Notifications Reports (Bandwidth, Health, License) CX UI Access	<a href="#">EDIT</a>   <a href="#">DELETE</a>

Figure 26

## 10.4 Backup and restore the RX server

We recommend that you back up the RX from time to time. This is done just by clicking on the “**Backup**” button. A backup file is created and stored on the RX server. You may download this to your desktop and restore it by uploading the same file and clicking on the “**Restore**” button.

**RX Backup & Restore**  
 **Backup file created successfully.**

**Backup/Restore RX Settings**

Filename	Action
<input type="text" value="BackupName"/>	<input type="button" value="Backup"/>
<input type="text" value=""/> <input type="button" value="Browse..."/>	<input type="button" value="Restore"/>

**RX Settings Backup**

<input type="checkbox"/>	Backup Date	Backup File	Action
<input type="checkbox"/>	Apr 10, 2009 03:37:39	<input checked="" type="checkbox"/> <a href="#">Download (0.039 mb)</a>	<a href="#">DELETE</a>
<input type="checkbox"/>	Apr 10, 2009 03:37:34	<input checked="" type="checkbox"/> <a href="#">Download (0.039 mb)</a>	<a href="#">DELETE</a>

Figure 27

Similarly you may delete obsolete older backup files by selecting them and clicking on the “**Delete Selected**” button.

## 10.5 Using LDAP authentication

To enable LDAP authentication to logon to the RX server, enter the LDAP server's host name or IP address and click on **"Submit"**. Once the LDAP server is registered it will appear under the **"Registered LDAP servers"** field. Select the desired LDAP server and click on **"Set Active"**. You may also delete LDAP servers by clicking on the **"DELETE"** link.

The screenshot shows the 'RX Settings' page with a navigation bar at the top containing 'DASHBOARD', 'MANAGE CX', 'MONITOR', 'ALERTS', 'REPORTS', and 'SYSTEM'. Below the navigation bar are links for 'MANAGE USERS', 'MANAGE ROLES', 'BACKUP & RESTORE', 'RX SETTINGS' (highlighted), and 'AUDIT LOG'. The main content area is titled 'RX Settings' and contains two sections. The first section, 'LDAP Authentication Settings', has a text input field for 'LDAP Server:' and a 'Submit' button. The second section, 'Registered LDAP Servers', contains a table with columns 'LDAP Server', 'Status', and 'Action'. The table has one row with the value '10.0.102.26' in the 'LDAP Server' column, 'Active' in the 'Status' column, and a 'DELETE' link in the 'Action' column. Below the table is a 'Set Active' button.

LDAP Server	Status	Action
10.0.102.26	Active	<a href="#">DELETE</a>

Figure 28

## 10.6 Audit log

All activity on the RX UI is logged to the audit log. The Audit log shows all the activity performed on the RX server as shown in the picture below.

Audit Log			
Audit Log			
User	Date/Time	IP Address	Details
RX Administrator	2009-04-09 12:38:13	10.0.0.137	Login Success
RX Administrator	2009-04-09 12:40:30	10.0.0.137	(imist55.inmage.in: 10.0.119.55:80) Registered with RX
RX Administrator	2009-04-09 12:48:33	10.0.0.137	New Group group1 Created
RX Administrator	2009-04-09 14:26:38	10.0.0.137	New User Created with(Name:Rajashekhkar,Email:rchodagam@inmage.net,UserType:Admin/Operator)
RX Administrator	2009-04-09 14:26:50	10.0.0.137	Login Success
RX Administrator	2009-04-09 15:37:17	10.0.0.137	Updated Role Admin/Operator with privileges (Discovery,Manage CX,Monitor Trouble View,Manage Alerts & Notifications,Reports (Bandwidth, Health, License),CX UI Access,RX Settings.)



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