

Administrator Guide

iPECS is an Ericsson-LG Brand



Please read this manual carefully before operating your set. Retain it for future reference.

#### Copyright © 2013 Ericsson-LG Enterprise Co., Ltd. All Rights Reserved.

This material is copyrighted by Ericsson-LG Enterprise Co., Ltd. Any unauthorized reproductions, use or disclosure of this material, or any part thereof, is strictly prohibited and is a violation of Copyright Laws.

Ericsson-LG Enterprise reserves the right to make changes in specifications at any time without notice.

The information furnished by Ericsson-LG Enterprise in this material is believed to be accurate and reliable, but is not warranted to be true in all cases.

Ericsson-LG Enterprise and iPECS IPCR are trademarks of Ericsson-LG Enterprise Co., Ltd. All other brand and product names are trademarks or registered trademarks of their respective companies.

S/W Version	Issue	Changes	Release Date
1.0Aa	1.0	Initial release.	2013-06-05
1.0Ba	1.1	Added further explanation how to install Fedora 16.	2013-07-03
1.0Bc	1.2	Applied new Cl	2014-02-10
1.0Bh	1.3	Added Clonezilla	2014-03-12
1.0Bh	1.4	Added VM-ware install and modify Document	2014-03-29
2.0Ad	1.5	Added IPCR 2.0 Function (Multi-IPCR)	2014-05-28
2.0Ad	1.6	IPCR Partition change	2014-12-12
2.0Ad	1.7	Applied new Cl	2015-07-23
2.0Ao	1.8	Added HA Function	2015-11-16
2.1Aa	1.9	Added IPCR Partition and CentOS Install	2016-07-18
2.2Ab	2.0	Added HA set up and recording type	2017-09-15
2.2Ad	2.1	HA Function temporary removed from the S/W Version 2.2Ad	2017-10-18
2.2Ad	2.2	General update and release	2017-11-08
2.2Ad	2.3	Amended pictures and release	2018-06-04
3.0Ah	2.4	Apply IPCR 3.0	2018-08-31
3.0AI	2.5	Added HA Function	2019-06-11
3.1Ad	2.6	Added concurrent license (UCM Only)	2019-08-29

#### **Document Information**

# **Table of Contents**

Table of C	Contents	i
About Thi	s Guide	1
Purnose		1
	۵	
Docu	ment Organization	
Docume	nt Conventions	2
Text	formatting	
Impo	rtant notice	2
Chapter 1	. Introduction	3
1.1 i	PECS Call Recording Server	
1.2	Support Functions	
1.3	Web Server Module	
1.4	Server Environment	4
1.5	OS & Server Requirements	4
1.6 i	PECS Host Platform	5
Chapter 2	. iPECS IPCR Installation	6
2.1	Easy install	7
2.1.1	Clonezilla	7
2.1.2	VM Workstation Player	
2.2	Manual Install	
2.2.1	Download CentOS 7.3 64 bit and Manual Install	
2.2.2	Download CentOS 6.9 32 bit and Manual Install	27
2.2.3	iPECS IPCR application program Installation	
2.3	To set network configuration to static	
2.3.1	To set network configuration to static in centos7.3 64bit	
2.3.2	To set network configuration to static in CentOS 6.9 32bit	
2.4	Executing IPCR Process	54
2.5	Terminate IPCR Process	
Chapter 3	. iPECS System Configuration	55

3.1 i	iPECS UCP/eMG	
3.1.1	Unlock up to number of iPECS IPCR server and Agent ID	
3.1.2	iPECS IPCR Server MAC Address	
3.1.3	Station User Login	
3.1.4	iPECS IPCR Agent ID Table	
3.1.5	iPECS IPCR SIP Station Registration	
3.1.6	VM Group Configuration for iPECS IPCR Server	
3.1.7	Automatic Station Recording & Destination	59
3	3.1.7.1 Station Recording	60
3	3.1.7.2 CO Recording	
3.1.8	Trace and Monitoring	61
3.2 i	iPECS CM	
3.2.1	Unlock up to number of iPECS IPCR server and Agent ID	
3.2.2	iPECS IPCR Agent ID	
3.2.3	iPECS IPCR SIP Station Registration	
3.2.4	VM Group Configuration for iPECS IPCR Server	
3.2.5	Automatic Station Recording & Destination	
Chapter 4	. iPECS IPCR server HA (High Availability)	67
4.1 \$	System Configuration	
4.2 [	Data Synchronization	
4.3 H	HA Module Set up	
4.3.1	HA Module set up in Active Server	
4.3.2	HA Module set up in Standby Server	72
4.4 [	Data HA Set up	75
4.4.1	Setting for Recording Files HA	75
4	4.4.1.1 Settings for Recording Files HA on Active Server	75
4	4.4.1.2 Settings for Recording Files HA on Standby Server	
4.4.2	Crontab Setting for Data HA	79
2	4.4.2.1 Crontab Setting for Data HA on Active Server	79
2	4.4.2.2 Crontab Setting for Data HA on Standby Server	79
4.5 E	Executing IPCR High Availability Process	80
4.5.1	Automatic Executing Set up in CentOS6.9 32bit	
4.5.2	Automatic Executing Stop in CentOS6.9 32bit	80
4.5.3	Automatic Executing Set up in CentOS7.3 64bit	80
4.5.4	Automatic Executing Stop in CentOS7.3 64bit	80
4.5.5	Manual Executing	80
4.6 (	Condition for Switchover	80
4.7 H	HA Configuration Prerequisites	
Chapter 5	IPECS IPCR Server Configuration	83

5.1	Basi	sic Configuration	83
5.1.	.1	iPECS IPCR Server Configuration	83
5.1.	.2	iPECS system Registration	83
5.1.	.3	Channel Registration	
5.1.	.4	User Level Admin	
5.1.	.5	User Registration	84
Chapter	6.	iPECS IPCR Web	85
6.1	Acce	cess and login	85
6.1.	.1	To access	85
6.1.	.2	To login	86
6.1.	.3	Logout	86
6.2	Web	b Layout	87
6.2.	.1	Title bar Area	87
6.2.	.2	Organization (or Sub menu) Area	87
6.2.	.3	Main Menu Tab Area	87
6.2.	.4	Task Area	88
6.3	Sear	arch & Listen	88
6.3.	.1	Search the Recording Log	88
6.3.	.2	Listening to a Recording	89
6.3.	.3	Add a Memo to a Recording	
6.3.	.4	Downloading Logs or Recordings	91
6.3.	.5	Deleting Recording file	
6.4	Mon	nitoring & Dash Board	
6.4.	.1	Real Time Call Monitoring	
	6.4.1	.1.1 Icon View	
	6.4.1	.1.2 Grid View	
6.4.	.2	Dash Board	
6.5	Rep	port	
6.6	Adm	ninistration	
6.6.	.1	iPECS IPCR Server Setting	
6.6.	.2	iPECS System Registration	
6.6.	.3	Channel registration	101
6.6.	.4	User Level Admin	103
6.6.	.5	User Registration	
	6.6.5	.5.1 User Group Registration	105
	6.6.5	.5.2 User Registration	
6.6.	.6	General Setting	107
	6.6.6	.6.1 Restart	107
	6.6.6	.6.2 Password Policy Setting	108
	6.6.6	.6.3 General	108

	6.6.6.4	Upload Voice(Announcement) Files	
6.6.6.5 Mail Server Information		Mail Server Information	
	6.6.6.6	Fault Management	
	6.6.6.7	Server Time Zone Management	
	6.6.6.8	SSL Setting	
	6.6.6.9	Concurrent License Setting	
6.6	6.7 Mair	ntenance	
	6.6.7.1	Upload Update File	
	6.6.7.2	Auto Backup Setting	
	6.6.7.3	FTP Backup Setting	
	6.6.7.4	Engine log downloadk	
	6.6.7.5	PCAP Download	
	6.6.7.6	Database Management	
	6.6.7.7	Language Setting	
	6.6.7.8	Migration	
6.6	6.8 Web	D Log	
6.6	6.9 Lice	nse Information	
6.6	6.10 Vers	sion Information	
Append	dix A: Data	abase Backup and Restore	121
A.1	Downloa	d pgAdmin	
A.2	DB Back	up	
A.3	DB Resto	ore	
A.4	Recordin	ng File Backup and Restore	129
Append	dix B: Setu	up in VM Workstation Player	
в.1	Install VI	/Plaver15	
Append	dix C: Crea	ate a bootable flash drive for installing IPCR	139
C.1	Create a	bootable flash drive Using rufus	
Append	dix D: Inst	alling IPCR on 1TB and above HDD	142
D.1	HDD Ca	pacity Expansion	
Append	lix E: Hov	v to Upload SSL certificate	
E.1	How to U	Jpload SSL certificate	
		·	
Append	dix F: How	v to Mount to backup directory	148
F.1	How to M	Nount to backup directory	

Appendix	x G: Useful Information	150
G.1	Open Source Software Notice	

This section describes the purpose, audience, organization, and conventions that are used in this iPECS IPCR (Call Recording) Administrator Guide

**NOTE** Your actual display screens may be slightly different than what was displayed in this manual depending on the OS (Operating System) and other factors. All information in this guide is subject to change without prior notice.

# **Purpose**

The guide provides detailed information about the iPECS IPCR installation, iPECS system configuration, and administration of the iPECS IPCR Server.

# Audience

The intended audience for this document is an administrator who wants to operate and manage the iPECS IPCR Server. The reader should have some knowledge of the iPECS System.

# **Document Organization**

This guide consists of six chapters and five appendixes. The title of each chapter (and appendix) is as follows:

- About This Guide.
- Chapter 1 Introduction
- Chapter 2 iPECS IPCR Installation
- Chapter 3 iPECS System Configuration
- Chapter 4 iPECS IPCR server HA (High Availability)
- Chapter 5 iPECS IPCR Server Configuration
- Chapter 6 iPECS IPCR Web
- Appendix A:Database Backup and Restore
- Appendix B:Setup in VM Workstation Player
- Appendix C:Create a bootable flash drive for installing iPECS IPCR
- Appendix D:Installing IPCR on 1TB and above HDD
- Appendix E:How to Upload SSL certificate
- Appendix F:How to Mount to backup directory

• Appendix G:Useful Information

# **Document Conventions**

This section describes text formatting conventions and important notice formats used in this guide.

## **Text formatting**

The narrative-text formatting conventions that are used are as follows:

Convention	Description	
Bold text	It may indicate a button, menu item, or dialog box option you can click or select.	
Italic text	A cross-reference or an important term.	
Code text	A command prompt.	
*(Asterisk)	Items or fields marked with an asterisk (*) are required.	

#### Important notice

The following icons and notices are used in this guide to convey important cautions and notes.

**CAUTION** A caution statement alerts you to situations that may cause damage to hardware, software, or data.

**NOTE** A note provides additional explanations, important information, or a reference to the relative information.

# Chapter 1. Introduction

IPCR is a specialized SIP recording tool that works with ERICSSON-LG enterprise iPECS exchanges. This product allows you to check the agent's call status in real time and save and listen to your calls. In addition, iPECS IPCR provides call statistics, provides system threshold settings, automatic backups, and web logs, and sends out messages when problems occur.

# 1.1 iPECS Call Recording Server

The administrator can configure multiple User admin levels and define the features and functions available to each level. A user may be limited to recording only, search & play, call monitoring and recording, and access to various management and administrative Web pages.

The iPECS Internet Protocol Call Recording (IPCR) server application employs a Linux OS and VoIP technology to deliver advanced Call Recording capabilities to iPECS platforms. The advanced capabilities provide automatic and on-demand call recording for recording Agents linked to objects (stations numbers) registered with the iPECS platform.

An IPCR server can be associated with from one (1) to ten (10) host iPECS systems permitting the application to record calls for a network of systems. Each iPECS host can support one (1) to ten (10) IPCR servers allowing separation of Call Recording based on tenant or other iPECS system groupings.

Employing iPECS and SIP protocols, the iPECS IPCR application provides an affordable SMB solution to recording and monitoring calls. iPECS protocols are employed to register and control call recordings. The iPECS IPCR application registers with the iPECS host as any other iPECS device. The registration can be automatic 'plug-and-play' or by listing the MAC address of the Call Recording server in the iPECS host database for local or remote service.

The iPECS IPCR application operates as an iPECS SIP Phone to receive RTP (Real-Time Protocol) packets. When a call is received, configured objects invite the call recording Agent to join the call and deliver RTP packets to the iPECS IPCR application for storage as part of a conference call. Once the call is terminated, the recording Agent is released and a record of the call and RTP packet media (voice) are stored.

# 1.2 Support Functions

The iPECS IPCR application supports both Automatic recording of all calls (ACR) and configured users assigned a Two-way Recording button can request an active call be recorded, ODR (On-demand recording). In the latter case, when the call is connected to an On-demand recording object, the recording Agent is activated, and the media is sent to the Call Recording server. If during the call the user requests recording, audio for the entire call is stored from the beginning of the call. If the user does not request recording during the call, when the call is complete, the recording Agent is released, and the media is not stored.

# 1.3 Web Server Module

iPECS IPCR includes a Web server module. The Web server module is the user-interface for administrative and user functions and features of the application. In addition to configuring the iPECS IPCR for registration with the host iPECS systems, the administrator can configure Automatic Back-up of recordings, type of recording (All calls or On-demand), security for signaling and media packets, and server usage thresholds for e-mail notification. The administrator can view and search the Web module activity and the Call Statistics log.

The administrator can configure multiple User admin levels and define the features and functions available to each level. A user may be limited to recording only, search & play, call monitoring and recording, and access to various management and administrative Web pages.

## **1.4 Server Environment**

During installation, the CentOS 6.9 must be configured to support the iPECS IPCR application. This includes:

- Create the partition ('/var/REC') for the application and storage of recording
- Install the 'Web Server' task
- Install the 'PostgreSQL' database
- Disable the CentOS Firewall
- Configure the iPECS IPCR Sever network parameters
- · Establish the 'ntsysv' for automatic restart of the Web and database processes
- Create a back-up directory

# OS & Server Requirements

The server as recommended below is capable of handling a maximum of 500 simultaneous calls.

ltem	Requirements
Operating System	CentOS 7.3 64 bit, CentOS 6.9 32 bit version
Server CPU	4 Core CPU or higher

1.5

Item	Requirements	
Server RAM	Minimum 4G byte, Recommend 8G byte	
Server HDD	500G byte or higher	
External HDD	Optional for back up	

- Even though a user does not activate on-demand call recording, RTP traffic is still sent to the IPCR application should the user determine the need to activate recording during the call.
- The IPCR normally works regardless of the name of the network interface card (NIC) in Linux.

NOTE	When installing IPCR on a VM, a CPU that Hyper-Threading support should use at
	least 8 cores.

# 1.6 **iPECS Host Platform**

The IPCR application has been designed to work with the iPECS family of systems. Specifically, the following platforms are compatible:

- iPECS eMG version 3.5.21 or higher, iPECS UCM version 2.6 or higher, iPECS UCP version 3.5.21 or higher.
- MCIMs are required to record conference calls. MCIM is related to 3 more conference and SIP phone two way record.
- VOIM is related to relay between local and Remote and Codec conversion.
- Gateway Channels Resource which required for Call Recording are shown in below table.

iPECS System	eMG80	eMG800	UCP	UCM
Extension	VolB 1 Ch	VolB 1 Ch	MCIM 3 Ch (SIP Phone, DTIM/SLTM/WTIM G.723, G.729)	VPCM 3 Ch
Trunk (Analog/Digital)	VolB 1 Ch	VolB 1 Ch	MCIM 3 Ch	VPCM 3 Ch

- DTIM/SLTM/WTIM needs MCIM 3 channel only when G.723 or G.729 is used. It does not need MCIM channel when G.711 is used.
- In case of LIP extension recording, because LIP supports 3 way conferencing by itself, no additional VoIB/MCIM/VPCM channel is needed.
- All the above information is valid only when all recording devices, VoIB/MCIM/VPCM and IPCR server exist in the same local network.

Chapter 2.

# **iPECS IPCR Installation**

The iPECS Call Recording application program has been optimized to run under the CentOS 7.3 64 bit or CentOS 6.9 32 bit Linux environment from Red Hat and others. The host iPECS platform should be configured for the Call Recording Server as discussed in Chapter 3 iPECS System Configuration, and the installation follow the procedure for each installation described in the below section.

- Install the CentOS 7.3 64 bit Linux OS, refer to section 2.2.1 Download CentOS 7.3 64 bit and Manual Install.
- Install the CentOS 6.9 32 bit Linux OS, refer to section 2.2.2 Download CentOS 6.9 32 bit and Manual Install.
- Install the iPECS IPCR application program, refer to section 2.2.3 iPECS IPCR application program Installation.

# 2.1 Easy install

Easy installation with Clonezilla or VM Workstation player (VM Workstation Pro). Please refer to Appendix B: Setup in VM Workstation Player.

## 2.1.1 Clonezilla

- 1. Make the <u>clonezilla live with img IPCR xxx CentOSx.x YYYY-MM-DD-img.iso</u> Image to USB device or DVD
- 2. Insert USB device or DVD to boot with it.
- 3. Upon prompting the following display, select the first menu and press Enter Key.



4. Upon prompting the following display for the confirmation, select 'yes' for the next step.



- 5. After the automatic installation of CentOS 6.9 OS & iPECS IPCR S/W to each section, remove the USB device or DVD.
- 6. To reboot, press '1' on the keyboard.

NCHC Free Software Labs, Taiwan	
- Clanazilla - Opencaunce Clana Sustem (022)   Mode: no	stopedick b
Now you can choose to:	STOPEUISK
0 Poweroff 1 Reboot	
2 Enter command line prompt	
<dk> <cancel></cancel></dk>	

7. Login to terminal with the root Identification.

ntOS release 6.9 (Final) rnel 2.6.32-696.e16.i686 on an i686
calhost login: root ssword: _

- Default ID / Password: root / p@ssw0rd
- Please note that you are required to change your password immediately. Type a new password to change the default password.
- 8. After rebooting, configure the IP address of iPECS IPCR Server to eth0.
- **9.** To set network configuration, refer to section 2.3 To set network configuration to static for details.

# 2.1.2 VM Workstation Player

Where to download and how to install of the VM Workstation Player to the iPECS IPCR Server, refer to Appendix B: Setup in VM-Player for details.

- 1. Run the VMware Player 15 to install the iPECS IPCR using the prepared OVF file.
  - The VMware for Windows application can be launched from the Windows Start Menu (<sup>1</sup>/<sub>2</sub> www.weistation 15 Flayer</sup>) or click the desktop shortcut icon.
- 2. Click Open a Virtual Machine to select a file.

VMware Workstation 15 Player (Non-commercial use only) — D					
<u>P</u> layer ▼   ▶ ▼ 🖧 🔁 🛛					
Home	Welco Work	ome to VMware station 15 Player			
	Ē	Create a <u>New Virtual Machine</u> Create a new virtual machine, which will then be added to the top of your library.			
	CC.	Open a Virtual Machine Open an existing virtual machine, which will then be added to the top of your library.			
	Ø	Upgrade to VMware Workstation Pro Get advanced features such as snapshots, virtual network management, and more.			
	?	H <u>e</u> lp View online help.			
	Q	This product is not licensed and is authorized for non- commercial use only. For commercial use, purchase a license. Buy now.			

3. Browse to the .ovf file and click **Open** button.

**4.** Type a name for the virtual machine, type or browse to the directory for the virtual machine files, and click **Import** button.

VMware Workstation 15 Pl	ayer (Non-commercial use only)	- 🗆 X
Player 🗸 🕨 🗸 🗍	2	
Home	Welcome to VM Workstation 15         Import Virtual Machine         Store the new Virtual Machine         Provide a name and local storage path for the new virtual machine:         IPCR 3 CentOS 6.9 STD         Storage path for the new virtual machine:         E::WVMWareWIPCR 3.1Ad         Help         Import         Cancel         We wonline help.         Or this product is not bic.         Commercial use only.         Iterse. Buy now.	Iware Player Variable Strain

5. After VM Workstation Player successfully imports the OVF virtual machine, the virtual machine appears in the virtual machine library.





6. Click Play Virtual Machine to start the virtual machine in VM Workstation Player.

7. Login to terminal with the root Identification.



8. To set network configuration, refer to section 2.3 To set network configuration to static for details.

# 2.2 Manual Install

iPECS IPCR works with CentOS 7.3 64 bit or CentOS 6.9 32 bit. Follow the steps to install CentOS to run iPECS IPCR.

#### 2.2.1 Download CentOS 7.3 64 bit and Manual Install

iPECS IPCR can support RedHat and CentOS 7.3 64 bit Linux. Linux OS can be downloading from the centos web site <u>http://www.centos.org</u>.

1. Select 'Install CentOS7' and press Enter Key.

CentOS 7	
Install CentOS 7 Test this media & install CentOS 7	
Troubleshooting	>
Press Tab for full configuration options on menu items	

2. Select 'Continue' and click Enter key.

				CENTOS LINUX 7	7 INSTALLATION Help!
ntOS <sub>W</sub>	/ELCOME TO CE	ENTOS LIN	UX 7.		
W	hat language would yo	ou like to use du	uring the in	stallation process	?
		Engl	English (	United States)	
A	frikaans	Afrikaa	English (	United Kingdom)	
	ነ <i>ግርኛ</i>	Amha	English (	India)	
à	الع بين	Ara	English (	Australia)	
र	রসমীয়া	Assame	English (	(Canada)	
	sturianu	Actur	English (	Denmark)	
	Sculturia	Astur	English (	Ireland)	
Ь	еларуская	Belarus	English (	New Zealand)	
Б	ългарски	Bulgar	English (	Nigeria)	
4	বাংলা	Benc	English (	Hong Kong SAR C	hina)
Т	ype here to search.				
				Quit	Continue

3. Click **DATE &TIME** icon in the LOCALIZATION field.

	INSTALLA	ITION SUMMARY		CENTOS LINU: I us	X 7 INSTALLATION Help!
CentOS	LOCALIZA	TION			
	$\odot$	DATE & TIME Americas/New York timezone	Ē	KEYBOAR English (U	<b>D</b> (5)
	á	LANGUAGE SUPPORT English (United States)			
	SOFTWAF	Ε			
	0	INSTALLATION SOURCE	4	SOFTWAI Minimal In	RE SELECTION Install
	SYSTEM				
		INSTALLATION DESTINATION		KDUMP	
				Quit	Begin Installation
		We wa	on't touch yo	ur disks until you	click 'Begin Installation'.
	🛆 Please c	omplete items marked with this icon before	continuing to	the next step.	

4. Set to the desired time zone and click the **Done** button.



5. Click LANGUAGE SUPPORT icon in the LOCALIZATION field.

	INSTALLATION SUMMARY		CENTOS LINUX 🕅 us		7 INSTALLATION Help!	
CentOS	LOCALIZA	TION				
	Θ	DATE & TIME Americas/New York timezone		<b>KEYBOARD</b> English (US)		
	á	LANGUAGE SUPPORT English (United States)				
	SOFTWAR	ξE				
	0	INSTALLATION SOURCE	6	SOFTWARE Minimal Inst	<b>SELECTION</b> all	
	SYSTEM					
		INSTALLATION DESTINATION	-	KDUMP		
			Qu	uit	Begin Installation	
	A	Wei	von't touch your (	disks until you cl	ick "Begin Installation".	
	Please control	omplete items marked with this icon befor	e continuing to th	e next step.		

6. Set it in the desired language and click the **Done** button.

AGE SUPPORT		CENTOS LINUX 7 INSTA
Select additional la	nguage support to be	installed:
🖌 English	English >	English (United States)
Español	Spanish	English (United Kingdom)
Festi	Fstonian	English (India)
Euskara	Basque	English (Australia)
	Dasque	🔲 English (Canada)
فارسى	Persian	English (Denmark)
Suomi	Finnish	English (Ireland)
Français	French	English (New Zealand)
Galego	Galician	🔲 English (Nigeria)
ગુજરાતી	Gujarati	English (Hong Kong SAR China)
हिन्दी	Hindi	English (Philippines)
Hrvatski	Croatian	English (Singapore)
Magyar	Hungarian	English (South Africa)
	<b>1</b>	J

7. Click **SOFTWARE SELECTION** icon in the SOFTWARE field to display the Software Selection screen.

	INSTALLATION SUMMARY		C	ENTOS LINUX	7 INSTALLATION Help!	
CentOS	LOCALIZA	TION			1	
	$\odot$	DATE & TIME Americas/New York timezone	==	KEYBOARD English (US,	)	
	á	LANGUAGE SUPPORT English (United States)				
	SOFTWAR	E				
	0	INSTALLATION SOURCE	6	SOFTWARE Minimal Inst	E SELECTION tall	
	SYSTEM					
	R	INSTALLATION DESTINATION		KDUMP		
		We w	on't touch you	Quit r disks until you c	Begin Installation	
	🛆 Please co	mplete items marked with this icon before	continuing to	the next step.		

8. The screen is in two parts, check the box as shown in the Base Environment on the left.

SOFTWARE SELECTION	CENTOS LINUX 7 INSTALLATION
Base Environment	Add-Ons for Selected Environment
<ul> <li>Minimal Install Basic functionality.</li> <li>Compute Node Installation for performing computation and processing.</li> <li>Infrastructure Server Server for operating network infrastructure services.</li> <li>File and Print Server File, print, and storage server for enterprises.</li> <li>Basic Web Server Server for serving static and dynamic internet content.</li> </ul>	<ul> <li>Backup Client         <ul> <li>Client tools for connecting to a backup server and doing backups.</li> <li>Debugging Tools             <ul></ul></li></ul></li></ul>
<ul> <li>Virtualization Host Minimal virtualization host.</li> <li>Server for operating network infrastructure services, with a GUI.</li> <li>GNOME Desktop GNOME is a highly intuitive and user friendly desktop environment.</li> </ul>	A set of tools to monitor server hardware. Java Platform Java support for the CentOS Linux Server and Desktop Platforms. Large Systems Performance Performance support tools for large systems. Load Balancer Load Balancer Load balancing support for network traffic. MacinDB Detactors Client

• The environment you checked is the best matches what the system will be used for.

9. Check the box as shown in the Add-Ons on the right.



- The software you checked will be added to the selected Base Environment.
- 10. Continuing from previous step.



#### 11. And then, click Done button.



#### 12. Click INSTALLATION DESTINATION icon in the SYSTEM field.



**13.** Select the HDD you want to install, click the **Configure partitioning** button, and click **Done** button.

INSTALLATION DESTINATION	CENTOS LINUX 7 INSTALLATION us Help!
500 GiB VMware, VMware Virtual S sda / 992.5 KiB free	
Specialized & Network Disks	Disks left unselected here will not be touched.
Add a disk	
	Disks left unselected here will not be touched.
Other Storage Options	
Partitioning Automatically configure partitioning.	I will configure partitioning.
	- under
Encryption	a next
Encrypt my data. Tou it set a passphras	e next.
Full disk summary and boot loader	1 disk selected; 500 GiB capacity; 992.5 KiB free <u>Refresh</u>

#### 14. Click Add (<sup>+</sup>) button.



15. Then select the size of the /boot section then click Add mount point button.

MANUAL PARTITIONING			CENTOS LINUX 7 INST	ALLATION Help!
<ul> <li>New CentOS Linux 7 Inst You haven't created any mount p CentOS Linux 7 installation yet.</li> <li><u>Click here to create them a</u></li> </ul>	allation oints for your You can: utomatically.			
<ul> <li>Create new mount points by o button.</li> <li>New mount points will use the f partitioning scheme:</li> </ul>	ADD A NEW MC More customi after creating	DUNT POINT zation options are available the mount point below.		
Standard Partition	Mount Point: Desired Capacity:	/boot •	nts for your CentOS Linu o view their details here.	× 7
+ - C		Cancel Add mount point		
AVAILABLE SPACE 500 GIB TOTAL SPACE 500 GIB				Reset All

16. Click File System: to select ext4.

MANUAL PARTITIONING		CENTOS LINUX 7 INSTALLATION
New CentOS Linux 7 Installation SYSTEM /boot 200 N sdal	AiB > sdal Mount Point: /boot Desired Capacity: 200 MiB Device Type: Standar T Enropp	Device (s): VMware, VMware Virtual S (sda) Modify
+ - C	File System: ext4	t Name: 
AVAILABLE SPACE     TOTAL SPACE       499,8 GiB     500 GiB       1 storage device selected		Reset All

17. Click Add (\*) button, then select the size of the swap section then click Add mount point button.

MANUAL PARTITIONING			CENTOS LINUX 7 INSTALLATION
✓ New CentOS Linux 7 Inst SYSTEM /boot	allation	sda1 Mount Point:	Device(s):
sdal	ADD A NEW MO	/boot	VMware Virtual disk (sda)
	More customi after creating	ization options are available the mount point below.	
	Mount Point: Desired Capacity:	swap 🗣	
		Cancel Add mount point	
+ - C		Label:	Name:
AVAILABLE SPACE TOTAL SPACE			
<u>1 storage device selected</u>			Reset All

- The Swap size, assign double the size of the memory.
- 18. Click Add (+) button, then select the size of the root section then click Add mount point button.

MANUAL PARTITIONING			CENTOS LINUX 7 INSTALLATION
▼ New CentOS Linux 7 Ins	tallation	cl-swap	
SYSTEM /boot sdal	200 MiB	Mount Point:	Device(s):
swap cl-swap	ADD A NEW Me More custom after creating	OUNT POINT ization opti <mark>ons are available</mark> 1 the mount point below.	Modify
	Mount Point: Desired Capacity:	/ 👻	Volume Group cl (0 B free) ▼ Modify
+ - C		Cancel Add mount point	Name:
AVAILABLE SPACE 491.8 GIB 1 storage device selected			Reset All

19. Click File System: to select ext4.

MANUAL PARTITIONING			CENTOS LINUX 7 INSTALLATION
▼ New CentOS Linux 7 Ins SYSTEM /boot sda1	tallation 200 MiB	IPCR-root Mount Point:	Device(s):
/ IPCR-root swap	50 GiB > 8192 MiB	Desired Capacity: 50 GiB	Modify
i u snop		Device Type: LVM   Encrypt  File System:  ext4  Reformat	Volume Group IPCR (0 B free) ▼ Modify
+-C'AVAILABLE SPACETOTAL SPACE441.8 GiB500 GiB		Label:	Name: root
<u>1 storage device selected</u>			Reset All

20. Click Modify button.

MANUAL PARTITIONING			CENTOS LINUX 7 INSTALLATION
▼ New CentOS Linux 7 In SYSTEM /boot sda1	nstallation 200 MiB	cl-root Mount Point:	Device(s):
/ cl-root	50 GiB >	Desired Capacity:	VMware Virtual disk (sda)
swap cl-swap	8192 MiB	Device Type: LVM  Encrypt File System: xfs Reformat	Modiry Volume Group cl (4096 KiB free) ▼ Modify
+-CAVAILABLE SPACETOTAL SPACE441.8 GiB500 Gil	E 3	Label:	Name: root
<u>1 storage device selected</u>			Reset All

21. Modify the name to IPCR and click **Save** button.

MANUAL Done	_ PARTITIO	NING					CENTOS LII	NUX 7 INSTALLATION
▼ Nev SY /b sd	w CentOS L STEM oot al	inux 7 Insta CONFIGURE Please create	Illation E VOLUME GRO e a name for this	Cl-r OUP	oot	: at least o	ne disk below.	tual dick (eda)
d- sv ct-	root Vap swap	Description	n Name tual disk sda	Capacity 500 GiB	Free 441.8 GiB			oup (4096 KiB free) ▼
		RAID Level: Size policy:	None Automatic	•	▼	5 GiB	Encrypt	
+ AVAILAI 441. <u>1 stor</u>	- C BLE SPACE 8 GiB	TOTAL SPACE 500 GiB ected				Cancel	Save	Reset All

22. Click Add (\*) button, then enter /var/REC as Mount Point then click Add mount point button.

MANUAL PARTITIONING			CENTOS LINUX 7 INSTALLATION
▼ New CentOS Linux 7 Inst SYSTEM /boot sda1	200 MiB	cl-root Mount Point: /	Device(s):
/ IPCR-root swap IPCR-swap	ADD A NEW M More custom after creating	OUNT POINT ization options are available 1 the mount point below.	Modify
	Mount Point: Desired Capacity:	[/var/REC] ▼	Volume Group IPCR (4096 kiB free) ▼ Modify
+ - C		Label:	Name:
AVAILABLE SPACE 441.8 GiB 500 GiB			Reset All

• When the **Desired Capacity** is mounted in a blank space, it is automatically allocated.

23. Click File System: to select ext4.

MANUAL PARTITIONING		CENTOS LINUX 7 INSTALLATION
▼ New CentOS Linux 7 Installation DATA	IPCR-var_REC	
/var/REC 441.8 GiB	Mount Point: /var/REC	Device(s):
SYSTEM /boot 200 Mi sdal	Desired Capacity: 441.8 GiB	Modify
/ 50 Gi IPCR-root swap 8192 Mi	B Device Type: B LVM T Factor	
IPCR-swap	File System: ext4  V Reformat	Modify
+ - C	Label:	Name: var_REC
AVAILABLE SPACETOTAL SPACE992.5 KiB500 GiB		
<u>1 storage device selected</u>		Reset All

24. And then, click **Done** button.

			CENTOS LINUX 7 INSTALLATION
New CentOS Linux 7     DATA     /var/REC     IPCE.var.REC	7 Installation 441.8 GiB >	IPCR-var_REC	Device (s):
SYSTEM /boot sdal	200 MiB	Desired Capacity:	VMware Virtual disk (sda) Modify
/ IPCR-root SWap IPCR-swap	50 GiB 8192 MiB	Device Type:	Volume Group
		ext4  Reformat Label:	Name:
+     -     C <sup>2</sup> AVAILABLE SPACE     TOTAL SP       992.5 KiB     500 C	PACE GIB		var_REC
<u>1 storage device selected</u>	_		Reset All

25. Click Begin Installation button.



26. In the USER SETTINGS field , click ROOT PASSWORD then set the password.



27. When the installation is complete, click **Reboot** button.

CentOS	CONFIGU	ration TINGS			CENTOS LINUX	7 INSTALLATION Help!
	G	ROOT PASSWORD Root password is set		-	USER CREA <sup>*</sup> No user will	FION be created
	Complete!					
			CentOS Lin	ux is now suc	cessfully installed ar Go ahead and	nd ready for you to use! reboot to start using it! Reboot
	🛆 Use of th	is product is subject to the li	cense agreen	nent found at	/usr/share/centos-re	elease/EULA

**28.** To set network configuration, refer to section 2.3 To set network configuration to static for details.

# 2.2.2 Download CentOS 6.9 32 bit and Manual Install

iPECS IPCR can support RedHat and CentOS 6.9 32 bit Linux. Linux OS can be downloading from the centos web site <u>http://www.centos.org</u>.

1. Select 'Install or upgrade an existing system' and press Enter key.



2. Skip Media Test by clicking Skip button.



3. Select Language to use when installing then click **Next** button.

What language would you like to use during the installation process?	
Bulgarian (Български)	
Catalan (Català)	
Chinese(Simplified) (中文(简体))	
Chinese(Traditional) (中文(正體 ))	=
Croatian (Hrvatski)	
Czech (Čeština)	
Danish (Dansk)	
Dutch (Nederlands)	
English (English)	
Estonian (eesti keel)	
Finnish (suomi)	
French (Français)	
German (Deutsch)	
Greek (Ελληνικά)	
Gujarati (ગુજરાતી)	
Hebrew (עברית)	
Hindi (हिन्दी)	
	Back Next

4. Select the language for the system and click **Next** button.

Select the appropriate keyboard for the system.		
Portuguese		^
Romanian		
Russian		
Serbian		
Serbian (latin)		
Slovak (qwerty)		
Slovenian		
Spanish		
Swedish		
Swiss French		
Swiss French (latin1)		
Swiss German		
Swiss German (latin1)		
Turkish		
U.S. English		=
U.S. International		
Ukrainian		
United Kingdom		~
	ack 📑	Next
5. Click to select 'Basic Storage Devices'. By default select 'Basic Storage Devices' then click Next button.

at type of devices will your installation involve?	
Basic Storage Devices Installs or upgrades to typical types of storage devices. If you're not sure which option is right for you, this is probably it.	
Specialized Storage Devices Installs or upgrades to enterprise devices such as Storage Area Networks (SANs). This option will allow you to add FCoE / ISCSI / zFCP disks and to filter out devices the installer should ignore.	
e Back	Next

6. Set Hostname. On the user PC network enter the Hostname then click **Next** button to continue.

Please name this computer. The hostname identifies the computer on a network.		
Hostname: localhost.localdomain		
Configure Network		
	Back	Next

• As shown in the figure above, *localhost.localdomain* is set on the default Hostname section. This process can be omitted.

- Please select the nearest city in your time zone:

  Image: Control of the image: Control of
- 7. Set the Time Zone. Select the user time zone then click **Next** button.

8. Set the Root password. Set the Password and then click Next button.

The root acc the system. user.	ount is used for administering Enter a password for the root		
Root Password: 🚥			
Confirm: ••			
		Back	Next

- Note that the default password is not set. We recommend that you set the strong and complicated password to strengthen the security.
- If you don't set password or you set a weak password, you might be a target to hacking. If you DO NOT SET PASSWORD, you cannot proceed to the next step.

9. Set the Partition. You must select Create Custom Layout then click Next button.

Which typ	e of installation would you like?
0	Use All Space Removes all partitions on the selected device(s). This includes partitions created by other operating systems.
	Tip: This option will remove data from the selected device(s). Make sure you have backups.
0	Replace Existing Linux System(s) Removes only Linux partitions (created from a previous Linux installation). This does not remove other partitions you may have on your storage device(s) (such as VFAT or FAT32).
	Tip: This option will remove data from the selected device(s). Make sure you have backups.
0	Shrink Current System Shrinks existing partitions to create free space for the default layout.
0	Use Free Space Retains your current data and partitions and uses only the unpartitioned space on the selected device (s), assuming you have enough free space available.
• ?	Create Custom Layout Manually create your own custom layout on the selected device(s) using our partitioning tool.
Encryp	t system
Review	and modify partitioning layout
	Back N

- **10.** Create a Standard Partition in the /boot section. Follow the sequence below on how to generate partition.
  - a. Click **Create** button to create Standard Partition in /boot section then click **Create** button in the popup window.

Please Select A Device						
Device	Size (MB)	M Create Storage				
∀ Hard Drives		Standard Partition				
✓ sda (/dev/sda)		General purpose partition creation				
		RAID Partition     Create a RAID formated partition     RAID Device     Requires at least 2 free RAID formated partitions     Create LVM Information     LVM Volume Group     Requires at least 1 free LVM formated partition				
		C LVM Logical volume Create a logical volume on selected volume group LVM Physical Volume Create an LVM formated partition Cancel Create				
		Create Edit Delete Reset	-			
		Back Ne:	xt			

**b.** Then select the size of the /boot section then click **OK** button in the popup window.

		Add Partition		
	Mount Point:	/boot	~	
Device	File System Type:	ext4	0	
Hard Drives ✓ sda (/dev/sda) Free	Allowable Drives:	O   Drive   Size   Model ☑ sda 952320 MB VMware Virtual disk		
	Size (MB): -Additional Size O Fixed size Fill all space u	200 ptions		
	<ul> <li>Fill to maximu</li> <li>Force to be a p</li> <li>Encrypt</li> </ul>	m allowable size		
		Cancel	lete	Res

**c.** Click **Create** button to change all the remaining storage to LVM Physical Volume then click **Create** button in the popup window.

Please Select A Device						
Device	Size I (MB) I	Create Storage				
<ul> <li>✓ Hard Drives</li> <li>✓ sda (/dev/sda)</li> </ul>		Create Partition O Standard Partition General purpose partition creation Create Addition				
sdal Free	200 / 952119	Create Soliware RAID Information  RAID Partition Create a RAID formated partition O RAID Device Requires at least 2 free RAID formated partitions				
		Create LVM Information O LVM Volume Group Requires at least 1 free LVM formated partition O LVM Logical Volume				
		Electric displaced columne on activities group     EVM Physical Volume     Create an LVM formated partition     Cancel     Create				
		Create Edit Delete Reset				
		Back Next				

**d.** Set system type to be 'Physical Volume (LVM)' then select Fill to Maximum allowable size then click **OK** button in the popup window.

		Add Partition		
	Mount Point:	<not applicable=""></not>		
Device	-ile System Type:	physical volume (LVM)	0	
<ul> <li>✓ Hard Drives</li> <li>✓ sda (/dev/sda)</li> <li>sda1</li> <li>Free</li> </ul>	Allowable Drives:	<ul> <li>○ Drive Size</li> <li>Model</li> <li>✓ sda 952320 MB</li> <li>VMware Virtual disk</li> </ul>		
	Size (MB):	200	÷	
	Additional Size O Fixed size Fill all space u	ptions p to (MB):		
	Fill to maximum	m allowable size		
	<ul> <li>Force to be a p</li> <li>Encrypt</li> </ul>	rimary partition		
	-	Cancel OK		Reset
			de Ba	ack Next

e. Click **Create** button to select LVM Volume Group then click **Create** button in the popup window.

Please Select A Device						
Device	Size M (MB) R	Create Storage				
<ul> <li>✓ Hard Drives</li> <li>✓ sda (/dev/sda)</li> </ul>		Standard Partition     General purpose partition creation				
sda1	200 /k	Create Software RAID Information				
sda2	952119	KAID Partition     Create a RAID formated partition     RAID Device     Requires at least 2 free RAID formated partitions Create LVM     Information				
		LVM Volume Group      Requires at least 1 fee toth formated partition      LVM Logical Volume      Create a logical volume on selected volume group      LVM Physical Volume      Create an LVM formated partition      Cancel      Create				
		Create Edit Delete Reset				
		Back Next				

f. Create Logic Volume under LVM Volume Group as shown below then click **OK** button in the popup window.

	[	Make	LVM V	/olume Group	-		
	Volume Group	Name:	IPCR				
Device	Physical Exten	t: (	4 MB			\$	
➡ Hard Drives		[	🖌 sd	a2 952116.0	00 MB		
✓ sda (/dev/sd     sda1	Physical Volum	Mak	ce Logi	ical Volume			
sda2		Mount Point:	/		~		
	Used Space:	File System Type:	e	ext4	\$		
	Reserved Space Free Space:	Logical Volume Na	ame: [r	oot			
	Total Space:	Size (MB):	5	50000			
		Encrypt	(N	Max size is 9521	16 MB)	_	
	Logical Volu		(	Cancel	ок	Add	
						Edit	
						Delete	
							Pecet
					Cancel	ОК	Reset
						de Back	Next

**g.** For the Swap size, assign double the size of the PC capacity as shown below then click **OK** button in the popup window.

		Make I	VM Volume Group	
	Volume Group	Name: I	PCR	
Device	Physical Extent	: 4	4 MB	•
∀ Hard Drives		6	✓ sda2 952116.00 MB	
✓ sda (/dev/sd     sda1	Physical Volum	Make	e Logical Volume	
sda2		Mount Point:	<not applicable=""> 🗸</not>	
	Used Space:	File System Type:	swap 🗘	
	Reserved Space Free Space:	Logical Volume Nar	me: swap	
	Total Space:	Size (MB):	8192	
	Logical volu	Encrypt	(Max size is 902116 MB)	
	Logical Volu		Cancel OK	Add
	1000			Edit
				Delete
				Beset
			Cancel	OK Reset
				Back Next

**h.** For /var/REC size assign the remaining PC memory capacity as shown below then click **OK** button in the popup window.

Device ⊽ Hard Drives ⊽ sda (/dev/so	Volume Group Physical Exten	Make L Name: [] t: 2 Make	VM Volume Group PCR 4 MB 2 sda2 952116.00 MB 2 Logical Volume		
sda1 sda2	Used Space: Reserved Space Free Space: Total Space: Logical Volu Logical Volu root swap	Mount Point: File System Type: Logical Volume Nan Size (MB): D Encrypt N/A	/var/REC ✓ ext4 ≎ REC 893924 (Max size is 893924 MB) Cancel OK 8192	Add Edit Delete	
	_		Cancel	OK	Reset

i. If the above was executed successfully you can view the information as shown below then click **OK** button in the popup window.

	Mak	e LVM Volume Group		
	Volume Group Name:	IPCR		
Device	Physical Extent:	4 MB	•	
➡ Hard Drives ➡ sda (/dev/sd sda1 sda2	Physical Volumes to Use:	☑ sda2 952116.00 MB		
	Used Space: Reserved Space: Free Space: Total Space: Logical Volumes	952116.00 MB (100.0 %) 0.00 MB (0.0 %) 952116.00 MB		
	Logical Volume Name Moun	t Point Size (MB)		
	REC /var/F	REC 893924	Add	
	root / swap N/A	50000 8192	Delete	
		Cancel	ок	Reset
			<b>a</b> ck	Next

**11.** From the figure below you can Confirm the information assign to all IPCR (LVM Volume Groups and Hard Drive) then click **Next** button.

Please Select A Device					
Device	Size (MB)	Mount Point/ RAID/Volume	Туре	Format	
✓ LVM Volume Groups					
✓ IPCR	952116				
REC	893924	/var/REC	ext4	$\checkmark$	
root	50000	/	ext4	$\checkmark$	
swap	8192		swap	$\checkmark$	
Hard Drives					
▼ sda (/dev/sda)					
sda1	200	/boot	ext4	$\checkmark$	
sda2	952119	IPCR	physical volume (LVM)	$\checkmark$	
			Create	Edit Delete Res	set
				🔶 Back	Next

12. Hard disk (Format). You will need to format hard disk before setting any partition. Click Write changes to disk or format button in the popup window to confirm

Please Select A Device	
Device Size Mount Point/ (MB) RAID/Volume Type Format	
Writing storage configuration to disk         Image: A configuration to disk	
Create Edit	Delete Reset
	Back Next

13. Confirm the disk format then click **Next** button.

<ul> <li>Install boot loader on /dev/sda. Change device</li> <li>Use a boot loader password Change password</li> </ul>	
Default Label Device	Add
<ul> <li>CentOS 6 /dev/mapper/IPCR-root</li> </ul>	Edit
	👍 Back 📄 Nex

14. Installing OS. It is recommended to select Web Server as the Linux OS Type. Then click **Next** button.

different set of software now.	
O Desktop	
O Minimal Desktop	
O Minimal	
O Basic Server	=
O Database Server	_
Web Server	
O VIRTUAL HOST	
Coffware Development Workstation	
Please select any additional repositories that you want to use for software installation.	
CentOS	
Add additional software repositories	
You can further customize the software selection now, or after install via the software management application.	
O Customize later	
Back	Next

- **15.** Selecting application. To install IPCR successfully the following features has to be selected. On the selection screen, click the content in left side and you can see more detail on the right side. Use the scroll bar to select the sub-item.
  - **a.** Click **Base System** then select detailed item on the right side. Follow the selection sequence is as shown below.



**b.** Click **Databases** on the left side and select detailed item PostgreSQL Databases client on the right side, then select by clicking **Optional packages** button.

Applications	📮 🗆 MySQL Database client
Base System	🕒 🗆 MySQL Database server
Databases	🕒 🗹 PostgreSQL Database client
Desktops Development High Availability Languages Load Balancer Resilient Storage Servers	☑ PostgreSQL Database server
The PostgreSQL SQL database client, an	id associated packages. Optional packages selected: 3 of 7 Optional packages

c. Select the needed option under PostgreSQL Databases client then click **Close** button in the popup window.

pplic	ations 🖉 🗍 MySQL Database client
ase	Packages in PostgreSQL Database client
ata	Some packages associated with this group are not
esk	required to be installed but may provide
eve	additional functionality. Please choose the
igh	packages which you would like to have installed.
ang	PyGreSQL-3.8.1-2.el6.i686 - A Python client library for PostgreSQL
oad	✓ libdbi-dbd-pgsql-0.8.3-5.1.el6.i686 - PostgreSQL plugin for libdbi
esil	perl-DBD-Pg-2.15.1-4.el6_3.i686 - A PostgreSQL interface for perl
erve	postgresql-jdbc-8.4.704-2.el6.noarch - JDBC driver for PostgreSQL
-	✓ postgresql-odbc-08.04.0200-1.el6.i686 - PostgreSQL ODBC driver
	✓ python-psycopg2-2.0.14-2.el6.i686 - A PostgreSQL database adapter for Pyt
Ē	tcl-pgtcl-1.6.2-3.el6.i686 - A Tcl client library for PostgreSQL
	Close

d. Still under Databases select PostgreSQL Databases server and select by click **Optional packages** button.

Applications	□ □ MvSOL Database client
Base System	MvSOL Database server
Databases	PostgreSQL Database client
Desktops	🕒 🗹 PostgreSQL Database server
Development	
High Availability	
Languages	
Load Balancer	
Resilient Storage	
Servers	
The PostgreSQL SQL database server, and	associated packages.
	Optional packages selected: 1 of 7
	Optional packages

e. Select the needed option under PostgreSQL Databases server then click **Close** button in the popup window.

pplic	ations	
ase	Packages in PostgreSQL Database server	L
esk eve igh	Some packages associated with this group are not required to be installed but may provide additional functionality. Please choose the packages which you would like to have installed.	r :r
ang	✓ postgresql-contrib-8.4.20-7.el6.i686 - Contributed modules distributed with	
bad	▼ postgresgl-docs-8.4.20-7.el6.i686 - Extra documentation for PostgreSQL	
esil	postgresql-plperl-8.4.20-7.el6.i686 - The Perl procedural language for Postgr	
erve	<b>postgresql-plpython-8.4.20-7.el6.i686</b> - The Python procedural language for	
•	<b>postgresql-pitcl-8.4.20-7.el6.i686</b> - The Tcl procedural language for PostgreS(	
_	postgresgl-test-8.4.20-7.el6.i686 - The test suite distributed with PostgreSQL	
	<ul> <li>( )</li> </ul>	
-	Close	

f. Select **Development** and chose detail items on the right side. Follow the selection sequence is as shown below.

Applications	<ul> <li>✓ Additional Development</li> </ul>
Base System	I Desktop Platform Development
Databases	I Development tools
Desktops	🐚 🗆 Eclipse
Development	⊲ Server Platform Development
High Availability	
Languages	
Load Balancer	
Resilient Storage	
Servers	
Additional development headers and libra	aries for developing applications
	Optional packages selected: 40 of 110
	Optional packages
	Back Ne

**g.** Select **Web Services** and chose PHP Support item on the right side then select by clicking **Optional packages** button.



h. Select more option for PHP Support then click **Close** button in the popup window.

ktops	PHP Support
e	Packages in PHP Support
h Some packages asso required to be instal additional functional packages which you	ociated with this group are not led but may provide ity. Please choose the would like to have installed.
✓ php-gd-5.3.3-4	19.el6.i686 - A module for PHP applications for using the gd g
php-Idap-5.3.3	3-49.el6.i686 - A module for PHP applications that use LDAP
php-mysql-5.3	<b>.3-49.el6.i686</b> - A module for PHP applications that use MySQ
php-odbc-5.3.3	3-49.el6.i686 - A module for PHP applications that use ODBC
php-pdo-5.3.3	-49.el6.i686 - A database access abstraction module for PHP a
✓ php-pear-1.9.4	1-5.el6.noarch - PHP Extension and Application Repository fra
php-pecl-apc-3	3.1.9-2.el6.i686 - APC caches and optimizes PHP intermediate
php-pecl-mem	cache-3.0.5-4.el6.i686 - Extension to work with the Memcacl
✓ php-pgsql-5.3.	.3-49.el6.i686 - A PostgreSQL database module for PHP
php-soap-5.3.3	3-49.el6.i686 - A module for PHP applications that use the SO/
<	
	Close

i. Use scroll bar then select needed options then click **Close** button in the popup window.

sktops		newo
ve	Packages in PHP Support	
Some packages asso	ociated with this group are not	
ng required to be instal	lled but may provide	
additional functional	lity. Please choose the	
sil		
ve 🗆 php-mysql-5.3	<b>3.3-49.el6.i686</b> - A module for PHP applications that use MySQ	
te php-odbc-5.3.3	3-49.el6.i686 - A module for PHP applications that use ODBC d	
D php-pdo-5.3.3	-49.el6.i686 - A database access abstraction module for PHP a	
✓ php-pear-1.9.4	4-5.el6.noarch - PHP Extension and Application Repository fra	
php-pecl-apc-3	3.1.9-2.el6.i686 - APC caches and optimizes PHP intermediate	
php-pecl-mem	cache-3.0.5-4.el6.i686 - Extension to work with the Memcacl	
F 🗹 php-pgsql-5.3.	.3-49.el6.i686 - A PostgreSQL database module for PHP	
php-soap-5.3.3	3-49.el6.i686 - A module for PHP applications that use the SO/	
✓ php-xml-5.3.3-	-49.el6.i686 - A module for PHP applications which use XML	
✓ php-xmlrpc-5.	.3.3-49.el6.i686 - A module for PHP applications which use the	
3		
	Close	

**j.** Select **Web Services** on the left side and select Web Server on the right side. Select by clicking **Optional packages** button.

Desktops Development High Availability Languages Load Balancer Resilient Storage Servers System Management Virtualization	<ul> <li>♥ PHP Support</li> <li>♥ TurboGears application framework</li> <li>♥ Web Server</li> <li>♥ Web Servlet Engine</li> </ul>
Web Services Allows the system to act as a w	veb server, and run Perl and Python web applications.
	Optional packages selected: 6 of 24 Optional packages

**k.** Select needed options in Web Server.

Deskt	ops	
Deve	Packages in Web Server	newo
High Lang Load	Some packages associated with this group are not required to be installed but may provide additional functionality. Please choose the packages which you would like to have installed.	
Kesii	certmonger-0.77.5-4.el6.i686 - Certificate status monitor and PKI enrollmen	
Serve	✓ crypto-utils-2.4.1-24.3.el6.i686 - SSL certificate and key management utilit	
Syste	✓ httpd-manual-2.2.15-59.el6.centos.noarch - Documentation for the Apach	
Virtu	libmemcached-0.31-1.1.el6.i686 - Client library and command line tools for	
Web	memcached-1.4.4-5.el6.i686 - High Performance, Distributed Memory Objer	
	<b>mod_auth_kerb-5.4-14.el6.i686</b> - Kerberos authentication module for HTTP	
A	<b>mod_auth_mellon-0.8.0-4.el6.i686</b> - A SAML 2.0 authentication module for 1	
	<b>mod_auth_mysql-3.0.0-11.el6_0.1.i686</b> - Basic authentication for the Apach	
	mod_auth_pgsql-2.0.3-10.1.el6.i686 - Basic authentication for the Apache F	
4	mod_authnz_pam-0.9.2-1.el6.i686 - PAM authorization checker and PAM Ba	
-	Close	

I. Use the scroll bar and select the needed options then click **Close** button in the popup window.

sktops	
·	Packages in Web Server
Some packages ass	ociated with this group are not
required to be instal	led but may provide
additional functional	ity. Please choose the
packages which you	would like to have installed.
✓ mod peri-2.0.4	1-11.el6 5.i686 - An embedded Perl interpreter for the Apach
□ mod revocato	r-1.0.3-11.el6.i686 - CRL retrieval module for the Apache HTT
✓ mod ssl-2.2.1	5-59 el6 centos i686 - SSI/TI S module for the Anache HTTP S
✓ mod_ssr 2:2:1	7 el6 i686 - A WSGL interface for Bython web applications in A
nod_wsgr=5.2	144 olf i686 - Handle Common Gateway Interface requests an
	an 4.35 6 als noorab. Descistant session data in CCI applica
peri-coi-sessi	man about 1 20 2 als name by Dath client for many about
perl-Cache-Me	mcached-1.28-2.el6.noarch - Peri client for memcached
python-memca	ached-1.43-6.el6.noarch - A Python memcached client librar
squid-3.1.23-2	4.el6.i686 - The Squid proxy caching server
✓ webalizer-2.21	L_02-3.3.el6.i686 - A flexible Web server log file analysis prog
<	
	Close

m. After selecting all the needed options in Web Services then click Next button.



**16.** If the installation was successful window as shown below will be displayed. To use the system click **Reboot** button.



17. Login to terminal with the root Identification.



**18.** To set network configuration, refer to section 2.3 To set network configuration to static for details.

# 2.2.3 iPECS IPCR application program Installation

Follow the process below to install the iPECS IPCR application program.

1. Login to terminal with the root Identification.

[root@localhost ~]# su root Password

- # su root Change to root identification
- Password Input the password
- 2. Download the Install file (install\_ipcr.tar.gz) to the /root folder in the server. Locate the folder with the file and copy to the /root folder.

[root@localhost ~]# cd 'located folder'
[root@localhost ~]# cp install\_ipcr.tar.gz /root

- # cd 'located folder' Change directory to the folder with the file
- # cp install\_ipcr.tar.gz /root Copy the install\_ipcr.tar.gz file to /root
- 3. In the /root folder, extract the file.

[root@localhost ~]# tar xvfzp install\_ipcr.tar.gz -C /

4. Check the install.sh permission.

[root@localhost ~]# ls -al install.sh

- The server response should appear similar to below indicating the insall.sh is available.
- -rwxrwxrwx 1 root root 1388 2010-07-21 09:01 install.sh
- 5. Install the iPECS IPCR application with the 'install.sh' command.

[root@localhost ~]# ./install.sh

Note that If it is failed and cannot create directory error, you can delete the folder use the following command to delete the folder: <u>rm -rf /usr/furence /usr/local/tomcat7 /var/REC/\*</u> And repeat step 3 to install it again.

6. After Installation is complete, the server will reboot.

The system is going down for reboot NOW!

- 7. After the reboot, the server *LXprocess* will start the iPECS IPCR application process.
- 8. Check the iPECS IPCR application status with the below command.
  - a. Rec process check.

#### [root@localhost ~]# ps -ef | grep Rec

• Normal case: The server should return the message with the PID

root	2460	1	2	17 <b>:</b> 48	?	00:01:32 ./Rec_Signal.exe
root	2520	1	4	17:48	?	00:02:32 ./RecSee_RTP.exe
root	23589	3046	0	18:51	pts/0	00:00:00 grep Rec

• Abnormal case: Note a single line response as below is abnormal.

root 9519 9484 0 13:48 pts/1 00:00:00 grep Rec

**b.** RV process check.

	root@localhost ~]# ps -ef	grep RV
•	Normal case: The server should	I return the message with the PID

root	2628	1	0 17:48	?	00:00:15	./RVModule
root	24784	3046	0 18:55	pts/0	00:00:0	0 grep RV

• Abnormal case: Note a single line response as below is abnormal.

```
root 9519 9484 0 13:48 pts/1 00:00:00 grep RV
```

**c.** DBGw process check.

```
[root@localhost ~]# ps -ef | grep DBGw
```

• Normal case: The server should return the message with the PID

root	2628	1 (	) 17:48	?	00:00:15 ./DBGw.exe
root	24784	3046	0 18:55	pts/0	00:00:00 grep DBGw

• Abnormal case: Note a single line response as below is abnormal.

root 9519 9484 0 13:48 pts/1 00:00:00 grep DBGw

- 9. If the iPECS IPCR application is not running.
  - a. Execute the LXprocess start command to start the LXprocess.

[root@localhost	~]#	cd /usr/furence/IPCR3.0/exe/LXprocess	
[root@localhost	~]#	./LXP_START.sh	
[root@localhost	~]#	ps -ef   grep LX	

- # cd /usr/furence/IPCR3.0/exe/LXprocess Change directory to the folder with the LXprocess executable file.
- # ./LXP\_START.sh Command to start the LXprocess.
- # .ps -ef | grep LX Command to check the status of LXprocess
- **b.** LXprocess is running, the server should return the message with the PID. After then the IPCR application will restart automatically.

```
root 27963 1 0 19:04 pts/0 00:00:02 ./LXprocess
root 29734 3046 0 19:10 pts/0 00:00:00 grep LX
```

- 10. If LXprocess is running but the iPECS IPCR application is not properly executed.
  - a. Verify the permission to run the iPECS IPCR application.

[root@localhost ~]# cd /usr/furence/IPCR3.0/exe

[root@localhost ~]# chmod 755 backup DBGw.exe FTPTransfer MIG.exe Rec\* RVModule

- # Is -al Command to determine the iPECS IPCR application status.
- # chmod 755 backup DBGw.exe FTPTransfer MIG.exe Rec\* RVModule Change the

permission to execute IPCR application.

- The server response should appear indicating the IPCR application is available.
- -rwxr-xr-x 1 root root 3184807 2010-09-08 17:17 'Process Name'
- \* Process Name : backup, DBGw.exe, FTPTransfer, MIG.exe, RecSee\_RTP, Rec\_Signal, RVModule
- **b.** After then the iPECS IPCR application will restart automatically.

# 2.3 **To set network configuration to static**

This section guides you on how to set up an IPCR server with a static IP. Look at the manual for Centos version 7.3 or 6.9 and set it.

#### 2.3.1 **To set network configuration to static in centos7.3 64bit**

The IPCR server only supports the network interface name of eth0.

1. Edit file /etc/default/grub through Terminal in IPCR server to set Network device name.

# vi /etc/default/grub

2. Add net.ifnames=0 biosdevname=0 to line GRUB\_CMDLINE\_LINUX.

```
GRUB_TIMEOUT=5
GRUB_DISTRIBUTOR="$(sed 's, release .*$,,g' /etc/system-release)"
GRUB_DISABLE_SUBMENU=true
GRUB_TERMINAL_OUTPUT="console"
GRUB_CMDLINE_LINUX="crashkernel=auto rd.lvm.lv=IPCR/root rd.lvm.lv=IPCR/swap rhgb quiet
GRUB_DISABLE_RECOVERY="true"
```

3. Execute a command through Terminal in IPCR server to set Network device name.

# grub2-mkconfig -o /boot/grub2/grub.cfg

4. Edit ifcfg file name.

# mv /etc/sysconfig/network-scripts/ifcfg-network\_interface\_name /etc/sysconfig/network-scripts/ifcfg-eth0

5. Edit NAME, DEVICE parameters and IP address in ifcfg file to new Network Interface name.

# vi /etc/sysconfig/network-scripts/ifcfg-eth0

6. You can see the setting picture like this.



- 7. Modify IPADDR, NETMASK, and GATEWAY information according to the network environment you want to use.
- 8. Set BOOTPROTO to static to assign to static IP.
- 9. The HWADDR information should be annotated.
- **10.** Execute a well command to save the file.
- 11. Reboot the server.

## 2.3.2 To set network configuration to static in CentOS 6.9 32bit

1. Execute the **setup** command to begin the configuration.



3. Select the Device configuration.

Select Action Device configuration Disconfiguration Disconfiguration Quit Quit
<tab>/<alt-tab> between elements ; <space> selects ; <f12> next screen</f12></space></alt-tab></tab>

4. Select the 'eth0 (eth0) – Advanced Micro Devices, ~'.

	Select A Device	
	[ ] eth0 (eth0) - UMware UMXNET3 Ethernet Controller	
	Save Cancel Activate Deactivate Delete	
<tab>/<alt-tab> betwee</alt-tab></tab>	en elements ; (Space) selects ; (F12) next screen	

5. Fill the **Network configuration** then click **OK** button.

	Network Config	uration	
	Name Device Use DHCP Static IP Netmask Default gateway IP Primary DNS Server Secondary DNS Server Peer DNS On boot Controlled by NetworkManager	eth0 eth0 192.168.119.119 255.255.255.0 192.168.119.254 8.8.8.8 [*] [*] [*] Cancel	
<tab>∕<alt-tab> betwe</alt-tab></tab>	en elements ¦ <space> seled</space>	cts   <f12> next scree</f12>	n

6. Click **Save** button to save the configuration.

Select A Device	
[] eth0 (eth0) - UMware UMXNET3 Ethernet Controller	
<new device=""></new>	
Cancel Activate Delete	
<tab>/<alt-tab> between elements → <space> selects → <f12> next screen</f12></space></alt-tab></tab>	

7. Click Save&Quit button.

Select Action  Device configuration  DNS configuration  Save&Quit  Quit	

8. Click Quit button.

Text Mode Setup Utility 1.19.9	(c) 1999-2006 Red Hat, Inc.
	Choose a Tool
	Authentication configuration Firewall configuration Network configuration System services Run Tool
<tab>/<alt-tab> between elem</alt-tab></tab>	ents   Use <enter> to edit a selection</enter>

9. Restart the network service.



# 2.4 Executing IPCR Process

The IPCR process can be executed in the following ways.

- 1. Login to the terminal with the root account.
- 2. First execute LXprocess.

[root@localhost ~]# cd /usr/furence/IPCR3.0/exe/LXprocess
[root@localhost ~]# ./LXP\_START.sh

- # cd /usr/furence/IPCR3.0/exe/LXprocess Move to the path where the LXprocess executable file is located.
- # ./LXP\_START Run script file to drive LXprocess.
- 3. IPCRs automatically execute in a short time when LXprocess is executed.

# 2.5 **Terminate IPCR Process**

- 1. Login to the terminal with the root account.
- 2. Close LXprocess first.

```
[root@localhost ~]# cd /usr/furence/IPCR3.0/exe/LXprocess
[root@localhost ~]# ./LXP_STOP.sh
```

- # cd /usr/furence/IPCR3.0/exe/LXprocess Move to the path where the LXprocess executable file is located.
- # ./LXP\_STOP.sh Execute script file ending LXprocess.
- 3. Stop the IPCR engine

```
[root@localhost ~]# cd /usr/furence/IPCR3.0/exe
[root@localhost ~]# ./REC_STOP.sh
```

- # cd /usr/furence/IPCR3.0/exe Move to the path where the IPCR executable file is located.
- t# ./REC\_STOP.sh Run a script file that terminates the IPCR process.

Chapter 3.

# **iPECS System Configuration**

Prior to starting the iPECS IPCR server, it is recommended that the iPECS system platform be configured. Configuration of the iPECS system for operation with iPECS IPCR server follow the procedure for each system described in the below section.

- How to set up the iPECS UCP/eMG system, refer to section 3.1 iPECS UCP/eMG.
- · How to set up the iPECS CM system, refer to section 3.2 iPECS CM .

#### 3.1 **iPECS UCP/eMG**

This section describes how to set up the iPECS UCP/eMG to enable iPECS IPCR.

#### 3.1.1 Unlock up to number of iPECS IPCR server and Agent ID

Unlock (license) codes for the iPECS UCP permit operation with up to ten (10) Call recording servers simultaneously.

In addition, the codes define the number of iPECS IPCR servers, recording Agents available and SIP Phone. iPECS IPCR server needs at least one (1) copy, and SIP phone unlocks key needs only one (1) copy for an iPECS IPCR.

In the iPECS UCP web admin page:

- Click the 'System Management' tab.
- Click License Management to select sub menu.
- Click License Upload. The upload the Key code provided from your local Ericsson-LG Enterprise representative.
- And then click **Start** ( O Start ) button.

S/W Upgrade	< System Informa License Upload	
Database	Select a License File and Wait for Uploading to end!!	
Multi Language	Some boards may be restarted after uploading license file.	
SMDR		
File System	+ Select File	
License Management ~	ELGE_201406170920.dat 10.43 MB	set
License Upload	15	
Gateway License		
Temp License Activation		
DECT Statistics Feature		

# 3.1.2 iPECS IPCR Server MAC Address

The iPECS IPCR server can be registered with the iPECS host either employing the automatic registration method (Dipswitch 3 set to 'On') or using the MAC address registration.

For MAC address registration, assign the MAC address and number of Agents for the iPECS IPCR server in the Registration Table (PGM 235).

PCM Date       Facetor PCM       Registration Toble(235)       X         Q       PGM J Ambude Search       Q         System D & Numbering Plans       Index       MAC Address       Device D         Station Data       0       0       0         Board Data       0       0       0       0         System Data       0       0       0       0       0         Station Group Data       0	turgende turgest
Normalization         Normalization           System ID & Numbering Plans         Index         Maximum Port         Device ID           Station Data         0         0         0         0           Baard Based Data         0         0         0         0         0           CO Line Data         0	×
System ID & Numbering Plans         Index         MAC Address         Device ID           Station Data         0	Save
Station Data         1         00000000000         0         0           Board Based Data         3         00000000000         0         0         0           CO Line Data         5         0000000000         0         0         0         0           System Data         5         00000000000         0 <td< th=""><th></th></td<>	
Baard Based Data         3         00000000000         0         0           CO Line Data         4         0000000000         0         0         0           System Data         5         0000000000         0         0         0         0           System Data         5         0000000000         0<	
CO Line Data         4         0000000000         0         0           System Data         5         0000000000         6         0           Station Group Data         15DN Line Data         5         5         5           Size Data         5         00000000000         0         0         0           Size Data         5         0000000000         0         0         0	
System Data Sistem Group Data Sistem Group Data SiSDN Line Data SiP Data Tables Data	
Station Group Data ISDN Line Data SP Data Tables Data	
ISDN Line Data SIP Data Tables Data	
SIP Data Tebis Data	
Teblos Data	
Tables Data	
< LCR Control Attribute(220)	
LCR.LDT(221)	
LCR DWT(222)	
Lick table instantiation(223) Died Constraints Table/270.	
Liga Contension Table 2/201 ToE Function Table 2/201	
Temconary Code Table(20)	
COS Table	
Station Authorization Code Table(227)	
System Authorization Code Table227	
CCR Table(228)	
Executive/Secretary(229)	
Flexible DID Conversion(231)	
System Speed Zane(232)	
Auto Ring Mode Table(233)	
Voice Mail Dialing Table(234)	
Registration Table(235)	

#### 3.1.3 Station User Login

After the iPECS IPCR server registers with the iPECS host using either the MAC or automatic registration method, the iPECS IPCR server will login for service.

The iPECS IPCR server will send the SIP ID and password to the iPECS system. The iPECS system will then populate the Station User Login (PGM 443) with the received credentials and assign the next available station number to the iPECS IPCR server.

PGM Base Function Base	<		Favorite PGM			Station User L	ogin(443	0					
<b>k</b> 443	0 En	ter Index	Range (1 - 2400) Det	ault : 1-100				Load					
System Data	Ind	ex Range	2										
					ID / Desir	ed Number Save							
Web Access Authorization	E	inter Inde	K Range :										
		tart Static	n Number :										
Device Login	×	ave Pass	word (same with ID val	lue) : 🗐									
Station User Login(443)						ID Save							
Initialization	- 6	Index	Registered Number	Device Type	ID	Password	Zone	Desired Number	Nation Code	Language	Linked	Version	Remark
	- 6	2	6000	IPCR	6000	*********	1	6000	United Kingdom 🔻	English •	М	3 OAh	
Initialization(450)													

**NOTE** For PGM (443) ID and password, please enter the SIP ID and Password to be used in iPECS IPCR.

#### 3.1.4 iPECS IPCR Agent ID Table

Prior to programming the Agent Table, the iPECS IPCR server must be registered with the iPECS UCP and the iPECS IPCR server must be logged into the iPECS UCP.

In addition, the iPECS IPCR Channel registration may be configured to assign agents to channels in the iPECS IPCR server.

Each Agent is linked to an iPECS UCP object (a Station) in the iPECS IPCR Agent Table (PGM 237).

The Agent table indicates the number of agents associated with a specific iPECS IPCR server, the Agent Id, and the linked object information.

IPECS VUCP [Master]	Admine	tration Main	tenance			Change	e Language 🚺 Log C
System ID & Numbering Plans	*	Favorite PGM	IF	CR Agent Table(237)	×		
Station Data				-			
Board Based Data	Enter the num Enter the Age	nt Order (1 - 2400)	efault : 1-100		E Los	d	Save
CO Line Data	IPCR Numbe	1					
System Data	Agent Order	1-100					
Station Grown Data	IPCR Agent L	icense : 500 / Total(15	00)				
	IPCR Reduct	lancy Agent License : !	500 / Total(1500)				
ISDN Line Data	Index 1 <sup>a</sup>	Agent ID 1*	Object Type	Linked Object	Announce Number		
SIP Data	1	1200(ACR)	Station *	1200	0		
	2	1201(ACR)	Station •	1201	0		
Tables Data 🗸	3	1202(ACR)	Station *	1202	0		
100 0	4	1203(ACR)	Station +	1203	0		
LCR ( DT/221)	5	1204(ACR)	Station •	1204	0		
LCR DMT(222)	6	1205(ACR)	Station •	1205	0		
LCR Table Initialization(223)	7	1206(ACR)	Station +	1205	0		
Digit Conversion Table(270)	8	1207(ACR)	Station •	1207	0		
Toll Exception Table(224)	0	1208/4/201	Station +	1208	0		
Emergency Code Table(226)	10	1209(ACR)	Station •	1209	0		
COS Table	11	1210(ACR)	Station •	1210	0		
Station Authorization Code	12	1211(ACR)	Station +	1211	0		
Table(227) Sustain Authorization Code	13	1210/4000	Ciplian +	1010	0		
Table(227)	10	1212(ACR)	Otation +	1212	0		
CCR Table(228)	14	1233(ACR)	Station +	1213	0		
Executive/Secretary(229)	15	1214(ACR)	Station +	1214	0		
Flexible DID Conversion(231)	10	1215(ACR)	Station +	1215	0		
System Speed Zone(232)	17	1216(ACR)	Station •	1216	0		
Auto Ring Mode Table(233)	18	1217(ACR)	Station •	1217	0		
Voice Mail Dialing Table(234)	19	1218(ACR)	Station •	1218	0		
Registration Table(235)	20	1219(ACR)	Station *	1219	0		
Mobile Extension Table(236)	21	1220(ACR)	Station •	1220	0		
Brait Agont Table(237)	22	1221(ACR)	Station *	1221	0		
Elevite Rome Default Table (229)	23	1222(ACR)	Station •	1222	0		
Presat Flexible Button Default(240)	24	1223(ACR)	Station +	1223	0		
Company Name Table(241)	25	1224(ACR)	Station +	1224	0		

# 3.1.5 iPECS IPCR SIP Station Registration

The iPECS IPCR server interfaces to the iPECS UCP as a single SIP Phone. Registration between the iPECS IPCR server and UCP is automatic once both are configured.

Under the SIP Phone Attributes, the Registration Mode must be set to Manual and the SRTP Usage, and 1st and 2nd encryption mode can be configured.

The encryption algorithm can be selected as AES or, for Korea, ARIA. The remaining SIP Phone Attributes are not used for the iPECS IPCR server.

Prior to programming the Agent Table, the IPCR server must be registered with the iPECS LIK/UCP and the iPECS IPCR application must be logged into the iPECS UCP. Refer to section 6.6.2 PBX Registration for details.

The station number of the iPECS IPCR server can be verified in Station User Login (PGM 443)

after registration and login.

	P <b>ECS</b> CP2400		Ad	ministration	Maintenance							Change Language Log Out
I	PGM Base Function Bas	·· î	¢	Favorite PC	GM Registration	n Table(235)	×	IPCR Agent Ta	ble(237) ×	SIP Phone Attributes(211)	×	*
0	PGM / Attribute Search	0	Enter St	ation Range :				Load				Save
	System ID & Numbering Plans		Station I	Range 1100								
	Station Data		Order	Uncheck All	Attribute		Value		Range			
			1	2	Registering Mode	Manual 🗸	]					
	Board Based Data		2		Registration Status	Registered						
	CO Line Data		3		IP Address	192.168.14	0.113					
			4		IP Port	5060						
	System Data		5		Transport Mode	UDP						
	Station Group Data		6		System SIP Port	5060						
Ń.	IPDN Line Date		7		SIP Phone Type	IPCR	~					
	IODIN LINE Data		8		Device Register Mode	AUTO	v					
<	SIP Data	~	9	2	Registration Timer Usage	OFF V						
			10	2	Registration Timer	0			30-3600 sec			
ι.	SIP Common Attributes(210)		11	2	Keep Alive Usage	OFF ¥						
	SIP Trunk Status Overview		12	2	Retry Count	3			3-10			
	SIP CO Attributes(133)		13	8	407 Authentication	OFF 🖌						
	SIP Registration Status Overview		14	2	181 Being Forwarded	OFF ¥						
	SIP User ID Attributes(126)		15		100rel	OFF ¥						
	SIP Phone Attributes(211)		16	2	Session Timer Support	OFF V						
	SIP Phone Provisioning(212)	-	17	2	Max Session Timer	1800			180-3600 sec			
	Provisioning File View&Delete		18		Min Session Timer	90			60-150 sec			
	VMEX Station Data(215)		19	2	Within Same Firewall with UCP	ON V						
	VMEX Connection Table(216)		20	2	SRTP Usage	OFF ¥						
			21	2	1ST CRYPTO	None		~				
	Tables Data		22	2	2ND CRYPTO	None		V				
	Networking Data		23	2	DTMF Type	INFO(DTM	F RELAY)	~				
		~	24	×.	SMS TYPE	AUTO	~					

#### 3.1.6 VM Group Configuration for iPECS IPCR Server

The Station associated with each IPCR server must be assigned to an External Voice Mail Group.

The station number of the iPECS IPCR server is determined by the order of registration with the host system and the desired station number if requested in the Station User Login (PGM 443) and available.

iPECS	Administration Ma	intenance				
PGM Base Function Base	< Favorite PG	A Station	Group Assignment(190) ×	Station Group Overview	×	
Q PGM / Altribute Search 0	Enter Group Number	Load				
System ID & Numbering Plans	Group Number "401					
Station Data	Group Type Voice Mail *					
Board Based Data	Pick-up Attribute OFF	des.				
CO Line Data		Add/Delete Group	Member			
System Data	Station Range	34(	G Add G Del	Save		
Station Group Data	Add Station Number	<u>•</u>	Station Number	Save		
	Landson and Landson an	Save / Del	ate			
Station Group Overview Station Group Assignment(190)	D 10	10				
Station Group Attributes(191) Pick-IIn Group Overview						
Pick-Up Group(192)						
Personal Group Overview Personal Group(260)						
Personal Group Attributes(261)						

Click **Go to Attributes** (Go to Attributes) button to open the Station Number Attributes (PGM 191) tab, and then continue the VM Group Configuration for iPECS IPCR server.

PECS (C <sup>a</sup> (Marke)		diministration Mandem	ance							Change Language Log Out
PGN Base Function Base	¢	Favorite PGM		Staten Greup Assignm	synt(190)	* Station Group One	ver ×	Station Group Attributes(191)	×	* *
A (POM ( Abrove Search 0)	Enter	Group Number	Load							Sava
System ID & Numbering Plans	Group	Number 1401 Tone: Voice Mail								
Station Data	Pick-u	p Atribute OFF								
Board Based Data	Crde	Actribute		Value		Range				
COLline Data	4	Wup-Up Timer	2			COD - 555 (\$460)				
CO Del Data	2	Pat Mail Index	11							
System Data	3	Get Mail Index	2+							
Station Group Data	4	Station Group Type	Terminal •							
	5	Overflow Timer	180			(00 - 600 (sec)				
Station Group Overview			STANET or Station Group 1	0(		Station or Group Number				
Station Group Assignment(190)	5	Overflow Destination	VSF Arrouncement @ 0		Auto Drop III	1 - 200				
Station Group Attributes(191)			System Speed @			System Speed				
Pick-Up Group Overview			STANET or Station Group	0		Station or Group Number				
Pick-Up Group(192)	7	Forced Forward Destination	VSF Announcement @ D			1 - 200				
Personal Group Overview			System Speed @			System Speed				
Personal Group(200)	1.1	Forced Forward Dest Usage	OFF +							
Leaves cryst responsize ()	9	Group Name				Max 12 Characters				
ISDN Line Data	10	Server Type	IPOR TYPE .							
	11	Server Number	8	1		0 - 10				
SIP Data	12	Member Type	SIP TYPE . Capa	adty (SP TYPE Only)	2	6-2455				
Tables Data			Construction of the			111111111				

However, verify the station number assigned in PGM 443 before configuring the VM Group.

**NOTE** If it is not assigned well, you can set iPECS IPCR type and SIP for member in ADM 191.

#### 3.1.7 Automatic Station Recording & Destination

The Auto Recording Option and Destination must be defined for Stations linked to an Agent in the iPECS IPCR Agent Table.

The Auto Record Option enables recording and the Destination defines the Voice Mail Group of the associated Call Recording server.

The station number assigned Agent ID is automatically ON 58th item (Automatic Talk Recording Option: 'ON').

In the iPECS UCP/eMG web admin page:

- Click the 'Administration' menu.
- Click Station Data to select sub menu.
- Click Station VM Attributes to display setting page.
  - Click the 'Enter Station Range' input field to enter number then click Load (Load) button.
  - Click the checkbox to enable the Auto Record Option.
  - Click the checkbox to enter the destination iPECS IPCR server Voice Mail Group number.
- And then click **Save** ( Save ) button.

#### 3.1.7.1 Station Recording

In case of the linked object is Station, it should be set as below.

	Adi	ministration	Maintenance				Change Language
PGM Base Function Base		Fav	orite PGM	Station VM Attribut	es (127) ×		
Q PGM / Attribute Search	0 Enter Sta	ation Range :		0	Load		
System ID & Numbering Plans	Station F	Range 1000					
Station Data	Order 1	Check All	Attribute 1 <sup>a</sup>		Value	Range	
	A			Basic Attributes			
Station Type(110)	1.		VSF Access	Enable *			
Common Attributes(111)	2	0	Two Way Record	ON *			
Terminal Attributes(112)	3	8	VM Device Slot Seg				
CLI Attributes(113)	4	0	Multi Language	Prompt1 *			
Flexible Buttons(115/129)	5	0	Pre-Sel Msg Language	Prompt1 *			
Station COS(116)	6	0	Default VM group number				
CONP Group Access(117)	7	0	Automatic Talk Recording Option	All 🔻			
Internal Page Zone Overview	8	0	Automatic Talk Recording Destination	*401			
Internal Page Zone(110)	9.	-8	VSF MSG Date/Time	ON *			
Princip Access(119)	10	10	VM Password Check	Station number	& password *		
Station ICR Scenario (1201)	11	6	VMID Number	1000		Max 8 Digits	
Idle Line Selection(121)	12	10	Retrieve MSG Method	LIFO *			
Station IP Attributes(122)	13	10	Wake-Up Announcement	0		6 - 200 (0 - Linused)	
Station Timers(123)	14	-	Two Way Record Announcement	0		0 - 200 (0 - Unised)	
Linked Station(124)	16	-	Meccase Walt Notice/MMI (11 VM)	Tons .			
Station ICM Group(125)	10	100	Patrianed Retry Attempts	Clientin .			
Station VM Attributes (127)	P		Password newy Polarigits	Enhanced Attributes			
Station Personal CCR(128)	1		VM Message No	000 (New: 000 S	aved 000 Urgent 0001		
Station Name Overview	2	-	VM COS	11.			
Station Name Display	3		Administrator MalBox	Disable *			
Station User Greeting Station Data Comp	4	-	Announce only MailBox	Disable *			
Station CTLIP Address	5		Announce only Option	Previous Menu	•		
Station Recording Information	6		Company Directory - First Name	C. C. COLD MICHU		Max 12 Characters	
Station CLI Program	7		Commany Directory - Leat Name			May 12 Characters	
a soo naadaana solidii.	8	- 10	Massage Design Fast Forward Time	01		3.00 (mar)	
Board Based Data	0	- 907	Manufactoria and	200		0.00	
O Lies Date	9		VM nutry nutry could	103		0.00 (1000)	
LO LINE DAVE	10	100	VM notity dar time	15		0-22 (sec)	
lystem Data	11		www.receased.optod	MONE .			
Station Group Data	12	10.	Cascade Mailbox 1				
control outside scares	13	- 10	Cascade Mailbox 2				
ISDN Line Data	14	- 101	Cascade MaiBox 3				
	15	10	Cascade MaiBox 4				

#### 3.1.7.2 CO Recording

In case of the linked object is CO, it should be set as below.

	Administration	Maintenance				Change Language Log Out
PGM Base Function Base	4	Favorite PGM Stat	ion VM Attributes (127)	ж	Common Attributes(140) X	×
Q 140 O	Enter CO Range (1	. (566	O Lo	ad		Save
0011-0-1	CO Ranne 1					
CO Line Data	Order Check Al	Attribute 1*		Value	Ranav	
Common Attributes(140)	A		Basic Attributes			
	1 🕒	СО Туре	Normal *			
System Data	2 🗇	CO/IP Group	1		0-201 (0 Private, 201 Unused)	
Web Access Authorization	3 10	CO Line COS	COS1 *			
	4 🗇	CO Line Type	CO *			
Initialization	5 🗊	Universal Answer	OFF *			
	6 🗊	CO/P Group Authorization	OFF +			
Initialization(450)	7 🗎	CO Tenancy Group	0		0-100	
	8 🗊	CO/IP Name Display	OFF +			
	9 0	CO Name Assign			Max 12 Characters	
	10 🗐	DISA Account Code	ON *			
	11 🗐	DISA CO Access	OFF *			
	12 🗐	Wait If VSF Busy	ON +			
<	13 🗉	SMS Outgoing	Disable *			
	14 🗐	SMS Received Station				
	15 🗉	Reject Anonymous Incoming Call	OFF *			
	16 🗐	Prefix Table ID	0		0-6	
	17 🔟	LDT Table Index	1		0-32 (0.Unused)	
	18 🗐	LDT Zone Number	1		1-100	
	19 🗐	ENBLOCK Sending	ON .			
	20 (3)	DID Preserve Name	OFF .			
	21 🗐	Burst Tone To Caller	OFF .			
	22 🗊	Collect Call Blocking	Disable *			
	23 🗊	Collect Call Answer Timer	10	*100ms	1-250	
	24 🗊	Collect Call Idle Timer	20	*100ms	1-250	
	25 (1)	Gain Table Index	1		1-3	
	26 🗓	Tone Table Index	1		1-5	
	27 🔟	Digit Conv. Table	1		1-32	
	28 🗊	Prepaid Call	OFF +			
	29 🗉	Prepaid Money (0 - 999999) & Used Prepaid Money	0	0		
	30 🕑	Auto Call Recording Destination	2401			
	31 🗐	ICLID Usage	CU *			
	32 🗐	PBX Code Insertion for Emergency call	Disable •			

#### 3.1.8 Trace and Monitoring

1. If there are some problems, you can trace it as below in MFIM.



2. You can capture ethereal packets between iPECS IPCR and iPECS UCP/eMG system if there is no recorded file in the iPECS IPCR.

# 3.2 **iPECS CM**

This section describes how to set up iPECS CM so that iPECS IPCR works.

#### 3.2.1 Unlock up to number of iPECS IPCR server and Agent ID

Lock key of iPECS IPCR should be unlocked up to number of server and Agent ID. Server can be register up to 5. And so, the servers can unlock up to 30000.

Note that the Agent can be register up to System station number, and it is depending on the system capacity.

.oad	× Close						
	License	Туре	[Formal Licens	e]2020/12/31 (591 day	(S))		
	License	Status	Formal				
AI	LL	Capacity	Seat-Based	Feature			
60	UCM	LNKCL10V	Cilent	۷	060000	0	
00	UCIVIL	LINKOLIUV	LNKCL10	0	900000	0	
64	LIGHT	LNIKOL 40V	Client	1	060000	0	
01	UCIVIL	LINKULISV	LNKCL13	0	90000	0	
62	UCML	LNKCL13-API		0	960000	0	0
63	UCML	UCML-OCSSIP 0		160000	0		
64	UCML	MEX		332	192000	0	0
65	UCML	CLICKCALL		7	960000	0	0
66	UCML	-SMO		7	960000	0	0
67	UCML	IPCR-S		5	16384	0	0
68	UCML	IPCR-S-HA		3	16384	0	0
69	UCML	IPCR-A		1250	960000	0	0
70	UCML	IPCR-A-HA		1098	960000	0	0
71	UCML	IPCR-T		1250	640000	0	0
72	UCML	IPCR-T-HA		1098	640000	0	0
73	UCML	VME		0	32	0	
74	UCML	-VQM-EXT		347	60000	0	0
75	UCML	VQM-TRK		0	0	0	
76	UCML	-NMS-AGN		100	200	0	
77	UCML	REST		13	60000	0	0
78	UCML	-VQM-SRV		1	16	0	

# 3.2.2 iPECS IPCR Agent ID

Agent ID should be matched with a station number that wants to be recorded.

# 3.2.3 iPECS IPCR SIP Station Registration

- 1. iPECS IPCR's SIP station should be register through iPECS IPCR server process of registration.
- 2. Change the terminal type according to the license.
  - **a.** Agent license should be set as below.

ieadiskt Usage       Speaker       Speaker       Speaker       Speaker         ippaker Usage       Use   <	Speaker Usage         Speaker         Headstef Ring Mode         Speaker           ippaker Usage         Use   <	ferminal Main Type SIP pho	one	Terminal Sub Type	Proprietary SIP Device	Terminal Type	IPEC	S IPCR (Agent License)	
ippeaker Usage     Use     onumber of the sector o	type     Use     on       troup Listening Use     Not Use     LCD Language Selection     Kortean       CD Date Display Mode     DOMMYP     LCD Language Selection     12 Hours       CD Date Display Mode     DOMMYP     Eduction Display Mode     12 Hours       CD Back Light Use     DOMMYP     Buildoon     Not Use       Robe Actoged in Number     Teant     Hot Desk Terminal Use     Not Use       Prone No     Carent     User ID (Soft PhoneUC Only)     Image: Carent Desk Core     Password (Soft PhoneUC Only)       are Extension Key Number Group     Teant     Password (Soft PhoneUC Only)     Image: Carent Desk Core     Password (Soft PhoneUC Only)       are Extension Key Number Group     Teant     Not Use     Mod Hours     Mod Hours       Are Hot Use (SGTA, TR-87, OCB, SAPP-Ver     Not Use     Mod Hours     Not Use       Are Core     Not Use     SAPP Use     Not Use       Are Core     1     Clock Cale Use Option     Not Use       Are Core     1     Clock Cale Use Option     Not Use       Are Core     Not Use     Not Use     Not Use	Headset Usage		Speaker	Headset Ring I	Mode		Speaker	
transp       Nat Use       LCD Language Selection       Kerean         CD Date Display Mode       DDM/MYY       CD Time Display Mode       12 Hours         CD Back Light Use       DDM/MYY       Buestodh       Not Use       Not Use         cD Back Light Use       Family       Buestodh       Not Use       Not Use         not Deak Logged in Number       Family       Hot Deak       Hot Deak Terminal Use       Not Use         not Deak Logged in Number       Family       Family       Not Use       Not Use       Not Use         not Deak Logged in Number Group       Family       Family       Report Instituty Not       Not Use       Not Use         Not Multicat Group       Family       Family       Report Instituty Not       Not Use       Not Use         Not Lise (CGTA, TR-67, OCS, SAPP, Use       Not Use       SaPP Use       Not Use       Not Use         Not R Communicator Livel       1       Samt Mobile Office Type       Not Use         Not Use       Not Use       Cick Call Use Option       Not Use       Not Use         Not Use       Not Use       Not Use       Not Use       Not Use       Not Use	tranp Listeming Use       Not Use       LCD Language Selection       Kerean         CD Date Display Mode       DDMMYY       LCD Time Display Mode       12 Jours         CD Back Light Use       DDMMYY       Beakond       Not Use       Not Use         RD Back Light Use       Use (Oxy Bury Time)       Beakond       Not Use       Not Use         RD Back Light Use       Ternant       Hot Deak Logged in Number       Not Use       Not Use         RD Extension Key Number Group       Ternant       Password (Soft Phone/UC Only)       Image: Selection       Not Use         RD Extension Key Number Group       Ternant       Ternant       Report to military NMS       Not Use         RD Faternice Concept       Not Use       MOH Unicest Group       Image: Selection       Not Use         RD Faternice Concept       Not Use       Selection Selection       Not Use       Not Use         RD Faternice Concept       1       Selection Selection Selection       Not Use       Not Use         Roc Concept Concept       1       Selection	Speaker Usage		Use					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	CDD Date Display Mode     DDM/MYY     LCD Time Display Mode     12 Hours       CD Back Light Use     Use(Only Busy Time)     Bluetooth     Not Use       for Dack Light Use     Tenant     Hot Desit. Terminal Use     Not Use       Presend     Fenant     Password Old Phone UC Only     Image: Comparing Use     Not Use       presend     Tenant     Password Old Phone UC Only     Image: Comparing Use     Not Use       presend Group     Tenant     Password Old Phone UC Only     Image: Comparing Use     Not Use       ADH Multicast Group     Tenant     Report to military NMS     Not       ADH Multicast Group     Not Used     SAPP Use     Not Use       ADH Multicast Group     1     Smart Mobie Office Type     Not Use       An Communication Level     1     Smart Mobie Office Type     Not Use       I/C Win Vaice Option     Not Use     Vol Use     Not Use       I/C Win Vaice Option     Not Use     Not Use     Not Use	Group Listening Use		Not Use	LCD Language	Selection		Korean	
CD Back Light Usé     Usé(ON/ Buly Time)     Baladon     Nat Usé       No Dack Logond in Number     Image     Hot Cesk Terminal Use     Not Use       No Dack Logond in Number     Image     Hot Cesk Terminal Use     Not Use       PB-Extension Kay Number Office     Terment     Constraint Con	CD Back Light Use     Use(Only Bury Time)     Bluetorin     Not Use       No Dack Logged in Number     Immail     Immail     Hot Desk Terminal Use     Not Use       No Dack Logged in Number     Immail     Proces     Use(Only Bury Time)     Hot Desk Terminal Use     Not Use       NP Extension Key Number Group     Immail     Parsent     Report terminal YoNS     Not       NCH Multicast Group     Report terminal Key NUMS     Not     Not       NCH Multicast Group     Immail     MOH Unicast Group     Not       NCH Multicast Group     Not Used     SAPP Use     Not Use       NCH Used     Sandt Mobile Office Type     Not Use       Not Used     1     Clock Call Use Oction     Not Use       CV Win Voice Oction     Not Use     Voit Use     Not Use       VOM Report C     Not Use     Not Use     Not Use	LCD Date Display Mode		DDMMYY.	LCD Time Disp	olay Mode		12 Hours	
Tenant         Hot Desk Logged in Number         Tenant         Hot Desk Logged in Number         Not Use           Phone No.         User ID (Sch PhoneUCONIY)         Image: Sch PhoneUCONIY)         Not Use           KM Multicat Group         Frank         Radout to military NMS         Not Use         <	Tenant         Hot Desk Logged in Number         Tenant         Hot Desk Logged in Number         Not Use           Phone No.         User ID (Scit PhoneUCC ONIY)         Image: Scit PhoneUCC ONIY)         Not Use           XOM Multicost Group         MOH Multicost Group         Kont Unicost Group         Not Used         Not Use           XOM Multicost Group         Not Used         Scit PhoneUCC Onitor Type         Not Use         Not Use           Scit Construction Level         1         Scit Colico Type         Not Use         Not Use           Scit Colico Type         Not Use         Not Use         Not Use         Not Use           C/UM Noice Option         Not Use         Not Use         Not Use         Not Use	LCD Back Light Use		Use(Only Busy Time)	Bluetooth			Not Use	
No. Use. Kugging in Kullingen         Phone No.         User ID (Soft Phone-UC Only)         Image: Constraint of Const	No. Use. Kugginis in kullikation         Phone No.         User ID (Soft Phone/UC Only)         Image: Constraint of Co	Het Park Leaned in Number	Tenant		Hot Desk Term	Hot Desk Terminal Use		Not Use	
Tenent         Pessnord (Soft Phone/UC Only)         Image: Constraint of the state of the st	Image: Stateminion Kay Number Group         Tenent         Pessmond (Soft Phone/UC Only)         Image: Stateminion Kay NUMS         NO           ACH Multicast Group         Report to military NMS         NO         NO           ACH Multicast Group         MOH Unicast Group         NO         NO           GTU use (GSTA, TR-87, OCB, SAPP, OpenAPI)         Not Used         SAPP Use         Not Use           An communication Level         1         Smart Moole Office Type         Not Use           Good Del Group         1         Click Call Use Option         Not Use           CMM Vacie Option         Not Use         Not Use         Not Use           CMM Vacie Option         Not Use         Not Use         Not Use	Hot Desk Logged in Number	Phone No.		User ID (Soft F	User ID (Soft Phone/UC Only)			
Pre-Exemption Rey number Good         Phone No.         Report to military NMS         NO           CMH Multicast Group         MOH Unicast Group         MOH Unicast Group         NOt Use           ICTI Use (CSTA, TR-87, OCB, SAPP, OpenAPI)         Not Used         SAPP Use         Not Use           Record to military NMS         SAPP Use         Not Use         Not Use           En Communication Level         1         Smart Mobile Office Type         Not Use           Geod Diel Group         1         Cick Call Use Option         Not Use           ICW Noice Option         Not Use         Uc Desido/Mobile Single ID         Not Use           OM Report          Not Use         Not Use         Not Use         Not Use	Pre-Exemption Rey number Good         Phone No.         Report to military NMS         NO           CMH Multicast Group         MOH Unicast Group         MOH Unicast Group         Image: Comparison of the comparison	PID E-tension Key Number Orace	Tenant		Password (Sof	Password (Soft Phone/UC Only)			
MOH Multicast Group         MOH Unicast Group           MOH Multicast Group         MOH Unicast Group           KDI Use (CSTA, TH, 97, OCB, SAPP, OpenAPI)         Not Used           Mon ReC Use         SAPP Use           Kin Communication Level         1           Sand Mobile Office Type         Not Use           Jeed Dial Group         1           CV Wite Voice Option         Not Use           Voit Wolce Option         Not Use	MOH Multicast Group         MOH Unicast Group           COT Use (CSTA, TH, 47, OCB, SAPP, OpenAPI)         Not Used         SAPP Use         Not Use           Communication Level         1         Smart Mobile Office Type         Not Use           Deed Dial Group         1         Click Call Use Option         Not Use           CV Wite Voice Option         Not Use         Deed Dial Group         Not Use           CV Mite Voice Option         Not Use         Deed Dial Group         Not Use	or Extension Key Number Group	Phone No.	Report to military		y NMS		NO	
ChT Use (STA, TH-87, OCB, SAPP: OpenAPI)         Not Used         SAPP Use         Not Use           Inc Communication Level         1         Smart Mobile Office Type         Not Use           Ipeed Diel Group         1         Click Cell Use Option         Not Use           CVM Noice Option         Not Use         UC Desktop/Mobile Single ID         Not Use           CVM Report          Not Use         Not Use         Not Use	Chr Lise (STA, TH, 97, OCB, SAPP: OpenAPI)         Not Used         SAPP Use         Not Use           Inc. Communication Level         1         Smart Mobile Office Type         Not Use           Ipeed Diel Group         1         Click Call Use Option         Not Use           CV With Voice Option         Not Use         UC Desktop/Mobile Single ID         Not Use           CVM Report	MOH Multicast Group			MOH Unicast O	Group			
Bin         Communication Level         1         Smart Mobile Office Type         Not Use           beed Dial Group         1         Click Call Use Option         Not Use           Dia W Voice Option         Not Use         UC Desidop/Mobile Single ID         Not Use           OM Report On         Not Use         Not Use         Not Use	Bin: Communication Level         1         Smart Mobile Office Type         Not Use           breed Olido Oropo         1         Cick Call Use Option         Not Use           Dick Vibit Voice Option         Not Use         Dick Call Use Option         Not Use           CMIR Report         Not Use         Dick Call Use Option         Not Use	SCTI Use (CSTA, TR-87, OCS, SAPP Lync RCC Use	OpenAPI)	Not Used	SAPP Use			Not Use	
Opend Dial Group         1         Click Call Use Option         Not Use           VC With Voice Option         Not Use         UC Desktop/Mobile Single ID         Not Use           VOM Report •         Not Use         UC Desktop/Mobile Single ID         Not Use	Ipeed Diel Group         1         Click Call Use Option         Not Use           UC With Voice Option         Not Use         UC Desktop/Mobile Single ID         Not Use           VOM Report O         Not Use         UC Desktop/Mobile Single ID         Not Use	Min. Communication Level		1	Smart Mobile C	Office Type		Not Use	
IC With Volce Option Not Use UC Desktop/Mobile Single ID Not Use CMR Report  Not Use	IC With Vace Option Not Use UC Desktop/Mobile Single ID Not Use CMR Report  Not Use No	Speed Dial Group		1	Click Call Use	Option		Not Use	
COM Report O Not Use	VOM Report © Not Use WaruLak.	UC With Voice Option		Not Use	UC Desktop/M	obile Single ID		Not Use	
	Window Development of the Develo	VQM Report O		Not Use					
Advant of anti-	Minutes				Advanced and				

**b.** Concurrent license should be set as below.

Terminal Main Type SIP pho	ne	Terminal Sub Type Prop	rietary SIP Device Terminal Type	IPECS IPCR (Concurrent License)
Headset Usage		Speaker	Headset Ring Mode	Speaker
Speaker Usage		Use		
Group Listening Use		Not Use	LCD Language Selection	Korean
LCD Date Display Mode		DDMMYY	LCD Time Display Mode	12 Hours
LCD Back Light Use		Use(Only Busy Time)	Bluetooth	Not Use
Tenant			Hot Desk Terminal Use	Not Use
Hot Desk Logged in Number	Phone No.		User ID (Soft Phone/UC Only)	128
	Tenant		Password (Boft Phone/UC Only)	
SIP Extension Key Number Group	Phone No.		Report to military NMS	NO
MOH Mutticast Group			MOH Unicast Group	
SCTI Use (CSTA, TR-87, OCS, SAPP, Lync RCC Use	OpenAPi)	Not Used	SAPP Use	Not Use
Min. Communication Level		1	Smart Mobile Office Type	Not Use
Speed Dial Group		1	Click Call Use Option	Not Use
UC With Voice Option		Not Use	UC Desktop/Mobile Single ID	Not Use
VOM Report		Not Use		
			Manulink	
O Terretard Freedom and O Martine	Dise O This Am	stude O Terminal Centers O Station Se	and Dist. O Disease Electricity Burnary, O DES Concessio	Connection O for Disease Link
· remnan Summary · Humberry	Fan W Div An	noute • reminar option • Station op	eeu baar 🗢 Phone Pienade Baaun 🗢 055 Gonsole	Connection Sold Phone Clink

- 3. And set SIP user ID with tenant prefix number and make empty auth ID and password.
  - **a.** Agent license should be set as below.

SIP Terminal Configuration					<b>_</b> @ <b>X</b>	
Q Load ZModify XClose Sync. Preview					Ŕ	
SLOT 42	<b>♦</b> Pho	Phone No. 40331 Physical Address 00AC92				
Basic Information SIP Phone Type Configuration	on(Each) Special Feature					
User ID	630140331					
Authentication ID	630140331					
Authentication Password	*******					
Account Type	Normal					
Terminal Type	iPECS IPC	R (Agent License)				
MAC Address	00:00:00:00	0:00:00				
Registration	Yes / Node	1				
Registration Time	600					
Station		124.46.120.105 🕑			5060	
Registration address information Delete LCM	Address			Port		
NAT						
Registered Transfer Mode	UDP					
IP Zone	LOCAL					
SIP Proxy Location	CCM Serve	er IP				
Button Sync Option	Use					
System DTMF Mode	Outband					
Voice Mixing supported for Call Recording	No					
Tone Play Supported	No					
Use transparent SDP for SIP call	Not Use					
00770 11-2	Not Use					
SRTP Use	AES_CM_128_HMAC_SHA1_80 ARIA_CM_128_HMAC_SHA1_80				1_80	

**b.** Concurrent license should be set as below.

SIP Terminal Configuration					_ @ X	
Q Load Z Modify × Close Sync. Preview					1	
SLOT 111 () CH 31 () Tenant 1 () Phone No. 48030 () Physical Address 00085E						
Basic Information SIP Phone Type Configurati	on(Each)	Special Feature				
User ID	630148030					
Authentication ID	630148030					
Authentication Password	******					
Account Type	Normal					
Terminal Type	iPECS IPCR (Concurrent License)					
MAC Address	00:00:00:00:00					
Registration	Yes / Node 1					
Registration Time	600					
Station		124.46.120.109 🖸			5060	
Registration address information Delete LCM	Address			Port		
NAT						
Registered Transfer Mode	UDP					
IP Zone	LOCAL					
SIP Proxy Location	CCM Serve	r IP				
Button Sync Option	Use					
System DTMF Mode	Outband					
Voice Mixing supported for Call Recording	Yes					
Tone Play Supported	No					
Use transparent SDP for SIP call	Not Use					
OPTP Use	Not Use					
SRIPUse	ARIA_CM_192_HMAC_SHA1_80		None			
Process Success!						
**4.** If a SIP is assigned to 'Proprietary SIP Device', then you can see the iPECS IPCR Device Information.

SR Device	e Information							- 6
Load	Modify X Close	1						
Tenant	Phone No.		Search					
								Total Cou
Fenant	Phone No.	Server IP Address	Physical Address	SIP Terminal Type	Extension Agent Count	Trunk Agent Count	Concurrent Call Count	Dual System Usage
1	40331 0	124.46.120.105	00AC92	IPECS IPCR (Agent License)	20	20		Standalone
1	48030 0	124.46.120.109	00085E	IPECS IPCR (Concurrent License)			180	Standalone
				01 -				

5. You should set IP address of iPECS IPCR and the number of agent count. Agent count is restricted in license. Also, if the iPECS IPCR is completely registered to iPECS-CM, you can verify that the Terminal Type of the SIP Station is set to the iPECS IPCR.

# 3.2.4 VM Group Configuration for iPECS IPCR Server

Please note that you do not need to program about this. iPECS CM uses a different mechanism.

## 3.2.5 Automatic Station Recording & Destination

An agent ID in iPECS IPCR means a station number which has to be programmed to record its voice. So, If Agent ID information is sent to iPECS-CM from iPECS IPCR.

V	oice Mail Information	- Marina (Marina				- e	×	
1	Fenant 1 A Phone	22000 22000	Physical Address 000540			Į.		
	VM Access		Use	VM COS 🜔		1	^	Amerilio
	Internal VM Check		from latest MSG	Internal VM SLOT				Agent ID
	Number of Message (New / Saved / Urgent)				Normal(New / Saved)	0/0		
			07070	Number of Outwessage	Urgent(New / Saved)	0/0		
1		Tenant	1		Tenant			
	Voice Mail Device	Feature Code / Phone No.	21300	Color Ring Device	Phone No.		L	iPECS IPCR
		Tenant	1	Phone for Internal	Tenant			SIP Number
	Two-way Record Device	Feature Code / Phone No.	21171	VM Backup	Phone No.			
	Two-way Record Start Mode		Start with button on conversation(ODR)	Delete Backuped VM to F	Phontage	No		
	ODR Record Type for IPCR	Device	Full recording is selectable to save or discard (de					
	Use IPCR Record Alarm Ann	ouncement	Not Use					
		Tenant		Fax Bridge Service		Not Use		
	Fax Bridge Device	Feature Code / Phone No.		Fax Bridge Tone Detect 1	Timer (sec)	10		
	SMTP Mail Server		0.0.0.0	SMTP Mail Server Port N	lumber	0		
	SMTP User ID			SMTP User Password				
	SMTP Sender Mail Address			SMTP Security		Auto		
	E-mail Address for VM Indian	tion			Tanant		*	
P	rocess Success!						//	

- The **Two-way record Device information** is automatically set with iPECS IPCR SIP number on the agent ID number's DN Voice Mail Information Attribute in WMS
- And also the Two-way record start mode is automatically set according to the Agent ID recording type of IPCR.

# iPECS IPCR server HA (High Availability)

High Availability, or HA as it is abbreviated, refers to the availability of resources in the iPECS IPCR server, in the wake of component failures in the iPECS IPCR server. This can be achieved in a redundant server to ensure availability. For this reason, the iPECS IPCR can work continuously even if it might have problems.

## 4.1 System Configuration

The iPECS IPCR continues to work on the standby server when there is a problem with a process or network on the active server. The iPECS IPCR uses only eth0 network device to check server status and provide redundancy services.





# 4.2 Data Synchronization

The synchronization part of the iPECS IPCR HA system is divided into two parts.

- **Database:** The DB synchronizer module executes an unexecuted query by iteratively comparing its DB and its counterpart DB.
- **Recording File:** The two servers monitor the folders where the recording files are stored and perform a copy operation when a newly created recording file exists.



# 4.3 HA Module Set up

In order to run the High Availability module, you need to respectively set the '.ini' file in the Active and Standby server according to your environment. Configuration of the iPECS IPCR server follow the procedure for each server described in the below section.

- How to set .ini file on Active server, refer to section 4.4.1 HA Module set up in Active Server.
- How to set .ini file on Standby server, refer to section 4.4.2 HA Module set up in Standby Server.

### 4.3.1 HA Module set up in Active Server

1. Execute a command thought Terminal in Active server to set HA module.

```
# vi /usr/furence/IPCR3.0/HA/ini/config.ini
```

2. You can see the setting picture like this.

```
[LOG]
;log file path
PATH=/usr/furence/bin/log/HA.log
;log file deletion cycle
PURGEAGE=3 months
[PROCESS CHECK]
;the number of process to monitor
PROCESS NUM = 5
;switchover condition
;1: switchover even if only one to monitor is dead
;2: switchover if all processes to monitor are dead
OBSERVATION_MODE=1
; the path of the process to monitor
PROCESS_PATH1=/usr/furence/IPCR3.0/exe/DBGw.exe
PROCESS_PATH2=/usr/furence/IPCR3.0/exe/Rec_Signal.exe
PROCESS_PATH3=/usr/furence/IPCR3.0/exe/RecSee_RTP.exe
PROCESS_PATH4=/usr/furence/IPCR3.0/exe/RVModule
PROCESS PATH5=/usr/furence/IPCR3.0/exe/FTPTransfer
; cycle to check whether the process to monitor is running. (Sec)
PROCESS\_CHECK\_CYCLE = 5
```

```
[AGENT]
; mode selection
;1: active mode
;2: standby mode
MODE=1
;current server IP address
THIS_SERVER_IP = 192.168.0.51
;current server gateway address
GATEWAY_IP = 192.168.0.1
;current server port (port to receive packets from the other party HA)
HEART BEAT RECEIVE PORT = 7777
;cycle of the heartbeat signal (Sec)
HEART_BEAT_INTERVAL = 5
;the maximum heartbeat signal listening time for switchover.
; If the heartbeat signal is not received within setting time, switchover
MAX HEART BEAT RECEIING TIME =15
;the other server IP address
PARTNER_IP= 192.168.0.52
;the other server port (port of the other party HA to receive packets.)
PARTNER_HEART_BEAT_RECEIVE_PORT = 7777
; ignore consecutive incoming packets less than IGNORE_TIME(sec)
IGNORE_TIME=2
WAITING_TIME_BEFORE_PROCESS_RUN = 5
;cycle to check the lancard (Sec)
LAN_CARD_CHECK_PURGEAGE = 5
```

;the service IP address

VIRTUAL_IP= 1	192.168	.0.50
---------------	---------	-------

; the command to activate the service IP address VIRTUAL IP START COMMAND=service network restart

;the command to deactivate the service IP address VIRTUAL\_IP\_STOP\_COMMAND=/etc/sysconfig/network-scripts/ifdown eth0

;process that must be terminated additionally when the process is switched RELATED\_PROCESS=

[ADVENCE] KEYWORD=defunct PROCESS\_KILL\_COMMAND=pkill -9

[DB] ;1:pg 2:oracle 3:ODBC DBKIND=1 DBSTR=localhost@recsee3p DBID=postgres DBPW=fcpass

- **3.** Modify the following items in the .ini file. To edit this .ini file, you should enter the vi's edit mode by pressing on the keyboard i button.
  - MODE: Enter the number 1. (1 is an Active server, 2 is a Standby server.)
  - THIS\_SERVER\_IP: Enter the communication IP address of the Active server.
  - GATEWAY\_IP: Enter the gateway IP address of the Active server.
  - **PARTNER\_IP:** Enter the communication IP address of the Standby server.
  - VIRTUAL\_IP: Enter the service IP address. (Both Active and Standby servers use the same value.)
  - VIRTUAL\_IP\_START\_COMMAND: Enter the following command service network restart
  - VIRTUAL\_IP\_STOP\_COMMAND: Enter the following command /etc/sysconfig/networkscripts/ifdown eth0
- 4. Execute a woll command to save the file after pressing ESC button on the keyboard.

### 4.3.2 HA Module set up in Standby Server

1. Execute a command thought Terminal in Standby server to set HA module.

```
# vi /usr/furence/IPCR3.0/HA/ini/config.ini
```

2. You can see the setting picture like this.

```
[LOG]
;log file path
PATH=/usr/furence/bin/log/HA.log
;log file deletion cycle
PURGEAGE=3 months
[PROCESS_CHECK]
;the number of process to monitor
PROCESS_NUM = 5
;switchover condition
;1: switchover even if only one to monitor is dead
;2: switchover if all processes to monitor are dead
OBSERVATION MODE=1
; the path of the process to monitor
PROCESS_PATH1=/usr/furence/IPCR3.0/exe/DBGw.exe
PROCESS_PATH2=/usr/furence/IPCR3.0/exe/Rec_Signal.exe
PROCESS_PATH3=/usr/furence/IPCR3.0/exe/RecSee_RTP.exe
PROCESS_PATH4=/usr/furence/IPCR3.0/exe/RVModule
PROCESS_PATH5=/usr/furence/IPCR3.0/exe/FTPTransfer
; cycle to check whether the process to monitor is running. (Sec)
PROCESS CHECK CYCLE = 10
[AGENT]
;mode selection
;1: active mode
;2: standby mode
MODE=2
;current server IP address
```

```
THIS_SERVER_IP = 192.168.0.52
```

```
;current server gateway address
GATEWAY_IP = 192.168.0.1
```

```
;current server port (port to receive packets from the other party HA)
HEART_BEAT_RECEIVE_PORT = 7777
```

```
;cycle of the heartbeat signal (Sec)
HEART_BEAT_INTERVAL = 5
```

```
;the maximum heartbeat signal listening time for switchover.
;If the heartbeat signal is not received within setting time, switchover
MAX_HEART_BEAT_RECEIING_TIME =15
```

```
;the other server IP address
PARTNER_IP= 192.168.0.51
```

```
;the other server port (port of the other party HA to receive packets.)
PARTNER_HEART_BEAT_RECEIVE_PORT = 7777
```

```
; ignore consecutive incoming packets less than IGNORE_TIME(sec) IGNORE_TIME=2
```

;waiting time to setup service IP before starting the process WAITING\_TIME\_BEFORE\_PROCESS\_RUN = 5

;cycle to check the lancard (Sec)
LAN\_CARD\_CHECK\_PURGEAGE = 5

;the service IP address
VIRTUAL\_IP= 192.168.0.50

; the command to activate the service IP address

VIRTUAL\_IP\_START\_COMMAND=/etc/sysconfig/network-scripts/ifdown eth0 && ifconfig eth0 hw ether 00:0C:29:89:B8:E4 && service network restart

; the command to deactivate the service IP address

VIRTUAL_IP_STOP_COMMAND=/etc/sysconfig/network-scripts/ifdown eth0
; process that must be terminated additionally when the process is switched
RELATED_PROCESS=
[ADVENCE]
KEYWORD=defunct
PROCESS_KILL_COMMAND=pkill -9
[DB]
;1:pg 2:oracle 3:ODBC
DBKIND=1
DBSTR=localhost@recsee3p
DBID=postgres
DBPW=fcpass

- **3.** Modify the following items in the .ini file. To edit this .ini file, you should enter the vi's edit mode by pressing on the keyboard i button.
  - MODE: Enter the number 2. (1 is an Active server, 2 is a Standby server.)
  - THIS\_SERVER\_IP: Enter the communication IP address of the Standby server.
  - **GATEWAY\_IP:** Enter the gateway IP address of the Standby server.
  - **PARTNER\_IP:** Enter the communication IP address of the Active server.
  - VIRTUAL\_IP: Enter the communication IP address of the Standby server.
- 4. Execute a well command to save the file after pressing ESC button on the keyboard.

# 4.4 Data HA Set up

The Active and Standby servers periodically synchronize the recording files and database information. Configuration of the iPECS IPCR server follow the procedure for each setting described in the below section.

- How to set the recording file synchronization, refer to section 4.5.1 Setting for Recording Files HA.
- How to set the crontab for recording files and DB synchronization, refer to section 4.5.2 Crontab Setting for Data HA.

### 4.4.1 Setting for Recording Files HA

The HA module synchronizes recording files using rsync and ssh utility which are provided by Linux.

### 4.4.1.1 Settings for Recording Files HA on Active Server

1. Execute a command thought Terminal in Active server to set up.

# ssh-keygen -t rsa

2. Press Enter key when the following message appears.

Generating public/private dsa key pair

Enter file in which to save the key (/root/.ssh/id\_dsa):

3. Press Enter key when the following message appears.

Created directory '/root/.ssh'.

Enter passphrase (empty for no passphrase):

4. Press Enter key when the following message appears.

Enter same passphrase again:

5. If it worked properly, you can see the following message.

6. Before executing the following commands on the Active server, you must complete the same steps 1 to 5 on the Standby server.

# scp -p /root/.ssh/id\_rsa.pub root@192.168.0.52:/root/.ssh/authorized\_keys

- In the above command, the IP address corresponding to 192.168.0.52 is the communication IP address of the Standby server.
- Enter the communication IP address of the standby server according to the established High Availability environment.
- 7. When the process up to step 6 is completed, modify the ipcr\_rsync\_recfile.sh file for your High Availability environment. First, enter the following command and press **Enter** key.

# vi /usr/furence/IPCR3.0/HA/cron/ipcr3.0\_rsync\_rec.sh

8. If it worked properly, you can see the following shell script file.

**9.** Modify this shell script file for your High Availability environment. To edit this file, press i key on the keyboard in the state of step 8 to enter vi's edit mode. If you are in vi's edit mode normally, it is shown as below.



10. The IP address which is entered in the red square box is the communication IP address of the Standby server. Enter the communication IP of the Standby server for your High Availability environment.





**11.** When you have finished editing, press **ESC** key on the keyboard to exit edit mode. If you exit the edit mode normally, the letter INSERT shown in the step 10 disappears.



12. Execute a command to save the file after pressing ESC key on the keyboard.

#!/bin/sh EXE\_SIG\_NAME="Rec\_Signal.exe" if [ "\$(ps -Al | grep \$EXE\_SIG\_NAME | grep -v grep | wc -l)" != 0 ] then echo "THIS SERVER IS ACTIVE" rsync -av -e ssh /var/REC/RecSee\_Data/ root@192.168.0.51:/var/REC/RecSee\_Data/ else echo "THIS SERVER IS STANDBY" rsync -av -e ssh root@192.168.0.51:/var/REC/RecSee\_Data/ /var/REC/RecSee\_Data/ fi

13. Repeat steps 7 through 12 to the to the shell file below.

- vi /usr/furence/IPCR3.0/HA/cron/ipcr3.0\_rsync\_ann.sh
- vi /usr/furence/IPCR3.0/HA/cron/ipcr3.0\_rsync\_dbb.sh

### 4.4.1.2 Settings for Recording Files HA on Standby Server

1. Execute a command thought Terminal in Standby server to set up.

# ssh-keygen -t rsa

2. Press Enter key when the following message appears.

```
Generating public/private dsa key pair.
Enter file in which to save the key (/root/.ssh/id_dsa):
```

3. Press Enter key when the following message appears.

```
Created directory `/root/.ssh'.
Enter passphrase (empty for no passphrase):
```

4. Press Enter key when the following message appears.

Enter same passphrase again:

5. If it worked properly, you can see the following message.

6. Before executing the following commands on the Standby server, you must complete the same steps 1 to 5 on the Active server.

```
# scp -p /root/.ssh/id_rsa.pub root@192.168.0.51:/root/.ssh/authorized_keys
```

- In the above command, the IP address corresponding to 192.168.0.51 is the communication IP address of the Active server.
- Enter the communication IP address of the Active server according to the established High Availability environment.

# 4.4.2 Crontab Setting for Data HA

This is the description for changing the default data synchronization cycle. The default synchronization cycle is 3 minutes. Because the synchronization consumes a lot of system resources such as the CPU and IO traffic, it is recommended to set it for more than 2 minutes.

### 4.4.2.1 Crontab Setting for Data HA on Active Server

1. To do configuration, enter the following command at the terminal.

[root@localhost ~]# crontab -e

2. If you enter the command correctly, you can see the following screen.



- In the red box, you can see that it is 3 (default setting). It means to synchronize every 3 minutes. (\*\*' means every minutes).
- If you enter the desired number (minute), the cycle would be changed.

### 4.4.2.2 Crontab Setting for Data HA on Standby Server

1. To do configuration, enter the following command at the terminal.

[root@localhost ~]# crontab -e

2. If you enter the command correctly, you can see the following screen.

\* \* \* \* \* /usr/furence/IPCR3.0/HA/cron/ipcr3.0\_ha\_exec\_recfile.php > /dev/null 2>&1 \* \* \* \* \* /usr/bin/java -jar /usr/furence/IPCR3.0/HA/cron/ipcr3.0\_db\_sync.jar > /dev/null 2>&1

- In the red box, you can see that it is 3 (default setting). It means to synchronize every 3 minutes. ('\*' means every minutes).
- If you enter the desired number (minute), the cycle would be changed.

# 4.5 Executing IPCR High Availability Process

There are two ways to run the High Availability program as described in below, one is automatic execution and the other is manual execution.

### 4.5.1 Automatic Executing Set up in CentOS6.9 32bit

To automatically execute the IPCR high availability program, enter the following.

#cp /usr/furence/IPCR3.0/HA/ipcr\_ha\_start.sh/etc/profile.d/ipcr\_ha\_start.sh

### 4.5.2 Automatic Executing Stop in CentOS6.9 32bit

Execute a command thought Terminal.

[root@localhost ~]# rm -rf /etc/profile.d/ipcr\_ha\_start.sh

[root@localhost ~]# reboot

### 4.5.3 Automatic Executing Set up in CentOS7.3 64bit

To automatically execute the IPCR high availability program, enter the following.

 $\texttt{#cp /usr/furence/IPCR3.0/HA/auto\_run\_ha.service /usr/lib/systemd/system}$ 

#systemctl daemon-reload

#systemctl start auto\_run\_ha.service

#systemctl enable auto\_run\_ha.service

### 4.5.4 Automatic Executing Stop in CentOS7.3 64bit

To stop the IPCR high availability program, enter the following.

#systemctl disable auto\_run\_ha.service

### 4.5.5 Manual Executing

Execute a command thought Terminal to execute HA module

[root@localhost ~]# /usr/furence/IPCR3.0/HA/FurenceHA

# 4.6 **Condition for Switchover**

It is switched automatically between Active and Standby server under the following conditions.

- When Network has problems.
- When iPECS IPCR process is not running.
- When iPECS IPCR server power Off.

# 4.7 HA Configuration Prerequisites

For HA configurations, NTP synchronization must be used for each server and IPCR Name must be the same as IPCR ID.

- 1. Set the IPCR ID and IPCR name of the redundant server as shown below.
  - **a.** In the current Active server.

iPECS IPCR [ACT]				
Search & Listen	Monitoring	& Dashboard Re	port	Administration
IPCR Server Setting	IPCR	Server ID IPCR Se	rver Name	e IPCR Server IP
PBX Registration				
Channel Registration		Server Add		×
User Level Admin		IPCR ID *	IPCR	
User Registration		IPCR Name *	IPCR 3.1	Ad HA
		IPCR IP *	192.168.	119.116
General Setting		Storage Location *	/var/REC	/RecSee_Data
Maintenance		Backup Location *	/var/REC	C/RecSee_Backup
Web Log				Server add
License Information				
Version Information				

**b.** In the current Standby server.

IPECS IPCR [STB]						
Search & Listen	Monitoring	& Dashboard	Rep	ort	Administrati	on
IPCR Server Setting	IPCR	Server ID IP	CR Ser	ver Name	e IPCR Server	IP
PBX Registration						
Channel Registration		Server Add				×
User Level Admin		IPCR ID *		IPCR		
User Registration		IPCR Name *		IPCR 3.1	Ad HA	
General Setting		IPCR IP *		192.168.	119.117	
		Storage Location	ו *	/var/REC	C/RecSee_Data	
Maintenance		Backup Location	*	/var/REC	C/RecSee_Backup	
Web Log						
License Information					Server	add
Version Information						

2. If each server must be synchronized to the same NTP server and the external network is not available, use the NTP synchronization feature of the IPECS system.

P Use Choice	Use	~			
P Server	192.168.119.132		Sync Cycle	Every Minute	~
nezone Set	Asia/Seoul	~			

3. The IP of each server must be entered in PGM 237 of the IPECS system.

<	Favorite PGM	IPCR Agent Table(23	7) ×	
	Enter the number of IPCR Server (1 - 10) :	Default : 1		D Load
	IPCR Number 1 Agent Order 1-100			
Γ	IPCR Agent License : 100 / Total(3300)			
L	IPCR Redundancy Agent License : 100 / T	otal(3300)		
	IPCR Redundancy FIRST IP ADDR :			
	IPCR Redundancy SECOND IP ADDR :			

# **iPECS IPCR Server Configuration**

Once configured for registration and login, the iPECS IPCR server registers with the iPECS system using automatic or MAC address registration. The iPECS IPCR server then will login to the iPECS system employing the SIP Id and password, which must match the User Id and password that assigned on the iPECS iPCR web. If any, it can be defined in the Device User Login program (PGM 443) where the desired station number. Once login is complete, the remaining characteristics of the iPECS system and the iPECS IPCR web can be configured and calls recorded.

The following basic configuration is required before the iPECS IPCR is executed.

### 5.1 Basic Configuration

To be able to interact with the iPECS system, you must create a basic configuration the iPECS IPCR web before using iPECS IPCR server.

### 5.1.1 iPECS IPCR Server Configuration

Register basic information of the iPECS IPCR server to be linked with the iPECS system.

- 1. Connect to the iPECS IPCR Web.
- 2. Click the Administration > IPCR Server Registration menu.
- 3. Refer to section 6.6.1 iPECS iPECS IPCR Server Setting for detail configuration.

### 5.1.2 iPECS system Registration

Register basic information of the iPECS system to be linked with iPECS IPCR.

- 1. Connect to the iPECS IPCR Web.
- 2. Click the Administration > PBX Registration menu.
- 3. Refer to section 6.6.2 iPECS System Registration for detail configuration.

### 5.1.3 Channel Registration

Register the channel to record the call.

- 1. Connect to the iPECS IPCR web.
- 2. Click the Administration > Channel registration menu.

3. Refer to section 6.6.3 Channel registration for detail configuration.

### 5.1.4 User Level Admin

Create and register the required user level in addition to the default level 'administrator'.

- 1. Connect to the iPECS IPCR Web.
- 2. Click the Administration > User level admin menu.
- 3. Refer to section 6.6.4 User Level Admin for detail configuration.

### 5.1.5 User Registration

Register users to use the iPECS IPCR. Users include administrators, people to be recorded, and iPECS IPCR Web users.

- 1. Connect to the iPECS IPCR Web.
- 2. Click the Administration > User registration menu.
- 3. Refer to section 6.6.5 User Registration for detail configuration.

Chapter 6.

# **iPECS IPCR Web**

The iPECS IPCR Web includes an integrated Web server that is employed for access to Administrative and User functions. You can access the iPECS IPCR Web to manage iPECS IPCR system, check the recorded file, and see the call status of the agent. You can view statistics on the call from the web and provide iPECS IPCR system management.

### 6.1 Access and login

This section describes how to access and login to the iPECS IPCR Web. We highly recommend using the Chrome browser for the best results.

### 6.1.1 **To access**

- 1. Open a web browser on the PC.
- 2. Type the iPECS IPCR Server IP address in the browser's address box.
  - For example, <u>http://192.168.119.112 or https://192.168.119.112</u>
  - If you don't know the IP address, contact your system administrator.
- 3. Press Enter key then you will be seeing the login page first.



- This page may be different according to your web browser.
- At the Log In page you will be asked for a User ID and Password.

# 6.1.2 **To login**

The initial access to the web page iPECS IPCR web, you should use '**admin**' for the default ID and Password.

1. Click User ID field and enter in User ID.

User ID	
Password	
English 🗸	~
Log In	
<chrome download=""></chrome>	

- 2. Press Tab key to Password and enter your password.
- 3. Choose language between English or Local.
  - The initial local language is Korean. Local language can be changed from section 6.6.7.7 Language Setting.
- 4. Click Log In button to login to the application.
  - After login to the iPECS IPCR web, you can configure ID and Passwords for each User. Refer to section 6.6.5.2 User Registration for details.

**NOTE** It is important to change the default User ID and Password immediately after you have successfully logged in to the iPECS IPCR Web for the first time.

### 6.1.3 Logout

If you do not want any additional operation more you need to logout the iPECS IPCR web page to secure your information.

- 1. To close your session.
- 2. Click Logout ( ) button located on the upper right corner of the iPECS IPCR Web page.

**NOTE** If you do not any operation for a half hour, your session will be closed automatically.

# Web Layout

6.2

This section describes the layout of the iPECS IPCR web that is divided into Title Bar, Main Menu, Organization (or Sub menu) pane and Task Area.

When you logged in to the iPECS IPCR web the following 'Search & Listen page' is displayed on your screen, and it can be displayed only to the permitted user assigned by Admin.

/lenu Tab 🛛 🛁	ID [] PCTS	27190	sos ⊟ ∞ -	00 ~ - 201	-35-35 III	27 5 - 0	sil Type		User JD U	in Navu	Agent (D	Vero Mr	Search					
	0 - 3675,54mm/al			Dete	Time	Duration	Call Type	00	CO/EKT	User ID	User Name	Agent ID	DID/Account	Recording type	IPCR ID	File Status	Trace	
	□ <b>2</b> 630140111 □ <b>2</b> 630142082	0	0001	2019-08-06	18:09:20	00:00:51	Inbound	740123505	TRK 594-234	630142090	530142090	£30142090		ACR	UCM		<i>程</i>	
	C # 630342083	0		2019-08-06	18:09:20	00.00.51	Inbound	740123305	TRC 511-234.	630142088	630142088	630142088		ACR	UCM		章	🗭 — Т
zation (or	C 2 630142185	0	0 🗇 🗒 🛛	2019-08-08	18:9920	0000:51	inbound	740123512	TRK 576: 234.,	630142094	650142094	650142094		ACR	UICM		<i>a</i> :	
enu) Area	C = 630142087	0		2019-08-06	18/09/20	00:00:51	Inbound	740123320	TRC 514-234-	630142102	530142102	630142102		ACR	UCM		22	
	C \$ 630342089	. 0	000	2019-08-09	18:39.20	000051	inbound	740125515	186 597 214	630142097	630142097	630142097		ACR	UCM		42	
	□ <b>2</b> 630342090 □ <b>2</b> 630342091		0 🗇 🗐 🗉	2019-08-00	18:09:20	00.00.51	inbound	740123313	TRC 524-234.,	630142095	630142095	600142095		ACR	UCM		<b>2</b> 2	
	\$ 630342092	. 0		2019-08-06	18/09/20	0000-51	Inbound	740123305	TRC 576-234.	630142087	530142087	630142087		ACR	UCM		22 C	
	1 4 6303 42094		. 🕀 🖾 🕫	2019-06-06	18:09:20	02/02/51	Inbound	740123310	TRC 521: 234.	630142092	630142092	630142092		ACR.	UCM		2	
	2 630242096	( 0	0000	2019-08-06	18:39.20	00:00:52	Inbound	740123300	TRC 574: 234.	630142082	633142082	630142082		ACR	UCM		42	
	<b>1</b> 6303 42090	0	• ⊕ 🗊 🖟	2019-08-06	180920	0000:51	inbound	740125519	TRC 57E 234.	630142101	690142101	630142101		ACR	UCM		<b>a</b>	
	L 400342100		0000	2019-08-06	18:09:20	00:00:52	Inbound	740123311	TRC 574 234.	630142093	530142093	630142093		ACR	UCM		<b>a</b>	
	□ <b>2</b> 6303 42103 □ <b>2</b> 6303 42102			2019-08-06	180920	000051	inbound	740123309	TRC 574-234	630142091	600142091	630142091		ACR	UCM		4	
	\$400342103		) () () ()	2019-08-06	18/09/20	00.00.51	Inbound	740123337	TRC 526-234.	630142009	530142059	630142089		ACR	UCM		<b>存</b>	
	■ 6303 42105	0		2019-08-06	18:09:20	00:00:52	Inbound	740123318	TRC SNE 234.	630142100	630142100	630142100		ACR	UCM		4	
	() 2 4301 42107 () 2 4301 42107		0000	2019-06-06	18:39:20	000051	inbound	740123515	TRC 594: 254.	630142098	530142098	610142098		ÁCR -	UCM.		4	
		0		2019-08-06	18:09:20	000051	Inbound	740123321	TRC 574: 234.	630142103	630142103	630142103		ACR	UCM		4	
	□ <b>2</b> 630342111	0	0000	2019-08-06	18(9920	0000-52	inbound	740123334	TRC NV 214	630142086	533142086	630142086		ACI	UCM		4	
	☐ <b>2</b> 630342112	. 0		2019-06-06	18/09/20	0000.51	Induced	740123314	TRC 514-214-	630142096	530142096	630142096		ACR	UCM		2	
	C 2 630342134		nul 20257	c c fecard	from 1 to 20	эн ра	age 1 Hill 20	ovs per page								MP3 Delete   Exce	el Download   MFI Downloa	d
	Player						T									Play	List Select sector	<b>a</b>
size: Select	100.00		t at															

### 6.2.1 Title bar Area

At the top left side shows its title as iPECS IPCR, and the top right side is the Profile area which show user's account information such as an ID, user name, phone number etc.

- **Profile:** Allows you to open your profile by clicking the image (<sup>(C)</sup>), and also you can change your profile by going to '**Administration'** > 'User Registration', and then double click on the User Name you want to edit.
- Logout (Close session): Allows you to close your session by clicking the Logout (E) button.

### 6.2.2 Organization (or Sub menu) Area

In the 'Search & Listen' and 'Monitoring & Dashboard' menu provides Organization of Users as a tree structure for easy searching. In the 'Administration' menu shows its sub menu items.

### 6.2.3 Main Menu Tab Area

You can select a menu for each operation from the main menu, and the content of selected menu will be displayed on the right Task Area. Depending on the User Level, the menu that provided through main or sub menu may be different.

### 6.2.4 Task Area

All actions related each menu is displayed here. The 'Search & Listen' and 'Monitoring & Dashboard' menu have a feature to extend task area. Click ( < ) button to use more wide area and click on it again will toggle it back on.

### 6.3 Search & Listen

In the 'Search & Listen' page, the user can enter search criteria to locate specific call recordings. The user can listen to recordings, add a text memo to the recording log, and download the recording log. In the **'Task Area'**, you can enter search criteria in the 'Search Condition panel' located on the top left side of screen. In the **'Organization Area'**, you can search a specific user in the Organization of Users. Click the checkbox to select a specific user. The **'Player'** is located at the bottom of the screen and you can play a call recording from the searched list. The Play Control Panel contains buttons for playback controls (play, pause mute, volume, playback speed, etc.). Just above the playback controls is a chart that will display a file name of recordings matching the enter search criteria.

### 6.3.1 Search the Recording Log

The user can enter various search criteria and display logs for recordings matching the search criteria. The Search page will display a list of recordings that match the search criteria.

The number of records displayed on the page can be adjusted using the drop-down at the lower left of the main screen. Each record displays the **Date, Time, CID, Agent and Call type** as well as icons for listen, add a memo, or download the recording or log.

D I PCTS	30	1905-06 18 00 4	00 ~ + Ye	K060 EE	24240	al Type 🔍	00	Unit ID	Sola Printing	Vine 6	Vero Inte	Search		
2.630248208			Dete	Time	Duration	Call Type	CID	CO/EKT	User ID	User Name	Agent ID	DID/Account Recording type	IPCILID File	: Status Trace
□ 2 430340111 □ 2 430342082		• • • •	2019-08-06	18:09:20	00:00:51	Inbound	742123505	TRK 576-234	630142090	530142090	€30142090	ACR	UCM	<i>a</i> .
C 2 630342083			2019-08-06	18:09:20	00:00:51	Inbound	740123305	TRC \$21 234	630142088	630142088	630142088	ACR	UCM	<b>4</b>
C 2 630342185		<ul> <li>O</li> <li>O</li></ul>	2019-08-08	18:9920	0000:51	inbound	740123512	TRC 570: 234	630142094	650142094	650142094	ACR	UCM	<i>1</i> 27
C 430342187			2019-08-06	18/09/20	00:00:51	Inbound	740123320	TRC 574: 234	630142102	630142102	630142102	ACR	UCM	12
☐ ▲ 630342189	1	• • •	2019-08-08	18:39.20	000051	inbound	740125515	188 572 214	6.10142097	630142097	630142097	ACR	UCM	4
□ <b>2</b> 430342590 □ <b>2</b> 430342591		• 🕀 🗐 🗉	2019-08-00	10:09:20	00.00:51	Inbound	740123313	TRC 524-234	630142095	630142095	600142095	ACR	UCM	42
□		• 🕀 🖻 🗉	2019-08-06	18/09/20	00/00:51	Inbound	740123305	TRK 575 234	630142087	530142087	630142087	ACR	UCM	42
2 400040094		. 🕀 🗐 🗐	2019-00-06	18/09/20	00:00:51	Inbound	740123310	TRC 571: 234	. 630142092	630142092	630142092	ACR	UCM	12
2 400342696	(•		2019-08-06	18:09:20	00:00:52	inbound	740123300	TRC 574: 234	630142082	633142082	630142052	ACR	UCM	<b>4</b> 2
L # #20142590		● 🕀 🗊 🗊	2019-08-06	180920	000051	inbound	742123519	TRK 521: 234	630142101	690142101	630142101	ACR	UCM	<b>故</b>
□ <b>1</b> 4303 42109 □ <b>1</b> 4303 42100		••=	2019-08-06	18:09:20	00:00:52	Inbound	743123311	TRC 574 234	630142093	630142093	630142093	ACR	UCM	22
L 400142101		• • E 3	2019-08-06	18:09:20	000051	inbound	740123309	TRK 578-234	430142091	630142091	630142091	ACR	UCM.	2
2 430342103 2 430542104		• • • •	2019-08-06	18:09:20	00:00:51	Inbound	740123307	TRC 574-234	. 630142009	530142089	600142009	ACR	UCM	<b>4</b>
□ <b>2</b> 430142105		• • E •	2019-08-06	18/09/20	0000-52	inbound	740123318	TRC SPE 234	. 630142100	530142100	630142100	ACR	UCM	4
2 430142107			2019-06-06	18:39:20	0000(51	inbound	740123515	TRK 594: 254	630142098	530142098	630142095	ACR	UCM.	42
£ 630342300			2019-08-06	18:09:20	0000:51	inbound	740123321	TRC 570: 234	. 630142103	630142103	630142103	ACR	UCM	4
□ <b>2</b> 630342111			2019-08-06	18:0920	0000-52	inbound	740123534	TRC ME 214	630142086	530142086	630142086	ACR	UCM	*
C 2 630342112 C 2 630342113			2019-08-06	18.09.20	00:00:51	Induced	740123314	TRK 574 234	630142096	530142096	630142096	ACR	UCM	20
□ ± sim40114 □ ± sim40115		Tetal 20257 II	< fecare	1 from 1 to 20	<u>эн 0л</u>	age 1 🗐 20	iovs per page				10122-012		MP3 D	elete   Excel Download   MF2 Down
Discon														Mary Loss

#### To search the recording log:

- 1. Select the Search & Listen from the main menu tab.
- 2. Enter search criteria (Agent Id, User Id, CID, Call Type, Time and date) in the Search Condition Panel
- 3. Select Search button to start searching.

#### **Call Trace function:**

Call Trace function shows a list of calls associated with conference call, Transfer call, and hold functions.

Tra	ice							×
	Date	Time	Duration	Call Type	CID	CO/EXT	Agent ID	File Status
	€ 2019-07-16 🕑	16:04:19	00:00:01	Internal	2001	STA(2144)	2144	
	€ 🕀 2019-07-16	16:04:18	00:00:01	Internal	2001	STA(2144)	2144	
	€ 🕑 2019-07-16	16:04:17	00:00:01	Internal	2001	STA(2144)	2144	
	€ 🕑 2019-07-16	16:04:14	00:00:02	Internal	2001	STA(2144)	2144	
	Total 4 IK K	Records t	rom 1 to 4 →	>I 🗘 Page	e 1 📃 10 m	rows per page		MP3 Download

- 1. Click the **Trace** (
- 2. A list of calls associated with select call is displayed and can be played and downloaded.

### 6.3.2 Listening to a Recording

The player is displayed on the bottom of the 'Search & Listen' page.

#### To listen to a recording:

- 1. Select the Listen icon to the left of the desired recording.
- 2. Use the controls at the below of window to control playback of the recording.
- **3.** If the recording file is ODR2 (On Demand Recording Type2), the playing time of the player and the call time may be different.

#### To use Player

The player is displayed on the bottom of the 'Search & Listen' page.



On the Player tab, you can select:

- **Play List** (**Play List**) button use to see the playlist. You can to add a recording file to this playlist. Click **Play List** button to popup the **Play List** then click the  $\oplus$  button from the searched list in the task area.
- Select section (Select section) button use to select a particular section of recording file. You can specify a section through drag and drop after clicking Select section button. Click
   Customize (<sup>O</sup>) icon to choose a function button that use to in the section.



- Play: play from the section
- Memo: make notes for the section
- Download: download the selected section
- **Cancel**: cancel the selected section and return to previous status.

On the Play controller, you can select a button to:

- Play ( >) button use to play a track
- Pause (III) button use to temporarily stop the playing of the track
- **Stop** (**I**) button Use to stop the playing of the track
- Next ()→) button use to go to the next track while listening,
- **Previous** (M) button use to go to the previous track while listening,
- Playback speed (x1.00) button use to adjust the playing speed.
- Progress bar: Shows the progression of playing of the track
- Running time: Shows a recording file's length.
- Volume control ( \*\*): Use to adjust a volume. Click the \*\* icon to adjust the volume within the range. Drag the control bar left or right to the level you find acceptable.

### 6.3.3 Add a Memo to a Recording

The following is a description of the features you can add a memo to a recording

#### To add or display a memo:

- 1. Select the Memo ( ) icon to the left of the desired recording
- 2. In the popup screen enter the desired memo,
- 3. Select Save button to store the memo and then Close button in the popup window to confirm.

If a memo has been entered for a recording, additional memos can be added. In this case, the additional memos will display in different colors.

	oring 8	Dashboar	d	Report	Admini	stration										
-	2019	38-18 🗐	00 ~	00 ~ - 2019	408-18	23 × 55 × Ca	all Type	Memo - 2019-03-1	8 15:43:18	×			Search			
in Admin				Date	Time	Duration	Call Ty			D	User Name	Agent ID	DID/Account	Recording type	IPCR ID	File Status
admin		• • E		2019-03-18	15:43:18	00:00:59	Internal				1352	1352		ACR	SERV1	
1203				2019-03-18	15:43:17	00:01:00	Internal				1348	1348		ACR	SERV1	
1205	0 (	ÐÐE		2019-03-18	15:43:17	00:00:59	Internal				1349	1349		ACR	SERV1	
1204	0 (	) ( ) (E		2019-03-18	15:43:17	00:00:59	Internal			Sam	1350	1350		ACR	SERV1	
1202	0 (			2019-03-18	15:43:17	00:00:59	Internal	1221	21001221		1351	1351		ACR	SERV1	
U1200	0 (	• • E		2019-03-18	15:43:16	00:00:59	Internal	1545	STA(1545)	1345	1345	1345		ACR	SERVT	
1206	0.0			2019-03-18	15:43:16	00:00:59	Internal	1546	STA(1546)	1346	1346	1346		ACR	SERV1	
c	0 (			2019-03-18	15:43:16	00:00:59	Internal	1547	STA(1547)	1347	1347	1347		ACR	SERV1	
1256	- (			2019-03-18	154316	00:00:59	Internal	1544	STA(1544)	1344	1344	1344		ACR	SERV1	
1210	- (			2010 02 18	15,42,15	00.00.59	leternal	1540	CTA/SEAD	1240	1240	1240		ACD	CEBVIT	
1229 1380 1376 1273 1204 1263 1323 1399																
1392 1221 1310 1398 1368 1391 1338 1338																
1392 1231 1310 1368 1391 1338 1206 1300		Iotal 1053	16	c Records	i from 1 to 10	> н ₿ н	ige 1 🗐	10 rows per page							Dele	e Excel I
1392 1231 1310 1398 1368 1391 1338 1206 1300		Total 1053	К	c Records	i from 1 to 10	> ы ₿#	age 1 🗐	10 rows per page							Delet Play List	Excel
1392 1221 1310 1368 1368 1391 1338 1206 1300		Total 1053	к	< Records	i from 1 to 10	≻н₿≋	age 1 🗐	10 rovis per page							Deld Play List	Escal

# 6.3.4 Downloading Logs or Recordings

#### To download the recording logs:

	Date	Time	Duration	Call Type	CID	CO/EXT	User ID	User Name	Agent ID	DID/Account	Recording type	IPCR ID	File Status
	2018-06-20	22:01:31	00:00:05	Internal	1008	STA(N:1009	5009	5009	5009		ODR2	IPCR3	сору
	2018-06-20	22:00:59	00:00:07	Internal	1008	STA(N:1009	5009	5009	5009		ODR2	IPCR3	сору
•	2018-06-20	22:00:14	00:00:14	Internal	1008	STA(N:1009	5009	5009	5009		ODR2	IPCR3	copy
• • •	2018-06-20	19:52:47	00:15:58	Internal	1009	STA(N:1008	5008	5008	5008		ODR2	IPCR3	copy
	2018-06-20	19:49:41	00:02:43	Internal	1008	STA(N:1009	5009	5009	5009		ODR2	IPCR3	copy
• •	2018-06-20	15:23:05	00:00:05	Internal	1004	STA(1002)	5010	5010	5010		ODR2	IPCR3	copy
	2018-06-20	15:22:19	00:00:14	Internal	1004	STA(1002)	5010	5010	5010		ODR2	IPCR3	сору
	2018-06-20	15:21:37	00:00:01	Internal	1004	STA(1002)	5010	5010	5010		OOR2	IPCR3	сору
•	2018-06-20	15:20:16	00:20:37	Internal	1008	STA(N:1009	5009	5009	5009		ODR2	IPCR3	copy
	2018-06-20	15:19:36	00:00:03	Internal	1004	STA(1002)	5010	5010	5010		ODR2	IPCR3	copy

- 1. Click Excel ( Excel ) button.
- 2. Follow the on-screen instructions to name and save the log file.
  - If you have more than 100,000 viewed data, Excel download will be restricted.

#### To download a call recording:

	Date	Time	Duration	Call Type	CID	CO/EXT	User ID	User Name	Agent ID	DID/Account
🖻 🕒 🕀 🗷	2018-06-20	22:01:31	00:00:05	Internal	1008	STA(N:1009	5009	5009	5009	
🖻 🕒 🕀 🗷	2018-06-20	22:00:59	00:00:07	Internal	1008	STA(N:1009	5009	5009	5009	
- •  🗉 🖪	2018-06-20	22:00:14	00:00:14	Internal	1008	STA(N:1009	5009	5009	5009	
	2018-06-20	19:52:47	00:15:58	Internal	1009	STA(N:1008	5008	5008	5008	
	2018-06-20	19:49:41	00:02:43	Internal	1008	STA(N:1009	5009	5009	5009	
	2018-06-20	15:23:05	00:00:05	Internal	1004	STA(1002)	5010	5010	5010	
	2018-06-20	15:22:19	00:00:14	Internal	1004	STA(1002)	5010	5010	5010	
• •  🗉	2018-06-20	15:21:37	00:00:01	Internal	1004	STA(1002)	5010	5010	5010	
	2018-06-20	15:20:16	00:20:37	Internal	1008	STA(N:1009	5009	5009	5009	
4 Total 48 1	; < Record	s from 1 to 10	х н ₽≏	age 1 🗐 10 r	ows per page					Delete Excel Download

- 1. Check the box to the left of the desired recordings log.
- 2. Select the **Download** ( <sup>Download</sup> ) button.
- 3. Follow the on-screen instructions to name and save the log file.

### 6.3.5 Deleting Recording file

The file delete time may differ slightly depending on the file size.

	Date	Time	Duration	Call Type	CID	CO/EXT	User ID	User Name	Agent ID	DID/Account
. 🗩 🗐 🕑	2018-06-20	22:01:31	00:00:05	Internal	1008	STA(N:1009	5009	5009	5009	
	2018-06-20	22:00:59	00:00:07	Internal	1008	STA(N:1009	5009	5009	5009	
	2018-06-20	22:00:14	00:00:14	Internal	1008	STA(N:1009	5009	5009	5009	
	2018-06-20	19:52:47	00:15:58	Internal	1009	STA(N:1008	5008	5008	5008	
	2018-06-20	19:49:41	00:02:43	Internal	1008	STA(N:1009	5009	5009	5009	
	2018-06-20	15:23:05	00:00:05	Internal	1004	STA(1002)	5010	5010	5010	
	2018-06-20	15:22:19	00:00:14	Internal	1004	STA(1002)	5010	5010	5010	
• • • •	2018-06-20	15:21:37	00:00:01	Internal	1004	STA(1002)	5010	5010	5010	
	2018-06-20	15:20:16	00:20:37	Internal	1008	STA(N:1009	5009	5009	5009	

- **1.** Select the checkbox ( $\leq$ ) you want to delete.
- 2. Click Delete button and then Confirm button in the popup window to confirm.

Are you sure y	ou want to	o delete t	he selected list?
	Confirm	Cancel	

**NOTE** The files once deleted cannot be restored, so please proceed with caution.

# 6.4 Monitoring & Dash Board

The monitoring screen shows the recording status of agents. Agents registered with user name and extension number in user management are displayed on the monitoring screen.

### 6.4.1 Real Time Call Monitoring

The Real-time Call Monitoring page presents the status of the recording Agents and permits monitoring in-process call recordings. Agents are displayed as an icon, refer to section 6.4.1.1 Icon View, or 6.4.1.2 Grid View for details. The user may select the view using the 'Icon View' or 'Grid View' button at the top of the left pane. Users can monitor an active recording by selecting the **Listen** ( $\mathbf{n}$ ) icon for the agent.

#### 6.4.1.1 Icon View

Selecting the Icon **View** button in the upper area of the left pane displays the recording Agent Icon View page below. Each Agent is represented by an icon with the User Id and name.

IPECS IPCR			_								(rental ranks	AB
Search & Listen	Monto	ring & Dashboard	Report	Administration								
III =	-											
0 000 0 NoC 0 NoC		£ 10	<b>8</b> 10	<b>1</b> 10	1 Mar 1	<b>1</b>	100 100	<b>2</b> II	100 000	2.00	100 100	
_ use		n 18 €	9 B	· = A & =	0.68.8	67 18 E	0 E 8	10 H B	<b>∩</b> @ ⊜	17 H B	9 B	- 3
		±	100 100	200	<b>8</b> 00	<b>1</b> 12	2 100 100	± 12	<ul> <li>100</li> <li>100</li> </ul>	1000 1000	<b>a</b> 17	
		0 8 a	9 B	4. G = 4	0 B +	0 8 8	0 15 ×	088	0 B 0	n 8 ⇒	6.8	
		1210 1210	3211 1011	100 100	20 20	1214 (254)	2 1215 (215	210 1210	1217 017	1218 210	300	
		9 E S	9 B	- 9 2 -	9.00.0	ត្ ២ ខ	9 E S	ណ្ឌ ៖	9 B 0	n 8 -	9 B	
		1420 1220		J 122	121 211	1224 1224	2 122 133	88	S22 527 527	1228 1221	129 035	
		9 5 2	9 0	9 B B 9	90.	9 8 X	9 E =	9 8 ×	9 E 3	0 U =	9 8	×.
		100 100	😫 💷	1212 1212	211 1211	2 1214 1234	1215 1215	2 1236 1235	110 1207	1210 (251)	110 100	
		96.5	9 0		n 🗉 =	ត 🗇 🗉	9 E =	0 E =	9 B +	n 🗉 ÷	9 B	1
	0	<b>1</b> 12	84 00	2 10	100 000	100 000	2 90 00	2.55	<b>2</b> 12	8 8H	<b>a</b> 55	
		9 E *	9 0	* * * *	9 E =	Q II =	9 E =	9 8 H	9.5.4	17 II 14	57 E	1
		4 10	<b>₽</b> <sup>101</sup>	<b>3</b> 12	<b>1</b> 12	<b>₽</b> <sup>104</sup>	4.100 (11)	a 10	100 100	2 <sup>100</sup>	<b>₽</b> 10	
		9 E 9		8 6 5 8	9 B #	97 ED 8	(4) 第二年	0 D 8	4 II 8	<u>Ω</u> □ =	6 10	
		£ 12	<b>£</b> 10	<b>4</b> 22	<b>4</b> 17	<b>A</b> 12	<b>B</b> 101	8 10	<b>≙</b> 10	22	<b>a</b> 11	
		0.10.4		+ A = +	0 13 B	Ω ⊕ €	白 局 金	0.0.8	· G . (20) · +	9 10 B	-0 F	
		<b>1</b>		<b>a</b> 88	<b>1</b> 11		<b>A</b> 10		<b>2</b> 00	2 <sup>100</sup>		
		前班中		0 A 8 0	0 H H		0 E E	Q 181 H	0 B +	机 田 市	0 8	
		£ 17	2.0	<b>4</b> 12	<b>1</b> 12	<b>a</b> 12	<b>1</b> 10	<b>a</b> 12	± 10	a 12	<b>a</b> :::	
		10 10 H	Ω 8	0 0 0 0	Δ H ⊕.	Ω 8 ±	0 E 8	Ω 18 18 ·	n 8 a	Ω 8 ±	- G - H	
		5ela/213 c.	1.52 120	a Fapit								

#### The icon indicates the Agent status as:

- Agent logged in and idle
- ACR Agent busy and recording in process
- CDR Agent busy, the call recording button will flash to indicate recording in process

#### To monitor the call of an Agent that is in the recording state:

Click the Headset (

 in the Agent icon, the headset will flash and audio for the call is presented to the PC.

- If you click **Memo** (𝔅) icon memo will popup.
- It is possible to confirm the popup memo in lookup menu.

#### To activate call recording for an On-demand recording Agent:

- Select the **Record** ( ●) in the Agent icon, the button will flash, and the Agent can be monitored as described above.
- To cancel the recording, press the **Record** (<sup>(IIII</sup>)) again prior to completion of the call.

#### 6.4.1.2 Grid View

Selecting the Grid View button in the upper area of the left pane displays the recording Agent Grid View page below. Each Agent is represented by an entry in the listing with the User Id name, Class (user group), Agent Id, and status icons.

State         Test         Administration           Image: State	IPECS IPCR										ation (alice) O E	
Normal Control         Normal Control         Other         Other Control         Other Control<	Search & Listen	Monitoring & Dashboard	Report	Administration								
0         0 <	11 12											
138         138 <td>0 0 000</td> <td>Agend 10</td> <td>User 10</td> <td>Name</td> <td>Class 1</td> <td>Oans 2</td> <td>Class 3</td> <td>Status</td> <td></td> <td></td> <td></td>	0 0 000	Agend 10	User 10	Name	Class 1	Oans 2	Class 3	Status				
Case         Same         Same <th< td=""><td>i alter</td><td>1200</td><td>611200</td><td>U1308</td><td>849</td><td>Re Ø</td><td>2+3</td><td>0</td><td>4</td><td></td><td></td></th<>	i alter	1200	611200	U1308	849	Re Ø	2+3	0	4			
128         128 <td>C ubec</td> <td>1200</td> <td>1200</td> <td>1200</td> <td>643</td> <td>ReD.</td> <td>UC+C</td> <td>A</td> <td></td> <td>101</td> <td></td>	C ubec	1200	1200	1200	643	ReD.	UC+C	A		101		
121         121 <td></td> <td>1,001</td> <td>u1.001</td> <td>1201</td> <td>2428</td> <td>8-0</td> <td>640</td> <td>0</td> <td></td> <td>12</td> <td></td>		1,001	u1.001	1201	2428	8-0	640	0		12		
100         1000		1201	1201	1201	80	840	ucic	A	Ω.	10		
122         123 <th12< th=""> <th123< th=""> <th123< th=""></th123<></th123<></th12<>		1202	ü1202	1202	643	Red .	04	0	-	10		
101         103         103         103         104         106 <td></td> <td>1202</td> <td>1202</td> <td>1202</td> <td>001</td> <td>R=D</td> <td>UCHC</td> <td>A</td> <td></td> <td>-</td> <td></td>		1202	1202	1202	001	R=D	UCHC	A		-		
1231         1233         1233         1233         1233         1234 <th< td=""><td></td><td>1208</td><td>611200</td><td>1201</td><td>50</td><td>t+D</td><td>64</td><td>0</td><td></td><td>101</td><td></td></th<>		1208	611200	1201	50	t+D	64	0		101		
154         1156         1156		1205	1205	1,025	CKR	aug.	ucie	A		8		
134         134         134         134         134         136 <td></td> <td>1204</td> <td>U1204</td> <td>1204</td> <td>0.0</td> <td>A/D</td> <td>00</td> <td>9</td> <td></td> <td>10</td> <td></td>		1204	U1204	1204	0.0	A/D	00	9		10		
128         128 <th128< th=""> <th128< th=""> <th128< th=""></th128<></th128<></th128<>		1204	1204	1304	643	80	uciic	9		8		
128         128         128         128         128         120         140         140         120 <th 120<="" td="" th<=""><td></td><td>C. un</td><td>U1205</td><td>1201</td><td>10.</td><td>NO.</td><td>04</td><td>9</td><td></td><td></td><td></td></th>	<td></td> <td>C. un</td> <td>U1205</td> <td>1201</td> <td>10.</td> <td>NO.</td> <td>04</td> <td>9</td> <td></td> <td></td> <td></td>		C. un	U1205	1201	10.	NO.	04	9			
108     108     108     108     100     0.00     101     101       108     108     108     00     100     0000     101     101     101       108     108     108     100     100     0000     101     101     101       108     108     100     100     000     100     101     101       108     108     100     100     000     101     101       108     108     100     100     101     101		1208	1208	1228	001	ReD.	uok:	0	0	10		
128     128     128     08     100     100c     III     III       127     9108     107     100     100     100     100     100       128     1287     1287     108     100     100c     III     100       128     1288     1288     100     100c     III     100       128     1288     1288     100     100c     III     100       128     1288     1288     100     100c     III     100		1208	01206	1006	948	and .	oc	0		10		
U27         U387         U37         U38         Ho         Dc         IA         IA </td <td></td> <td>1206</td> <td>1296</td> <td>1226</td> <td>0.0</td> <td>840</td> <td>UDIC</td> <td>0</td> <td>9</td> <td>15</td> <td></td>		1206	1296	1226	0.0	840	UDIC	0	9	15		
CODY         Staty         CODY         DBX         BOD         DCOC         DA         GE         DE           CODY         VEXING         CODX         BOD         BOD         DCOC         DA         GE         DE         D		1207	u1207	1207	103	ReD .	oc	0				
128 V128 128 05 50 00 00 00 00 00 00 00 00 00 00 00		1207	5207	5207	000	BHQ.	NONE	0	0	- 123		
128 128 128 18 60 100 A G 5 5		1228	U1208	1208	500	8-0	0.5	0				
		1208	1208	1208	113	840	MONE.	0				
		1.000					10.0	0		-		
		100		1000			0.04			-		
128 Ud9 128 EA 5-0 CC		1208	U1209	1229	60.	5-0	oc					

The Agent status is indicated by the icons as below:

- 🝳 🙃 🔍 🍳: Agent logged in and idle
- 🗛 🙃 🗉 ACR Agent busy and recording in process.
- • ODR Agent busy, the call recording button will flash to indicate recording in process.

#### To monitor the call of an Agent that is in the recording state:

- Click the **Headset** ( ( ) in the Agent icon.
- Then the headset will flash and audio for the call is presented to the PC.

#### To activate call recording for an On-demand recording Agent:

- Select the **Record** ( ●) icon for the Agent, the button will flash and the Agent can be monitored as described above.
- To cancel the recording, press the **Record** (<sup>(D)</sup>) icon again prior to completion of the call.

### 6.4.2 Dash Board

The Storage Monitor graphically displays the current CPU, memory and backup memory usage as well as a graph of memory use over time.

#### To view the Server status report:

- Select the Monitoring & Dashboard tab from the IPCR web.
- Select the Dashboard tab.
- You can check the items below.

earch & Listen	Monitoring & Dashboard	Report Administration					
Today	UPDATE August 06, 18:23:03	Total Duration	System utiliz	ation		Call server sta	atus
		298:22:22	CPU		5%	UCM ACT/A	CT 0 10 90
	0621		MEMORY		32%		
2		Avg. Duration	HDD		1%	-	
	Recordings	00:00:52					
			AGENT PERF	ORMANCE BO	ARD (TOP 10)		
	9109 Inbound	Max. Duration	Agent ID	User	Recordings	Avg. Time	Last Recording Tim
	9091 Outbound 2431 Internal	00:28:33	630147012	630147012	862	00:45	2019-08-06
	- 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		630147011	630147011	828	00:43	2019-08-06
ast 7Days	UPDATE August 06, 18:23:03		630147010	630147010	826	00:44	2019-08-06
		Total Duration	630147009	630147009	805	00:49	2019-08-06
		505:22:17	630147013	630147013	785	00:50	2019-08-06
2	2/071		630142147	630142147	712	00:53	2019-08-06
	94971	Avg. Duration	630142148	630142148	711	00:53	2019-08-06
	Recordings	00:00:52	630142149	630142149	711	00:53	2019-08-06
			630142150	630142150	711	00:53	2019-08-06
		Max. Duration	630142151	630142151	711	00:53	2019-08-06
	15508 Inbound 15395 Outbound	00.28.33					

- Daily call status: show the daily call status.
- Weekly call status: show the weekly call status.
- System utilization: show the current CPU, Memory, Disk utilization of the IPCR server.
- Call server status: show the status of the connection between the PBX and the IPCR server. If the connection to the PBX is normal, it will be displayed in green color or red if abnormal.
- Agent performance board (top 10): show call statistics of the top 10 agents.

# 6.5 Report

The Call Statistics Web page delivers a graphical and tabular view of call traffic to the iPECS IPCR application. The type of call (incoming or outgoing), number of each call type and duration of the calls is provided. In addition, the Call Statistics report can be downloaded as a worksheet file for further analysis. The drop-down at the bottom left of the page can be used to select the number of records displayed on the page.

#### To view the Call Statistics report:

- Select the Report tab from the iPECS IPCR web.
- Select the Call by Month, Call by Day, Call by Time, Call by User, Call by CO, Call by DID, Call by Concurrent (Day), Call by Concurrent (Time).
- Enter search criteria (Start date, End date).
- Select Search.

#### To download the Call Statistics report:

- Select **Excel download** (Excel download) button while viewing the desired report.
- IPECS IPCR AE Search & Listen 2019-03-01 🔳 2019-03-18 🔳 Call by User rding count 111438 All recording hours 919 00:00:40 00-00-40 00:00:10 00:05:10 00:04:49 00-01-21 00:01:11 00:01:1 0.01-20 00:01:29 00:01:29 918:523 00124 919:05:1 c Records from 261 to 270 ⇒ ⇒1 D Page 14
- Follow the instructions to save the file locally.

5. 7	Q (* 1	Contra 1 million / 144	ease inter i had manufactured under	Concourt.						4 4 0 1
IPECS	IPCR								이중환입니다;	(admin) 🙆 🖪
Sear	ch & Listen	N View data	by agent - 801600						×	
2019-0	3-01 🔟 201	9-03-	1. S.							Excel download
									Inbound	
									Outbourd	
		_								Inbound
										Cutbound
									(A. )	Recording time
						-	1.00			- (write)
			2019-03-06	2	219-03-07	2019	03-12	2019-02-13		
		10 4 8	ecords from 1 to 4 > >1	D Page 1						_
	28006800	32	6002000	6002007	60053006	801500	801000	808011	806021 808052	
No	Agent	Total of calls	Recording Time	Inbound Count	Inbound recording Time	Outbound Count	Outbound recording Time	Internal Count	Internal Time	
261	28006800	1	00:00:16	0	00:00:00	0	00:00:00	1	00:00:16	
262	37	5	00:00:49	0	00:00:00	5	00:00:49	0	00:00:00	
263	6002000	1	00:00:07	0	00:00:00	0	00:00:00	1	00:00:07	
264	6002007	1.	00:00:40	0	00:00:00	0	00:00:00	1	00:00:40	
265	60088006	1	00:00:10	0	00:00:00	1	00:00:10	0	00:00:00	
266	801500	8	00.00:38	0	00:00:00	t.	00:00:18	1	00:00:20	
267	801600	30	00:06:10	0	00:00:00	15	00:04:49	15	00:01:21	
268	808011	4	00:01:11	0	00:00:00	4	00:01:11	0	00:00:00	
269	808021	9	00:01:28	0	00:00:00	9	00:01:28	o	00:00:00	
	808052	2	00:01:29	0	00:00:00	2	00:01:29	0	00:00:00	
270										
270										
270		*******			030327		001111	******		

#### To view Call by User information at the popup:

- When you click on the scale of the x-axis of the graph on the Call by User page,
- The call statistics information for that agent is popup in a separate window, as shown above.



#### You can view the Concurrent License Statistics (Day, Time):

# 6.6 Administration

The iPECS IPCR Administration menu includes tabs at the top of the page for User registration, User admin level, PBX Registration, Channel registration, and Setting menus. Each tab displays the Web page associated with the menu and may include several lower level tabs.

### 6.6.1 iPECS IPCR Server Setting

iPECS IPCR Server Setting defines the iPECS IPCR server information for the application including IP address and path for Back-up services. Server IP and ID should be assigned for IPCR's operations.

#### To configure the iPECS IPCR server information:

- 1. Select the Administration tab from the iPECS IPCR web.
- 2. Select the iPECS IPCR Server Setting.
- 3. Click Add Server button at the bottom of the page will pop up a separate Add Server window.
  - Input information as desired.
  - IPCR ID: up to 5 character,
  - IPCR Name: up to 20 characters.
  - IPCR IP: only IPv4 format is supported.
- 4. Click Add Server button.



# **NOTE** You can modify the entered iPECS IPCR server information by double click at the mouse in the same way as above.

#### To delete the iPECS IPCR server information:

- 1. Click the checkbox to the left of the iPECS IPCR server entry that you want to delete.
- 2. Click **Delete** button at the bottom of the page.

### 6.6.2 iPECS System Registration

iPECS IPCR can be configured to work with ten (10) iPECS systems simultaneously. Each iPECS system is defined under the PBX Registration tab. The SIP Id and password, the iPECS system Id and IP address are required. The Keep Alive timer is not used. The SIP Id and password are sent to the iPECS host during login. If assigned in the host, must match the Station User Id parameters in the iPECS host. Once the IPCR application is configured for PBX Registration and the iPECS host is configured for registration and login, the iPECS IPCR sever should be registered with the host. Note a value must be entered for the Keep-alive timer however, the timer is not used.

#### To configure the iPECS host information for iPECS IPCR:

- 1. Select the Administration tab from the iPECS IPCR web.
- 2. Select the PBX Registration tab.
- 3. Click **PBX add** button at the bottom of the page to pop up a separate window to add the PBX information.



IPECS IPCR											admin [admin]	0	B
Search & Listen	Monit	toring & Da	shboard	Report	Administration								
IPCR Server Setting		PEX ID	PBX Name	Site Name	PBX IP	PRX SubIP	SIP ID	SIP password	SIP port	SIP Re-Reg Request	Re-registration tim		
PEX Registration		UCP.	VUCP2400	LAb .	192.168.119.132		1010		5060		1600		
HD Registration Channel registration Uner registration General Setting Martenance Web Ing Disense Information Version Information		UCP.	VUCP2400 UCP2400	LAS LAS PBX PS 15 15 15 15 15 15 15 15 15 15 15 15 15	1922168.1193192 1922168.1193192 1922168.1193190 8 Pares * 8 Pares * 8 Pares * 8 Pares * 8 Pares * 9 Pares * 9 Pares * 9 Pares * 9 Pares * 9 Pares *	Yes	2017	**** **** *	5060 2060	Y Y	1600		
	PS	Kadd Dei	650				FEX self						

ltem	Specification
PBX ID:	Up to 5 Characters
Site Name:	Up to 20 Characters
SIP ID:	Up to 12 Characters
SIP Port:	4 or 5 digits
Re-registration time:	We recommend 3,600 seconds
PBX Name: up to 20 Characters	PBX Name: up to 20 Characters
PBX IP: PBX Sub IP:	IP v4 IP v4
SIP password:	Up to 12 Characters
SIP Re-Reg Request:	Y or N

You can modify the entered PBX information by double click at the mouse in the same way as above.

- **PBX ID:** ID set by iPECS
- PBX IP: iPECS connect IP
- **PBX Sub IP:** iPECS area redundancy Set IP. (Sub IP can be found in PGM503 at iPECS UCP and LCM Redundancy information at iPECS CM.)
- SIP ID: Connection ID to iPECS
- SIP password: Connection password to iPECS
- SIP Re-Reg Request: Whether the exchange is reconnected
- Re-registration time: Exchange Re-registration Time

#### To delete the PBX Information:

- 1. Click the checkbox to the left of the PBX Information entry that you want to delete.
- 2. Click **Delete** button at the bottom of the page.
## 6.6.3 Channel registration

The iPECS IPCR will allocate channels based on the number of licenses defined for the server. Each channel is assigned an Agent Id, which is assigned a User name and is further associated with an object in the host iPECS database (PGM 237).

The channel is configured to activate recording for all calls or on-demand. One PBX needs at least one more channel. If there is no channel for one PBX, SIP of iPECS IPCR cannot work. Channel cannot erase it after register.

#### To configure iPECS IPCR channels:

- 1. Select the Administration tab from the iPECS IPCR web.
- 2. Select the Channel Registration tab.
- 3. Click **Channel add** button at the bottom of the page to pop up a separate window to add the Channel information.
- 4. Input the channel characteristics including the Agent ID (up to 6-characters).

Search & Listen	Monitoring &	Dashboard	Report	Administra	tion				
IPCR Server Setting	Channel No	IPCR ID All	PBX ID	Agent ID	Rec	ording type			
PBX Registration	a	SERV1	UCP	1200	ACR	a		×	
Channel registration	9	SERV1	UCP	1201	ACR	Channel add			
User level admin	10	SERV1	UCP	1202	ACR	IPCR ID *	SERV1	×	
User repistration	11	SERV1	UCP	1203	ACR	PBX ID *	UCP	~	
user regenition	12	SERV1	UCP	1204	ACR	Agent ID *			
General Setting	13	SERV1	UCP	1205	ACR	Recording type *	ACR	~	
Maintenance	14	SERV1	UCP	1206	ACR			Create	
Web log	15	SERV1	UCP	1207	ACR	L			
License information	16	SERV1	UCP	1208	ACR				
Version Information	17	SERV1	UCP	1209	ACR				
	18	SERV1	UCP	1210	ACR				
	19	SERV1	UCP	1211	ACR				
	20	SERV1	UCP	1212	ACR				
	21	SERV1	UCP	1213	ACR				
	22	SERV1	UCP	1214	ACR				
	23	SERV1	UCP	1215	ACR				
	24	SERV1	UCP	1216	ACR				
	25	SERV1	UCP	1217	ACR				
	26	SERV1	UCP	1218	ACR				
	27	SERV1	UCP	1219	ACR				
	IC C Recon	ds from 1 to 30 a	ы <b>Д</b> Раде	1 🔝 30 rows p	er page				
	21			Provident 1					

- 5. Select the type of recording using the description below.
  - All Call Recording: record all your calls.
  - On Demand Recording 1: record only the call which you want to record. You can select
    whether or not to record the call by using the monitoring screen of the iPECS IPCR Web
    or the on demand record button of the phone.
  - On Demand Recording 2: select the section that you want to record. You can select the
    recording section by using the monitoring screen of the iPECS IPCR Web or the on
    demand record button of the phone.

#### If you select the On Demand Recording 2 in iPECS CM system:

The settings on the PBX web page are required as shown below.

Voice Mail Information						_ @ X			
Node 03  Calcoad Tenant  Pho	a Modify × Close No. 22000	<ul> <li>(VM Distribution List)</li> <li>Physical Address 000540</li> </ul>				ď			
VM Access		Use	VM COS 🕥		1	-			
Internal VM Check		from latest MSG	Internal VM SLOT						
Number of Manager (Name	(Onverti (Unrent))	0.000		Normal(New / Saved)	0/0				
Number of Message (New)	Saved / Orgenit)	07070	Number of Outwessage	Urgent(New / Saved)	0/0				
	Tenant	1		Tenant					
Voice Mail Device	Feature Code / Phone No.	21300	Color Ring Device	Phone No.					
	Tenant	1	Phone for Internal	Tenant					
Two-way Record Device	Feature Code / Phone No.	21171	VM Backup	Phone No.					
Two-way Record Start Mod	e	Start with button on conversation(ODR)	R) Delete Backuped VM to Phontage		No				
ODR Record Type for IPCF	Device	Full recording is selectable to save or discard (	Full recording is selectable to save or discard (default discarded)						
Use IPCR Record Alarm Ar	nouncement	Not Use				_			
	Tenant		Fax Bridge Service		Not Use				
Fax Bridge Device	Feature Code / Phone No.		Fax Bridge Tone Detect 1	limer (sec)	10				
SMTP Mail Server		0.0.0.0	SMTP Mail Server Port N	lumber	0				
SMTP User ID			SMTP User Password						
SMTP Sender Mail Address	1		SMTP Security		Auto				
E-mail Address for VM Indi	antion			Toport		*			
Process Success!									

- Please select ODR Record Type for iPECS IPCR Device option as Full recording is selectable to save or discard (default discarded).
- Select **Save** button.

#### How to use the Multiple Channel add:

You can register more than one channel at a time via the Excel file. You can download the Excel file for multichannel registration by clicking the Form Download button at the bottom of the page.

	А	В	С	D	E	F	G	Н
1	IPCR ID	PBX ID	Agent ID	Call Type	[A: ACR], [	[S: ODR1],	[P: ODR2]	
2	IPCR	UCP	1000	Α				
3	IPCR	UCP	1001	S				
4	IPCR	UCP	1002	Р				
5	IPCR	UCP	1003	Α				
6	IPCR	UCP	1004	Α				
7	IPCR	UCP	1005	Α				
8								

- System ID: input the registered IPCR ID on the Administration > IPCR Server Setting page.
- **PBX ID:** input the registered PBX ID on the Administration > PBX Registration page.
- Agent ID: input the Agent ID to register.
- **Call Type:** input the recording type.
- Input all Channel information to add and save the Excel file.

• Click **Multi-Channel add** button at the bottom of the page to view the popup window below. Click **File** button to select an Excel file above and click **Create** button to add multiple channels.

#### How to use the Delete Channel:

• Check the checkbox on the left side of the channel for deletion and click the Delete button at the bottom.

**NOTE** Channel deletion is only possible when connected to IPECS system. Channel deletion is supported in UCP/eMG 3.5.21 Ver and CM 2.6 Ver.

### 6.6.4 User Level Admin

Based on the User Admin Level, a user is allowed access to specified features and functions of the iPECS IPCR Web Server. A maximum of 10 User Admin levels can be configured.

#### To access the User Admin Level settings:

- 1. Select the Administration tab from the iPECS IPCR web.
- 2. Select the User level admin tab.
- 3. Input a Level name, up to 20 characters.
- 4. Check appropriate 'Activation' boxes for the User Level Admin.

IPECS IPCR									admin [admin]	A	8
Search & Listen	Monitoring & Dashboard	Report	Administration								
IPCR Server Setting	Administrator	Menu		Permissions	Read	Write	Delete	Listen	Download	Excel	
P8X Registration	User	Search	ð: Listen	IIA	3	52	2	S	82	8	
Channel sepistration		Realtim	e Monitoring	IIA	2	8		8			
		Dashbo	ard		8						
User level admin		Call by	Month		8					8	
User registration		Call by	Day		8					8	
General Setting		Call by	Time		8					×	
Maintenance		Call by	User		81					18	
Web log		Call by	co		14					12	
Licence information		Call by	DID		91					8	
License mormation		IPCR 54	rver Setting		2	100	<u></u>				
Version Information		PEX Re	pistration		$\overline{M}$	88	92				
		Channe	l registration		8	88	8				
		User les	vel admin		32	58	38				
		User re	gistration		8	8	8				
		General	Setting		8	52	52		22		
		Mainter	nance		$\overline{\mathcal{M}}$	100	32				
		Web lo	2		8						
		License	information		2						
		Version	Information)		18						
	Group add Modify Dele	oter									

• A User admin level can be deleted using the **Delete** button.

## 6.6.5 User Registration

User Registration establishes User Groups and details for each user. Each user is registered with the iPECS IPCR application at one of three class or group levels, establishing a hierarchy. This function is often used to separate departments and groups for easier user and administration access. The initial Web page indicates the number of Users for each Class level in the main window and a tree display of user groups in the left window.

#### To access the User Registration page:

- 1. Select the Administration tab from the iPECS IPCR web.
- 2. Select the User registration tab.

	IPECS IPCR			1	112							-	Interest (A)	5. J
	Searsh & Listen	Menitoring & Deshleoard	Report	Administration										
	IPCR Senier Saming	0.40	1	No User Name	Uyer ID	PEXID	Agent ID Prose sunder	User Invet	Class 1	Class 2	Class 3	Employee ID	truit	
	PEX Republic	C abox	0.5	1 1258	1258	1009	1254	Administrator	107	aug .	UCHC			1
	Channel requiration	0 OC	0.5	2 100	1306	507	1308	Administrator	103	RHD -	UCHC			
	Utar level admin	2.191	0.5	3 1210	1210	UCP.	1210	Administrator	110.	8-0	Wind			
	Star registration	A.205	62	4 1327	1827	UCF	1927	Administrator	242	RHD .	licit			
	General Serring	£1200 £1202		5 1222	1222	UCF	1222	Administrator	208	RHD .	UCHC			
		A1210	1 80	4 1200	1268	UCP	1268	Administrator	DR	ReD.	NO4			
	Maintenance	1,1200 1,1200	0.0	7 1368	1268	LUC#	1268	Administrator	14.8	RHD.	UCHC.			
	Web-big	£1307	63	8 5265	1205	UCP.	1285	Administrator	DR	ReD	UCHC .			
	Giaroe information	2104	<b>P</b> (3)	8 1228	1229	907	1229	Advictorary	DR	Ard .	UCHC .			
	Variation Information	1100 1100	1010	10 1380	1880	UC#	1000	Adversitator	242	8x0	UC:C			
O		<b>▲</b> <207	0.0	11 1376	1019	007	tahi	Administratur	1507.	At U	USHC			
Organization –		11209	C217	12 1279	1273	UCP .	1273.	Administration	545	8-0	UC+C			
of Users		A100	P.S	13 1204	1254	UCP .	1204	Administration	0.0	840	UCHC			
		A1229	0.5	74 T253	1263	907	1263	Administrator	0.09.	RHD .	UCHC .			
			0.0	15. 1525	1323	0.07	0321	Administration	DR	ReD.	ucie.			
		£1279	0.0	16 1309	1009	609	1308	Advisionation	101	0xD	UCHC			
		±1260	(a)	17. 1392	1202	QCP.	1992	Administrator	D/A	AnD .	00-0			
		1:000 1:000	<b>C</b> 12	18 1231	1231	UCP	1211	Administrator	147	810	UEHC			
		A 1310	0	19 1210	1210	UCP.	raid	Administrator	108	APD .	UCHC .			
		21700	0.8	20 1390	1208	UCP	1944	Administrature	D/7.	AnD .	Sicht .			
		2.100 2.100 2.100 2.0000 2.0000 2.000000 2.0000 2.00000000		Neural Fore 1 to 20 a	н (Сілда)	III St. one has been								

### 6.6.5.1 User Group Registration

#### To add or modify a Class (User group):

- 1. Click Group add button at the bottom of the page to pop up a separate Group add window.
- 2. Select the unit of group you want to add and input a group name.(up to 20 characters)
- 3. Click Group add button at the bottom of the popup window.
- 4. You can modify the group by clicking the Modify button at the bottom of the page.

PCR Server Setting	0.000	10		Unier Hart	er Vert 10	PEKID	Agent ID Phone number	About haved	Class 1	Clers Z	Class 3 Employee 10	Loud
the factor of the	C atres	100	- C.	_	AL.	. 4.1		- 48				
in adjustance	Labor		Group add			×	1298	Admentisher	0.01	1-0	VENE	
Natival registration	1000		-			1	1308	Administrator	543	8+0	UCHC .	
net level activity.	A1211				Carrier 1 Constant		4218	Administrator.	613	8-0	uo-c	
	1200 1700		Nergon				+127	Administrator	D408	10	VOIC :	
en redocation	T1000		Mode pro	e*		-		****	140	-	in the second	
manul Satting	<b>2</b> 1293	8	Creat 1411	4			1222	Albertalia	14.4		104	
	£1208						1268	Allevisitator	105	8-0	UDIC	
Activities	Ashie					rouge and	1268	Administration	6101	940	VOIC	
ek hog	\$1207			1485	5485	00	1205	Administration	157.	8-0	VOIE .	
and the second second	0.004			1778	1114	1078	1778	A Real Property lies	444		100	
anse protestatori	A 1200			1008	1.007	0.7	1229	Approximate por	144	- 194	0.76	
rain Information	A 1279		40	1380	1945	UCP	+380	Administrator	101	2+0	uc+c	
	▲1347		11	1576	1576	UCP	1576	Administrator	188	810	UDIC	
	£1222		12	1273	1273	009	1273	Administrator	0.0	80	UDIC	
	A1299		1.1.44.1.1	1254	1114	1010	1994	- Andrewski	100	1.0.0	12-2	
	<b>2</b> 1280								100		1000 C	
	L1229		78	1263	1262	UO*	1263	Administration	008	140	VOIC	
	21376		19	1123	1323	UCP	1323	Administrator	143	TeO.	UDIC	
	£1279		14	1326	1329	UCP .	1208	Administration	645	16-0	1010	
	<b>1</b> 1294					100	1.000				100	
	100			1004	1.5%	0.7	1.00	April 191	100		0.76	
	1.000		11.	101	6231	0.09	1211	Administration	100	8-0	SOC.	
	1:042		19	1110	4310	UCP.	1210	Administrator	0.01	IND .	UDIC	
	1211		28	1208	1258	0.09	1200	Applelana	115	80	UDE	
	A.100											
	21308											
	1901.											
	£1338											
	1.000											
	#1547											
	1 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (											
	a chief											
			a facility	Same 1 are 10	a at (Crew)	III in our last same						

#### To delete a Class (User group):

- 1. On the User Classification screen, select the group unit you want to delete.
- 2. Click **Delete** button at the bottom of the page.
- **NOTE** You can save, modify, and delete them in the same way as the middle and small group name. In addition, you must register big and middle and small group first before registering users.

### 6.6.5.2 User Registration

Each user is identified and a Name assigned. The User Id and password are the credentials employed by the user for login to the iPECS IPCR Web functions. The User Level is the User Admin Level that determines the functions and features available to the user as configured in section 5.2.2. Note the Agent Ids are available only after registration and login to an iPECS host with licensed Agents. If enabled, the user activity in the iPECS IPCR Web is logged.

To add a user:	
----------------	--

IPECS IPCR												admin (admin)	AE
Search & Listen	Monitoring & Dashboard	Report	Administration										
IPCR Server Setting	EXR     RnD	1	No User Name	User ID	PBX ID	Agent ID Phone number	User level	Class 1	Class 2	Class 3	Employee ID	Email	
PBX Registration	) admin Ladmin	0.0	1 1256	1256		×	Administrator	EKR	RnD	UCnC			
Channel registration	© CnC	0	Z 1306	1306	User add		Administrator	EKR	RnD	UCnC			
User level admin	\$1201	0	3 1210	1210	10 *		Administrator	EKR	RnD	UCnC			
User registration	\$1204	0	4 1327	1327	Password *		Administrator	EKR	RnD	UCnC			
General Setting	£1209 £1202	0	5 1222	1222	Password verification *		Administrator	EKR	RnD	UCnC			
Maintenance	±1268 ±01200		6 1269	1269	PBX ID	~	Administrator	EKR	RnD	UCnC			
Web los	£1206		7 1268	1268	Agent ID	~	Administrator	EKR	RnD	UCnC			
Web log	© UCHC		8 1285	1285	PhoneNumber		Administrator	EKR.	RnD	UCnC			
License information	±1256 ±1306		9 1229	1229	User level *	~	Administrator	EKR	RnD 0=D	UCHC			
Version Information	£1210 £1327		10 1380	1376	Class 1 Code *	~	Administrator	FKR	ReD	UCoC			
	£1222		12 1273	1273	Class 2 Code *	~	Administrator	EKR	RnD	UCnC			
	<b>▲</b> 1268		13 1204	1204	Class 3 Code *	~	Administrator	EKR	RnD	UCnC			
	±1285 ±1229		14 1263	1263	Employee ID		Administrator	EKR	RnD	UCnC			
	±1380 ±1376		15 1323	1323	Email		Administrator	EKR	RnD	UCnC			
	£1273		16 1309	1309		User add	Administrator	EKR	RnD	UCnC			
	£1263		17 1392	1392	UCP	1392	Administrator	EKR	RnD	UCnC			
	▲1323 ▲1309		18 1231	1231	UCP	1231	Administrator	EKR	RnD	UCnC			
	±1392 ±1231		19 1310	1310	UCP	1310	Administrator	EKR	RnD	UCnC			
	£1310 • 1300		20 1398	1398	UCP	1398	Administrator	EKR	RnD	UCnC			
	\$1368												
	<b>▲</b> 1391 <b>▲</b> 1338												
	±1206 ±1300												
	±1317 •1247												
	\$1283												
	<b>▲</b> 1358 <b>▲</b> 1236		Records from 7 to 77	11 O (1991)	[1] 30 and and and								
	<b>≜</b> 1255		Kecoros trom 1 to 20 >	м Щ Раде 1	TET to Lows bet bade								
	Group and Modify Del	User	add Delete										

- You must enter ID. (up to 12 characters)
- You must enter User name. (up to 20 characters)
- You must enter Password. (up to 20 characters)

Password can be entered up to 20 characters in combination with English, numeric, and special characters (! @  $\% ^ {\& *}$ ).

- Select Agent ID.
- You must select user level
- Input Employee ID and email as required.

**NOTE** You can modify the entered User information by double click at the mouse in the same way as above.

#### To modify user information or delete a User:

- At the User Classification screen, select the user name you want to delete.
- Click on the checkbox to the left of the user entry.
- Click **Delete** button at the bottom of the page.

#### How to use the Multiple User add:

You can register more than one user at a time via the Excel file. You can download the Excel file for multiuser registration by clicking the Form Download button at the bottom of the page.

	A	В	С	D	E	F	G	н	I.	J	К	L
1	ID*	User name*	Password*	PBX ID	Agent ID	PhoneNumber	User level*	Class 1 Code*	Class 2 Code*	Class 3 Code*	Employee	Email
2	ex)admin	admin	admin123!	UDP	5941	821012652123	admin	callcenter	callcenter2	callcenter3	212303	xxx@ericson.
3												
4												
5												
6												

- Input all user information to add and save the Excel file.
- Click **Multi User add** button at the bottom of the page to view the popup window below. Click **File** button to select an Excel file above and click **Create** button to add multiple Users.

**NOTE** Columns with \* are mandatory columns.

### 6.6.6 General Setting

In this section you can restart the engine or restart the server and set password policy, announcement settings, mail settings, threshold settings, and server time settings.

#### 6.6.6.1 Restart

Button for restarting the iPECS IPCR engine or restarting the iPECS IPCR server.

Restart			
Engine Restart	Server Restart	ACT/STB Change	
			Only support by duplicated

#### **Restart:**

You can see the Restart section at the **Administration > General Setting** page.

- If you want to restart the iPECS IPCR engine, click Engine Restart button.
- If you want to restart the server where the iPECS IPCR engine is running, click **Server Restart** button.

### 6.6.6.2 Password Policy Setting

This is a page for setting the password policy for a user account in the iPECS IPCR Web.

Password policy set	tting				
PW policy	Use	~			
PW change	Use	~	Change cycle setting	1	
Old PW	Permit	~	PW Maintenance number	2	
Try limits	Use	~	Try limit times	5	
Account lockout	Unused	$\checkmark$	Setting the Lock Cycle	5 🗸	
					Save

#### To set up the password policy:

You can see the Password Policy Settings section at the Administration > General Setting page.

- PW policy: you can choose whether or not to use password policy. If you use a password policy, all user passwords must combination with English, numeric, and special characters (!
   @ % ^ & \*)
- **PW change:** you can choose whether or not to use the PW Change Cycle. You can select Use (recommended), and Unused option. When using the Use option, you can set the PW change cycle (day, week, month, year).
- Old PW: you can choose whether or not to use the old password. You can select Permit, Limited number of times, Block option. When using Limited number of times option, you can set the PW Maintenance number.
- Try limits: this option limits the number of password input failures. When using this option, you can set the number of Try limit times.
- Account lockout: you can set whether or not to lock accounts for accounts that have not been used for a certain period of time. When using this option, you can set the Lock Cycle (days, weeks, months, and years).

#### 6.6.6.3 General

This is a page for setting up the general information related to using the iPECS IPCR.

General 🕜						
File Download	Decryption	/	Recording announcement	Use	~	
Auto Delete File	Unuse	/				
File name pattern	Date(YYYYMMDDhhmmss)-Agent ID	Option	∽ Option	∽ Option	$\checkmark$	
						Save

#### To set up the general information:

You can see the General section at the Admin >Administration > General Setting page.

- File Download: you can set how files are downloaded.
- Recording announcement: you can select whether or not the announcement is recorded.
- Auto Delete File: you can select whether or not to use the automatic deletion of recording files.
- File name pattern : you can select File name pattern
- You must restart the iPECS IPCR engine after modify General information

### 6.6.6.4 Upload Voice(Announcement) Files

You can upload an announcement voice file for use of the recording.

Upload voice files 🖗	•			
Voice file 0	Please select a file.	File	Download	Memo
Voice file 1	Please select a file.	File	Download	Memo
Voice file 2	Please select a file.	File	Download	Memo
Voice file 3	Please select a file.	File	Download	Memo
Voice file 4	Please select a file.	File	Download	Memo
Voice file 5	Please select a file.	File	Download	Memo
Voice file 6	Please select a file.	File	Download	Memo
Voice file 7	Please select a file.	File	Download	Memo
Voice file 8	Please select a file.	File	Download	Memo
Voice file 9	Please select a file.	File	Download	Memo
				Save

#### How to upload voice (announcement) file:

You can see the Upload Voice Files section at the Administration > General Setting page.

- You can upload up to 10 announcement voice files.
- Click File button to select the announcement voice file which you want to upload.
- Click Save button to upload the announcement voice file to the iPECS IPCR server.
- You can download the uploaded announcement voice file in the iPECS IPCR server via the **Download** button.

**NOTE** Only voice file1 is available in IPCES-UCM.

### 6.6.6.5 Mail Server Information

This is a page for setting up a Mail server information (SMTP) to receive various alarms mails.

Mail server information										
Mail server address	smtp.naver.com	Mail server port 🔞	465							
Send address 🕜	joseph016@naver.com	Message Delivery ID	joseph016							
Login PW										
Send Test Mail				Save						

#### To set up mail server information:

You can see the Mail Server Information section at the Administration > General Setting page.

- Input the address in Mail Server Address. Be sure to input your outgoing mail server address.
- Input the mail server port number. If you are using Gmail as your mail server, please set the mail server port to 587.
- In Send address, input Mail address.
- In Message Delivery ID, input account ID.
- In Login PW, input your Mail Server Login password. If you are using Gmail as your mail server, please input your Gmail account password.
- When clicking the **Send Test Mail** button, you can see Test Mail Send window as shown below. Input your e-mail address to receive the test mail and click **Send email** button. If the mail server information which you entered is correct, test mail will be sent normally.

Send test email	×
To Address *	
	Send email

### 6.6.6.6 Fault Management

This is a page for setting the thresholds of resource in the IPCR server and the email address to notify when a failure occurs.

Fault manageme	it 🕑	
Threshold	CPU 85 v MEMORY 85	→ DISK 85 → <mark>Set</mark>
Name		Email
		Save Delete Reset
Name	En	mail
test	jor	ongyeon.lee@ericsson.com

#### To set up fault management:

You can see the Fault Management section at the Administration > General Setting page.

- 1. Set thresholds by resource (CPU, MEMORY, DISK).
- 2. Click Set button to save the threshold information.
- 3. Input the information (name, e-mail address) for which you want to receive the alarm mail if the threshold is exceeded. To use this feature, you must input the Mail Server Information section at the Administration > General Setting page.
- 4. Click Save button.

```
NOTE You can modify the entered email information by double click at the mouse in the same way as above. You must restart the IPCR engine after modify Fault manage information.
```

#### To delete:

- Click the checkbox for the item you want to delete.
- Click **Delete** button.

#### To initialize:

- You can initialize the input form
- by clicking **Reset** button.

### 6.6.6.7 Server Time Zone Management

This is a page for managing the time zone of the IPCR server.

#### To set up server time zone:

You can see the Server time zone management section at the Administration > General Setting page.

Server time zone management										
NTP Use choice	Use	$\sim$								
NTP server	192.168.0.11		Sync cycle	Every minute	~					
Server Date : Thu May 17 18:01:11 KST 2018										
						Save				

- NTP Use choice: select whether or not to use NTP. When using NTP, Set the following values
  - NTP server: Input NTP server information
  - Sync cycle: Select how often to synchronize with the NTP server.

Server time zone management											
NTP Use choice	Unused	~									
Timezone Set	Asia/Seoul	~	Time Setting	2018-05-16	10	✓ : 19 <					
Server Date : Thu May	17 18:01:11 KST 2018										
							Save				

• Time zone Set/ Time Setting: You can set time zone and server time.

#### 6.6.6.8 SSL Setting

This page is a page that use or unused SSL on an iPECS IPCR.

#### To set up SSL Setting:

You can see the SSL Setting section at the Administration > General Setting page.

SSL setting								
HTTPS	Use	~						
					Sav			

- HTTPS : select whether or not to use SSL
- If you are using HTTPS, you must include https:// before the connection URL.

### 6.6.6.9 Concurrent License Setting

You can use the IPECS-IPCR Concurrent License when you use the IPCES-UCM system. When you use the current license, you can register up to 2,000 channels regardless of the number of licenses.

#### To set up Concurrent License Setting:

You can see the SSL Setting section at the Administration > General Setting page.

Concurrent License Setting (UCM Only)					
Concurrent License	Unused	~			

- Concurrent licenses limit the number of concurrent recording lines by the license quantity.
- When using a Concurrent license, the following login page appears:



### 6.6.7 Maintenance

The maintenance section provides iPECS IPCR upgrades and automatic backup, FTP backup, and migration functions.

### 6.6.7.1 Upload Update File

This is a page for uploading the iPECS IPCR update file (update\_\*.tar.gz). You must restart the iPECS IPCR server after you upload the update file.

#### To upload the iPECS IPCR update file:

You can see the Upload update files section at the Administration > Maintenance page.

Upload update file 🛛								
Update file	Please select a file.	File						
		Save						

- 1. Click Files button to select the iPECS IPCR update file (update\_\*.tar.gz.)
- 2. Click **Save** button to upload the file to the IPCR server.

### 6.6.7.2 Auto Backup Setting

The iPECS IPCR application will perform a periodic backup of recordings. Automatic Backup defines the interval between backups, the source and destination paths, and copy or move. When the backup is copied, the original recording is maintained on the iPECS IPCR server and copied to the back-up path. When 'Move' is selected, the recording files are moved to the back-up path and deleted from the iPECS IPCR server.

Auto backup setting										
Ba	ckup schedule	Daily	~		Time	-	~			
So	urce Path	/var/REC/Re	ecSee_D	ata		Backup Path		/var/REC/RecSee_Backup		
Co	py/Move	Сору			$\checkmark$					
									Save	Delete Reset
	Schedule	Week	Day	Time	Original Path		Bac	ckup Path	C	Copy/Move
	Daily	×	×	1	/var/REC/RecSee_Da	ita	/va	r/REC/RecSee_Backup	c	ору
	Daily	×	*	14	/var/REC/RecSee_Da	ita	/va	r/REC/RecSee_Backup	c	ору

#### To set up Automatic Backup:

You can see the Auto backup setting section at the Administration > Maintenance page.

- 1. Select the auto backup schedule information. Backup schedules are divided into Daily, Weekly, and Monthly.
- 2. Select Copy/Move option.
- 3. Click Save button.

**NOTE** Mount the physical disk to the /var/REC/RecSee\_Backup path.

#### To delete:

- Click the checkbox for the item you want to delete.
- Click **Delete** button.

#### To initialize:

- You can initialize the input form
- by clicking the **Reset** button.

### 6.6.7.3 FTP Backup Setting

This is a page for setting for back up recording files from the iPECS IPCR server to an FTP server which you established. You can back up your recording files via FTP at a fixed time for every day, week and month.

FTP backup setting 🚳											
Ba	ckup schedule	Daily	$\sim$		Hour	- ~					
FTP SERVER IP						Port					
ID						Password					
									Save	Delete	Reset
	Schedule	Week	Day	Time	IP	User	Password	Port			
	Daily	×	*	13	192.168.119.100	root	•••••	21			
	Weekly	Friday	*	18	192.168.119.100	root	•	21			
	Daily	×	*	10	192.168.119.100	root		21			
	Daily	*	*	20	192.168.119.100	root		2100			

#### To set up FTP backup setting:

You can see the FTP Backup settings section at the Administration > Maintenance page.

- 1. Select the FTP backup schedule information. Backup schedules are divided into Daily, Weekly, and Monthly.
- 2. Input the FTP server connection information where you want to back up recording files.
- 3. Check cycle: Set how often to check FTP schedule information.
- 4. Click Save button.

#### To delete:

- Click the checkbox for the item you want to delete.
- Click Delete button.

#### To initialize:

- You can initialize the input form
- by clicking **Reset** button.

**NOTE** You must restart the iPECS IPCR engine after modify FTP backup setting information. FTP backups are performed up to the previous day's data.

### 6.6.7.4 Engine log downloadk

This page allows you to download logs from the iPECS IPCR engine. When an iPECS IPCR problem occurs, the user can download logs and easily make trouble shooting.

Er	gine log downl	oad				
	2019-01-17	SIGNAL	~	Search		Download
No		Date		LogType	FileName	
1		20190117		SIGNAL	SIGNAL_2019011710.REDIS	Î.
2		20190117		SIGNAL	SIGNAL_2019011712.Log	
3		20190117		SIGNAL	SIGNAL_2019011710.SQL	
4		20190117		SIGNAL	SIGNAL_2019011706.IPCR	

#### **Engine Log Pattern:**

- **DBGw:** DBGW\_\*\_yyyymmdd + Sequence number
- **RTP:** RTP\_yyyymmddhh + Log type
- **RVM:** RVM\_yyyymmddhh + Log type
- LXprocess: XPROCESS\_yyyymmddhh + Log type
- SIGNAL: SIGNAL\_ yyyymmddhh + Log type
- FTPTransfer: PRINT\_hh.log

#### 6.6.7.5 PCAP Download

This page is a feature that populates and downloads packets that enter the iPECS IPCR server.

PCAP Download	
PCAP Start	

- Click Start button to start capturing,
- And then press the Stop button to download automatically. The size of the capture file is up to 50MB.

#### 6.6.7.6 Database Management

This page manages the database of the iPECS IPCR.

This page allows users to back up, download, upload, and restore databases. Up to three backup files can be saved.

Database Managem	ent					
Backup File Upload	Please select a file.	File				
					Upload Backup	Start
No B	ackupName		Restore	Download	Delete	

#### How to use Database Management:

- Click Backup Start button to back up the database of the current iPECS IPCR.
- Click **Restore** button, all existing data will be deleted and the backup file will be used for restore
- You can save your backup files to your PC by click download button.
- The downloaded backup files can also be uploaded using the Backup File Upload.
- The backup data is deleted when the **Delete** button is clicked.

### 6.6.7.7 Language Setting

This page allows you to set the local language of iPECS IPCR to the desired language.

Language setting		
Upload CSV file	Please select a file.	File
		Upload
Download Form		

#### To set up Local language setting:

- 1. Click Download Form Button to 'lang\_local\_pack.zip'
- **2.** As shown below, translate English into local language, (ex local\_Lang\_admin.CSV). Column A and Row 1 of the CSV file should not be modified.

A		8	
1 admin Lang Pack Code	local Language		
2 admin.menu.systemOption	system Option		
3 admin.menu.systemManage	System Manage		
4 admin.menu.userManage	User Manage		
5 admin.menu.backupProcess	Backup Process		
6 admin.menu.ll.systemOption.channel	Channel registration		
7 admin.menu.lLsystemOption.server	PCR Server Setting		_
8 admin.menu.ll.systemOption.switchboard	BX Registration		
9 admin.menu.ll.systemOption.fault	fault		
10 admin.menu.li.systemOption.backup	Hackup		_
11 admin.menu.ll.systemOption.ftpBackup	Htp Backup		_
12 admin.menu.lLsystemManage.group	Group Manage		
13 admin.menu.ll.systemManage.details	General Setting		
14 admin.menu.li.systemManage.log	Web log		_
15 admin.menu.li.systemManage.queue	Que Manage		_

- 3. Upload the Translated CSV file.
- 4. When the upload is complete, restart the server and delete the cookies and cache in browser.

#### 6.6.7.8 Migration

This is a page for setting for the iPECS IPCR Migration. If you have previously used the iPECS IPCR version 2, you can migrate existing data to iPECS IPCR version 3 through setting on this page.

Migration 🕑			
DB Upload	Please select a file.	File	Start

#### To set up Migration setting:

When you before start migration, backup the iPECS IPCR Version 2 recording file into new iPECS IPCR Server # Appendix A.4 - Recording File Backup and Restore reference. When creating version 2 DB backup file # Appendix A.2 - DB backup reference

You can see the Migration section at the Administration > Maintenance page.

- 1. Click File button to select the iPECS IPCR Version 2 database that you backed up in advance and click **Save** button to perform the DB upload.
- 2. Click Start button to proceed with the iPECS IPCR migration.
  - When the migration begins, you will see the progress in the Migration section and keep the page when the backup file is restored.

## 6.6.8 Web Log

This is a page for showing logs about recording, listening, changing information, monitoring, and failures performed in the iPECS IPCR Web.

IPECS IPCR							
Search & Listen	Monitoring &	Dashboard	Report	Administ	tration		
IPCR Server Setting	2018-05-17	All	v - 201	8-05-17 🛅	All	✓ Search	
PBX Registration	Date	Time	Log IP	Server IP	User ID	Log Contents	ttc .
Channel registration	2018-05-17	04:58:14	192.168.0.207	192.168.0.201	admin	Login check - Login success	
User level admin	2018-05-17	04:58:08	192.168.0.207	192.168.0.201	admin	Login check - Login success	
User registration	2018-05-17	04:58:05	192.168.0.207	192.168.0.201	admin	Logout	
General Setting	2018-05-17	04:57:59	192.168.0.207	192.168.0.201	admin	Login check - Login success	
Maintenance	2018-05-17	04:30:23	192.168.0.207	192.168.0.201	admin	User - Update success	rUserInfo [userId=Max, userName=MaxKim, extNo=6002, p
Web Inc.	2018-05-17	04:28:43	192.168.0.207	192.168.0.201	admin	User - Update success	rUserInfo [userId=Max, userName=MaxKim, extNo= , phon
web log	2018-05-17	04:09:03	192.168.0.207	192.168.0.201	admin	Rec - Listen Record File Success	HTTP://192.168.0.201:8088/var/REC/RecSee_Data/20180517
License information	2018-05-17	04:09:02	192.168.0.207	192.168.0.201	admin	Rec - Listen Record File Success	HTTP://192.168.0.201:8088/var/REC/RecSee_Data/20180517
Version Information	2018-05-17	04:08:59	192.168.0.207	192.168.0.201	admin	Rec - Listen Record File Success	HTTP://192.168.0.201:8088/var/REC/RecSee_Data/20180517
	2018-05-17	04:08:56	192.168.0.207	192.168.0.201	admin	Rec - Listen Record File Success	HTTP://192.168.0.201:8088/var/REC/RecSee_Data/20180517
	2018-05-17	03:50:58	192.168.0.207	192.168.0.201	admin	Channel - Update success	ChannelInfo [chNum=111, sysCode=IPCR, extNum=6001, e
	2018-05-17	03:46:09	192.168.0.207	192.168.0.201	admin	Channel - Update success	Channelinfo [chNum=111, sysCode=IPCR, extNum=6001, e
	2018-05-17	03:45:39	192.168.0.207	192.168.0.201	admin	RealTimeListen - Listen End	RealTimeExt=6001
	2018-05-17	03:42:29	192.168.0.207	192.168.0.201	admin	Channel - Update success	Channelinfo [chNum=111, sysCode=IPCR, extNum=6001, e
	2018-05-17	03:40:34	192.168.0.207	192.168.0.201	admin	Channel - Update success	ChannelInfo (chNum=111, sysCode=IPCR, extNum=6001, e
	2018-05-17	03:38:10	192.168.0.207	192.168.0.201	admin	RealTimeListen - Listen End	RealTimeExt=6001
	2018-05-17	03:29:51	192.168.0.207	192.168.0.201	admin	Channel - Update success	Channelinfo [chNum=111, sysCode=IPCR, extNum=6001, e
	2018-05-17	03:22:35	192.168.0.207	192.168.0.201	admin	Channel - Update success	Channelinfo [chNum=111, sysCode=IPCR, extNum=6001, e
	IC C Recor	ds from 1 to 24	> >1 🖸 Page	1 🗐 30 row	s per page		

#### To view the iPECS IPCR Server log:

You can see the above page at the Administration > Web log page.

- Select the date and time of the log information you want to find.
- Click Search button.

## 6.6.9 License Information

This is a page for showing a license information for the iPECS IPCR. You can see the License total number, License used, License remaining by PBX ID.

IPECS IPCR					
Search & Listen	Monitoring & Dashboard	Report	Administration		
IPCR Server Setting	PBX ID	Lice	ense total number	License used	License remaining
PBX Registration	• aaa	0		0	0
Channel registration	• Test	0		0	0
	• test2	0		0	0
User level admin	• test3	0		0	0
User registration	UCP	210	)	200	10
General Setting	• UCP1	100	)	41	59
Maintenance	• vUCP	100	00	514	486
Web log					
License information					
Version Information					

#### To view the license information for the iPECS IPCR:

You can see the above page at the Administration > License information page.

- A circle next to the exchange ID indicates the status of license usage
- • Appears when the remaining license quantity is missing or is less than zero
- • Appears when the remaining license quantity is less than 10% of the total usage
- • Appears when the remaining license quantity is more than 10% of the total usage

#### When you use the current license:

The number of Concurrent licenses is shown as shown in the capture below.

iPECS IPCR				
Search & Listen	Monitoring & Dashboard	Report	Administration	
IPCR Server Setting	PBX ID	Concurre	ent License Number	
PBX Registration	UCM0	198		
Channel Registration	UCM1	180		
channel Registration				

## 6.6.10 Version Information

This is a page for showing the iPECS IPCR version information.

IPECS IPCR				admin [admin]
Search & Listen	Monitoring & Dashboard	Report	Administration	
IPCR Server Setting	iPECS IP Call Recording			
PBX Registration	Version: 3.0Ak Release date: 2019.02.28			
Channel registration	Copyright Ericsson-LG Enterprise	e, Co.,LTD. 2018		
User level admin				
User registration				
General Setting				
Maintenance				
Web log				
License information				
Version Information				

#### To view the version information for the iPECS IPCR:

You can see the above page at the **Administration > Version information** page.

# **Database Backup and Restore**

Database information of the IPCR can be conveniently backed up and restored using a tool called pgAdmin.

## A.1 Download pgAdmin

In order to back up and restore the Database, it is recommended to use pgAdmin as tool. pgAdmin is a free software project released under the PostgreSQL/Artistic license.

1. Open Chrome browser and visit the following link to download the pgAdmin 3-1.22.1.zip file. <u>https://www.postgresql.org/ftp/pgadmin/pgadmin3/v1.22.2/win32/</u>

	www.box@razdoor@rith/b@annut/b@annut/vt1	1.12 mm 1.7 Lf	w) H	
Home About	Download Documentation Community	/ Developers Support Donate Y	our account	٩
	14th February 2019: PostgreSQL	11.2, 10.7, 9.6.12, 9.5.16, and 9.4.21 R	eleasedi	
Quick	File Browser 🕿			
Downloads	$Top \to pgadmin \to pgadmin$	$rac{1}{3} \rightarrow v1.22.2 \rightarrow win32$		
Binary     Source	Directories			
Software Catalogue	Parent Directory]			
File Browser	Files			
	CURRENT_MAINTAINER	2016-11-10 15:42:05	31 bytes	
	pgadmin3-1.22.2.zip	2016-11-10 15:43:46	12.9 MB	
	pgadmin3-1.22.2.zip.sig	2016-11-10 15:43:47	543 bytes	
	Current Maintainer			

2. You can install after extracting the files (default).

## A.2 **DB Backup**

You can back up the database of the iPECS IPCR using pgAdmin in the following order.

## A.2.1 Run the pgAdmin

- 1. Execute the **pgAdmin III** application.
  - The pgAdmin III for Windows application can be launched from the Windows Start Menu (
     <sup>¶</sup> pgAdmin<sup>®</sup>).
- 2. The following pgAdmin III main page is displayed on your screen.

T pçAlmin I Têr titi Pliçîn Vew Tooli Help S C C C C C C C C C C C C C C C C C C C	2-1 100 19	- n x
Construction T Note Coups	Properties   Szatus   Dependencies   Dependents	
	Propriet	
	4	

3. Click the **Connect** ( $\nearrow$ ) icon to add a connection to a server.

W zglatnin ili Rite Edit Blazers View Tools Hele		u x
70 417 8 8 7 4 9 7	Properties   Statetra:   Dependences.   Sepandents.	
18 zer Assatz	Accessing International and a stability for the current selection	

- 4. A **Properties** tab appears in the New Server registration page.
- 5. Select an item to modify and click **OK** button to save.

🔋 New Ser	rver Re	gistration	×
Properties	SSL	SSH Tunnel Advanced	
Name		Old IPCR Server	
Host		124.46.120.105	
Port		5432	
Service			]
Maintenanc	e DB	postgres	-
Username		postgres	
Password		•••••	h
Store passv	word		
Store passv Colour	word		
Store passv Colour Group	word	Servers	
Store passv Colour Group	word	Servers	]
Store passv Colour Group	word	Servers	]
Store passv Colour Group	word	Servers	]
Store passw Colour Group Help	word	Servers Cancel	

- Name: Server name
- Password: Ver.2.X postgres012 or postgres
- Colour: Change or not

## A.2.2 Select DB Backup Path

Select the database backup path using pgAdmin.

- 1. Move the cursor to the i = 3 Servers (1) at the Object browser.
- 2. Click the is icon beside the Server (1) to expand one level at a time.
- 3. Go to Old IPCR Server > Databases (2) > recsee by clicking on the i icon.
- 4. Right-click on the recsee to select Backup from the context menu.

Sector Scores			Propercies statutors bepercentes	
General (6)     Constant (6)     C	50:5412) 64:119:112:5412) 64:119:112:5412) 7 Rafredh New Clipset Disconnect database Dieter Drop Sarch Opert. CREATE Script Reports Maintemance. Bektag.	2	Paperty         Value           Name         recse           OD         15394           Omer         soldpres           AL         patheact           Data         soldpres           AL         patheact           Data         pat	
	Properties		90, pere Database: recee	

5. Select an item to modify and click **OK** button to save.

🕞 Backup databa	se "recsee"		×
Filename	E:\IPCR\new_oldipcr_1.backup		
Format	Custom		~
Compress Ratio			
Encoding			$\sim$
Number Of Jobs			
Rolename			$\sim$
_			
File Options Dum	p Options #1 Dump Options #2 Objects Messages	_	
Help	Backup		Cancel

- Filename: Backup file name
- Format: Custom
- 6. Click 'Dump Option #1' tab to set more option.

## A.2.3 Dump Option

In the Backup database "recsee" page, click the tab **of Dump Option #1** and **#2** to proceed as follows.

- 1. Click on the **Only data** checkbox to select.
- 2. Click the Dump Option #2 tab.

Backup database "recsee"	×
Sections Pre-data Data Post-data	
Type Of Objects  Only data  Only schema Blobs	
Don't save Downer Privilege Tablespace Unlogged table data	
File Options         Dump Options #1         Dump Options #2         Objects         Messages           Help         Backup         Cance	el

3. Click on the Use Insert commands checkbox to select.

🕞 Backup database "recsee"	×
Queries         Include CREATE DATABASE statement         Include DROP DATABASE statement         Use Column Inserts         Use Column Inserts         Disable         Trigger         trigger	
Set SET SESSION AUTHORIZATION     With OIDs     Verbose messages     Force double quotes on identifiers	
File Options J Dump Options #1         Dump Options #2         Objects         Messages           Help         Backup         Cancel	1

4. Click **Objects** tab to set more option.

## A.2.4 Objects

In the Backup database "recsee" page, click the **Objects** tab to proceed as follows.

1. Click to checkbox to select options.

- Ts_access_level	
- rs_access_list	
- I rs_auser_info	
- I rs_backup_info	
- I rs_backup_recfie	
IF rs_backup_setting	
R rs ba info	
- [ rs_bw_comment_info	
T is by info	
- IV rs_ch_info	
- rs_dvd_monitoring	
-C rs_etc_config	
- re_fault_log	
rs_fault_threshold	
- W is face user	
L IS_Bedown_oto	
I is_isc_second	
Options Dump Options #1 Dump Options #2 Objects Mess	anes
opena) comp opena in control opena in control opena	and a second sec
Help	Backup Cancel
Backup database "recsee"	×
Backup database "recsee"	>
Backup database "recsee"	· · · · · · · · · · · · · · · · · · ·
Backup database "recsee"	· · · · · · · · · · · · · · · · · · ·
Sackup database "recisee" Tricilog_info Tricilog_info Tricilog_info Tricilog_info	
Backup database 'recise"	
Backup database "recsee"	
Backup database 'recise"	
Backup database 'recsee' Tr_t_log_nfo Tr_t_log_non Gr_n_me_fo Tr_t_rectile Tr_t_rectile_test Tr_t_rectile_test Tr_t_rectile_test Tr_t_rectile_test Tr_t_rectile_test Tr_t_rectile_test	· · · · · · · · · · · · · · · · · · ·
Backup database 'recise' Trulog_info Trulo	
Backup database 'recsee'  rs_log_nfo rs_log_nod Gr n_me_log Gr n_me_nfo Gr n_recfile Tr_recreationset Dr rs_recfile Tr_reconstrationset Dr rs_reconstrationset Gr rs_reconstrationset Dr rs_reconstrationset D	
Backup database 'recisee'  Tri, log_info Tri, log_info Tri, log_info Tri, recifie Tri, recifie Tri, recifie, test Tri, receven, info Tri, recifie, test Tri, recevendend set Tri, reservendend Tri, schole, info T	
Backup database 'recsee'  rs_log_nfo rs_log_no R rs_mg_nfo R rs_mg_nfo R rs_rectile  rs_rectile rs_rectilesest R_rectile_test	<u>د</u>
Backup database 'recisee'  Tri, log_info Tri, log_info Tri, log_info Tri, recifie Tri, recifie Tri, recifie Tri, recifie, test Tri, recevenyinfo Tri, recifie, test Tri, recevenyinfo Tri, recifie, test Tr	
Backup database 'recsee'  rs_log_nfo rs_log_no rs_rs_rectile  rs_rectile  rs_r	
Backup database 'recisee'  Tri_log_info Tri_log_info Tri_log_info Tri_rcrefile Tri_	
Backup database "recsee"	
Backup database 'recisee'  Tri_log_info Tri_log_info Tri_log_info Tri_rcrefile Tri_	
Backup database "recsee"  rs_loo_nfo rs_loo_nfo rs_rcste rs_rcste rs_rcste rs_rcste rs_rcste rs_rcste rs_rcsterete rs_rcstereteretereteretereteretereteretereter	>
Backup database 'recisee'  Tri_log_info Tri_log_info Tri_log_info Tri_rocreation	
Backup database "recsee"  rs_log_nfo rs_log_nfo rs_rectle  rs_rectle  rs_rectle  rs_rectle  rs_rectle_set  rs_r	
Backup database 'recisee'  Tri_log_nfo Tri_segnad  Gr n_mg_nfo Tri_srecfile  Tri_recifie_test Tri_recifie_te	
Sackup database "recsee"	>
Backup database 'recisee'  rit_log_nfo rit_iko_nand  rit_iko_nand  rit_it_recise  rit_recise  rit_recise_test  rit_test  ri	>
Backup database "recsee"	ages
Backup database "recsee"  Tr_log_nfo Tr_log_nfo Tr_log_nfo Tr_cs_recfle Tr_receive_nfo Tr_receive_nfo Tr_receive_nfo Tr_rs_phote Tr_rs_pho	ages

2. Click Backup button.

## A.2.5 Backup

After completing the above steps, the database backup process of the iPECS IPCR is completed. The file that has been backed up exists in the backup path which was set up during the above process, and you can use this file when restoring.

1. If you see **Process returned exit code 0** at the bottom of the Backup data base "recsee" page, it means the backup is normally completed.

Backup database "recsee"	×
pg_durbr:reading indexes for table "publics.rk_put_fo" pg_durbr:reading indexes for table "publics.rk_put_fo" pg_durbr:reading indexes for table "publics.rk_put_fo" pg_durbr:reading indexes for table "publics.rk_put_fo" pg_durbr:reading indexes for table "publics.rk_put_for" pg_durbr:reading indexes for table "publics.rk_put_for" pg_durbr:rk=for index ind	A
Process returned exit code 0.	
	Ŷ
<	>
File Options Dump Options #1 Dump Options #2 Objects Messages	
Heb	Done Cancel

2. Click **Done** button to complete the DB Backup process.

## A.3 DB Restore

You can restore the database of the IPCR using pgAdmin in the following order.

## A.3.1 Run the pgAdmin

- 1. Execute the **pgAdmin III** application.
- 2. Click the Connect ( ) icon.



- 3. A Properties tab appears in the New Server registration page.
- 4. Select an item to modify and click **OK** button to save.

🔝 New Ser	ver Re	gistration			×
Properties	SSL	SSH Tunnel	Advanced		
Name		New IPCR Se	rver		
Host		192.168.119	.110		
Port		5432			
Service					
Maintenanc	e DB	postgres			~
Username		postgres			
Password					
Store passv	vord	$\checkmark$			
Colour					
Group		Servers			~
Help				ОК	Cancel

- Name: Server name
- Password: Ver.2.X postgres012 or postgres
- **Colour:** Change or not

## A.3.2 Setting Query

Before restoring database of the iPECS IPCR, you should input the below query. The **truncate table** is the SQL command which is used to delete all rows of existing table.

- 1. Move the cursor to the 👜 🗄 Servers (2) at the Object browser.
- 2. Click the in icon beside the Server (2) to expand one level at a time.

- 3. Go to New IPCR Server > Databases (2) > recsee by clicking on the  $\oplus$  icon.
- 4. Click both the **recsee** and the **SQL** ( $\mathbb{P}$ ) icon.

📭 pşildmn 🗉				- 0 ×
File Edit Pluging View Tools Help				60 G - 66
1 / C 👝 💺 🔂 🕒 💷 / 2 (ct - 🔍 🤊 📗				
Server Groups	Properties Scitutus	Dependencies Dependents		
D 3 Servers (2)	Property	Value		<u>^</u>
- [ New DCR Server (192, 168, 110, 113(5432)	IT Name	lecter		
A - I Restrict	DD D	16284		
	Owner	postgres		
Tablesescer (2)	ALL			
- Age Group Acies (0)	Tablespace	og_oraut		
- 2 CM 100 Server (102 148 110 110 54121	Encades	UTTHE .		
	Cobran	RE US.UTF-6		
	P. Bandistan	11 10 10 P A		¥
	14			
	SQX pane			×
	- Detabase: Jecare			
	- DEOF CATADADE DE OF			
	CREATE BALINES Proven R/TM STATUS RECORDS - FO RECORDS - CO CONTRACT - CO CONTRACT - CO CONTRACT - CO CONTRACT - CO RECORDS - CO RECO	n Fr Fr Generation - 1 January - 1 Tar - 17 Calendary		
Retreving details on database receer Done.	Million -		recees on postgree@192.168.319.118.3432	5 mec

5. Copy and paste the query to SQL Editor when it opens. The query is "truncate table rs\_ruser\_info, rs\_auser\_info, rs\_ch\_info, rs\_lic\_manage, rs\_bg\_info, rs\_mg\_info, rs\_sg\_info".

Ourry - Necker on postgres@192.168.110.110.5432 * File Edit Query Favourites Macros View Help		- 🗆 ×
😚 🖶 🛔 🖄 🔩 🖉 🖉 n n i 🖉 🕨 🐘 🐜 🏣 🖮 🛔 🆓 👘 🖓 necsee on postgres@192.168.119.110/5432	. to	esch ped X
Transas uni series (uni veries) Transas table re_ruser_info, re_suser_info, re_ch_info, re_is_manapp, re_bg_info, re_ng_info, re_ng_info	V Delete M	Ĩ
c .	۰ ،	
Data Output Explain Messages History		*
Query returned successfully with no result in 13 mmec.		
e		
OK.	DOS Ln 1, Cel 107, Ch 107	73 miec

6. Click the **Execute query** (**)** icon.

## A.3.3 Select DB Restore Path

Select the database restore path using pgAdmin.

- 1. Move the cursor to the B Servers (2) at the Object browser.
- 2. Click the in icon beside the Server (2) to expand one level at a time.
- 3. Go to New IPCR Server > Databases (2) > recsee by clicking on the  $\oplus$  icon.
- 4. Right-click on the recsee to select Restore from the context menu.

Poputer View of the Mail Hall Balance State Control of the State State State State State Control of State	D 3 Servers (2)	92.198.118.11054321	Posperty Value Starre recsee OD 36384	
COMART Front     >       Maxmanner,	Dirberer (2)     Hold Server (2)	nh Dijert + In Chop, dh oblectu,	Adjami policy in     Adja	
	or Step Marka In State Proc	Alf Social Independent Albanese Albanes	NA OPE - INC ADMAND INCOME - INC INTANIA INCOME HIM INCOME PROJECT - INCOME PROJ	,

5. Select an item to modify and click **OK** button to save.

🕦 Restore d	atabase "recsee"
Format	Custom or tar
Filename	E:\#IPCR\#new_oldipcr.backup
Number Of Jo	bs
Rolename	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
File Options	Restore Ontions #1 Restore Ontions #2 Objects Messages
Help	Display objects Restore Cancel

- Format: Custom or tar
- Filename: "recsee" Backup file
- 6. Click Restore Options #1 tab to set more option.

## A.3.4 **Option**

In the Backup database "recsee" page, click the **Restore Options #1** tab to proceed as follows.

- 1. Click on the **Only data** checkbox to select.
- 2. Click **Restore** button.

😭 Restore database "recsee"	×
Sections Pre-data Data Post-data	
Type Of Objects Only data Only schema	
Don't save Owner Privilege Tablespace	
File Options Restore Options #1 Restore Options #2 Objects Messages	
Help Display objects Restore Cance	1

## A.4 Recording File Backup and Restore

Describes how to install and use FTP program filezilla which is a FTP client and free software. You can use filezilla to backup and restore your recorded files.

## A.4.1 FileZilla Download and install

1. Open Chrome browser and visit the following link to download the FileZilla setup file. <u>https://filezilla-project.org/</u>



2. Click Download Filezilla Client and follow the on-page instructions to download.

Download FileZilla Client		Download FileZilla Server	1
------------------------------	--	------------------------------	---

3. Double-click Filezilla file you've downloaded to install.

## A.4.2 Recording file backup

- 1. Run the **Filezilla** application.
- 2. The following Filezilla main page is displayed on your screen. Marked with the Local site: is your work area, and the marked with **Remote site**: is the area of information to connect.

Locit itte I Chternolibacium menti		Reveale stat			
Advand Advand Bahling.rep Ba					Connection area
ritariante " Constatuto Constatut	Prices         Faintype         Lastmodified           File Index         11/1/0/2113 23/LL         File Index           File Index         11/1/0/2112 23/LL         File Index	Filesme :	Net connected to any server	Lat nodified	
13 directories		Not connected.			
UNELON	- mar - 600, 10		un mong 3808.		
	isol alte         Cherry/Lackag, may           Image: Cherry/Lackag, may         Image: C	Standing:     Control of Cont	Isol dite ( Templanskap, myth)              function (or processing)               function (or processing)            Image: the state of t	Installation     Press Version       Installation     Press Version <t< td=""><td>See dials       Chronic Josephine Linguistical Service Linguistical Servic</td></t<>	See dials       Chronic Josephine Linguistical Service Linguistical Servic

3. Go to File > Site Manager to popup the Site Manager window.

Bet the former finding findi finding finding finding finding finding fi	Fiezita						- 0	×
Image: Second late late late late late late late late	a Ldt View Transfer Lever Bookmarks Help Site Message	tier version scalable						
Note in the intervention of the interventinterventintervention of the intervention of the inter	Cepy current connections to Site Manager							
On the second with set of the second seco	New tab Cris	T	Spacesonet 7					
terms       Designed to the terms         the terms of terms to term of terms to terms       The terms to terms to terms to terms to terms to terms to terms         the terms       Next Name         the terms       Next Name      <	Oesetab Odi-	w						
	brost-							
And file unredy king glad.       Ord         Image: State St	Import							
International production     Internation              Internation	Show film commits bains added	1						_
Image: Set of the set of	and the territory being territory to be			<ul> <li>Reméries</li> </ul>				
methylemethyle       Spreaktion         methylemethyle       Nesse Mattyn         methylem	Int Lite	4						
Table Total Induction (grand Inductity (grand Induction (grand Induction (grand Induction (grand Induc	E dr D: (SmatsMLnik)							
Mare         Mass         Mass <th< th=""><th>= T is full house the second s</th><th>Deri</th><th></th><th>*</th><th></th><th></th><th></th><th></th></th<>	= T is full house the second s	Deri		*				
and bill         The bade         TVD S2011 2015.           Divery         Ke bids         TVD S2011 2015.           Divery         Ke bids         TVD S2011 2015.           Divery         Ke bids         TVD S2012 2015.           Statistic         Ke bids         TVD S2012 2015.           Andrew         Ke bids         TVD S2012 2015.           Statistic         Ke bids         TVD S2012 2015.           Statistic         Statistic	Reatte	Filesze Filetype	Last modified	Filesame	Pieso	e Niet/pe	Last modified	
mange in finite in 1993 11 2011. Source in the finite i	-		11 (10 (10 (10 (10 (10 (10 (10 (10 (10 (					
in methe in the factor is accorded to methe.	Depitters	File faile	e 11/10/2010 12231		Net connected to any se	ow.		
Sonstanti Venteria V	Documents	File fold	er 11/19/2018 1:30-48					
Textels         Textelse	Downloads	File 154	er 11/19/2018 2:54/23					
addigischefine VER Heider UN 2013 12.001. kein Keine VER Heider UN 2013 12.001. Aus: Keine VER Heider UN 2013 12.001. keine Keine VER Heider VER H	Favorities	File fak	er 11/19/2018 2:58/23					
lees Profile UNIX2113342. Auc. Profile UNIX2113342. None Profile UNIX211324. Lees Second Terms Second Term	IntelGraphicsProfiles	File tok	er 11/10/2018 3-24-01					
Mare: Mentioner Mentioner University 2012. Mare: Mentioner Mentioner University 2012. Mare: Mentioner Me	Links	File fakt	er 11/19/2018 3:24:02					
Noves Problem United Transmission Problem	Muse	File fold	er 11/19/2018 2:54:23					
Tenneng Frankter UTS2012-5054. Berliner UTS2012-5054. Berliner UTS2012-5041. Berliner UTS2012-5041.	Pictures	File Suld	er 11/19/2010 2:54/23					
Beering Markiter U1/03/011-54/L_     Revisiter U1/03/011-54/L_       General Markiter U1/03/011-54/L_     Revisiter U1/03/011-54/L_       General Markiter U1/03/011-54/L_     Revisiter U1/03/011-54/L_       webrer     Vet concelled.	Roaming	File fold	er 11/19/2018 2/52/46					
kende in Vidioliti Skill. Near Annie Vidioliti Skill. Automoteix extualifie Orazion fendelle Sciantifie Sciantification.	Seved Games	File fok	er 11/19/2018 2:54/3					
Ales Partale 10/16/21/22/822-	Searches	File fold	er 11/19/2018 2:54/23					
entone 4 Vertioneted entoatile Onction fendetle nertoatile Second-Itendes entoatile Second-Itendes	Videos	File fak	er 11/19/2010 2:54/23					
instrumente la constant francée la constant francée la constant de				د				
methadrife Direktion Kenderlie Sin Hody Sana methadrife Socialitationelles met Mar Talak trades	brectories			Not connected.				
ned Ber / Faid trades - Social trades -	verLocal file	Nextion Remote Ne			Size Priority	540.s		
ner Wes   Talak tranfes   Social Attractes								
ned We   Teick Instein Society brokes -								
ned Was Traint traines : Second-brackes :								
ned We   Teich trades								
and the J Faild tender Sconsb/tender								
ned We   Telef trades - Social-Unides								
wed Wes   Takel trades								
ned Ws. Talek trades - Social Atrides								
well film   Takel trades								
med Wes   failed trades   Societies   Societies								
well fin   field trades.   Scendultandes								
met Nes Tolet trades   Social/Unicides								
a faile and a faile an	anued files   Failed transfers   Successful transfers							
	to the Site Manager						O Ownerste	

4. Click **New Site** button and type the site name.

Site Manager			×
Select Entry:		General Advanced Transfer Settings Charset	
My Sites		Protocol: FTP - File Transfer Protocol	$\sim$
		Host: Port:	
		Encryption: Use explicit FTP over TLS if available	$\sim$
		Logon Type: Ask for password	$\sim$
		User:	
		Password:	
		Packaround colory Mana	_
		Commonta	
New Cha	New Felder	Comments:	
New Site	New Folder		
New Bookmark	Rename		
Delete	Duplicate		×
		Connect OK Cance	el

5. In the 'General' tab, enter the information of the existing Old IPCR Server. When you have finished, click Connect button.

Site Manager							×
Select Entry:		General	Advanced	Transfer Sett	tings Charset	F	
My Sites		Protocol:	SFTP -	SSH File Tran	isfer Protocol		~
		Host:	192.16	8.119.110		Port: 22	
		Logon Ty	pe: Norma	I			~
		User:	root				
		Password	•••••	•••			
							_
		Backgrou	ind color:	None 🗸 🗸			
		Commen	its:				
New Site	New Folder						^
New Bookmark	Rename						
Delete	Duplicate						¥
			Con	nect	ОК	Cance	el l

- Host: Old version IPCR server IP
- Port: 22 --- SFTP default Port
- Protocol: SFTP SSH File Transfer Protocol
- Logon Type: Normal
- User: username default root
- Password: password default p@ssw0rd.

6. When connected, it moves to the recording file path. The path is /var/REC/RecSee\_Data

POL22 - Province (1912) (81.718.718.718.718. Feb Link Vers Transfer Server Roskersko Help Nerver Feb Link Vers Transfer Server Roskersko Help Nerver	nun enider					- 0 ×
	ent to lo	· bened				
teran Directory Kong of "Yoot" recentler Intern Directory Series of "Annik Critector, Detri- Linking Sentory Annik Critector, Data Directory Noting of "Yoot BC/Ractor, Data Directory Nating of "Yoot BC/Ractor, Data" scienced of		1.1				i
and dis Criteria flastica, mapl			· Internet and Internet and			
A Altanya     Altanya     Altanya     A Altanya     Altanya			A Der state C 2 state C 2 state C 3 state C 3 state C 4 state C 4 state C 5 state			
latara -	Finite Film,pe	Lat welfel	Figure		Flacia Flatiga	Lat restfiel
Contain Contain Descentin Consentin Consentin Fercinia adol patrio d'anti- adol patrio d'anti- More Nore Nore Nore Nore Nore Nore Nore N	Plat follow Plate follow Plate Lotter Plate	11/16/2010 02/01 11/16/2010 02/05/ 11/16/2010 02/05/ 11/16/2010 02/05/ 11/16/2010 02/02 11/16/2010 02/01 11/16/2010 02/01 11/16/2010 02/01 11/16/2010 02/01 11/16/2010 02/01 11/16/2010 02/01	Comparison of the second		File Notae Rich Notae	1925/2027 1919/1877 AAH INAUGUT 2020/2920 MM INAUGUT 2020 MM
Liber being			4 13 directories			,
man Load Te	n Estrat fil			Sae Provity	(Anul	
Gewend Film   Failed transfers   Secondle) transfers						G Gussengty

7. Backs up the recording files that exist in the path. Create a directory to back up and drag and drop it to the directory where you want to migrate.

e#	Usamarna: Paciente Po	e Quickcenet +			
etani Starting doa	unional of / on/REC/Ex-See, Date 2010/10/16/2010/06/9123048-2011204-21	(100)-later al war			
nar Heitarde	r sea constal, transformed 2,000 bytes in 3 second context of New BDC (Burkay Enter/2018) 87511/20188 8751181000 8751810000000000000000000000000000000000	1100 Antonia unity			
et.as Pilititatetar	r successful, transformed is 700 to field in 1 second				
Na sta Changi P	CR22 Ref.		- Famer ste //m/REC/RacSee, Date	L()	
Prog	pan File		A 9 87		
Prog	point Files (ddf)		a cot		
Rece	bery .		0 T ROC		
Syste	an Yolume Information		RacSex_Data		
-U- I have	e Harrist				
	lacius more				
6.5 *	backup, eld				
	PCK22 Rec		*		
lanama	Field	a Finge Latwoofer	Figure	Fierbe Fierboa	Last modified
2077925		File folder 2/10/2019 3-40/40	317.63	File to due	10/25/2017 10/18:57 AM
20171106		File fabler 3/19/2018 3.49.10.	28(7)138	Lie folder	13/6/(017 %40/54 PM
20171128		File Tokler 1/16/3018 3.40.11	2017113	File folder	15/5/3017 5/21 19 Phz.
2017128		File follow 1/16/20/19 2 (00/11	20171128 30171128	Fin to due	120200000000000000000000000000000000000
2071238		File takler 3/10/2019 3 45/11	217.52	Fig. to day	12/6/2017 3-45-49 PM
20121219			3877018	f de farides	10/19/2012 (00011 264
20171221		File1alar 5/16/20183-48-12	. Her Puter	File Scider	13/21/2017 3/14/05 PM
20180022		File folder 1/16/2219 3 49/12 .	20100122	Fis folder	3/32/22/18 (kits 18 PM
2189429		P611909 119201924013	2716126	P is to due	2/36/2018 3 (b)(3 PM
ALCOLUMN A		Fighting UND/PUBLICH	10 10 M 10	Fig. Solder	11/1/2718 6 10/27 84
			2010/128	File folder	11/6/2218 812/56 814
					5-112-24-4
			1. contractor		
				Sine Broathy Status	

## A.4.3 Recording file restore

When the backup is completed, connect to the newly installed IPCR.

1. Click **New Site** button and type the site name.

Site Manager	>
Select Entry: My Sites	General     Advanced     Transfer Settings     Charset       Protocol:     SFTP - SSH File Transfer Protocol     V       Host:     192.168.119.110     Port:
	Logon Type: Ask for password User: root Password: Background color: None
New Site     New Folder       New Bookmark     Rename       Delete     Duplicate	Comments:
	Connect OK Cancel

2. In the 'General' tab, enter the information of the existing New IPCR Server. When you have finished, click Connect button.

Site Manager			×
Select Entry: My Sites IPCR 2.2 IPCR 3.0		General     Advanced     Transfer Settings     Charset       Protocol:     SFTP - SSH File Transfer Protocol     Ig2.169.119.111     Port:     22	~
		Logon Typ : Normal User: Password: Background color: None	×
New Site New Bookmark Delete	New Folder Rename Duplicate	Comments:	< >
		Connect OK Cancel	

- Host: Old version IPCR server IP
- Port: 22 --- SFTP default Port
- **Protocol:** SFTP SSH File Transfer Protocol

- Logon Type: Normal
- User: username default root
- **Password:** password default p@ssw0rd.
- **3.** Once connected, it will go to the same path as show in the below picture. The 'path' is /var/REC/RecSee\_Data.

Hort	Demano	Facagoet	Eato	Quicktonnett +				
Dankari Di Statuari Ra Statuari Li Statuari Di	notery being of "reset" sociestical etailong directory licing of "/res/REC# cling directory licing dir "/res/REC# instory licing of "/res/REC#ecSee_Date	ation (lata"). A successful						
Local alter	/temp/IPCR22.Eecl,				- Results the Am/RECRASH Date			٦
	Action Tolume Information Inny Action of Action Action of Action Backs, pring Backs, pring Bac				A to B / and B of a to B			
Frenewa			Final Finture	Lat modified	Frename	Férate Fértype	Last modified	-
28471465 28471100 28471129 2847129 2847129 2847129 2847129 2847129 2847129 2847129 2847129 2847129 2849129 2849129 28491137 28491138			Fire builde Fire builde	1010000 140 15 MM 101000 14010 MM 101000 14010 MM 1010000 14010 MM 1010000 14010 MM 1010000 14010 MM 1010000 1400 17 MM 1010000 1400 2 MM 101000 1400 2 MM 1010000 1400 2 MM 101000 1400 2 MM 10000 1400 2 MM 10000 1400 2 MM 10000		եպել մասեց ենքց		
1) directories					Checky Sectory.			3
ServerStocal	fæ	Benhar	Executive			Sa Penty State		

4. Restore the recorded recording file to the new IPCR recording file path.

Number         Part         Description         Part         Description         Part         Part<	Yes Tunfy lover Beitmat	Hep Nerversenaulate						
2010 has interest Sectors(2,247, - ar d) 2017 frames / Finance / Financ	Davara	Paugott	Even.	Geretonerer +				
Finance         Finance <t< th=""><th>Nie transfer successful, transferred 1,6</th><th>00 bytes in 1 second</th><th></th><th></th><th></th><th></th><th></th><th></th></t<>	Nie transfer successful, transferred 1,6	00 bytes in 1 second						
20 CP	Fatrialing dractory lizing of "2var.98	CifferSee,Data'-						
Name         Finanda (Mar.) (NaME), Samo           Image (Mar.) (NaME), Samo         Image (Mar.) (NamE), Samo           Image (Mar.) (Nam.) (NamE), Samo         <	Control Broccory Alexandration pro-	a Catal Included						
- Freedrike (, ref., ref	entreline de retrete sour							
Finance         Forget         Lat workfel         Finance         Forget         Lat workfel           Finance         Forget         Lat workfel         Finance         Forget         Lat workfel           Finance         Forget         Lat workfel         Finance         Forget         Lat workfel           Finance         Strategie         Finance         Forget         Lat workfel         Finance           Finance         Strategie         Strategie         Finance         Strategie         Strategie           Finance         Strategie         Strategie         Financ	C/teng/IPQR2.Etcl				- Fernale stel /ver/REC/RecSee,Data			
Finuse         Farger         Lat model         Finuse         Finuse         Finuse         Lat model           Finuse         1100210-001 MI         0	System Volume Information				· - · · ·			
Finue         Finue <th< td=""><td>the second second</td><td></td><td></td><td></td><td>- ext</td><td></td><td></td><td></td></th<>	the second second				- ext			
Finance         Forgage         Late modified         Finance         Finance         Finance         Finance         Late modified           Finance         1010000         100000         100000         100000         10000000         1000000         1000000         1000000         1000000         10000000         1000000         10000000         10000000         10000000         1000000000000000000000000000000000000	taring mut				0.3 05			
Finue         Finue <th< td=""><td>backup cit</td><td></td><td></td><td></td><td>Racles Data</td><td></td><td></td><td></td></th<>	backup cit				Racles Data			
Henry Forget         Lat model         Former         Former         Former         Former         Lat model           Former         31/2019 301 30         32/2019         Statute         37/2018	IPCR2.2 Rec				and the second se			
Ensure filtiger         Lad model         Filterer         Ensure filtiger         Lad model           Werker         110/2010 000 Mr         20/2010         Marker         11/2020 000 Mr           Werker         110/2010 000 Mr         20/2010         Marker         11/2020 000 Mr           Werker         11/2020 000 Mr         20/2010         Marker         11/2020 000 Mr           Werker         11/2020 000 Mr         20/2010         Marker         11/2020 000 Mr           Werker         11/2020 000 Mr         20/2020         Marker         11/2020 000 Mr           Werker         11/2020 000 Mr         20/2020         Marker         11/2020 000 Mr           Werker         11/2020 000 Mr         20/2020         Marker         11/2020 000 Mr           Werker         11/2020 000 Mr         20/2020         Marker         11/2020 000 Mr           Werker         11/2020 000 Mr         20/2020         Marker         11/2020 000 Mr           Werker         11/2020 Mr         20/2020         Marker         11/2020 Mr           Werker         11/2020 Mr         20/2020 Mr         11/2020 Mr         11/2020 Mr           Werker         11/2020 Mr         20/2020 Mr         11/2020 Mr         11/2020 Mr	OpenCapiture							
Finuse         Finuse         Finuse         Finuse         Finuse         Informatic           Finuse         15/10/20 20/10 M         32/10/20         Finuse         16/20/20 40/20 M           Finuse         15/20/20 40/10 M         32/10/20         Finuse         16/20/20 40/20 M           Finuse         15/20/20 40/10 M         32/10/20         Finuse         15/20/20 40/20 M           Finuse         15/20/20 40/10 M         32/10/20         Finuse         15/20/20 40/20 M           Finuse         15/20/20 40/10 M         32/10/20         Finuse         15/20/20 40/20 M           Finuse         15/20/20 40/10 M         32/10/20         Finuse         15/20/20 40/20 M           Finuse         15/20/20 40/10 M         32/10/20         Finuse         15/20/20 40/20 M           Finuse         15/20/20 40/10 M         32/10/20         Finuse         15/20/20 40/20 M           Finuse         15/20/20 40/10 M         32/10/20         Finuse         15/20/20 40/20 M           Finuse         15/20/20 40/10 M         32/10/20         Finuse         15/20/20 40/20 M           Finuse         15/20/20 40/10 M         32/10/20         Finuse         15/20/20 40/20 M           Finuse         15/20/20 40/20 M         32/10/20         F	- surry							
Finance Federate         Late model         Permane         Finance         Finance         Finance         Finance         Late model           Finance         1010010 000 MM         2070010         Finance         1010010 010 Finance         1010010	User				10			
Tensor         Feature         Feature <thfeature< th=""> <thfeature< th=""> <thfe< td=""><td>Liner's</td><td></td><td>25 (ALL)</td><td></td><td></td><td></td><td></td><td></td></thfe<></thfeature<></thfeature<>	Liner's		25 (ALL)					
Provider         131/02/03 Alon TM         2,07/02/0         Provider         12/02/02 Alon TM           Filewise         131/02/03 Alon TM         2,07/03         Filewise         12/02/03 Alon TM           Filewise         131/02/03 Alon TM         2,07/03         Filewise         12/02/03 Alon TM           Filewise         131/02/03 Alon TM         2,07/03         Filewise         12/02/03 Alon TM           Filewise         131/02/03 Alon TM         2,07/03         Filewise         12/02/03 Alon TM           Filewise         131/02/03 Alon TM         2,07/03         Filewise         12/02/03 Alon TM           Filewise         13/02/03 Alon TM         2,07/03         Filewise         12/02/03 Alon TM           Filewise         13/02/03 Alon TM         2,07/03         Filewise         12/02/03 Alon TM           Filewise         13/02/03 Alon TM         2,07/03         Filewise         12/02/03 Alon TM           Filewise         13/02/03 Alon TM         2,07/03         Filewise         12/02/04 Alon TM           Filewise         13/02/04 Alon TM         2,07/03         Filewise         12/02/04 Alon TM           Filewise         13/02/04 Alon TM         2,07/03         Filewise         12/02/04 Alon TM           Filewise         13/02/04 Alon TM			tests todas	100 000000	Tie san e	fdmar 14	nye# 14	8 mod#41
Network         11/02/03 340:10         20/01/03         Perivative         20/02/03 1404-014           Felvelare         13/02/03 340:10         Extreme         21/02/03 1404-014           Felvelare         13/02/03 340:10         Extreme         21/02/03 1404-014           Felvelare         13/02/03 1401-014         Extreme         21/02/03 1404-014           Felvelare         13/02/03 1401-014         Extreme         21/02/04 1403-014           Felvelare         13/02/03 1401-014         Extreme         21/02/04 1403-014           Felvelare         13/02/03 1401-014         Extreme         21/02/04 1403-014           Felvelare         13/02/04 1400-014         Extreme         21/02/04 1400-014			Finisher	3120-0203 3-40 10 284	20171015	1	deider 2	10,2012 819-12 764
Finitian         13/02/02 and FM         22/07/02         Finitian         22/07/02           Finitian         13/02/02 and FM         20/02/02 and FM         Finitian         20/02/02 and FM           Finitian         13/02/02 and FM         20/02/02 and FM         Finitian         20/02/02 and FM           Finitian         13/02/02 and FM         20/02/02 and FM         Finitian         20/02/02 and FM           Finitian         13/02/02 and FM         20/02/02 and FM         Finitian         20/02/04 and FM           Finitian         13/02/02 and FM         20/02/02 and FM         Finitian         20/02/04 and FM           Finitian         13/02/02 and FM         20/02/04 and FM         20/02/04 and FM         20/02/04 and FM           Finitian         13/02/04 and FM         20/02/04 and FM         20/02/04 and FM         20/02/04 and FM           Finitian         13/02/04 and FM         20/02/04 and FM         20/02/04 and FM         20/02/04 and FM           Finitian         13/02/04 and FM         20/02/04 and FM         20/02/04 and FM         20/02/04 and FM           Finitian         13/02/04 and FM         20/02/04 and FM         20/02/04 and FM         20/02/04 and FM           Finitian         13/02/04 and FM         20/02/04 and FM         20/02/04 and FM         20/02/0	36		File Sector	1/10/0010 3-45 10 PM	20071106	19	feider 1/	10-2012 418-42 764
Fileware         Lingstrate and memory         Lingstrate and memory <thlingstrat< td=""><td>00</td><td></td><td>File folder</td><td>3/15/2019 3 49 11 764</td><td>20071108</td><td>14</td><td>feider 3/</td><td>10/2010 418-44 794</td></thlingstrat<>	00		File folder	3/15/2019 3 49 11 764	20071108	14	feider 3/	10/2010 418-44 794
Notade         101/0219 (MTM)         23/02/02         Packade         2/02/014/33/04           Fileware         101/0219 (GTM)         23/02/04         Packade         2/02/04/33/04           Fileware         101/0219 (GTM)         23/02/04         Packade         2/02/04/33/04           Fileware         101/0219 (GTM)         23/02/04         Packade         2/02/04/34/04           Fileware         101/0219 (GTM)         23/02/04         Packade         2/02/04/34/04           Fileware         101/0219 (GTM)         23/02/05         Packade         2/02/04/34/04           Fileware         101/0219 (GTM)         23/02/05         Packade         2/02/04/34/04           Fileware         101/0219 (GTM)         23/02/05         Packade         2/02/04/34/04	28		File fieldar	3/15/2010 3-49 11 764	20171728	Fa	feider 1/	10-2010 4 18-45 764
Processe         Control of the co	105		File folder	3/10/2010 3-49/11 79/	20171205	14	feider 3/	10/2010 418-45 784
Instrume         20/02/0         Review         20/02/0           Preview         10/02/0         Review         20/02/0           Preview         10/02/0         Review         10/02/0	1945		File feider	1/12/2010 3-4511 764	20071206	**	feider A	20/2010 413-47 764
Pre-tware         11/0/01/3 24/01 7M         20/00/02         Pre-tware         11/0/01/3 41/0 7M           Fe-tware         11/0/01/3 41/0 7M         20/00/02         Fe-tware         11/0/01/3 41/0 7M	12		Fill folds:	1/10/2010 3-4912 PM	2017/212	14	i fo-der 3	10/2010 4 15 48 757
Pro-tonar 111(2012-543)3 PM 2 2010025 4 (16) PM	27 (m)		Ris bridge	10100003-0017-004	2017-223	14	teider 2	PSYCRED A 15-REPORT
	14		Finisheday	1/15/2010 1-4513 794	2010030	1	fuidar 1	10-0412-412-4279-4
File folder 3/12/2013 3-83-13 PM 2/12/2013 3-83-13 PM 2/12/2013 3-19:52 PM 2/12/2012 3-19:52 PM 2/12/2013 2-19:52 PM 2/12/2013 2-19:52 PM 2/12/2014 2-19:52 PM 2/12/2014 2-19:52 PM 2/12/2014 2-19:52 PM 2/12/2014 2-19:52 PM 2/12/2013 2-1900 2000 2000 2000 2000 2000 20000000000	20		Fielder	3/10/2010 3 49 13 284	20100420	14	feider 3	10-2013 0 10:30 764
File Soulder 1/12/2010 3-48 17 Min 12/2010 3-48 17 Min 12/2010 3-18 17 Min 12/2000 3-17 Min 12/2000 3-17 Min 12/2000 3-17 Min	17		<b>File folder</b>	3/15/2010 3-48 17 PM	2010/10/	Fa	fuider 2	16/2010-01831 PM
File-folder 0.15(2019.048.10.994 0.0001100 File-folder 0.116(2019.046.10.91.994	39		Fistolder	3/15/2019 3 49 19 764		74	feider 2	19-2019-818-51 PM
	(m)				13 descholes		_	
G directories	eritik	Deserve	Francis Bio			Tes Banks	No.	
() directories	ca' filt	Descoler	Ramata Nia			Sol Presty	2004	
Reference         121/20120 501 204         2015/CD         File noise           Reference         121/20120 File Noise         121/2012         File noise           Reference         121/20120 File Noise         File noise         File noise           Reference         121/20120 File Noise         File noise         File noise	28 20 37 38		Fistender Fistender Fistender Fistender	1/15/2013 14/513 MM 1/15/2013 14/513 PM 1/15/2013 14/513 PM 1/15/2013 14/513 PM 1/15/2013 14/518 PM	2 24180325 2 24180423 2 2418110P 2 2418110P 2 2418110P 2 2418110P	10	i fu ider i fu ider i fu ider i fu ider	87 87 87
					e			
	(m)				13 directories			
0 directories	cal Hit	Direction	Ramata file			Sot Presty	Status	
Gilandore Sour Frenty Meter								
Descer Emotion Set Party 3000								
Dester Europha Set								
I denorma Dester Renerba Sa Penty Statu								
Descen Euroristic Sectores Sec. Sec. Sec. Sec. Sec. Sec. Sec. Sec.								
3 Annone Destan Annoide San Pedro Made								
Descen Europhia Sol Party Mea								
Bradan Kanyakta Sor Pady Mde								
Dester Renyche Ser. Perty Mile								
Dester Eurorikia Son Party State								
0 dennorm Dinatan Kanyakha San Party Mita								
2 Annorm Descen Renyste Sec. Party 3664								
9 denninie Distan Karyenika San Pady Miller								
3 Annorm Descen Rengelle Set Perty Mide	tikes Falled bandfars Success	Na sanden (70						
ja develore vi Develore Remonitie in Party Maler							20 cm	-

• Select all backed up files and drag and drop them to that path.

#### **Appendix B:**

# **Setup in VM Workstation Player**

This chapter describes how to install IPCR in the VM Workstation Player 15 or higher installed with Clonezilla.

## B.1 Install VMPlayer15

1. Open Chrome browser and visit the following link to download the VMplayer15 installation file. <u>https://my.vmware.com/en/web/vmware/free#desktop\_end\_user\_computing/vmware\_w\_orkstation\_player/15\_0</u>

$\leftarrow$ $\rightarrow$ G $_{\rm III}$	https://my.vmware.com/en/web/vmware/free#desktop_end_user_computing/vmware_workstation_pl 🕸 🏠	:
<b>vm</b> ware <sup>,</sup>	🕒 US Login > Training Community Store 🕻	-877-486-9273
CALCULAR CLOUD	Norm > All Downloads > VMwate Workstation Rever Download VMware Workstation Player	
PRODUCTS	Major Version: 15.0 (latest) V Minor Version: 15.0.2 (latest) V	
SUPPORT	Product Downloads Open Source	
SOLUTIONS	VMware Workstation 15.0.2 Player for Download + Windows 64-bit Operating Systems.	About This P DESCRIPTION VMware Workstatic
PROFESSIONAL SERVICES	(exe i 132.33 MB) VC	DOCUMENTATION Release Notes

2. Double-click VMware Workstation player file you've downloaded to install. The Setup Wizard will install VMware player on your computer. Click **Next** button to continue.

🕼 VMware Workstation 15 Player Setup 🛛 – 🗆 🗙				
15	Welcome to the VMware Workstation 15 Playe Setup Wizard	er		
WORKSTATION PLAYER	The Setup Wizard will upgrade VMware Workstation 15 Player on your computer. Click Next to continue or Cancel to exit the Setup Wizard.	0		
	Copyright 1998-2019 VMware, Inc. All rights reserved. This product is protected by U.S. and international copyright and intellectual property laws. VMware products are covered by one or more patents listed at: <u>http://www.vmware.com/go/patents</u>	đ		
Next Cancel				

3. Read the terms in the license agreement, then click the checkbox and click **Next** button.



4. Installation directory appears then click **Next** button. If you want to change the Installation directory, click 'Change...' to set your directory.

₩ VMware Workstation 15 Player Setup —		×
Custom Setup Select the installation destination and any additional features.	5	S
Install to: C:₩Program Files (x86)₩VMware₩VMware Player₩	Change	
Enhanced Keyboard Driver (a reboot will be required to use this feature This feature requires 10MB on your host drive.	)	
Back Next	Cancel	
5. Click the checkbox to select the desired options then click Next button. (Optional items)

🞲 VMware Workstation 15 Player Setup 🦳 🗌	×
User Experience Settings Edit default settings that can improve your user experience.	FZ
	_
<ul> <li>Check for product updates on startup When VMware Workstation 15 Player starts, check for new versions of the application and installed software components.</li> <li>Join the VMware Customer Experience Improvement Program</li> </ul>	
VMware's Customer Experience Improvement Program ("CEIP") provides VMware with information that enables VMware to improve its products and services, to fix problems, and to advise you on how best to deploy and use our products. As part of the CEIP, VMware collects technical	
Learn More	
Back Next Cano	el

6. Click the checkbox to select the desired options then click Next button. (Optional items)

WWware Workstation 15 Player Setup ー		×
Shortcuts		57
Select the shortcuts you wish to place on your system.		2
Create shortcuts for VMware Workstation 15 Player in the following places:		
Desktop		
Start Menu Programs Folder		
-		
Back Next	Can	cel

7. Click Install button to start installation.



8. After being completed program installation, click **Finish** button to complete.

Wware Workstation 15 P	layer Setup — 🗆 🗙
15	Completed the VMware Workstation 15 Player Setup Wizard
	Click the Finish button to exit the Setup Wizard.
	Press the License button below if you want to enter a license key now.
	License Finish

### Appendix C:

# Create a bootable flash drive for installing IPCR

This chapter describes how to create a bootable flash drive for installing IPCR.

#### **C.1**

## Create a bootable flash drive Using rufus

1. Open Chrome browser and visit the following link to download the Rufus installation file. <u>https://rufus.ie/</u>

# Rufus 3.0.1304	X
Drive Properties	
Drive Properties	
Ubuntu 18.04 LTS amd64 (G:) [8GB]	· · · · · · · · · · · · · · · · · · ·
Boot selection	
ubuntu-18.04-desktop-amd64.iso	SILECT
Partition scheme	Target system
Show advanced drive properties	BIGS OF PL
Format Options	
Volume label	
Ubuntu 18.04 LTS amd64	
File system	Cluster size
FAT32 (Default) v	4096 bytes (Default) V
<ul> <li>Show advanced format options</li> </ul>	
Status	
REAL	DY
80 T T	
© ,≠ <b></b> .	START
1 device found	00:00.22
Rufus is a utility that helps for	mat and create bootable USB flash drives such as USB keys/pendrives
memory sticks, etc.	
It can be especially useful for	cases where:
you need to create USB	installation media from bootable ISOs (Windows, Linux, UEFI, etc.)
you need to work on a specific term of the second sec	ystem that doesn't have an OS installed
<ul> <li>you need to flash a bios</li> <li>you want to run a low-lev</li> </ul>	vel utility
Despite its small size. Rufus p	rovides everything you need!
On, and Rutus is fast. For inst Windows 7 USB download too	lance it's about twice as fast as <u>unrepoortin, universal USB Installer</u> or al, on the creation of a Windows 7 USB installation drive from an ISO. It is
also marginally faster on the c	reation of Linux bootable USB from ISOs. 11
A non exhaustive list of Rufus	supported ISOs is also provided at the bottom of this page. <sup>Incl</sup>
Download	
Last updated 2018.12.05:	
Rufus 3.4 (1 MB)	
Rulus 3.4 Portable (1 Mil	3)
Other versions	

2. Double-click the rufus-3.4 you've downloaded to run.

3. At the Drive Properties, click the **Device** ( ) to select a storage device to use as a bootable flash drive.

Rufus 3.1.1320 (Portable)		_		×
Drive Properties				
Drive Properties —				
Device				
IPCR (F:) [4GB]				~
Boot selection				
Disk or ISO image (Please select)	~	$\oslash$	SELEC	CT
Partition scheme	Target sy	/stem		
MBR $\sim$	BIOS (or	r UEFI-CS	5M)	~ ?
✓ Show advanced drive properties				
Format Options				
Volume label				
IPCR				
File system	Cluster s	ize		
FAT32 V	4096 by	tes (Defa	ult)	$\sim$
✓ Show advanced format options				
Status				
Status				
READY				
🔇 🛈 葦 🔳	STA	RT	CLOS	SE
2 devices found				

4. Click **SELECT** ( \_\_\_\_\_\_) button and select ISO image to install.

Putter 2.1.1220 (Pastable)			_	~
W Rufus 3.1.1320 (Portable)		-		×
Drive Properties -				
Device				
IPCR (F:) [4GB]				$\sim$
Boot selection				
clonezilla-live-CloneZilla_IPCR_3	8.0Ae_201807 ~	$\odot$	SELEC	ст
Partition scheme	Target s	ystem		
MBR ~	BIOS or	UEFI		$\sim$
✓ Show advanced drive proper	ties			
Format Ontions				
Volume label				
CloneZilla_IPCR_3.0Ae_20180716	)			
File system	Cluster :	size		
FAT32 $\lor$	4096 by	rtes (Defa	ult)	$\sim$
✓ Show advanced format optic	ons			
Status				
Status				
	READY			
🔇 i ই 🗐	STA	RT	CLOS	SE
Using image: clonezilla-live-Clone	Zilla_IPCR_3.0Ae	_2018071	6.iso	

5. Click **START** (<u>START</u>) button after the above procedure.

🖋 Rufus 3.1.1320 (Portable)		-		×
Drive Properties				
Drive Properties =				
Device				
IPCR (F:) [4GB]				~
Boot selection				
clonezilla-live-CloneZilla_IPCR_3	3.0Ae_20180	07 ~ ⊘	SEL	ECT
Partition scheme	Tar	get system		
MBR ~	BI	OS or UEFI		$\sim$
<ul> <li>Show advanced drive proper</li> </ul>	ties			
Format Options —				
Volume label				
CloneZilla_IPCR_3.0Ae_20180716	i			
File system	Clu	ister size		
FAT32 ~	40	96 bytes (Def	ault)	~
<ul> <li>Show advanced format optic</li> </ul>	ons			
<u> </u>				
Status —				
	READY			
	READT			
(1) (1) ⇒ □		START		OSE
		START		USE
	7.11. 10.00.1	0.04 - 201007	10.1	
Using image: cionezilla-live-Clone.	ZIIIa_IPCR_:	s.uAe_201807	10.150	

6. Click CLOSE button when Rufus finishes preparing USB drive.

# Installing IPCR on 1TB and above HDD

Install 1TB and more HDD with IPCR CD for 500GB type. In the installed IPCR server merge the remaining HDD storage of /var/REC partition.

## D.1 HDD Capacity Expansion

In accordance with your choice, the result can be changed.

- Case1: Install additional HDD to IPCR of Clonezilla.
- Case2: Install additional HDD to IPCR of CentOS6.9 32bit and IPCR s/w.

### D.1.1 Merge remaining storage in IPCR server/var/REC Partition

1. Open the Terminal and enter a command to check the storage that is not currently assigned.

[root@localhost ~]# cfdisk

2. Free Space is displayed on the Terminal. As shown above, the FS type free space is not assigned.

		cfdisk (ut	il-linux-ng 2.	17.2)	
	Heads:	Disk Size: 998579 255 Sectors p	Drive: /dev/sd 896320 bytes, er Track: 63	a 998.5 GB Cylinders: 121403	
Name	Flags	Part Type	FS Type	[Label]	Size (MB)
		Pri∠Loα	Free Space		1.05 *
sda1	Boot	Primaru	Linux ext3		209.72 *
sdaZ		Primaru	Linux LVM		499897.08 ×
		Pr i∕Log	Free Space		498472.06 ×
-					
[ He	ip i i New	l Print	J L Quit	J L Units J L	Write J
		0			
		create new pa	rtition from f	ree space_	

3. Create PV (Physical Volume). Because /dev/sda1 is /boot, /dev/sda2 is /var/REC is being used so the remaining storage is /dev/sda3.

[root@localhost ~]# mknod /dev/sda3 b 8 3 [root@localhost ~]# chown root:disk /dev/sda3

- Make Physical Volume command is mknod
  - File Name: /dev/sda3.
  - Device Type: b
  - Device's Major Number: 8
  - Device Sequence: 3
- Permission granted command is chown
  - Group Name: Owner Name: root: disk
  - File Name: /dev/sda3.
- **4.** Create a Partition with the storage which is not assigned. For the Partition number (1-4) item, /dev/sda1 4, input 3.

[root@localhost ~]# fdisk /dev/sda
WARNING: DDS-compatible mode is deprecated. It's strongly recommended to switch off the mode (command 'c') and change display units to sectors (command 'u').
Command (m for help) p
Disk /dev/sda: 998.6 GB, 998579896320 bytes 255 heads, 63 sectors/track, 121403 cylinders Units = cylinders of 16065 * 512 = 8225280 bytes Sector size (logical/physical): 512 bytes / 512 bytes I/O size (minimum/optimal): 512 bytes / 512 bytes Disk identifier: 0x00075d5e
Device Boot Start End Blocks Id System /dev/sda1 * 1 26 204800 83 Linux Partition 1 does not end on cylinder boundary. /dev/sda2 26 60802 488180736 8e Linux LVM Partition 2 does not end on cylinder boundary.
Command (m for help) n Command action e extended p primary partition (1-4) P Fartition number (1-4) 3 First cylinder (60802-121403, default 60802): Using default value 60802 Last cylinder, +cylinders or +size{K,M,G} (60802-121403, default 121403): Using default value 121403

5. Change the assigned partition's system type /dev/sda2 to Linux LVM. Set the fdisk command below from t > Hex Code to 8e.

Command (m for help): p
Disk /dev/sda: 998.6 GB, 998579896320 bytes 255 heads, 63 sectors/track, 121403 cylinders Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes I/O size (minimum/ontimal): 512 butes / 512 butes
Disk identifier: 0x00075d5e
Neuice Boot Start End Blocks Id Sustem
devisitat * 1 26 204800 83 Linux
Partition 1 does not end on culinder boundary.
/dev/sda2 26 60802 488180736 8e Linux LUM
Partition 2 does not end on cylinder boundary.
/dev/sda3 60802 121403 486783037+ 83 Linux
Command (m for help): I
Hav code (time I to list codes): Re
Changed sustem time of participal to 8e (Linux LUM)
Command (m for help): w
The partition table has been altered!
Calling ioctl() to re-read partition table.
LADNING: Be reading the martition table failed with error 16: Device or recourse husu
The kernel still uses the old table. The new table will be used at
the next rebord or after your martice the next rebord.
Suncing disks.
froot@localhost ~1#

6. Set the partition to fdisk and confirm the partition (p) and restart the IPCR server.

[root@localhost ~]	# fdisk ∕dev	⊮sda			
WARNING: DOS-compa switch of sectors (	tible mode i f the mode ( command 'u')	is deprecat (command 'c ).	ed. It's st ') and chan	rong ge d	ly recommended to lisplay units to
Command (m for hel	ը): ը				
Disk /dev/sda: 998 255 heads, 63 sect Units = cylinders Sector size (logic I/O size (minimum/ Disk identifier: 0	.6 GB, 99857 prs/track, 1 of 16065 * 5 al/physical2 optimal): 51 x00075d5e	79896320 by 121403 cyli 512 = 82252 ): 512 byte 12 bytes /	ites nders 180 bytes 12 bytes 512 bytes	es	
Device Boot	Start	End	Blocks	Id	Sustem
/dev/sda1 *	1	26	204800	83	Linux
Partition 1 does n	ot end on c <u>u</u>	ylinder bou	indary.		
/dev/sda2	26	60802	488180736	8e	Linux LVM
Partition 2 does n /dev/sda3	ot end on c <u>u</u> 60802	Jlinder bou 121403	indary. 486783037+	8e	Linux LUM
Command (m for hel	թ): գ				
[root@localhost ~]	# reboot				

7. Create the PV (Physical Volume).

```
[root@localhost ~]# pvcreate /dev/sda3
Physical volume "/dev/sda3" successfully created
[root@localhost ~]#
```

8. Add Physical Volumes to a VG (Volume Group). IPCR's Volume Group Name is IPCR.

```
[root@localhost ~]#<mark>vgextend IPCR /dev/sda3</mark>
Volume group "IPCR" successfully extended
[root@localhost ~]# _
```

9. Increase the LV (Logical Volume).



- Use +100%FREE command to expand all remaining storage.
- When setting the option be careful with capital and small letter.

10. Reflecting the file system LV (Logical Volume)

```
[root@localhost ~]# resize2fs /dev/IPCR/REC
resize2fs 1.41.12 (17-May-2010)
Filesystem at /dev/IPCR/REC is mounted on /var/REC; on-line resizing required
old desc_blocks = 26, new_desc_blocks = 55
Performing an on-line resize of /dev/IPCR/REC to 228842496 (4k) blocks.
The filesystem on /dev/IPCR/REC is now 228842496 blocks long.
```

**11.** Verify the partition with the command df –h.

[root@localhost	~]# df -h				
Filesystem	Size	Used	Avail	Use%	Mounted o
/dev/mapper/IPCR	l-root				
	<b>48</b> G	3.7G	42G	8%	1
tmpfs	2.0G	0	2.ØG	0%	/dev/shm
/dev/sda1	190M	38M	143M	21%	∕boot
/dev/mapper/IPCR	I-REC 860G	247M	816G	1%	∕var∕REC
[root@localhost	~]#				

### Appendix E:

## How to Upload SSL certificate

This chapter describes how to Upload SSL certification.

## E.1 How to Upload SSL certificate

1. Upload the keystore file to the following path (/etc/pki/tls/private) using FTP

🔁 sftp://root@192.168.0.201 - FileZilla	— —	×
<u>Eile E</u> dit <u>V</u> iew <u>T</u> ransfer <u>S</u> erver <u>B</u> ookmarks <u>H</u> elp		
₩ - ■		
Host: sftp://192.168.0.2( Username: root Password: )	Port: Quickconnect	
status. Statung download of /etc/pki/us/phvate/tomcat.keystore		^
Status: File transfer successful, transferred 2,299 bytes in 1 second		~
Local site: C:\Users\21513\Desktop\ ~	Remote site: /etc/pki/tls/private	~
🖶 📜 Downloads 🔨	E ? tls	^
- eclipse ✓	private	~
Filename	Filename	size f
	III.	
test.keystore	tomcat.keystore 2,2	299 1
	localhost.key 1,6	579 ŀ
< >>	<	>
1 file. Total size: 2,299 bytes	2 files. Total size: 3,978 bytes	

2. connect to SSH and enter the following command:



**3.** change the following text to new information. (KeystorePass is the password of the Certified certificate)

```
<Connector port="443" protocol="HTTP/1.1" SSLEnabled="true"
maxThreads="150"
scheme="https" secure="true" clientAuth="false" sslProtocol="TLS"
keystoreFile="/etc/pki/tls/private/tomcat.keystore"
keystorePass="p@ssw0rd"/>
```

ex) keystoreFile="/etc/pki/tls/private/test.keystore" keystorePass="ipcrhttps"

<Connector port="443" protocol="HTTP/1.1" SSLEnabled="true" maxThreads="150" scheme="https" secure="true" clientAuth="false" sslProtocol="TLS" keystoreFile="/etc/pki/tls/private/test.keystore" keystorePass="ipcrhttps"/>

- 4. Execute a :well command to save the file after pressing ESC button on the keyboard.
- 5. Please enter the following command

[root@localhost ~]#	service tomcat restart
[root@localhost conf]# [root@localhost conf]# se	ervice tomcat restart
Using CATALINA_BASE: /u	usr/local/tomcat7
Using CATALINA_HOME: /u	usr/local/tomcat7
Using CATALINA_TMPDIR: /u	usr/local/tomcat7/temp
Using JRE_HOME: /u	usr
Using CLASSPATH: /u	usr/local/tomcat7/bin/bootstrap.jar:/usr/local/tomcat7/bin/tomcat-juli.jar
Using CATALINA_BASE: /u	usr/local/tomcat7
Using CATALINA_HOME: /u	usr/local/tomcat7
Using CATALINA_TMPDIR: /u	usr/local/tomcat7/temp
Using JRE_HOME: /u	sr
Using CLASSPATH: /u	Isr/local/tomcat7/bin/bootstrap.jar:/usr/local/tomcat7/bin/tomcat-juli.jar
[root@localhost conf]#	

### Appendix F:

# How to Mount to backup directory

This chapter describes how to mount additional HDD in a backup directory

## F.1 How to Mount to backup directory

- 1. Connect the storage device to the IPCR server.
- 2. Enter the following command at the terminal.

[root@localhost ~]# fdisk -1	
[root@localhost ~]# fdisk -I	
Disk /dev/sda: 536.9 GB, 536870912000 bytes, 1048576000 sectors Units = sectors of 1 * 512 = 512 bytes Sector size (logical/physical): 512 bytes / 512 bytes I/O size (minimum/optimal): 512 bytes / 512 bytes Disk label type: dos Disk identifier: 0x00013252	
Device Boot Start End Blocks Id System /dev/sda1 * 2048 411647 204800 83 Linux /dev/sda2 411648 1048575999 524082176 8e Linux LVM	
Disk /dev/mapper/IPCR-root: 53.7 GB, 53687091200 bytes, 104857600 sectors Units = sectors of 1 * 512 = 512 bytes Sector size (logical/physical): 512 bytes / 512 bytes I/O size (minimum/optimal): 512 bytes / 512 bytes	
Disk /dev/mapper/IPCR-swap: 8589 MB, 8589934592 bytes, 16777216 sectors Units = sectors of 1 * 512 = 512 bytes Sector size (logical/physical): 512 bytes / 512 bytes I/O size (minimum/optimal): 512 bytes / 512 bytes	
Disk /dev/mapper/IPCR-var_REC: 474.4 GB, 474379976704 bytes, 926523392 sectors Units = sectors of 1 * 512 = 512 bytes Sector size (logical/physical): 512 bytes / 512 bytes I/O size (minimum/optimal): 512 bytes / 512 bytes	
Disk /dev/sdb: 4004 MB, 4004511744 bytes, 7821312 sectors Units = sectors of 1 * 512 = 512 bytes Sector size (logical/physical): 512 bytes / 512 bytes I/O size (minimum/optimal): 512 bytes / 512 bytes Disk label type: dos Disk identifier: 0x1659e81b	
Device Boot Start End Blocks Id System /dev/sdb1 * 2048 7821311 3909632 c W95 FAT32 (LBA) [root@localhost ~]#	

• If the system type is NTFS, the command below must be entered and mounted.

[root@localhost	~]# yum	install	epel-release
[root@localhost	~]# yum	install	ntfs-3g

3. Enter the following command at the terminal.

[root@localhost ~]# m	nount	/dev/	/sdb1	/var/REC/RecSee_Backup
[root@looolboot]]# mount	Idoul	المام	luer / Dr	C/DeeSee Beelwel
[root@locallost ~]# mount [root@localbost ~]# df _b	. /aev/	sabi /	var/n	EC/ NECSEE_Backup/
[rooterocannost ~]# ur −r Filesvstem	' Size	lleed	Ausil	Use% Mounted on
/dev/mapper/IPCB-root	48G	6 2G	406	
devtmpfs	990M	0.20	990M	O% /dev
tmpfs	1000M	Ō	1000M	0% /dev/shm
tmpfs	1000M	105M	896M	11% /run
tmpfs	1000M	0	1000M	O% /sys/fs/cgroup
/dev/sda1	190M	96M	81 M	55% /boot
/dev/mapper/IPCR-var_REC	440G	262G	156G	63% /var/REC
tmpfs	200M	Ō	200M	0% /run/user/1000
tmpfs	200M	0	200M	0% /run/user/0
/dev/sdb1	3.8G	855M	2.9G	23% /var/HEC/HecSee_Backup
[root@localhost ~]#				

- The backup directory must be /var/REC/RecSee\_Backup unconditionally.
- 4. Enter the following command for the auto-mount.

[root@localhost ~]# vi /etc/rc.d/rc.local

5. Enter the following text and save rc.local.



### Appendix G:

# **Useful Information**

This chapter contains the open source software used in the iPECS Cloud.

## G.1 **Open Source Software Notice**

Open Source Software used in this product are listed as below. You can obtain a copy of the Open Source Software License from Ericsson-LG Enterprise Web site, http://www.ericssonlg-enterprise.com. Ericsson-LG Enterprise reserves the right to make changes at any time without notice.

Open Source	License	
jQuery	MIT License	
jQuery UI	MIT License	

Ericsson-LG Enterprise offers to provide you with open source code on CD-ROM for a charge covering the cost of performing such distribution, such as the cost of media, shipping and handling upon e-mail request to Ericsson-LG Enterprise at opensource@ericssonlg.com.

This offer is valid for a period of three (3) years from the date of the distribution of this product by Ericsson-LG Enterprise.

The contents of this document are subject to revision without notice due to continued progress in methodology design and manufacturing. Ericsson-LG Enterprise shall have no liability for any error or damage of any kind resulting from the use of this document.