

# **iPECS vUCP** (Virtual Unified Communications Platform)

**Installation Manual** 



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

# **Revision History**

ISSUE	DATE	DESCRIPTION OF CHANGES
1.0	Jan., 2018	S/W version 3.0.x. - Initial Release
1.1	Mar., 2018	<ul> <li>S/W version 3.1.x.</li> <li>Change the vUCP Default login value</li> <li>HTTPS and port number from 437 to 443</li> </ul>
1.2	Apr., 2019	<ul> <li>S/W version 3.5.x.</li> <li>vMCIM is added and AWS platform is supported.</li> <li>System Default License is changed to vUCP-CS2400S (SWL)</li> </ul>
1.3	Dec.03, 2019	S/W version 4.0.x. - General Update (Style, Chart, Fonts)
	Dec.18, 2019	- Added the vVOIMT.
1.4	Sep., 2020	S/W version 4.1.x. - Applied S/W version 4.1.x

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# 1 Introduction

### 1.1 Overview of virtual UCP (vUCP)

The iPECS UCP is an award winning all-in-one IP-PBX and UC solution designed for SMB and mid-size enterprises providing great flexibility, scalability and reliability in delivering unified communications services and advanced communication features over dispersed and mobile environments.

The Virtual UCP (vUCP) is a software version of UCP, which can be run on virtual machine (VMware®). While supporting all the compelling advantage ofiPECS UCP, the vUCP allows more simple and flexible deployment and management with low total cost of ownership. Targeting at the midsize enterprise, vUCP supports from 200 ports at an affordable price to SMB businesses and can grow up to 2,400 ports with system port license. The vUCP can be installed on customers' existing virtual infrastructure or can be built ina new virtual server, together with other product and business applications like UCS premium, IPCR, Report Plus, etc.



### 1.2 Manual Application

This document provides detailed information covering the configuration of the vUCP.

The manual is written for the experienced installer who has knowledge of telephony terms and functions about the small and mid-sized business telecommunications systems.

### 1.3 Manual Organization

This manual is organized in four (4) major sections including:

- Section 1 Introduction: This section introduces the content and organization of the manual.
- Section 2 Supported virtualized System: This section introduces the supported virtualized system and requirements. Also, it explains about the specification of vUCP and explains the differences with embedded UCP systems.
- Section 3 Virtual Machine Deployment: This section introduces the deployment of virtual machine. It explains how to deploy the vUCP, vUVM, vMCIM and vVOIM/vVOIMT.
- Section 4System Upgrade: This section introduces how to upgrade the systems.

# 2 Supported virtualized System

### 2.1 Specification

The Virtual UCP system is virtualized into function base software operation as follows

- Virtual UCP(vUCP)– Voice and Standard UC features
- Virtual UVM(vUVM)– Voice mail
- Virtual VOIM(vVOIM)– G/711 base VOIP functions
- Virtual MCIM(vMCIM)– Voice Conference supported from Unified 3.5
- Virtual VOIMT(vVOIMT)- VOIP functions and transcoding functions from Unified 4.0

#### System Capacity of vUCP, vUVM, vMCIM and vVOIM/vVOIMT

The capacities associated with each software are given in the below table.

#### **Table 2.1-1Virtual UCP System Capacities**

ITEM	Capacity	Remark
System Port		
Default	50	vUCP-CS2400S(SWL) license
Maximum	2400	vUCP-SPL licenses
Stations	2400	Total stations and Lines somet succed
CO/IP Lines (external	000	the evolutions and Lines cannot exceed
network channels incl. VoIP)	998	the available System port.
UCS Standard Clients	400	
UCS Premium Clients	2400	
Server Redundancy	Yes	Geographical redundancy only
W/TIM4/9 moduloo	20	Max 3 WTIMs in a single sync. zone
	30	WTIM24 can't' be in same sync. zone w/
VV I IIVI24	10	WTIM4/8
	192	Mixed with WTIM4/8
DECT phones	254	Only WTIM24
VoIP Channels		
System Maximum	998	Need Virtual VOIP license or H/W VOIP
Virtual VOIP	998(Default: 6 vVOIM channels)	- Soft VOIP: G.711 only, no transcoding
• H/WVOIP	998	- DSP VOIP: G.711/729/722, transcoding
Per vVOIM (virtual VOIP)		
Default channel	0	
Maximum	250 Channels	w/License (8ch base increment)
vVOIM per system	4	
Per vVOIMT (virtual VOIP&		
Transcoding)		
<ul> <li>Default channel</li> </ul>	32	
Maximum	32 Channels	32 channel licenses
vVOIMT per system	31	Maximum 998 channels

ITEM	Capacity	Remark
Per vMCIM (virtual		
conference)		
Default channel	64	
Maximum	64 Channels	64 channel licenses
vMCIM per system	15	Maximum 998 channels
Per vUVM (virtual UVM)		
Default (per system)	8 Channels	
<ul> <li>Maximum (per vUVM)</li> </ul>	150 Channels	
<ul> <li>Maximum (per system)</li> </ul>	300 Channels	w/License (8ch base increment)
VM Message Number		
System Maximum	64000	
Per VM board	32000	
vUVM per system	2	
USB Host port	0	Not supported
Internal Page Zones	100	
System Speed Dial	12,000	
System Speed Dial Zones	50	
(Groups)	50	
Station Speed Dial, per	100	
Station	100	
Total Station Speed Dial	24,000	
Call park	200	
Last Number Redial	10 (23 digits)	
Save Number Redial	1 (23 digits)	
Standard DSS		
Consoles/Station	9	
Serial DSS - System	500	
Serial DSS - Station	4	
(LIP-8000)	4	
Serial DSS - Station	4	
(LIP-9000)	4	
SMDR buffer	30,000	
CO Line Groups	200	
Station & Station Groups	200	
Station & Station Group	200	
Members	200	
Pickup Groups	200	
Pickup Group Member	2,4000	
Personal Groups	1200	
Conference Group - System	160	MCIM or VCIM are required
Conference Group - Station	100	MCIM or VCIM are required
Executive/Secretary pairs	100	
Authorization Codes	5200	Station:2400, System:2800

ITEM	Capacity	Remark
Transparent Networking	100	
Table	100	
CLI Msg Wait (Missed calls)	4,000	
Local Redundancy	No	
Geographical Redundancy	Yes	
Flex DID Table	10,000	
MSN table	2,400	
DID Digits Analysis	4	
Tenancy (ICM) Groups	100	
ICLID table	500	

### 2.2 Virtual Server Support

### 2.2.1 Supported Virtual Server

#### VMware vSphere

The VMware vSphere ESXi 6.0 or later version supports the vUCP virtual machines.

#### AWS(Amazon Web Services)

The AWS is supported from Unified version 3.5.

## **3 VMware Virtual Machines**

### 3.1 Supported Virtual Server Features

#### <u>vCenter</u>

#### vMotion

The vMotion supports the virtual machine migration.

#### <u>Snapshot</u>

The Snapshot can be used only when the VM is powered off. It can provide easy fall back to stored points. But it is recommended that the unused snapshot is deleted due to the virtual machine performance.

#### **OVF Deployment**

Soft Power Off

### 3.2 Supported Hardware and Virtual Machine Platforms

For proper hardware platforms and hardware requirements for VMware ESXi, refer to <a href="http://www.vmware.com/resources/compatibility/search.php">http://www.vmware.com/resources/compatibility/search.php</a>

Current supported VMware software can be found in <u>https://www.vmware.com/products.html</u>

If you want to find the most up-to-date technical documentation, refer to <a href="http://www.vmware.com/support.html">http://www.vmware.com/support.html</a>

### 3.3 Minimum Hardware and Software Requirements

The vUCP software is released in OVF format. Therefore, following specifications must be met.

- VMware vSphere 6.x software
- VMware vSphere client software (web client recommended)
- vCenter (supported but not required)
- CPU: Intel Xeon family with 2.0GHz clock speed or better (2.4GHz recommended)
- Memory: 12G Bytes or higher is recommended. It must satisfy the ESXi requirements in addition to the specific RAM requirements of each deployed virtual machines.
- Network: 1 Ethernet interface
- HDD: 100G Bytes or higher is recommended.

### 3.4 **Profile of Virtual Machine**

The OVF of vUCP, vUVM, vMCIM and vVOIM/vVOIMT installs the following default virtual machine.

#### <u>vUCP</u>

- CPU: 1 vCore
- Memory: 4G Bytes
- HDD: 24G Bytes (Application) + 1G Bytes (DB data)
- Network: 1 Gigabit

#### <u>vUVM</u>

- CPU: 1 vCore
- Memory: 4G Bytes
- HDD: 24G Bytes (Application) + 16G Bytes (Voice data)
- Network: 1 Gigabit

#### <u>vVOIM</u>

- CPU: 1 vCore
- Memory: 4G Bytes
- HDD: 24G Bytes (Application)
- Network: 1 Gigabit

#### vMCIM/vVOIMT

- CPU: 1 vCore
- Memory: 1G Bytes
- HDD: 8G Bytes (Application)
- Network: 1 Gigabit

### 3.5 Restrictions

#### Multiple virtual servers and disk storage requirements (IOPS/30 per server)

For acceptable performance, the number of virtual machines which run on an ESXi host should not exceed the IOPS (Input/Output Operation per Second) of the disk storage divided by 30.

Refer to the below URL for more information

https://kb.vmware.com/selfservice/microsites/search.do?cmd=displayKC&docType=kc&externalId=1031773&s liceId=2&docTypeID=DT\_KB\_1\_1&dialogID=425694459&stateId=0%200%20486902509

### 3.6 Disk Type Selection of Virtual Machine

You can select the virtual hard disk type during the virtual machine deployment and you can choose it according to your purpose.

Refer the 'vSphere Storage Guide' of 'ESXi and vCenter Server Product Documentation'at the below URL

https://www.vmware.com/support/pubs/vsphere-esxi-vcenter-server-6-pubs.html

#### 3.6.1 Thick Provision Eager Zeroed

Space required for the virtual disk is allocated at creation time. The data remaining on the physical device is zeroed out during creation. It might take much longer to create disks in this format than to create other types of disks.

#### 3.6.2 Thick Provision Lazy Zeroed

Space required for the virtual disk is allocated during the creation of the disk file. Any data remaining on the physical device is not erased during creation, but is zeroed out on demand at a later time on first write from the virtual machine. The virtual machine does not read stale data from disk.

#### 3.6.3 Thin Provision

Space required for the virtual disk is allocated during creation. This formatting type does not zero out any old data that might be present on this allocated space. A non-root user cannot create disks of this format.

#### 3.6.4 Determining disk type

If you are concerned about disk space, use the thin disks. If you are concerned about security and you want slightly better performance on initial disk writes, use eager zeroed thick disks. If you want easier administration, use the default disk type (lazy zeroed thick disks). Note that once an initial write to a new disk block has been completed, disk performance is equal across all disk types.

### 3.7 **Performance View of Virtual Machines**

You can see the performance page in vSphere by following process. If vCenter is used, you can see them on long term basis.

- 1) Connect to the IP address of ESXi by web browser
- 2) Click 'Open the VMware Host Client'.
- 3) Log in by input 'Username' and 'Password'.
- 4) Click 'Virtual Machines in Navigator'
- 5) Click 'My VM'.
- 6) Click 'Monitor of My VM'
- 7) You can see the performance of CPU, Memory, Disk, and Network

📲 Navigator 🗉	vUCP_k	dm_master - N	Aonitor												
👻 🗒 Host	Performa	nce Even	nts Tasks	Logs Not	ifications										
Manage		-													
Monitor	CPU	/	<ul> <li>Default co</li> </ul>	olors 🔻	Last hour •	C Refre	sh 🛛 🚯 Actions						Q Filter	r series	
👻 🗗 Virtual Machines  4 💦	8														
▶		, 													
Ø vUVM_base_VM	5														
▶	D 51														
vUCP_kdm_master 5	Ê P														
Monitor 🕤	ŝ,														
VUCP_base_VM	L Gui	4:41	14:46		14:55	15:0	3	15:11		5:20	1	15:28	15	:36	15:40
VUCP_wane     VUCP fromaus								Time							
VUCP iunv															
More VMs	Name						~	Unit	~ Average	~	Maximum	~ Minimum	~ La	atest	~
▼	CPU							96	4.93		5.43	4.57	5.	2	
	Read	ly						96	0.24		0.32	0.18	0.3	25	
Monitor															2 items 🦼
More storage															
> 🧕 Networking 🛛 🔹 3															

Refer to 'vSphere Monitoring and Performance Guide' of 'ESXi and vCenter Server Product Documentation' in the below URL

https://www.vmware.com/support/pubs/vsphere-esxi-vcenter-server-6-pubs.html

### 3.8 Virtual Machine Deployment

Virtual Machine Deployment Process is as below.

- 1) Confirm the System Settings
- 2) Download the software
- 3) Deploy the OVF file
- 4) Power on Virtual Machine
- 5) Connect to Virtual Machine
- 6) Configure Network Settings and Restart
- 7) Access to Web and Complete Install Wizard
- 8) Create Serial Number
- 9) Order and Generate (download) licenses from the license portal
- 10) Upload the license file

In case of vUVM, vMCIM and vVOIM/vVOIMT, there is some differences from vUCP;

- 1) No serial number is supported.
- 2) No install wizard is supported.
- 3) No license file is supported.

Therefore, the procedure from 8 to last is not required.

#### 3.8.1 Confirm the System Settings

You must finalize the following values before deploying the virtual machine and obtaining any licenses. If you change some factors after obtaining any licenses, those licenses are invalidated.

- System IP Address
- Router IP Address
- Firewall IP Address

#### 3.8.1.1 Downloading the software

You can download OVF and ROM files from GPS website Library menu.

https://partner.ericssonlg-enterprise.com

#### 3.8.1.2 OVF File

The OVF file is used for the virtual machine deployment.

#### 3.8.1.3 ROM File

The Rom file is used for the application upgrade at the web admin upgrade menu.

#### 3.8.2 Deploying the OVF File

You can create a new virtual machine by following process. This process can take several hours depending on your network speed.

#### 3.8.2.1 Deployment the OVF file using vSphere

1) Log in VMware ESXi.



2) Click 'Create/Register VM'.



3) Click 'Deploy a virtual machine from an OVF or OVA file' and then click 'Next'

🔁 New virtual machine		
1 Select creation type     2 Select OVF and VMDK files	Select creation type How would you like to create a Virtual Machine?	
3 Select storage 4 License agreements 5 Deployment options 6 Additional settings 7 Ready to complete	Create a new virtual machine Deploy a virtual machine from an OVF or OVA file Register an existing virtual machine	This option guides you through the process of creating a virtual machine from an OVF and VMDK files.
vmware.		
		Back Next Finish Cance

4) Input the name for the virtual machine, click to select files or drag/drop and then click 'Next'

New virtual machine - vCUP_samp	le
<ul> <li>1 Select creation type</li> <li>2 Select OVF and VMDK files</li> <li>2 Select storage</li> </ul>	Select OVF and VMDK files Select the OVF and VMDK files or OVA for the VM you would like to deploy
4 License agreements 5 Deployment options 6 Additional settings	Enter a name for the virtual machine. v <u>CUP_</u> sample
7 Ready to complete	<pre>x Index medianie matrine concerning to be characters and mey filles be dinglee within each ESX instance. x Index medianie realizes and they filles be dinglee within each ESX instance. x Index Index Index Instance. x Index I</pre>
<b>vm</b> ware <sup>®</sup>	
	Back Next Finish Cancel

The number of 'vmdk' files is different;

- vUCP: 2 vmdk files, 32GB (application) + 1GB (DB data)
- vUVM: 2 vmdk files, 32GB (application) + 16GB (VM messages)
- vVOIM: 1 vmdk file, 32GB (application)
- vMCIM: 1 vmdk file, 8GB (application)
- vVOIMT: 1 vmdk file, 8GB (application)
- 5) Select storage and then click 'Next'.

1 Select creation type 2 Select OVF and VMDK files	Select storage Select the datastore in which to store to	the config	uration and disk	files.				
4 License agreements 5 Deployment options	The following datastores are accessibl virtual machine configuration files and	le from the all of the	e destination res virtual disks.	source that you	selected. S	elect the destinati	on datastore	e for
6 Additional settings 7 Ready to complete	Name	~	Capacity ~	Free ~	Туре	✓ Thin pro •	<ul> <li>Access</li> </ul>	`
	datastore1		469.5 GB	370.8 GB	VMFS5	Supported	Single	
							11	iter
<b>vm</b> ware								

6) Select Network mappings and Disk provisioning and then click 'Next'

<ul> <li>1 Select creation type</li> <li>2 Select OVF and VMDK files</li> </ul>	Deployment options		
✓ 3 Select storage			
4 Deployment options     5 Ready to complete	Network mappings	VM Network VM Network	
	Disk provisioning	${ m < Im}$ Thin ${ m \bigcirc}$ Thick	
VmWare:			

7) Review the settings and then click 'Finish'.

New virtual machine - vCUP_sample	3	
✓ 1 Select creation type	Ready to complete	
<ul> <li>2 Select OVF and VMDK files</li> <li>3 Select storage</li> </ul>	Review your settings selection before fini	shing the wizard
✓ 4 Deployment options	Desidual	
✓ 5 Ready to complete	Product	VOLP_base_VM
	VM Name	VCUP_sample
	DISKS	disk-1.vmdk disk-2.vmdk
	Datastore	datastore1
	Provisioning type	Thin
	Network mappings	VM Network: VM Network
	Guest OS Name	Unknown
	Do not refresh your brows	er while this VM is being deployed.
<b>vm</b> ware <sup>®</sup>		
		Back Next Finish Cancel

8) Wait until VM is created successfully

😨 Recent tasks						
Task ~	Target ~	Initiator ~	Queued ~	Started ~	Result ~	Completed v
Upload disk - disk-2.vmdk (2 of 2)	vCUP_sample	root	08/02/2017 14:33:17	06/02/2017 14:33:17	Completed successfully	08/02/2017 14:33:17
Upload disk - disk-1.vmdk (1 of 2)	VCUP_sample	root	08/02/2017 14:33:17	06/02/2017 14:33:17	■	Running 2 %
Import VApp	Resources	root	08/02/2017 14:41:24	06/02/2017 14:41:24		Running 1 %

9) Once deployment has completed, the new virtual machine appears in Virtual Machines.

#### <u>Note</u>

You don't need to change the profile of vUCP, vUVM, vVOIM/vVOIMT, vMCIM.

### 3.8.3 Power on VM

After clicking the created virtual machine, you can 'Power on' the system.

🖁 Navigator 🛛 🗆	p vCUP_sample
- 🗐 Host	Consolo   Newaran Round Consol / Editations / Porcat   Advisor
Manage	Consule Power on Suspend Careset P Edit settings C Release Actions
Monitor	vCUP_sample
	Guest OS CentOS 4/5/6/7 (64-bit)
🕈 🚰 Virtual Machines 👘 🦳 9	Compatibility ESXi 6.0 and later (VM version 11)
👻 🌆 vCHD samnle	VMware Tools Yes
	CPUs 1
Monitor	Memory 4 GB
vUCP_kdm_slave	
VVOIM_base_VM	

#### 3.8.4 Connecting to Virtual Machine

After power on, you can connect to the virtual machine by SSH or Console of ESXi web.

#### Default login values

- User: root
- Password: centos4vucp

You can find the default IP address. Refer to the chapter 3.8.5.1Default IP address.

#### 3.8.4.1 Console of ESXi web

You can run local console by clicking 'Console' or the displayed figure.

vmware <sup>,</sup> ESXi <sup>,</sup>		
Navigator	B vCUP_sample	
Verified Host	Console   > Power on Shut down II Suspend Restart   / Edit settings   C Refresh   Actions	
▼ <sup>™</sup>	Guest OS CentOS 4/5/6/7 (64-bit)	
KOUP_sample     Monitor      Monitor      Monitor      Monitor      Monitor      MVCP_kdm_slave      YVOIM_base_VM      M VUCP_kdm_master	CentOS Linux 7 (Core) Kernel 3.10.0-514.16.1.el7.x86_64 on an x86_64 Mucp login: _	
🕨 🔂 vUVM_base_VM	▼ Geni	
▶ 🔂 vUCP_base_VM	→ <u>Q</u> N	1 vCPUs
VUCP_wane	→ 🕾 V	4 GB
VUCP_juny     VUCP_fromaus	> ≣ s 2	24 GB

#### 3.8.4.2 SSH

You can access the virtual machine by SSH application such as putty. Use default SSH port number 22(vMCIM: 60022). If you want to enable or disable the SSH service, you can do it by below command after log in.

- Disable SSH
  - # systemctl stop sshd.service
  - # systemctl disable sshd.service
- Enable SSH
  - # systemctl start sshd.service
  - # systemctl enable sshd.service

#### 3.8.5 Changing Network Settings

The IP address must be changed through console or SSH. (Secure Shell)

Because this process is related with Serial Number, you must change network settings to the confirmed values.

#### 3.8.5.1 Default IP address

When you create new virtual machine using vUCP OVF files, each machine has following default IP addresses. When starting, if a duplicate IP address exists, each machine cannot run correctly. Therefore, you should change them by CLI command after deployment.

#### <u>vUCP</u>

- Virtual Machine IP address: 10.10.10.2
- Subnet mask: 255.255.0.0
- Router IP address: 10.10.10.1

#### <u>vUVM</u>

- Virtual Machine IP address: 10.10.10.3
- Subnet mask: 255.255.0.0
- Router IP address: 10.10.10.1

#### <u>vVOIM</u>

- Virtual Machine IP address: 10.10.10.4
- Subnet mask: 255.255.0.0
- Router IP address: 10.10.10.1

#### <u>vMCIM</u>

- Virtual Machine IP address: 10.10.10.9
- Subnet mask: 255.255.255.0
- Router IP address: 10.10.10.1

#### <u>vVOIMT</u>

- Virtual Machine IP address: 10.10.10.5
- Subnet mask: 255.255.255.0
- Router IP address: 10.10.10.1

#### 3.8.5.2 Changing IP address

Input 'nmtui' and press enter key. When following figure is displayed, configure the network settings of eth0.

	Frofile name eth0	
	= ETHERNET	<show></show>
NetworkManager TUI Please select an option Edit a connection Activate a connection Set system hostname	<pre>IPv4 CONFIGURATION <manual> Addresses 192.168.123.207/24 <add> Gateway 192.168.123.254 DN5 servers 150.236.207.21 <add> Search domains <add> Routing (No custom routes) <edit> [] Never use this network for default route [] Ignore automatically obtained routes [] Require IPv4 addressing for this connection</edit></add></add></add></manual></pre>	<hide></hide>
Quit <ok></ok>	<pre>= IPv6 CONFIGURATION <ignore> [X] Automatically connect [X] Available to all users</ignore></pre>	<show></show>
		<cancel> <ok></ok></cancel>

#### Note:

You can set system hostname, but it is optional.

vMCIM use other method. Refer to6.1.4vMCIM Installation.

#### 3.8.5.3 Changing root password

Input 'passwd' and press enter key. Then you can change the root password.Remember the new root password. Otherwise you cannot access virtual machines to change IP address.

#### 3.8.5.4 Restarting the Virtual Machine

After changes, input 'restart' and press enter key.

### **3.9 Reference Documents**

Refer to theVMware related documents in the below URL

https://www.vmware.com/support/pubs/vsphere-esxi-vcenter-server-6-pubs.html

- vSphere Installation and Setup Guide
- vSphere Software Download

Refer to the vUCP related documents in the GPS website

https://partner.ericssonlg-enterprise.com

- vUCP Manuals
- Software Download (OVF)
- Upgrade Software Download (ROM)
- License Portal Link

# 4 Amazon Web Services Virtual Machines

From Unified version 3.5, vUCP is supported as AWS virtual machines, referred to as 'instances'. Each AWS instance is created using below resources;

#### Region and Availability Zone

Each region is completely independent. Each Availability Zone is isolated, but the Availability Zones in a region are connected through low-latency links. This achieves the greatest possible fault tolerance and stability.

#### Machine Instance

This is serviced as Amazon Elastic Compute Cloud (Amazon EC2). AWS EC2 provides scalable computing capacity in the Amazon Web Services (AWS) cloud. You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. AWS provide some types of machine instances (https://aws.amazon.com/ec2/instance-types). The type should be selected according to therequirements of vUCP.

#### Amazon Machine Image (AMI)

AWS supports Amazon Machine Image(AMI). AMI provides the information required to launch an instance, which is a virtual server in the cloud. To create instances for the service of vUCP system, you have to selectone of provided public AMIs such as vUCP, vVOIM/vVOIMT, vMCIM, and vUVM.

#### Disk Storage

Amazon EC2 provides you with flexible, cost effective, and easy-to-use data storage options for your instances. EC2 instance for vUCP systems will use EBS (Elastic Block Storage), and the storage is already defined and associated with the virtual machine. You can select the type of EBS volume during creating a EC2 instance. Refer to the Amazon EBS volume types in the below URL;https://aws.amazon.com/ebs/details/?nc1=h\_ls

#### Security Groups

This acts as a virtual firewall for your instance to control inbound and outbound traffic. When you launch an instance in a VPC, you can assign up to five security groups to the instance. For each security group, you add rules that control the inbound traffic to instances, and a separate set of rules that control the outbound traffic.

#### Elastic IPs

An Elastic IP address is a static IPv4 address designed for dynamic cloud computing. An Elastic IP address is associated with your AWS account. An Elastic IP address is a public IPv4 address, which is reachable from the internet.

#### Virtual Private Cloud (VPC)

Amazon Virtual Private Cloud (Amazon VPC) enables you to launch AWS resources into a virtual network that you've defined. This virtual network closely resembles a traditional network that you'd operate in your own data center, with the benefits of using the scalable infrastructure of AWS. This documentation does not cover the configuration of the customer's VPC.

The process of combining the elements above is referred to as 'launching an instance'. At each process, you should define details of the components according to the AWS menus.

This section outlines the steps required to install vUCP systems. Before that, you have to select AWS region.

#### **Installer and Maintainer Requirements**

In addition to iPECS training, the installer must also have certified training on the specific virtual platform type or be supported by someone who has that certification. The same requirement applies to the system maintainer.

### 4.1 **Profile of Virtual Machine**

The Instance of vUCP, vUVM, vMCIM and vVOIM/vVOIMThas the following default value.

#### <u>vUCP</u>

- Instance type: t2.micro
- HDD: 8G Bytes (Application) + 1G Bytes (DB data)
- Network: 1 Ethernet, DHCP

#### <u>vUVM</u>

- Instance type: t2.micro
- HDD: 8G Bytes (Application) + 16G Bytes (Voice data)
- Network: 1 Ethernet, DHCP

#### vVOIM, vMCIM, vVOIMT

- Instance type: t2.micro
- HDD: 8G Bytes (Application)
- Network: 1 Ethernet, DHCP

### 4.2 Creating VPC

The following is a possible VPC configuration for vUCP system. You can create a VPC for your own purpose. This documentation does not cover the configuration of the customer's VPC because the configuration of VPC varies according to the customer's needs.



#### 4.2.1 Create VPC

• VPC > Your VPCs > Create VPC > Input "Name tag" and "IPv4 CIDR block" > Click "Yes, Create" Input 'Name tag' and 'Ipv4 CIDR block'.

Create VPC	×
A VPC is an isolated portion instances. You must specify Classless Inter-Domain Rou CIDR block larger than /16. VPC.	of the AWS cloud populated by AWS objects, such as Amazon EC2 an IPv4 address range for your VPC. Specify the IPv4 address range as a ting (CIDR) block; for example, 10.0.0.0/16. You cannot specify an IPv4 You can optionally associate an Amazon-provided IPv6 CIDR block with the
Name tag	vUCP_test
IPv4 CIDR block*	10.0.0.0/16
IPv6 CIDR block*	No IPv6 CIDR Block     Amazon provided IPv6 CIDR block
Tenancy	Default • 6
	Cancel Yes, Create

#### 4.2.2 Create Subnet

• VPC > Subnets > Create Subnet

Input 'Name tag' and select 'VPC' (4.2.1 Create VPC).

Select 'Availability Zone' and input 'Ipv4 CIDR Block'. Then click 'Create'.

Repeat at each Availability Zone.

Subnet #1					Subnet #2				
Create subnet					Create subnet				
Specify your subnet's IP address block in be the same size as your VPC. An IPv6 CI	CIDR format; for example, 10. DR block must be a /64 CIDR	0.0.0/24. IPv4 block sizes block.	must be betwe	en a /16 netmask and /28 netmask, and can	Specify your subnet's IP address block in be the same size as your VPC. An IPv6 C	CIDR format; for example, 1 IDR block must be a /64 CII	10.0.0.0/24. IPv4 block siz DR block	es must be b	etween a /16 netmask and /28 netmask, and ca
Name tag	vUCP_subnet1		0		Name tag	vUCP_subnet2		0	
VPC*	vpc-0139de306607f0e2e		0		VPC*	vpc-0139de306607f0e2e		- 0	
VPC CIDRs	CIDR	Status		Status Reason	VPC CIDRs	CIDR	Status		Status Reason
	10.0.0.0/16	associated				10.0.0.0/16	associated		
Availability Zone	ap-southeast-2a		0		Availability Zone	ap-southeast-2b		• 0	
IPv4 CIDR block*	10.0.1.0/24		0		IPv4 CIDR block*	10.0.2.0/24		0	
* Required				Cancel Create	* Required				Cancel Create

#### 4.2.3 Create Internet Gateway

• VPC > Internet Gateways > Create Internet Gateway > Select 'created igw' > Attach to VPC Input 'Name tag' and click 'Create'

Create internet gateway	
An internet gateway is a virtual router that connects a VPC to the internet. To create a new internet gateway specify the nar	me for the gateway below.
Name tag VUCP_igw	
* Required	Cancel Create

#### Select 'VPC' (4.2.1 Create VPC) and click 'Attach'

С			
iy to a VPC to enable communication with the internet. Specify the VPC you would like to attach b	elow.		
vpc-0139de306607f0e2e	0		
Interface command			
	C y to a VPC to enable communication with the internet. Specify the VPC you would like to attach b vpc-0139de306607f0e2e  Interface command	C y to a VPC to enable communication with the internet. Specify the VPC you would like to attach below. vpc-0139de306607f0e2e  Interface command	C y to a VPC to enable communication with the internet. Specify the VPC you would like to attach below. vpc-0139de306607f0e2e  Interface command

#### 4.2.4 Create Route Table

 VPC > Route Tables > Create Route Tables > Select 'mydemovpc-internet-rt' > Routes > Subnet Associations

Input 'Name tag' and select 'VPC' (4.2.1 Create VPC).

Create Route Table ×	
A route table specifies how packets are forwarded between the subnets within your VPC, the Internet, and your VPN connection.	
Name tag       vUCP-internet-rt         VPC       vpc-0139de306607f0e2e   vUCP_test	
Cancel Yes, Create	

Click 'Routes' and Input 'Destination' and 'Target' (0 Create Internet Gateway).

Summary	outes	Subnet Associations	Ro	ute Propa	gation		Tags
Cancel Save	View	All rules					
	view:	All rules					
Destination		Target		Status	Propag	ated	Remov
0.0.0/16		local		Active	No		
0 0 0/0		1			No		8

Click 'Subnet Associations' and associate all subnets.

Summa	ry	Routes	Subnet Associ	ations	R	oute Propagati	ion	Tags
Cancel	Save							
Associate	Subnet			IPv4 C	IDR	IPv6 CIDR	Curre	ent Route Tabl
	subnet-0	0b05a26bff	42aea9   vUCP_subnet1	10.0.1.0	/24	-	Main	
2	subnet-0	c9372a4257	7575483 LVUCP_subnet2	10.0.2.0	124	. ]	Main	

#### 4.2.5 Create Security Groups

• VPC > Security Groups > Create Security Group > Select 'vUCP-base-sg' > Inbound Rules > Edit Input 'Name tag', 'Group name', and 'Description'.

Select VPC(4.2.1 Create VPC).

Create Security G	roup	×
Name tag Group name Description VPC	VUCP-base-sg VUCP-base-sg VUCP-base-sg vpc-0139de306607f0e2e   vUCP_test v ①	0 0 0
	Ca	ancel Yes, Create

Click 'Inbound Rules' and add your rules.

Above 'Inbound Rules' is created to let the test easy. Therefore, you have to add the rules for your purpose.

Before launching any instances, you should create security groups. When launching a new instance, you can select security group that it should be use.

- ✓ When launching a new instance, you should a highly restricted security group which allows minimum access. For example, one that allows access from your IP address and using HTTPS (port 443) and SSH (port 22) access.
- Once the instance is ignited and an initial configuration is completed, you can change the security group of that instance.

Refer to the Security Groups in the below URL;

https://docs.aws.amazon.com/vpc/latest/userguide/VPC SecurityGroups.html

### 4.3 Launching a New Instance

#### 4.3.1 Create Key pair

Before launching a new instance, you had better created the key pair which will be used to access to the instance. Of course, it might be created during the launching a new instance.

• EC2 > Key Pairs > Create Key Pair > Input "Key pair name" and click "Create" > Save the key file to the local disk.

Create K	Key Pair				×	
Key	pair name:	vUCP-KeyPair				
			Cancel	Create	•	
Save As						×
← → • ↑ 📙	› This PC → 새	볼륨 (D:) > Unified3.5	√ Ö	Search Unif	ied3.5	<i>م</i>
Organize 👻 Ne	w folder					. ()
Music	^ Name	^	Date m	odified	Туре	s
Pictures     Videos     Local Disk (C)	_ vuc	P-KeyPair.pem	9/28/20	018 6:47 PM	PEM File	
새 볼륨 (D:)	,					
(F-) 그 카토미2 🏷	~ <					2
File name:	vUCP-KeyPair					~
Save as type:	PEM File (.pem)					~
∧ Hide Folders				Save	Ca	ncel

The keyfile should be kept secure because it is used to access your virtual machine. Whenit is leaked, all your virtual machines would be at risk. And if you lose it, you will not able to access your virtual machines by SSH.

#### 4.3.2 Prerequisite

If you want to use AMI images of iPECS system outside of 'Asia Pacific (Seoul)' region, you should copy AMI images to your region. Using the AMI Copy function, it is only possible to copy those AMI images that belong to your account. It is not possible to copy AMI images belonging to others.Refer to below link.

https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/CopyingAMIs.html

To get around this, you can:

- Launch an instance in 'Asia Pacific (Seoul)' region with the wanted AMI. Note that you had better just launch and stop it before allocating an EIP, because an initial setup or registration is useless. Refer to 4.3.3Launching a New Instance.
- 2) Create a new AMI from your instance. Refer to 4.5Creating an AMI image.
- 3) Copy that AMI to your desired new region. Refer to 4.6Copying an AMI image.
- 4) Launch an instance in your target region with your copied AMI. Refer to 4.3.3Launching a New Instance.
- 5) If you don't use the instance in any region, delete the original instance, snapshot, and AMI image not to pay an additional charge. Refer to 4.7Deleting unused resources.

The following is a general example for launching a new virtual instance. The exact process may vary because the customer's requirements are different for VPC and external networks.

#### 4.3.3 Launching a New Instance

To launch a new AWS virtual machine:

- 1) Sign into your AWS account. Click **Services** and select **EC2**.
- Select the region, for example Asia Pacific (Seoul). It is recommended that the selected region is closer to the serviced area.

aws s	iervices	🗸 Resource Groups 🤟 EC2 😩 VPC 😫 S3 🛠		۵	▼ Seoul ▼ Support ▼
EC2 Dashboard	A	Resources	C	ч	Account Attributes C -
Events	4	You are using the following Amazon EC2 resources in the Asia Pacific (Seoul) region:		Supported Platforms	
Reports		0 Running Instances	0 Elastic IPs		VPC

- 3) Click Launch Instance. Select Community AMIs and enter iPECS as the search sting. Note that, outside of Asia Pacific (Seoul), you should prepare your own AMI images referring to 4.3.2 Prerequisite. If you already copy the AMI images to yourdesired AWS region, the AMI image would be displayed in My AMIs.
- 4) Click Select where the required AMI is located. The name will show a system name and a version.
   For example, iPECS-vUCP-R3.5.5 is the AMI for vUCP Release 3.5.5. You also find other systems like vVOIM/vVOIMT, vUVM, and vMCIM.

Step 1: Choose an A	mazon N	fachine Image (AMI)	Cancel and Exi	it.
An AMI is a template that contains t user community, or the AWS Marke	the software co tplace; or you o	infpuration (operating system, application server, and applications) required to launch your in an select one of your own AMIs.	zance. You can select an AMI provided by AW	IS, our
Q. IPECS				×
Quick Start (0)			IC C 1 to 3 of 3 AMIs	> >l
My AMIs (4)	٨	iPECS-vVOIM-A.0Co-20181001 - ami-039d888a1c2c6dc06	Select	
AWS Marketplace (56)		PECS-WOM-A.0Co-20181001	64-bit	
Community AMIs (0)		Root device type, etc. Voluatization type, inven		-
Operating system     Architecture	۵	IPECS-vUVM-1.08a-20181001 - ami-08db272cece9c1f2b IPECS-vUVM-1.08a-20181001 Root device type etcs - VMustcation type true	Select 64-bit	
0 32-bit 0 64-bit	۵	IPECS-vUCP-T3.6.5-20181001 - ami-0c9cctf2635e18227 PECS-vUCP-T3.6.5-20181001 Bed instant law, day, Understant law, hum	Select 64-01	
Root device type     EBS     Instance store	The	ollowing results for "iPECS" were found in other catalogs.		

Case 1: Search results in Community AMIs in Seoul region.





# 5) Select a machine instance that matches the 4.1Profile of Virtual Machine and click "Next". The

"t2.micro" is used for iPECS system.
--------------------------------------

Step 2 Amazon EG nemory, st your compo	Choose an In C2 provides a wide select orage, and networking ca using needs.	stance Type on of instance type pacity, and give you	B s optimized to fit dif i the flexibility to ch	ferent use cases. Inst cose the appropriate	tances are virtual servers that mix of resources for your appl	can run applications. They cations. Learn more abor	r have varying combinations it instance types and how th	of CPU, ey can mee
litter by:	All instance types	Current ger	neration + Sh	owHide Columns				
Currently	y selected: t2.micro (Vari	able ECUS, 1 vCPU	s, 2.5 GHz, Intel Xe	ion Family, 1 GiB me	mory, EBS only)			
	Family	Type -	vCPUs (j) -	Memory (Gill) -	Instance Storage (GB)	EBS-Optimized Available ①	Network Performance	IPv6 Support
	General purpose	12.nano	1	0.5	EBS only	20	Low to Moderate	Yes
•	General purpose	12.micro Free terrescore	1	1	EBS only		Low to Moderate	Yes
	General purpose	12 small	1	2	EBS only	14	Low to Moderate	Yes
	General purpose	t2 medium	2	4	EBS only		Low to Moderate	Yes

#### 6) Click Next: Configure Instance Details.

1. Choose AMI	2. Choose Instance Type	3. Co	nfigure Instance	4. Add Storage	5. Add Tags	6. Configu	re Security Group	7. Review		
Step 3: Configure the inst management rol	onfigure Instan stance to suit your require e to the instance, and mo	ice De ements. Y ore.	e <b>tails</b> 'ou can launch m	ultiple instances f	from the same A	MI, request	Spot instances to	o take advantag	e of the lower pricing, ass	ign an access
	Number of instances	(i)	1		Launch into Au	to Scaling G	iroup 👔			
	Purchasing option	(j)	Request Spo	ot instances						
	1 Network	()	vpc-08451376	db3f3d7eb   vUCF	o-test	· C	Create new V	PC		
	2 Subnet		subnet-0c34f4	112aad9e4e6   vU es available	JCP-subnet1   a	p-noi 🔻	Create new su	ibnet		
3	Auto-assign Public IP	(j)	Use subnet set	tting (Disable)		Ŧ				
	Placement group	(j)	Add instance	e to placement gro	oup.					
	IAM role	(j)	None			۰ C	Create new IA	M role		
	Shutdown behavior	i	Stop			Ŧ				
Enable	termination protection	(i)	Protect again	nst accidental terr	mination					
	Monitoring		Enable Clou Additional char	dWatch detailed n ges apply.	nonitoring					
	Tenancy	(j)	Shared - Run a Additional chan	a shared hardware ges will apply for (	e instance dedicated tenan	▼ CY.				
	T2 Unlimited	(j)	Enable Additional chan	ges may apply						
<ul> <li>Network i</li> </ul>	nterfaces 🕕									
Device Net	work Interface	Subnet	Pr	imary IP	Seco	ondary IP ad	Idresses		IPv6 IPs	-
							Cano	el Previous	Review and Launch	Next: Add Storage

Select the customer's VPC and the subnet.

Select '**Use subnet setting (Disable)**' as Auto-assign Public IP. Because vUCP systems use a persistent public IP address, you should use an Elastic IP address (EIP) instead. You can allocate your own EIP and associate it to your instance after launch.

### 7) Click Next: Add Storage.

#### vUCP: Don't change

Volume Type (j)	Device (j)	Snapshot (j)	Size (GiB)	Volume Type (j)	IOPS ()	Throughput (MB/s) (j)	Delete on Termination (i)	Encrypted (j)
Root	/dev/sda1	snap- 0624bcee96200948f	8	General Purpose SSD (gp2)	100 / 3000	N/A	\$	Not Encrypted
EBS T	/dev/sdb •	snap-081d8406a54eb	1	General Purpose SSD (gp2) •	100 / 3000	N/A	•	Not Encrypted
Add New Volume								

#### vVOIM/vVOIMT, vMCIM: Don't change

Volume Type $(i)$	Device (j)	Snapshot (j)	Size (GiB) ()	Volume Type ()	IOPS (i)	Throughput (MB/s) (j	Delete on Termination (i)	Encrypted (j)
Root	/dev/sda1	snap-0802b11e088d034f2	8	General Purpose SSD (gp2)	100 / 3000	N/A	•	Not Encrypted
Add New Volume								

vUVM: Change the disk size of '/dev/sdb' for voice storage according to the recording time.

	100 hours	200 hours	300 hours	400 hours	500 hours
Disk Size	3 G Bytes	6 G Bytes	9 G Bytes	12 G Bytes	15 G Bytes

Volume Type (j)	Device (j)	Snapshot (j)	Size (GiB) (j)	Volume Type (j)	IOPS (i)	Throughput (MB/s) (j	Delete on Termination (i)	Encrypted (i)
Root	/dev/sda1	snap-017d554b58b39d665	8	General Purpose SSD (gp2)	100 / 3000	N/A		Not Encrypted
EBS •	/dev/sdb *	snap-0958f3aa6025a	1	General Purpose SSD (gp2)	100 / 3000	N/A	•	Not Encrypted
Add New Volume								

8) Click **Next: Add Tags.** Enter any tags that you want associated with this instance. Tags can be displayed and used in other EC2 menus to display, sort and group matching resources

Key	(127 characters maximum)	Value (255 characters maximum)	Instances $(i)$ Volumes $(i)$					
	This resource currently has no tags							
	Ch Make s	pose the Add tag button or click to add a Name tag. ure your IAM policy includes permissions to create tags.						
Add Ta	g (Up to 50 tags maximum)							

9) Click **Next: Configure Security Group.** Select the system installer's security group that you previously created in **4.2Creating VPC**.

Step 6: Configure Security Group A security group is a set of firewall rules that control the traffi web server and allow Internet traffic to reach your instance, one below. Learn more about Amazon EC2 security groups	Step 6: Configure Security Group A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. Learn more about Amazon EC2 security groups.									
Assign a security group: OCreate a I	new security group existing security group									
Security Group ID	Name	Description	Actions							
2 sg-0da447d321b657027	default	default VPC security group	Copy to new							

**Note:** Allows minimum hosts and protocols such as HTTPS (port 443). This is needed until the initial configuration is completed because the default passwords are applied in the new instances.

If you don't select a created group, a default security group would be created.

10) Click **Review and Launch**. Check all details. If so, click **Launch**.

1.0 Ste Pleas	p 7: Review In e review your instance la	stance Type 3. stance La unch details. You	Configure Instanc UNCh I can go back to	e 4. Add Storage 5. J edit changes for each sec	dd Tags6. Configure Security Group	7. Review	rocess.					
	Improve your instances' security. Your security group, launch-wizard-1, is open to the world. You instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to taclitate access to the application or service youre running, e.g., HTTP (80) for web servers. Edit security groups											
- A	AMI Details Edit AMI											
≁ li	IPEC5-VUCP-T3.5.520181001 - ami-0x8cett2835e18227           FPC5-VUCP-T3.5.520181001           Rold Drives Type dia         Vetalation type hom           Instance Type         Edit instance type											
	Instance Type	ECUs	VCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance					
	t2.micro	Variable	1	1	EBS only		Low to Moderate					
<b>▼</b> 8	ecurity Groups							Edit security groups				
5	Security group name Description	launch-wia launch-wia	card-1 card-1 created 2	018-10-01T19:15:03.121+	09:00							
	Туре 🕕		Protocol (i)		Port Range (i)	Source ()	Description (i)					
	SSH		TCP		22	0.0.0.0/0						
⊧ Ir	nstance Details							Edit instance details				
► S	torage							Edit storage				
							Cancel	Previous Launci				

#### Pop up: Select an existing key pair or create a new key pair.

- This key file provides a security certificate for secure SSH access to the virtual machine. You can use the key pair file which is created in 4.3.1Create Key pair.
- If you want to create a new key pair, click Download Key Pair and make sure that you stored it in a safe place.

Select an existing key pair or create a new key pair	×
A key pair consists of a <b>public key</b> that AWS stores, and a <b>private key file</b> that you store. Together, the allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.	iey
Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about removing existing key pairs from a public AMI.	
Choose an existing key pair	
Select a key pair	
vUCP-dist-KeyPair	
I acknowledge that I have access to the selected private key file (vUCP-dist-KeyPair.pem), and that without this file, I won't be able to log into my instance.	
Cancel Launch Instances	]

#### 11) Click Launch Instances.

12) If all is successful, click **View Instances**, or select **Services > EC2 > Instances**. The new virtual machine should be displayed in the list of your instances.

Q, I	Filter by tags and a	ttributes or search by key	word				<b>0</b> K <	1 to 8 of
	Name -	Instance ID	Instance Type 📼	Availability Zone 👻	Instance State 👻	Status Checks	- Alarm Sta	atus P
	vUCP-example	i-02b0b0793b7f91a17	t2.micro	ap-northeast-2a	🥚 pending	🛣 Initializing	None	7

- 13) The machine starts by performing initial formatting and partitioning of the storage. This takes approximately 5 to 10 minutes to complete.
- 14) Allocate **EIP.** 
  - Select Services > EC2 > Network & Security > Elastic IPs.
  - Click Allocate new address.
  - Click Allocate.
  - Click Close.
  - Mark the new created EIP, and then select Actions > Associate address.
  - Set instance and Private IP to the new created.
  - Click Associate.

	Addresses > Associate address
	Associate address
	Select the instance OR network interface to which you want to associate this Elastic IP address (54.180.11.232)
	Resource type     Instance       Instance       Network interface
	1 Instance ⊦02b0b0793b7f91a17 ▼ C
	2) Private IP 10.0.1.67
	Reassociation Allow Elastic IP to be reassociated if already attached
Addresses > Allocate new address Allocate new address	Warning     If you associate an Elastic IP address with your instance, your current public IP address is     released. Learn more.
New address request succeeded	
Elastic IP 54.180.11.232	AWS Command Line interface command
Close	Cancel Associate

#### <u>Note</u>

 vUCP: Need EIP for external access. It should be used as the firewall IP address in PGM102.Therefore you should generate system serial number after setting the firewall IP.

<b>.</b>	UCI MIAC AUGIESS	000023000100
System IP Plan(102)	UCP Subnet Mask	255,255,255,0
Device IP Plan(103)	Pouter IP Address	100 169 100 054
CO Device Sequence Number(104)	 Nouter II Address	132.100.123.234
Flexible Station Number(105)	System IP Range	10.10.207.10
Flexible Numbering Plan(106~109)	System Subnet Mask	255.255.255.0
8 Digit Extension Table(238)	Automatic IP Assign	ON V
	Second System IP Address	0.0.0.0
Station Data	Second System Net Mask	255.255.0.0
Board Based Data	Firewall IP Address	13.14.15.16

 vVOIM/vVOIMT: Need EIP for external access. it should be used as the firewall IP address and RTP Packet Relay Firewall IP Address in PGM132.

			1	-	Notion in Auditoss		11 / 1001033
Board Based Data	~		2		Device Codec Type	System Codec 🔻	
11 222 VolD Attributes (120)			3		Firewall IP Address		IP Address
H.323 VOIP Attributes(130)			4		RTP Packet Relay Firewall IP Address		IP Address
Board Base Attributes(132)		-	5		RTP Security	ON V	
			6		T-NET Enable	OFF T	

• vUVM: Need EIP for external access. It should be used as the firewall IP address in PGM132.

				Notion In Address		11 / 1001033
Board Based Data	~		2	Device Codec Type	System Codec 🔻	
			3	Firewall IP Address		IP Address
T1/E1/PRI Attributes(131)		`	4	RTP Packet Relay Firewall IP Address		IP Address
Board Base Attributes(132)			5	RTP Security	ON T	
			6	T-NET Enable	OFF T	

- vMCIM: Not need EIP, but you can use it for your purpose.
- 15) Proceed with **4.4 Connecting to Virtual Machine** and 5. License and Serial Number. You can access to the vUCP systems through the assigned public IP address.

The private IP address is assigned automatically and is used within the custom VPC.

Therefore, in case of AWS, you don't need to configure the IP address of virtual machine, but the EIP address is treated as the system's firewall IP address because VPC is used.

### 4.4 Connecting to Virtual Machine

After power on, you can access to the virtual machine by SSH. Note that you should use the public IP address of EC2 instance and the default SSH port number is 22.

You should use your private key(refer to 4.3.1Create Key pair) which was get from AWS (PEM > PPK);

PuTTYgen and PuTTY are needed.

#### Private key creation

- 1) Start PuTTYgen.
- 2) Select [RSA (SSH-2)]
- 3) Load the saved PEM file by [Load]
- 4) Covert to the PPK file by [Save private key]

Ver				
Ney Dublic loss for eaching int	0	and have the		
sshrsa	CODACADIVADA	Decorportion Lan		A
E- Aprovident in Co				×
Key fingerprint:	ssh-rsa 2048 4	.00.4.02.70.00.0	.01/0.00/00.10	.05.27
Key comment:	imported-openssh+	cey		
Key passphrase:				
Confirm passphrase:				
Actions				
Generate a public/priva	te key pair		G	enerate
Load an existing private	key file		2	<u>L</u> oad
Save the cenerated key	,	Save public	c key <u>S</u> ave	private key
Save the generated key				
Parameters				

#### PuTTY Session

- 1) Start PuTTY
- 2) Select [Category > Session] and input "centos@public IP"
- 3) Select [Category > Connection > SSH > Auth], lick [Browse] and select PPK file
- 4) Click [Open]

Category:  Basic options for your PuTTY session  Logging  Ferminal  Keyboard Bell Centos@13.209.119.202 22 Connection type:	Category: Options controlling SSH authentication	
<ul> <li>O Ray O Telnet O Riogin ● SSH O Serial</li> <li>Appearance Behaviour</li> <li>Translation Selection</li> <li>Connection</li> <li>Colours</li> <li>Connection</li> <li>Default Settings</li> <li>SSH 12125 184.46</li> <li>Settings</li> <li>SSH 12125 184.46</li> <li>Saved Settings</li> <li>SSH 12125 184.46</li> <li>Saved Settings</li> <li>Saved Settings</li> <li>Connection</li> <li>Settings</li> <li>SSH 12125 184.46</li> <li>Saved Settings</li> <li>Settings</li> <li>Settings</li> <li>Settings</li> <li>Connection</li> <li>Default Settings</li> <li>Settings</li> <li>Settin</li></ul>	→ Appearatice       Display pre-authentication banner (SSH-2 only)         → Echaviour       Display pre-authentication entirely (SSH-2 only)         → Selection       Oclours         → Colours       Attempt authentication methods         → Connection       → Attempt authentication using Pageant         → Data       → Attempt TIS or CryptoCard auth (SSH-2)         → Teinet       → Attempt "keyboard+nteractive" auth (SSH-2)         → Now       → Attempt "keyboard+nteractive" auth (SSH-2)         → Hoat keys       → Allow agent (forwarding         → Hoat keys       → Allow attempted changes of usemame in SSH-Private key file for authentication:         ○ Cipher       → TTY         → X11       → Turnels         → Bugs       → More bugs         → Serial       ✓	2 se5

Login user is "centos" and no password was needed, due to the authentication method.

Remember that you should add "sudo"before the shell command, because current user is "centos" and does not have 'root' permission. For example, "*sudo* systemctl stop watchdog".

#### 4.4.1 Changing Network Settings

You don't need to change the network settings of EC2 instance, if you use the VPC and EIP. The assigned values are not changed until the instance settings are not varied.

<u>Note</u>: if you use EIP for vUCP, the firewall IP address of vUCP would be the EIP. If you use other your own network such as NAT, you should set a correct value as the firewall IP of vUCP.

### 4.5 Creating an AMI image

After launching an instance, you can create your custom AMI image.

• EC2 > Instance > "Select the instance" > 'Actions > Instance State > Stop'> 'Actions >Image >Create Image'

	Create Imag	е										×
	Insta	nce ID	0	0918b16f02ad5d0f9								
	Image	name	1	/UCP-copy-AMI								
	Image desc	ription		/UCP-copy-AM								
Stop Instances X	No Instance Volumes	reboot	t (j)									
Are you sure you want to stop these instances?	Volume Type 🤅		Device (	) Snapshot (j)	Size (GiB)	Volume Type (j)		IOPS (j)	Throughput (MB/s) ()	Delete on Termination	Encrypted	
i-0918b16f02ad5d0f9 (vUCP-dist)	Root		/dev/sda1	snap- 06c8c0216fa4a8319	8	General Purpose SSD (gp2)	•	100 / 3000	N/A	8	Not Encrypted	
	EBS	۳	/dev/sdb	Search (case-insensit)	1	General Purpose SSD (gp2)	٠	100/3000	N/A	8	Not Encrypted	8
A Note that when your instances are stopped: * Any data on the ephemeral storage of your instances will be lost.	Add New Volume Total size of EBS V When you create a	olumes n EBS	i: 9 GIB image, an E	BS snapshot will also be crea	aled for each o	f the above volumes.						
Cancel Yes, Stop										Cane	Create Image	8

You can find the created AMI image in "EC2 > IMAGES> AMIs".

Owned by me 👻 🔍 Filter by tags and attributes or search by	y keyword			0	$ \langle \langle 1 \text{ to 5 of 5} \rangle \rangle $
Name - AMI Name	▲ AMI ID	Source -	Owner -	Visibility -	Status
iPECS-vUCP-T3.5.5-20181001	ami-0c9ccff2635e18227	493776118325/i	493776118325	Public	available October 1, 2018
iPECS-vUVM-1.0Ba-20181001	ami-08db272cece9c1f2b	493776118325/i	493776118325	Public	available October 1, 2018
iPECS-vVOIM-A.0Cc-20181001	ami-039d888a1c2c6dc06	493776118325/i	493776118325	Public	available October 1, 2018
iPECS_vUCP-Base_1511	ami-03668f3e86bebdd68	493776118325/i	493776118325	Private	available September 28, 2
vUCP-copy-AMI	ami-0aeaf1b94c2fa2f4e	493776118325/v	493776118325	Private	available October 1, 2018

### 4.6 Copying an AMI image

To use AMI images in other AWS region, you have to copy them to other AWS region.

 EC2 > IMAGES> AMIs > "Select the AMI image" > Actions > Copy AMI > "Select Destination region" > Click "Copy AMI" > Click "Done"



You can find the copied image in "EC2 > IMAGES> AMIs" in the destination region.

-> Resource Groups -> 🌗 EC2 😩 VPC 🧌 S3 🔭	₽	indiface@daum.	net 👻 🤇	Sydney 👻	Suppor	i v
Launch Actions V					<b>∆</b> ∂	¢ 0
Owned by me v Q, Filter by tags and attributes or search by keyword			0	) k < ·	1 to 2 of 2	> >
Name - AMI Name - AMI ID - Source - Owner - Visibility - Status - Creation Date	~ P	Platform -	Root De	vice 1- Vi	irtualization	-
VUCP-copy-AMI ami-019ee79095efba781 493776118325/v 493776118325 Private available October 1, 2018 at 4:39-48	P 0	)ther Linux	ebs	hv	/m	

### 4.7 Deleting unused resources

After copying AMI images to other AWS region, you had better remove the resources like AMI images, snapshots, instances, and volumes, which are not used anymore in 'Seoul' region. And after launching AMI images in other AWS region, you had better also remove the resources like AMI images, and snapshots. Otherwise you might have to pay an additional charge.

#### 4.7.1 Deregister AMI images

EC2 > Instance > "Select the instances" > Actions > Deregister > Click "Continue"



### 4.7.2 Deleting Snapshots

EC2 > Elastic block store > Snapshots > "Select Snapshots" > Actions > Delete > Click "Yes, Delete"



#### 4.7.3 Deleting Instances

 EC2 > Instance > "Select the instances" > Actions > Instance State >Terminate > Click "Yes, Terminate"



### 4.7.4 Deleting Volumes

After deleting instances, detached volumes might be left. You had better remove them to avoid an addition charge.

 EC2 > Elastic block store > Volumes > "Select Volumes" > Actions > Delete Volumes > Click "Yes, Delete"

	Name	Volume ID 🔹	Size	✓ Volume Type ✓	IOPS	Snapshot -	Created -	Availability Zone 👻	State -	Alarm Status	Attachment Informatic
		vol-0dcf9f19	8 GiB	gp2	100		October 1, 2018 at	ap-northeast-2a	🔵 available	None 🍃	)
		vol-03f4ef85	1 GiB	gp2	100		October 1, 2018 at	ap-northeast-2a	🔵 available	None 🍗	
	vUVM-dist	vol-04f4ae8a	1 GiB	gp2	100		October 1, 2018 at	ap-northeast-2a	🥚 in-use	None 🍃	i-0e63d301298c68a5
	vUVM-dist	vol-0190280f	8 GiB	gp2	100	snap-06c8c02	October 1, 2018 at	ap-northeast-2a	🥚 in-use	None 🍃	i-0e63d301298c68a5
De	elete Vo	lumes			×						
Are	<ul> <li>vol-03f4e</li> <li>vol-0dcf9</li> </ul>	f85b0e415364 f1903fd8ad59	e tnese	volumes?							
				Cancel Yes, D	Delete						

### 4.7.5 Deleting EIPs

If you don't need EIPs anymore after deleting instances, you had better remove them to avoid an addition charge.

• EC2 > Elastic IPs > "Select EIPs"> Actions > Release addresses > Click "Release"

Release	Release addresses				
Are you sure Elastic IP:	you want to release these 1 IP addresses? 52.62.41.220 (eipalloc-06fa8432caa8e2141)				
	Cancel Release				

# 5 License and Serial Number

The vUCP requires licenses to enable vUCP system and to use various business applications and advanced features. In order to get the license, unique software serial numberneeds to be created after installing vUCP software on a virtual server and configuring mandatory parameter from the system Web-admin. Unique software serial number is built in the combination with virtual machine related factors and system related factors described in the following sub sections. This means that new installation on another virtual machine or any change of parametersimpact the system serial number and this causes system goes into the limited service mode, which allows only internal calls and emergency external calls. Therefore, it is strongly recommended that all these parameters are finalized before creating the software serial number from the Web-admin. Before the licenses order, you can create a unique Serial Number at any time. But after the order and upload of a license file, you should transfer the existing licenses by a license transition process, if you want to change the virtual machine or the system related factors.

### 5.1 Related Factors of vUCP Serial Number

### 5.1.1 Virtual Machine Related Factors

One of related factors is the information of virtual machine. If you redeploy the virtual machine, the Serial Number will be changed and the system will immediatelygo to 'Limited Service Mode'. If you use old licenses in new virtual machine, you should transfer the existing licenses to new virtual machine through our license portal. To move the virtual machine to another virtual server platform without requiring new licenses, use the vMotion.

### 5.1.2 System Related Factors

Other related factors are following system information:

- System IP address
- Router IP address
- Firewall IP address

If you change one or more among above IP addresses, the Serial Number will be changed and the system will immediatelygointo 'Limited Service Mode'. But if the information of IP addresses is restored to original value, the Serial Number will be also restored and you can use it normally. Of course, if you want to change the IP addresses, you should transfer the existing licenses.

Note: in AWS, EIP should be used as firewall IP.

#### 5.1.3 Grace period

When Serial Number is invalid, the system goes into 'Limited Service Mode'. At that time, you can restore the system related factors or select 'transfer' in 'License Upload' menu of web admin. If you click'transfer' button, the system will exit from 'Limited Service Mode' and the 30-day grace period will start. During that grace period, you can use the system normally, but should transferexisting licenses to new generated Serial Number in our License Portal. Otherwise it will go to 'Limited Service Mode' again, and remain in that state until uploading a new license file.

### 5.2 Serial Number Creation and License Transfer

Serial Number is used to activate the licenses in vUCP. Therefore, after deployment of vUCP virtual machine, you should create it in system web admin and upload a license file.

After uploading a license file, you should transfer the licenses in below cases. It is possible through system web admin and license portal.

- 1) The server which contains the vUCP virtual machine is replaced with new one.
- 2) The virtual machine was moved to another virtual machine without vMotion.
- 3) The IP address of vUCP system, router, or firewall is changed.

#### 5.2.1 Serial Number Creation

After installing the vUCP applications and configured all required parameters, you can create the Serial Number only in system web admin.**Note that, in AWS, EIP should be used as firewall IP.**You can download an official license file using this unique serial number.Uploadingthe license file on to the system enables the system run in a normal operation mode.

Don't change the related parameters after a new Serial Number is created by 'create' button. If you change them, the Serial Number will be invalid, and the system will go to limited service mode.

The creation is done in 'Maintenance > License Management > License Upload' of web admin. You can create a Serial Number by clicking 'Create' button.

iPECS vucp	Administration Maintenance
Q Maint / Attribute Search	< System Information License Upload X
S/W Upgrade	Before uploading, check the system date. Some boards may be restarted after uploading license file.
Database	Select a License File and Wait for Uploading to end!!
Multi Language	Serial No. : No_Serial
SMDR	+ Select File
File System	
MOH Management	You can choose one of below options;
License Management ~	Option 1 Generate New System Create
< License Upload	-If it is done, New Serial Number will be created and licenses will be initialzied. After that, don't change the related parameters.
Gateway License	
User Base License	
Temp License Activation	

After that, confirm the below popup windows.

Notification	
Make sure that all related pamameters are confirmed. New Serial Number will be created and licenses will be initialzied. After that, don't change the related parameters. Are you sure?	Notification New serial number was created SN:
Yes No	Confirm

After the creation of Serial Number, you can create a license file with that. If you upload the license file on to system, it will run in normal mode. Note that, before uploading the license file, the vUCP will remain in limited service mode.

#### 5.2.2 License Transition

If you want to change virtual machinesor the system related factors, you can transfer current existing licenses from the current Serial Number to new one. Make sure that the transfer process should be done after all related factors are confirmed.

The transfer of licenses should be done both in system web admin and in license portal.

Refer to following procedures;

- 1) In system web admin, click the 'transfer' button to create a new Serial Number. If you do that, the system can run normally for 30-day grace period.
- 2) In license portal, transfer licenses from old Serial Number to new one and create a new license file. Use the same menu of H/W replacement at the license portal.
- 3) Upload the new license file to system.

Remember that after the start of transfer process by clicking 'transfer' button, it should be done within 30daygrace period. Otherwise the system will go to the limited service mode and remain in that state until uploading a new license file.

After the completion of license transition, you cannot use old licenses anymore, and they are blocked in license portal. Note that all running vUCP's are monitored. Therefore, if you use the systems illegally, all systems with old and new serial number may be blocked, and it may result in legal sanctions.

#### System Web Admin

Firstly, transfer process starts in 'Maintenance > License Management > License Upload' of web admin. You canmakea new Serial Number by clicking 'Transfer' button. You can also see the current serial number is invalid.



After that, confirm below popup windows.

Notification	
Make sure that all related pamameters are confirmed. Current licenses will not be used after the grace period. Therefore, you should finish the migration process within	Notification
the grace period. Are you sure?	New serial number was created 000EAD4413080F1A27FDDC76F190286C63CE [NEW: 000EAD44130814011534A347903C875B147B]
Yes No	Confirm

If you confirm the 'transfer' of licenses, the state will be changed to 'After Transfer', and the grace period will be started. You can use the system and licenses with old serial number for 30days. Within 30-day grace period, you should complete 'Transfer' process by uploading a new license as below. Otherwise the system will go to 'Limited service mode' again.

#### License Portal

To transfer license in license portal from old serial number to new created one, you canuse the same menu of H/W replacement at the license portal.

If you upload a new license file to system, you can use the system and licenses, which is transferred to new serial number.

#### 5.2.3 Trial License

If you want to try vUCP system before the official use, you can use 'vUCP trial license'. It provides all system features and application to maximum capacity for 90 days. It is applicable only before uploading an official license file. The followings shows the procedure to get the trial license.



The system goes to the limited mode if no valid commecial license after trial expiration. You can find the status of trial license in the system licese overview of web admin. The system send an expiring notice with attendant alarm and email, once before 30 days and daily from 7 days before expiration.

#### Process to get the tiral license

- 1) Distributor orders vUCP-CS2400S(SWL), vUCP-MNTD-TRIAL, vUCP-SPLD
- 2) Distributor generates license with target system S/W serial number
- 3) Distributor orders vUCP-MNT1 in License Detail page with "Maintenance" button
- 4) Distributor downloads license file.
- 5) Distributor sends generated license file (\*.DAT) to : Minsoo Park <u>minsoo.park@ericsson.com</u> & Jinho Choi jinho.choi@ericsson.com
- 6) Updated license file with vUCP-TRIAL license (90-days) will be provided by email.

#### Migrate trial version to commercial version before expiration

- 1) Partners to send the trial license reset request (using "reset form" attached) to ELG license manager before expiration
- 2) ELG to reset the trial license.
- 3) Then, Partner can download the commercial licenses using the same serial number.
  - vUCP-CS2400S, vUCP-SPLD, vUCP-MNTD, vUCP-MNT1 + required systems licenses and application licenses in use (or to use).

### 5.3 vUCP Gateway licenses

There is no serial number for vUVM, vVOIM/vVOIMT, and vMCIM, and these are controlled by vUCP system. Therefore it is only necessary to download vVOIM/vVOIMT, vMCIM channel license or vUVM channel/storage licenses as required.

### 5.4 Differences from UCP

#### 5.4.1 CPU

- UCP100/600/2400: ARM based
- vUCP: Intel based

#### 5.4.2 Serial Number

- UCP100/600/2400: Already marked in factory.
- vUCP: Created by user after deployment.

#### 5.4.3 No USB Support

There is no USB in vUCP because virtual machine is deployed.

#### 5.4.4 VMware Tools(VMware only)

The VMware Tools are already installed in vUCP virtual machines. Therefore there is no need to install and update them.

#### 5.4.5 Network Interface

- UCP100: 1 Ethernet
- UCP600/2400: 2 Ethernets
- vUCP: 1 Ethernet

#### 5.4.6 Redundancy

The vUCP support only Geographical Redundancy.

#### 5.4.7 Configuration of system network

UCP100/600/2400: system IP address, subnet mask, and route IP address can be changed in web admin

The vUCP: They are not editable in web admin and the change of them is possible in ESXi console or SSH shells. Because there may be a trouble suchas duplicated IP addresses after the initialization of system.

#### 5.4.8 Manual DIP switches

In vUCP, there are no manual switches which are Master/Salve and mode selection. But those related actions are possible through web admin. Refer to 'Maintenance > Trace > Dip Switch Status'. If you need a redundancy function, you should set those in each vUCP.

#### 5.4.9 Maintenance

The vUCP is treated as LME systemunlike existing UCP systems. Therefore, following policies are adopted:

During 60 days after Install:

- Limited Service Mode until uploading a license file. Only system attendant can make external outgoing call even in 'Limited Service Mode'
- Minor/Major Upgrade is available
- Device Registration after temp license activation.



## 6 Server Configuration

### 6.1 Access to Web and Install Wizard

#### 6.1.1 vUCP

You can access the vUCP by web browser.

Default login values;

- User ID/Password: Admin/1234
- Method: HTTPS and port number 443

If the vUCP is in initial state due to the first creation or initialization, you should complete Install Wizard.

**Note:** The state of vUCP is 'Limited service mode' until uploading a new license file. In case of AWS, EIP should be set as firewall IP in PGM 102.

#### 6.1.2 vUVM

You can access the vUVM by web browser, and change the system configuration.

Default login values;

- User ID: No default user ID
- Password: No default password. You should change it in 'Security' page.
- Method: HTTP and port number 80.

You can find 'MAC address which is used for registration



Also, you can modify the 'Server Settings' of System Configuration.

Home	System Settings DiffServ DSP
LAN	System Configuration
System	
System II	MFIM Settings
	IP Address: 10.10.10.2
Security	
Upload	Save System Settings

**Note:** vUVM should use "Local-Remote" instead of "Local" mode. In case of AWS, EIPshould be used as the firewall IP address in PGM132.

### 6.1.3 vVOIM/vVOIMT

You can access the vVOIM/vVOIMT by web browser, and change the system configuration.

Default login values;

- User ID: No default user ID
- Password: No default password. You should change it in 'Security' page.
- Method: HTTP and port number 80.

You can find 'MAC address which is used for registration

Home	Home
LAN	Welcome to the vVOIM upload and configuration utility.
System	Select from the configuration options in the menu on the left.
System II	Notice! When changing the values of LAN Settings & System Settings, Gateway Reset is required for the changes to be effective.
Security	
Upload	System Information
Reset	Kernel Package: 1.0Aa Current Revision: A.0Ac - 07-04-2017
LLDP	System Uptime: wall clock was not set
Logout	LAN IP Address: 192.168.123.181 (static) Firewall IP Address: 0.0.0.0
	MAC Address: 00:0c:29:3e:94:c6
	Security: No password installed

Also, you can modify the 'Server Settings' of System Configuration.

Home	System Settings Trace Fault Log				
LAN	System Configuration				
System					
Security	Server Settings				
Security	IP Address: 10.10.10.2				
LLDP					
Prompt Message	Save System Settings				

#### Note;

vVOIM/vVOIMT should use "Local-Remote" instead of "Local" mode.

In case of AWS, EIPshould be used as the firewall IP address and RTP Packet Relay Firewall IP Address in PGM132.

#### 6.1.4 vMCIM

#### 6.1.4.1 Configure Network Settings

1) Check the datetime of host (UCP)

The datetime of vMCIM is set to sync with the vUCP and is used to get soft-DSP licenses.

=>NTP Server Service field in PGM195 should be set to "Enable". And the datetime of vUCP is also set to correctly because the license server checks the datetime based on the GMT time.

- 2) Access vMCIM by SSH (port number 60022)
  - VMware: ID and password is required.
  - AWS: ID is "centos" and key authentication is required.
- 3) Execute "install-mcim.sh' file.
  - VMware:

# cd /home/mcim/Config

# ./install-mcim.sh

• AWS: "sudo" should be added before the command.

<pre>[vMCIM-1.0Ba-150.150.150.171-S-STOP-X] [/] # cd /home/mcim/config/ [vMCIM-1.0Ba-150.150.150.171-S-STOP-X] [config] # ./install-mcim.sh * VM System Configuration</pre>					
* UCP SERVER Configuration - SERVER IP Address			1. Input UCP : 150.150.150.	's IP 170	
* DSP Server Device Configuration - DSP Float License Server Domain Name - Must use "softdsp.ipecscloud.com"				n,	
<pre>++ + iPECS-LIK-vMCIM Install Type = SERVER + Install Type = Standalone + UCP SERVER IP = 150.150.150.170 + DSP License Mode = float + DSP License Server Domain Name = softdsp.ipecscloud.com is the input value correct? [yes or no] : y 3. Confirm the settings</pre>					
++ iPECS-LIK-vMCIM SW Installation Pro	cess		+		
<pre>+ make server.conf + make server.conf + configure system environment Do you want to modify network(wan, eth0) configuration ? [yes or no] : y - AWS:N </pre>					
* Network Configuration: STATIC - WAN IP Address - WAN Subnet NetMask - WAN Gateway Address - WAN DNS Address	5. Input netwo : 150.150.150 : 255.255.255 : 150.150.150 : 8.8.8.8	ork confi .171 .0 .254	gurations		

- 4) Execute 'restart.sh' to restart.
  - VMware:

# cd /home/mcim

- # ./restart.sh
- AWS: "sudo" should be added before the command.

#### Web Access

You can access the vVCIM by web browser, and change the system configuration.

Default login values;

- User ID: No default user ID
- Password: "ipkts". you should change it in 'Password' page.
- Method: HTTP and port number 80.

You can find 'MAC address which is used for registration

	vMCIM	
	General	
,	VM(Virtual Machin	e) Information
Home	LAN	
	IP Address	: 150.150.150.171
system	Network Mask	: 255.255.255.0
etwork	Gateway	: 150.150.150.254
othon	MAC Address	: 00:0c:29:64:e3:89
)SP ·		
	Register	
pload	Server IP Address	192 168 123 119
ssword	Server Port Number	: 5588
oonord	Register Mode	: local-remote
jout .	-	
Reset	DSP	
	DSP Server IP Address	: 129.192.201.105
	Connection Status	: OK

Also, you should modify the 'Server IP Address' of System Configuration.

	Register
Home	Register Informations Notice! When changing the values of Server Settings, The VM(virtual machine) will be re-register to Server.
System	Server IP Address : 192.168.123.119
Network	Server Port Number : 5588
DSP	
Upload	Save Register Settings

#### <u>Note;</u>

vMCIM should use "Local-Remote" instead of "Local".

### 6.2 Creating Serial Number

If it is the first time of vUCP virtual machine deployment, Serial Number will not be set. Therefore, you must create a new Serial Number for licensing. *Before that, make sure again that all IP configurations are set* <u>correctly. Especially, in AWS, EIP should be used as the firewall IP.</u>

Refer to the chapter 2.4.3.1 for a Serial Number creation.

### 6.3 Orderingand Uploading a License File

After creating a Serial Number, you canorder and generatelicenses in License Portal, and upload a generated license file to the system in Web admin.

You canalso register devices to vUCP by activating a Temp License, even if a license file is not uploaded. But because the state of vUCP is 'Limited Service Mode', only system attendant can make external outgoing call.

# 7 System Upgrade

The vUCP systems are initially provided as OVF file format. Therefore, you do better upgrade the system to the latestversion after deploying OVF file. This upgrade is done through the web admin maintenance page like the current UCP upgrade process.

### 7.1 Requirement

You must check if the software maintenance state is upgradable in advance to upgrade vUCP system, but vUVM and vVOIM/vVOIMT can upgrade at any time such as other UCP gateways.

You can download the ROM files for upgradeat theGPS website.

https://partner.ericssonlg-enterprise.com.

### 7.2 Backup DB

It is better to create a DB file in web admin and save it to your desktop or laptop before system upgrade. You can use it to restore the system DB data.You can also use the Snapshot' feature in vSphereto prepare unwanted conditions.

### 7.3 Web Upgrade

Refer to the UCP manual.It is same as UCP systems.

# Thanks for purchasing iPECS system.

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