Please read this manual carefully before operation. Retain it for future reference.
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About This Guide

This section describes the purpose, audience, organization, and conventions that are used in this iPECS UCS (Unified Communications Solution) Server Administration Guide.

NOTE
Screens may appear different than 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
This guide describes how to install and administer iPECS UCS Server, version 4.

Audience
This guide is intended for administrators responsible for the installation and configuration of the iPECS UCS Server.

Document Organization
This guide consists of seven Chapters and an Appendix, as well as this ‘About This Guide’ section.

- About This Guide
- Chapter 1: Introduction
- Chapter 2: Installation of UCS Server
- Chapter 3: Connecting to iPECS PBX System
- Chapter 4: UCS User Registration
- Chapter 5: UCS Client Login
- Chapter 6: Administration(Web Admin)
- Chapter 7: Administration(Service Controller)
- Appendix: Port Table, Log Messages

Chapters 2 – 5 are documented to provide detailed explanation of UCS Server installation to UCS Client login in a step by step format to assist beginners.

Chapters 6 – 8 are documented to provide detailed explanation to enable management of UCS Server after installation.
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:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bold</strong></td>
<td>It may indicate a button, menu item, or dialog box option you can click or select.</td>
</tr>
<tr>
<td><em>Italic</em></td>
<td>A cross-reference or an important term.</td>
</tr>
<tr>
<td><strong>Code</strong></td>
<td>A command prompt.</td>
</tr>
</tbody>
</table>

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 related information.
Chapter 1
Introduction

1.1 Program Overview

iPECS UCS (Unified Communications Solution) is a powerful suite of communication applications and tools designed to link multiple devices and applications seamlessly.

The system configuration illustrated below displays the three components of iPECS UCS, the iPECS UCS Server, the iPECS UCS Clients (PC, Android, iPhone) and the iPECS IP PBX platform (CM or Unified), all connected over an IP network.

Working with the iPECS platform, iPECS UCS simplifies human interaction and increases productivity, allowing employees to access information and business tools using any device, regardless of location.

iPECS UCS Server integrates communications applications including Instant Messaging and Presence indication as well as real-time voice, video and file sharing with tools including Call Recording, Individual Customized Call Routing, Shared and Private contact directories, Exchange Server integration, LDAP Server integration and Schedule Management. USC Server also makes available Multi-party Video Conference and Collaborative sessions to the UCS desktop Client.

![System Configuration Diagram]

Figure: System Configuration
1.2 Composition of iPECS UCS Server

iPECS UCS Server is comprised of 4 servers as follows.

**Gateway Server**
The Gateway Server is located between iPECS UCS application server and iPECS UCS Client, and handles conversion of iPECS protocol and SIP (Session Initiation Protocol) messages.

**Database Server**
The Database Server stores all data for the server and users.

**Web Server**
The Web Server provides Web Admin for operation and administration such as registering iPECS UCS Clients and the iPECS platform.

The Web Server provides web service to iPECS UCS Clients. Through the web service, iPECS Clients are able to receive data from the Database Server.

**Application Server**
The Application Server is composed of several server application programs as follows.

- **Directory server application program**
  Manages UCS Client log-in and directory search requests

- **IMR/Presence server application program**
  Monitors Phone and Instant Messaging status of registered UCS Clients and delivers status information to UCS Clients. UCS Server assists IMR (Incoming Media Routing) through communication with UCS Clients and the iPECS PBX platform, plus control of real-time video.

- **Diagnosis server application program**
  The Diagnosis server verifies the operational status of UCS Server and saves status data in UCS database.

- **Chatting server application program**
  The Chatting server handles IM sessions between UCS Clients.

- **EmailSender server application program**
  The EmailSender server sends E-mails to users when accounts are created.

- **LDAPLink server application program**
  The LDAPLink server synchronizes user information with a standard LDAP server such as Microsoft Active Directory, which manages user accounts.

- **ExchangeLink server application program**
  The ExchangeLink server synchronizes schedule information, which users create through Microsoft Outlook with Microsoft Exchange Server.
**UserSync server application program**

The UserSync server synchronizes login (ID, Password) information with Microsoft AD (Active Directory) and provides SSO (Single Sign On) service to UCS Clients.
Chapter 2
Installation of UCS Server

Installation and configuration of the iPECS UCS Server is a multi-step process. Failure to follow the step-by-step process may result in failure of the iPECS UCS Server installation.

2.1 Server and PBX Requirements
The following requirements must be met for proper operation of iPECS UCS Server.

2.1.1 Minimum Hardware for iPECS UCS Server
A maximum of 4,000 user accounts are available and can connect simultaneously on a single physical server. The minimum hardware specification will increase according to the number of user accounts. If the minimum hardware specifications are not met then functions of the UCS may not work correctly.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Size</th>
<th>Small Company</th>
<th>Medium Company</th>
<th>Large Company</th>
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<tbody>
<tr>
<td>Number of Users</td>
<td></td>
<td>less than 200</td>
<td>200 ~ 600</td>
<td>600 ~ 4000</td>
</tr>
<tr>
<td>CPU</td>
<td></td>
<td>64-bit dual-core processor</td>
<td>64-bit quad-core processor</td>
<td>64-bit hex-core processor</td>
</tr>
<tr>
<td>Memory</td>
<td></td>
<td>4 GB</td>
<td>8 GB</td>
<td>32 GB</td>
</tr>
<tr>
<td>Hard Disk</td>
<td></td>
<td>160 GB</td>
<td>320 GB</td>
<td>1 TB</td>
</tr>
<tr>
<td>NIC</td>
<td></td>
<td>1 Gbps</td>
<td>1 Gbps</td>
<td>1 Gbps</td>
</tr>
</tbody>
</table>

NOTE
The requirements above are minimums. When the number of clients increase, a higher performance processor and NIC speed may be required.
2.1.2 Operating system for iPECS UCS Server

The following OS must be installed for correct operation of iPECS UCS Server.

- Windows Server 2008 R2 SP1 or later
- Windows Server 2012 (Datacenter, Standard, Essential)
- Windows Server 2012 R2 (Datacenter, Standard, Essential)

**CAUTION**

This manual explains the installation process for iPECS UCS Server on newly installed, dedicated operating systems. If an operating system is not dedicated (i.e. is shared or used for other purposes) this may cause problems for both installation and operation. To avoid unintended reboots of iPECS UCS Server, Windows Update settings must **not** be set to update and reboot automatically. (i.e. automatic update must be disabled.)

UCS Server Application should not be installed on Windows Domain Controller Server.

The following OS may provide adequate operation of iPECS UCS Server for a small company.

- Windows 8.1 x 64 (Professional, Enterprise)
- Windows 10 x 64 (Professional, Enterprise)

**CAUTION**

Windows 8.1 is an OS for personal computer (PC) and thus different from Windows Server OS. Therefore it has license limitations (unlike Windows Server OS). In spite of these limitations, iPECS UCS Server may be operated on Windows 8.1 up to 50 UCS users. However if UCS Server operates abnormally under these conditions, the abnormality may be caused by license limitations. In this case, iPECS UCS Server must be operated on a Windows Server OS.

2.1.3 iPECS PBX System supporting iPECS Server

The following iPECS PBX Systems are minimum requirements to support correct operation of iPECS UCS Server.

- iPECS Unified (UCP, eMG80, eMG800)
- iPECS-CM, version 5.5 and over

**NOTE**

The contents regarding iPECS Unified are based on iPECS UCP in this document. The iPECS eMG contents are the same as the iPECS UCP content. The references to PBX systems in this document are correct at time of publication; however updates or upgrades may have been subsequently applied. Please refer to the current PBX system manual for the relevant revisions and instructions.
2.2 Verification of IIS Installation

The Internet Information Services (IIS) Windows component is required for correct operation of the iPECS UCS Web Admin Server. IIS is not automatically installed by in the Windows OS and must be installed by the iPECS administrator.

2.2.1 Windows Server 2008

1. Select [Control Panel (View by: small icons) - Administrative Tools - Server Manager].

![Control Panel and Server Manager](image)

2. Verify role "Web Server (IIS)" is installed, if not, click [Add Roles] and add this role.

![Add Roles](image)

3. Click [Next].

![Add Roles](image)
4. **Add [Web Server (IIS)] role**, then click [Next].

5. Click [Next].

6. **Add the required role services for UCS service**, then click [Next].
7. Click [Install].

8. After finishing installation, the display below is shown. Click [Close].

- Web Server – Application Development – .NET Extensibility
- Web Server – Application Development – ASP .NET
- Web Server – Application Development – ISAPI Extensions
- Web Server – Application Development – ISAPI Filters
- Management Tools – IIS6 Management Compatibility – IIS Metabase Compatibility
- Management Tools – IIS6 Management Compatibility – IIS 6 WMI Compatibility

**NOTE**
You should not add or remove other items. On the basic settings, you just need to add the items above.
9. You can verify the installation of Web Server (IIS) in Server Manager screen.

**CAUTION**

To install UCS correctly on Windows Server 2012, you should install .NET Framework after IIS installation. .NET Framework is included in UCS Server installation package.

If you install IIS after .NET Framework installation, you must follow the steps below:

- Execute 'Command Prompt', then go to ‘C:\Windows\Microsoft.NET\Framework64\v4.0.30319’, and command 'aspnet_regiis.exe -i'.
2.2.2 Windows Server 2012

1. Select [Control Panel (View by: small icons) - Administrative Tools - Server Manager].

![Control Panel with Server Manager highlighted]

2. Click [Add roles and features].

![Server Manager with Add roles and features highlighted]

3. Click [Next].

![Add Roles and Features Wizard]

Before you begin

Skip this page by default
4. Select [Role-based or feature-based installation], then click [Next].

![Role-based or feature-based installation](image)

5. Select your server, then click [Next].

![Select destination server](image)

6. Click [Web Server(IIS)] checkbox.

![Select server roles](image)
7. Click [Add Feature].

![Image of Add Roles and Features Wizard]

8. Click [Next].

![Image of Add Roles and Features Wizard]

9. Click [Next].

![Image of Add Roles and Features Wizard]
10. Click [Next].

11. Add the required role services for UCS service, then click [Next].

- Web Server – Application Development – .NET Extensibility 4.5
- Web Server – Application Development – ASP .NET 4.5
- Web Server – Application Development – ISAPI Extensions
- Web Server – Application Development – ISAPI Filters
- Management Tools – IIS6 Management Compatibility–IIS Metabase Compatibility
- Management Tools – IIS6 Management Compatibility – IIS 6 WMI Compatibility
12. Click [Install].

13. After finishing installation, the display below is shown. Click [Close].

14. You can verify the installation of Web Server (IIS) in Server Manager screen.
2.2.3  **Windows 8.1 and 10**

1.  Go to [Control Panel (View by: Small icons)], then select [Programs and Features].

![Control Panel Image]

2.  Select [Turn Windows features on or off]

![Programs and Features Image]
3. Expand the Internet Information Services node, and then the Web Management Tools and then the IIS 6 Management Compatibility. Then, turn on these options under IIS.

- Internet Information Services – Web Management Tools – IIS6 Management Compatibility
  - IIS Metabase Compatibility
- Internet Information Services – Web Management Tools – IIS6 Management Compatibility
  - IIS 6 WMI Compatibility
- Internet Information Services – Web Management Tools – IIS Management Console
- Internet Information Services – World Wide Web Services – Application Development Features – .NET Extensibility 4.5 (4.6 for Windows 10)
4. After Installation, the display below is shown. Select [Close].
2.3 Installation Package for iPECS UCS Server

The installation package of iPECS UCS Server contains the installation programs for the UCS Server application, .NET Framework, WinPcap, VC++ 2008, 2012, 2013 Redistributable(x86) and postgresQL DBMS components must be installed.

**CAUTION**

If postgresQL is installed in the server PC, it must be uninstalled before installing the UCS server application package. The server PC must be restarted after the uninstallation.

1. Run “setup.exe” in UCS Installation Folder.

![setup.exe](image)

2. If Microsoft ‘.NET Framework 4.5’ is not installed, the display below is shown. Click [Install].

![Install](image)

**NOTE**

Generally, .NET Framework is pre-installed in Windows Server 2012 and Windows 8.1, and installation of .NET Framework is not needed.
3. After installation of .NET Framework is complete, the display of UCS Server installation is shown as below. Click [Next].

4. The Software License Agreement window appears. Read and accept the license terms then click [Next].
5. Select a Setup Type. If you want to change the setup directory, then select [Custom]. Selecting [Typical] is recommended. Click [Next].

6. Before starting installation of UCS Server applications, review the settings. Click [Next].
7. When installation of the UCS Server applications is complete, the remaining programs (PostgreSQL DBMS, VC++ 2010, 2012, 2013 Redistributable(x86), WinPcap) are installed. Click [Next].

8. The Software License Agreement window appears. Click [I Agree].
9. WinPcap starts installation after installation of PostgreSQL. WinPcap is a standard application to capture and filter network packets. Click [Install].

10. The window below is shown after successful installation of WinPcap. Click [Finish].
11. After installation of WinPcap, the installation of VC++ 2010 Redistributable(x86) starts. Click [Install].

![Image of installation wizard]

12. When installation of VC++ 2010 Redistributable(x86) is complete, click [Close].

![Image of installation is complete]
13. After installation of VC++ 2010 Redistributable(x86), the installation of VC++ 2012 Redistributable(x86) starts. Click [Install].

14. When installation of VC++ 2012 Redistributable(x86) is complete, click [Close].
15. After installation of VC++ 2012 Redistributable(x86), the installation of VC++ 2013 Redistributable(x86) starts. Click [Install].

16. When installation of VC++ 2013 Redistributable(x86) is complete, click [Close].
17. In the PostgreSQL Information window, enter a password for UCS database, and click [Install].

[Image: PostgreSQL installation window showing a password entry field]

CAUTION
Typically, 200 MB of free hard-drive space is required for the installation package of iPECS UCS Server. However, the database space requirements will grow as the various iPECS UCS databases are populated, so ensure that at least 10 GB of free hard-drive disk space is available.

18. Installing PostgreSQL DBMS.

[Image: PostgreSQL installation progress bar]
19. Select “New database”, then click [Next].

NOTE
The item “From the DB file” is used to upgrade from UCS P4 to UCS P5 Server. Refer to 8.1 Upgrade for details.

20. The installation of iPECS UCS Server package is complete, click [Finish].
21. After finishing the installation, the UCS Server Manager icon below is shown in Windows wallpaper.

![UCS Server Manager](image)

Refer to Chapter 7. Administration (Serviced Controller) for details.

22. After finishing the installation, UCS Web Admin can be accessed by the administrator through a web browser.
   - Web Address: http://UCS Web Server IP address /ucs
   - ID: administrator
   - Default Password: ucsadmin

Refer to Chapter 6. Administration (Web Admin) for details.
2.4 UCS Server Registration as Service

After the UCS Server Package installation, the UCS Server service applications must be registered as a service of Windows OS. To register, click and open the UCS Server Manager icon in Windows wallpaper. Then follow the steps:

1. Load All Service
2. Start All Service

Every tab icon shows the status of each service status.

- ✅: Run after loading
- 🚫: Stop after loading
- ⏸️: Unload

Refer to 7.2. Management of All Service for details.
2.5 Change of HTTP(S) Service Port

iPECS UCS uses HTTP port 80 for Web service. Other ports such as 8080 can be configured as well as implementing HTTPS with self-signed certificates. Ports are added to the IIS port configuration and then must be assigned to the UCS Web Admin.

2.5.1 HTTP(S) Port Configuration

2.5.1.1 HTTP Port

1. Go to [Control Panel (View by: small icons) – Administrative Tools – IIS (Internet Information Service) Manager].

2. Select [Default Web Site – Edit Bindings ...].

3. Select [Add].
4. Select ‘http’ as the [Type:], then input port number in the [Port:] field.

2.5.1.2 HTTPS Port

1. Go to [Control Panel (View by: small icons) – Administrative Tools – IIS (Internet Information Service) Manager].
2. Select [IIS – Server Certificate].

3. Select [Create Self-Signed Certificate...] on the right.

4. Input certificate name, then click [OK].
5. Select [Add].

6. Select ‘https’ as the [Type:], and input the port number. Then, select the SSL certificate created at [SSL certificate:], and click [OK].

2.5.2 HTTP(S) Port Registration

Go to [Administration – Option Setting – Property - Data Transfer protocol and port for client], then select the port. The ports available, other than port 80, are added to the IIS ports refer to section 2.12.1.

NOTE

If the ‘Data Transfer protocol and port for client’ are changed, the UCS WebAdmin address must include the modified port number as follows.

`https://UCS Server IP Address:Port/ucs` (example) `https://10.10.10.1:8443/ucs`
2.6 Verification of Firewall

For iPECS UCS service, you need to set up Windows firewall and any external firewall to open specific ports.

NOTE
All used ports for UCS service are tabled in the Appendix.

2.6.1 Set-up Windows Firewall

The Windows firewall in the UCS server PC must be turned off or required TCP and UDP ports opened to permit communication among the UCS server, UCS clients, and iPECS PBX system.

2.6.1.1 Method 1 - Turn off Windows Firewall

To turn OFF the Windows firewall in the server PC,

1. Select [Control Panel (View by: Small icons) - Administrative Tools – Windows Firewall].

2. Select [Turn Windows Firewall on or off].

![Image of Windows Firewall Control Panel]

3. Select [Turn Windows Firewall on or off].

![Image of Windows Firewall Control Panel]

4. Select [Turn Windows Firewall on or off].

![Image of Windows Firewall Control Panel]

5. Select [Turn Windows Firewall on or off].

![Image of Windows Firewall Control Panel]
3. Select [Turn off Windows Firewall (not recommended)] for ‘Home or work (private) network location settings’ and for ‘Public network location settings’. Then, click [OK].

2.6.1.2 Method 2 – Open Required TCP and UDP ports
If you do not wish to disable the Windows Firewall, the required TCP and UDP ports for UCS service must be opened:

- **80 (TCP):** HTTP Service
- **3389 (TCP):** Remote desktop service to connect to UCS server PC
- **25058, 25059 (TCP):** Gateway Relay Session
- **25056, 25057 (TCP):** Chatting Session
- **5588 (UDP, TCP):** IPKTS Signaling
- **6254 (UDP):** Multicast Signaling
- **25060 (UDP, TCP):** SIP Signaling

1. Select [Control Panel (View by: small icons) - Administrative Tools - Windows Firewall].
2. Select [Advanced Settings].


4. New Inbound Rule Wizard is shown. Select [Port] then click [Next].
5. Select [TCP] and the [Specific local ports] radial buttons, and input TCP ports 80, 3389, 25056-25059, 5588, 6254, and 25060. Then click [Next].

6. Select [Allow the connection], then click [Next].

7. Select Domain, Private, and Public then click [Next].

8. Input a ‘Name’ and ‘Description’ then click [Finish].
9. Check that the rule is added in ‘Inbound Rules’

10. Repeat steps 1 ~ 9 for UDP ports 5588, 6254, and 25060 in ‘Inbound Rules’

11. Repeat steps 1 ~ 9 for TCP ports 80, 3389, 25056-25059, 5588, 6254, and 25060 in ‘Outbound Rules’

12. Repeat steps 1 ~ 9 for UDP ports 5588, 6254, and 25060 in ‘Outbound Rules’

2.6.2 Set-up External Firewall

When an external firewall exists to provide service to UCS Clients to and from outside of the network, the required TCP and UDP ports must be opened.

- 80 (TCP): HTTP Service
- 25058, 25059 (TCP): Gateway Relay Session
- 25056, 25057 (TCP): Chatting Session
- 5588 (UDP, TCP): IPKTS Signaling
- 25060 (UDP, TCP): SIP Signaling

NOTE

If the iPECS PBX platform is behind a firewall, the required ports must also be opened in this firewall to allow communication with UCS Clients. The TCP and UDP ports to be opened can be referenced from ‘Appendix-Port Table’.
Chapter 3
Connection to iPECS PBX System

Connection to iPECS PBX System is a multi-step process. **Failure to follow the step-by-step process may result in failure of the connection.**

3.1 **Lock key Installation and Configuration of iPECS PBX Systems**

iPECS UCS employs a seat-based license, which is managed by iPECS PBX system. The license lock-key must be installed in the iPECS PBX by the iPECS administrator prior to installation of iPECS UCS.

After the lock-key installation, configuration steps are required for connection with UCS Server. The steps are explained for each iPECS platform below.

**NOTE**

iPECS UCS Clients cannot login if the lock key is not installed.

3.1.1 **iPECS Unified System**

Install the lock key and configure as below in Unified Web Admin.

1. **Lock-key Installation:**

   Go to [Maintenance – License Management – License Upload], select [Add File] then upload UCS license file.
2. **Registration of MAC Address of UCS Server:**

Go to [Administration - Tables Data – Registration Table], then enter the MAC address of iPECS UCS Server PC.

![MAC Address Table](image)

To determine the MAC address of the server PC, go to [Local Area Connection Status – Details – Physical Address] of the server PC. The physical address, see below, is the MAC address.

![Physical Address](image)

**NOTE**

If Dipswitch 3 of iPECS Unified module is ON, entry of the UCS Server MAC address is not required.

3. **Checking Empty Station Group**

Go to [Administration - Station Group Data – Station Group Overview], then check the empty station group(*401).
4. Assigning a Station Group on the Empty Group Number

- Go to the PGM Code 190 [Administration - Station Group Data – Station Group Assignment], then type the empty group number (*401) and click [Load] button.
- After the loading, select group type to [UCS] and click [Save Group Type] button.

![Image of station group assignment](image)

**CAUTION**

UCS Station Group must be assigned. If you do not assign the station group, then incoming call routing does not work.

5. Checking Station Group Attributes

- Go to the PGM Code 191 [Administration - Station Group Data – Station Group Attributes], then type the assigned group number (*401) and click [Load] button.
- Check that the value of UCS server is correct.

![Image of station group attributes](image)

6. UCS Server Type – Premium:

Go to [Administration – UCS Standard – Common Attributes] then for the UCS Server Type, select “Premium”.

![Image of UCS server type setting](image)
3.1.2 iPECS-CM System

Install the lock-key and configure as below in CM Web Admin.

1. **Lock-key Installation:**


   ![File Management](image)

2. **Check the Lock-key Registration:**

   Go to [System Management – License Information] and verify the correct license registration.

   ![License Information](image)

   - CML-U-PV: UCS Desktop Client with Voice
   - CML-U-V: UCS Desktop Client without Voice
   - CML-U-M: UCS Mobile Client

3. **UCS Server IP Address Registration:**

   Go to [Application Information – UCS Server Information], then click [Modify]. Check the box, input the UCS Server IP address, and then click [Apply].
The image shows the UCS Server Information menu in an administration tool. The menu is divided into several sections:

- **WMS Management**
  - Memo
  - User Management
  - WMS Configuration
  - Menu Management
  - Log Management
  - System Management
  - Data Management
  - Application Information
    - SNMP Service Information
    - CTI Information
  - VMS Information
  - TAPI Information
  - DB Sync Server Information
- **UCS Server Information**

To the right of the menu, there is a table listing IP addresses:

<table>
<thead>
<tr>
<th>Index</th>
<th>IPAddress</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>150.150.150.103</td>
</tr>
<tr>
<td>2</td>
<td>255.255.255.255</td>
</tr>
<tr>
<td>3</td>
<td>255.255.255.255</td>
</tr>
<tr>
<td>4</td>
<td>255.255.255.255</td>
</tr>
<tr>
<td>5</td>
<td>255.255.255.255</td>
</tr>
<tr>
<td>6</td>
<td>255.255.255.255</td>
</tr>
<tr>
<td>7</td>
<td>255.255.255.255</td>
</tr>
<tr>
<td>8</td>
<td>255.255.255.255</td>
</tr>
</tbody>
</table>
3.2 iPECS UCS Server and PBX Connection

In UCS Web Admin, the iPECS PBX platform must be identified and a connection established between the UCS Server and the iPECS PBX Call server.

1. Go to [Administration – Configuration – PBX System] then click [Add].

2. In the display shown, select [System] and input [Site Name, PBX IP Address, VN Code], then click [Add]. The VN (Voice Networking) code can be any number; in networked environments, the VN code identifies the call server location in the network.

- Refer to 6.4.1 PBX Systems for details.
3. Click [Stop] on the ‘Presence’ tab of UCS Service Controller. Wait until the [Start] button is enabled. Click [Start].

![UCS Service Controller](image)

**CAUTION**
To finish the connection between UCS Server and PBX, the ‘Presence Service’ must be restarted.

4. Go to [Status – PBX] and verify that UCS Server is connected to the iPECS PBX. If connected, a green box is shown preceding the Site Name, otherwise a red box is shown.

- Refer to 6.2.3 PBX for details.
Chapter 4
UCS Account Registration

iPECS UCS accounts are generated in iPECS PBX or iPECS UCS depending on type of UCS accounts. The generated UCS accounts are saved in UCS Shared Directory, and they are able to be searched from UCS Clients to provide convenience for UCS users.

4.1 Shared Directory
The Shared Directory is an address book, which is available to all UCS Clients, and contains following contacts:

- UCS User (Client): an account to login to UCS Server
- Phone User: an extension account for searching and checking phone status from UCS Client
- External Contact: a contact for searching from UCS Client.

Internal contacts include all UCS Users and Phone Users registered to the iPECS PBX platform. The iPECS PBX platform is instructed to send the contact information to the UCS Server as the UCS or Phone User is registered or in bulk. When received, the UCS Server registers the UCS User or Phone User as a contact in the Shared Directory. UCS Clients can search the Shared Directory and add contacts from the directory to their local contacts as well as their Presence list.

External contacts are entered in the Shared Directory by the iPECS administrator and can be searched and added to the local UCS Client contacts. However, Presence and phone status of external contacts is not provided to the UCS Client.

NOTE
The maximum number of accounts available in the Shared Directory is as follows:

UCS User: 4,000 entries
Phone User: 10,000 entries
External Contact: 10,000 entries
4.2 UCS User Registration

The iPECS PBX platform is instructed to send the UCS User information to the UCS Server as the UCS User is registered or in bulk. The generated UCS User information is saved in the UCS Shared Directory.

**CAUTION**
If the SSO (Single Sign On) service is used with Microsoft AD (Active Directory), then the UCS User ID must be the same as the User ID of AD.

4.2.1 iPECS Unified

4.2.1.1 Unit Registration

UCS Clients must be registered with the iPECS Unified before they can be registered in the UCS Server. The process is detailed in the iPECS Unified Admin and Maintenance Manual and is provided here for reference only. UCS Client licenses and UCS Server Station Group Attributes must be assigned in the iPECS Unified prior to registering clients. In addition, the UCS Server Type for the UCS Client must be configured as Premium type in the iPECS Unified under the UCS Standard Common Attributes.

1. Login to the iPECS Unified Web Admin
2. Go to [UCS Standard – UCS Premium Client Login] on Unified Web Admin. Input the UCS Server Id then click [Load].

The UCS Server Id is assigned under the iPECS Unified Station Group Attributes for the UCS Server Group.
3. Input the user information and check the box in front of the index number, then click [Save].

- Station Number, User ID cannot be modified after they are saved.
  - Station Number, User ID, User Password, Name, Office Department, E-mail Address are required fields and must be entered to register the login-able client.

- Office Department is the name of department within the organization to which the UCS Client user is assigned. If the organization name does not exist, a name is created in UCS Web Admin automatically. Refer to 6.2.1 Organization for details.

- Linked Pair: When ON, the UCS Client is linked to the desktop phone with the 'Desired Number'. The desktop phone and UCS Client will function as a single user terminal. Refer to the iPECS Unified manuals for further details on Linked Pair operation.

- Unique ID: identifies the user record in an LDAP database when 'Shared Directory Information Sync (LDAP)' is enabled. Enter the user's unique value such as employee number. Refer to 6.4.3 Shared Directory Information Sync for details.

- Mutual Presence Permission: permits presence information to be shared within the iPECS Unified but has no effect on UCS Server functions with the UCS Client.

- License: There are three types of license, PREM-V, PREM-NV, and MOBILE. Select appropriate license for the account.

4. If the box in front of the UCS Client index is checked, iPECS Unified sends UCS account information to UCS server, which will register the UCS Client account in the Shared Directory. Once the client is registered, the client information, other than the User ID and Station Number, can be modified in the Shared Directory. Refer to 6.2.3 Shared Directory for details.

**NOTE**

If you delete a UCS account in the iPECS Unified, the UCS Server account information is deleted automatically. A UCS account can only be deleted in the iPECS Unified.
4.2.1.2 Mass Registration

The USC Client registration page in the iPECS Unified Web Admin is compatible with Microsoft Excel. You can enter registration inputs on Microsoft Excel, then copy them to the registration page.
4.2.2 iPECS-CM

4.2.2.1 Unit Registration

UCS Clients must be registered with the iPECS-CM before they can be registered in the UCS Server. The process is detailed in the iPECS-CM Admin and Maintenance Manual and is provided here for reference only. UCS Client licenses must be assigned in the iPECS-CM prior to registering clients.

1. Go to [Application Information - UCS Number Information] then select [Add]

2. Input the UCS Station Number, Slot and Channel information.

- The UCS Number Information page is divided into two parts. The input components in the red rectangle above are related to "User information" and the other properties are related to "Extension information" as discussed below.

- User Information
  - User ID, User Password, Name, and Office Department are required fields and must be entered to register the client.
  - Office Department is the name of department within the organization to which the UCS Client user is assigned. If the organization name does not exist, a name is created in
UCS Web Admin automatically. Refer to 6.2.1 Organization for details.

- **Unique ID**: identifies the user record in an LDAP database when ‘Shared Directory Information Sync (LDAP)’ is enabled. Enter the user’s unique value such as employee number. Refer to 6.4.3 Shared Directory Information Sync for details.

- **Extension Information**

- There are three ways of generating UCS Clients depending on the intended use.

  - For use as a soft phone only, enter the same extension number (example.1000) for the [UCS Station Number] and [Phone No.], then select ‘Not Use’ for the [Hard Phone Used at The Same Time] property.

  ![Diagram 1](image1)

  - For use with an iPECS desktop phone, enter the desktop phone number as the [UCS Station Number] and the SADN number (#001100) as the first [Phone No.]. Select ‘Use’ for the [Hard Phone Used at The Same Time] property and the desktop phone number in the adjacent [Phone No.] property.

  ![Diagram 2](image2)

  - For use with a SIP phone, enter the desktop phone number as the [UCS Station Number] and the SADN number (#0011000) as the first [Phone No.]. Select ‘Use’ for the [Hard Phone Used at The Same Time] property and the second SADN number (0021000) in the adjacent [Phone No.] property.
Select the type of UCS Client at [Terminal Sub Type].

- **UCS Client-Desktop**: For Generating UCS PC Client
- **UCS Client-Mobile**: For Generating UCS Mobile Client

Select ‘Use’ for the [UC With Voice Option] property if UCS Client licenses is for full voice operation. If not, select ‘Not Use’. In this case, UCS Client can be used to place calls but the audio is provided by the linked desktop phone.

If you select ‘Use’ at [UC Desktop/Mobile Single ID] then you can use a Desktop or Mobile UCS client. In this case, you must select ‘UCS Client-Desktop’ for [Terminal Sub Type]. If you select ‘Not Use’, then only the UCS Client selected at [Terminal Sub Type] is available.

- [DN Bride Usage] is enabled if [Hard Phone Used at The Same Time] property is ‘Use’.
  - If ‘Use’ is selected, the desktop phone and UCS Client are ‘linked’. This allows placing or receiving a call from the client simply lifting the handset of the desktop phone to connect to the caller.
  - If ‘Not Use’ is selected, the desktop phone and UCS Client are not ‘linked’ and the bridging function is not supported.

3. Click [Apply], the iPECS-CM registers the client and sends the UCS account information to UCS server, which will register the UCS Client account in the Shared Directory. Once the client is registered, the client information, other than the User ID and Station Number, can be modified in the Shared Directory. Refer to 6.2.3 Shared Directory for details.

**NOTE**

If you delete a UCS account in the iPECS CM, the UCS account information is deleted automatically. A UCS account can only be deleted in the iPECS CM.
4.2.2.2 **Mass Registration**

UCS Clients can be registered in bulk with the iPECS-CM employing an Excel template downloaded from the iPECS-CM.

1. Go to [Application Information - UCS Number Information] then click the [Excel Upload] icon, upper right.

2. Click [UCS Number Information].

3. Click [Save] to download ‘Excel Format’ file.
4. Enter the user's information in the Excel file and save the file.

5. Return to the iPECS-CM User Information page and click [Browse] then select the saved Excel file. The results can be verified after clicking [Apply].
4.3 Phone User Registration

4.3.1 iPECS Unified

4.3.1.1 Unit Registration
Unit registration of Phone User is the same as UCS user registration in Unified System except for entering User ID and Password. User ID should be empty and Password can be any character.

4.3.1.2 Mass Registration
Mass registration of Phone User is the same as UCS user registration in Unified System except for entering User ID and Password. User ID should be empty and Password can be any character.

4.3.2 iPECS-CM

4.3.2.1 Unit Registration
Phone Users can be registered with the iPECS-CM before they can be registered in the UCS Server. Phone User does not have User ID and cannot login, but the registration process is similar to UCS user registration. UCS clients can add Phone users to their presence list, and can see the phone status.

1. Login to the iPECS-CM WMS
2. Go to [Application Information – UCS Number Information] on CM WMS.
3. Click ['UCS Presence Number Register'], then a window to register will pop up.

4. Click [Regist], fill the requested data, click [Apply] and, click [Confirm].

- ‘Tenant No.’ is the Tenant number where the phone number is registered.
- ‘Presence Number’ is the phone number in use.
- ‘Name’ is the name of the phone.
- ‘Office Department’ is the department where the phone is used.
NOTE
- Phone User Registration in iPECS CM is supported by the s/w version 5.5Cx or later.
- Phone User can be deleted by iPECS CM. In step 3, by clicking [Del] instead of [Regist] the deletion window will pop up.
- iPECS CM does not keep the current list of Phone Users. This is available in UCS Web Admin.

The iPECS-CM registers the client and sends the Phone User account information to UCS server, which will save Phone User account information in the Shared Directory. Once the phone user is registered, the client information, other than the Station Number, can be modified in the Shared Directory. Refer to 6.2.3 Shared Directory for details.

4.3.2.2 Mass Registration
Mass Registration of Phone Users is not supported by iPECS CM.
4.4 External Contact Registration

4.4.1 Unit Registration

For UCS Client user convenience, external contacts and users of the iPECS PBX that are not UCS users can be added to the Shared Directory. Presence is not provided for such users.


2. Input contact information then click [Add].

- [Name] and [Office Department] are required fields and must be entered to register the external contact.
4.4.2 Mass Registration

External contacts can be registered to the Shared Directory in bulk employing the Import function in the Shared Directory. The preformatted Example file can be downloaded, contact information entered, the file saved then imported to the Shared Directory.


   ![Screen Shot of UCS Web Admin showing Administration, Directory, and Shared Directory]

2. Select [Download Example File].

   ![Screenshot of Import - Internet Explorer window with Download Example File button highlighted]

3. Click [Save].

   ![Screenshot of File Download dialog box]

   You have successfully registered external contacts to the Shared Directory in bulk.
4. Open the file in Excel. Enter the external contacts’ information and save the file.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>UserKey</td>
<td>Name</td>
<td>NickName</td>
<td>N/W Code</td>
<td>Station</td>
<td>Nu</td>
<td>Tenant</td>
<td>Pre Cellular</td>
<td>Ph</td>
<td>Office</td>
<td>Dept</td>
<td>Office</td>
</tr>
<tr>
<td>2</td>
<td>100 KIM</td>
<td>taregashi</td>
<td>42</td>
<td>1001</td>
<td>42 011-111-1</td>
<td>Ericsson-L BCS</td>
<td>+82 (031)</td>
<td>+82 (031)</td>
<td>tare@ign, taregashi</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- The row (100, KIM, taregashi, 42...) is an example. Do not remove it.
- **[Name]** and **[Office Department]** are required fields
- Enter an ‘x’ in N/W Code to register external users in an Excel file.
- **Do not enter a User ID.**

5. Choose Import Type to ‘Add External user’.

6. Click [Browse] then select the saved Excel.

7. Click [Import]. After the import is complete, the external contacts are available in the Shared Directory.

### 4.5 Additional Steps after Registration

After registration of all of user accounts, additional steps are needed before UCS Client login. On UCS Web Admin, administrator can set UCS clients’ restricted features and register UCS clients’ Presence.

#### 4.5.1 Set Restricted Features of UCS Clients

By default there are some feature restrictions applied to UCS Client. The Administrator can change the restricted features. Refer to 6.3.1 Feature Restriction for details.

#### 4.5.2 Presence Registration of UCS Clients

By default no Presence members are added in UCS Clients. The Administrator can add Presence members for each or all UCS Clients. Refer to 6.2.5 Presence Registration for details.
Chapter 5
UCS Client Login

5.1 iPECS UCS Client Login

This section outlines the installation and login procedure for UCS Clients. The section is provided for reference only. For detailed installation, configuration and login procedures refer to the instructions in the UCS Client User Guide.

5.1.1 iPECS UCS PC Client

The iPECS UCS PC Client is available in the UCS Web Admin server.

1. From the UCS Client PC open the UCS Web page and click [Click to download UCS Client Program].
2. The PC client download page appears, click [Download].

3. Click [Save].

4. Run download file “UCSCClient.exe”, then the installation wizard appears. Follow the wizard instructions to complete the installation. The wizard will place the UCS Client shortcut icon on the desktop.

5. Click the shortcut icon to run UCS Client then select [File-Settings].
6. Configure the login settings then click [OK].

- **IP Address**: UCS server IP address
- **PBX License**: Select “Premium”
- **Call Control Mode**:
  - **With voice**: Select if the UCS client uses voice service.
  - **No voice**: Select if a UCS client will be used for call setup only with an iPECS IP phone.

7. Enter a valid User Id and password then click login.

**NOTE**
If you see the alarm pop-up “Cannot connect to server”, verify the firewall UDP and TCP ports used in UCS server PC are opened.

Refer to UCS Client’s manual for details.
5.1.2 iPECS Mobile UCS Client

5.1.2.1 iPECS UCS Android Client

The Android UCS Client application can be downloaded free from Google Play Store.

1. Type the search word ‘iPECS’ in the Google Play Store.

2. Download and install the ‘iPECS UCS’.

3. Launch the client then select **Premium** for the License Type.

4. Enter a valid User Id and password then click login.

Refer to UCS Client’s manual for details.
5.1.2.2 iPECS UCS iPhone Client
The iPhone UCS Client can be downloaded free from Apple App Store.

1. Type the search word 'iPECS' in the Apple App Store.

2. Download and install the 'iPECS UCS'.

3. After launching the iPECS UCS Client application, go to [iPhone – Settings – UCSClient – UCS Mode] and select Premium.

4. Enter a valid User Id and password then click login.

Refer to UCS Client’s manual for details.
Chapter 6
Administration (Web Admin)

iPECS UCS incorporates a Web server permitting management and administration through the UCS Web Admin. UCS Web Admin can be accessed by the administrator through common web browsers including:

- Internet Explorer
- Chrome Browser
- Mozilla Firefox

NOTE
You must set up compatibility view when using Internet Explorer 9 or later. Go to [Tools(Alt) – Compatibility View settings] in the menu of Internet Explorer then add the Web Admin IP address.
**UCS Web Admin Access**

1. Open an internet browser.

2. Point the browser to the [http://UCS Web Server IP address or partition/ucs](http://UCS Web Server IP address or partition/ucs) then the Login screen, shown above, will appear. For example, if the IP address is 10.10.10.1, then type “http://10.10.10.1/ucs”.

3. From the drop-down menu, select the desired Language (English or Local).

4. Enter your User ID; the default is “administrator”.

5. Enter your Password; the default is “ucsadmin”.

6. Click “Login” to display the UCS Web Admin window.

**UCS Web Admin screen components**

The iPECS UCS Web Admin window is comprised of three parts.

- **Upper tool bar**: identifies the user’s Admin level, and displays the Logout button

- **Left-side Navigation Pane**: display and access to the Web Admin menus. The top-level menu items are Administration, Status and Report. The following sections discuss each in detail.

- **Right-side Admin screen**: displays the selected menu screen for data entry
6.1  General Administration

6.1.1  Admin Password
In the Admin Password screen, the users Admin login password can be modified. The password for a UCS Client can be changed only by the specific UCS Client; other users and the administrator cannot change the password for another user. The administrator can return client passwords and User IDs to default. Refer to 6.6.7 Initialize Client Password for details.

- **[Save]**: saves the new Admin password.

6.1.2  Administrative Message
In the Admin Message screen, the Administrator can send messages in real-time to on-line UCS Clients. The message will also be sent to UCS Clients as they login.

- **New Message**: entry for a new admin message.
- **Delete**: deletes the selected Admin messages.
- **Delete All**: deletes all the Admin messages.
- **Reload**: refreshes the current UCS Admin screen.
- **Send**: sends or re-sends the selected message.
To send a message:
1. Click [New Message].
2. Enter the Subject, Destination and Contents.
3. Click [Send] to send the message.

- **Send**: sends the new message.
- **Exit**: closes the 'Send Admin Message' screen.

**NOTE**
Each message can be up to 255 characters with a subject of 100 characters.

The Admin message screen shown displays on the UCS Client user's PC.
6.1.3 Database

6.1.3.1 Backup Database

In the Database Backup Setting screen, Administrators may change settings of UCS Server database backup function. The backup file can be used to restore the UCS Server database to the version in the backup file.

- **Control buttons**
  - **Reload**: refreshes the current UCS Admin screen.
  - **Save**: saves the current UCS Admin screen.

- **Properties**
  - **Weekday**: sets the day of week to run the backup function.
  - **Time**: sets the time of day to run the backup function.
  - **Data Preservation Period**: selects the period to store backup data
    - Expired data will be deleted after the period.
  - **Location**: shows local path for backup data

- **On Demand Database Backup**: Starts Database Backup within 60 seconds.
6.1.3.2 Restore Database

The database backup file is stored in the UCS Server DBbackup folder as shown below:

To restore the UCS Server database using a backup file,

1. Shut down UCS ServerManager.

2. Open the Command Prompt then move to the bin directory of postgresQL.
   Default: C:\Program Files (x86)\UCS Server\Postgres\bin

3. Execute the ‘drop’ command to delete current database.
   
   
   psql -U postgres -c "drop database ucdatabase"

4. Execute ‘restore’ command to restore target database.
   
   pg_restore.exe -h localhost -U postgres -Fc -w -C -d template1 "c:\Program Files (x86)\UCS Server\DBbackup\********.backup"

NOTE

To restore the UCS Server database to the initial database, use the backup file ‘ucdatabase.backup’ from the install package. In this case the ‘restore’ command is

pg_restore.exe -h localhost -U postgres -Ft -w -C -d template1 “path\ucdatabase.backup”
6.1.4 E-mail Dispatch Screen

The iPECS administrator can prepare and send E-mails to UCS Client users to inform them of newly created accounts or other important information. After preparing the E-mail in the E-mail dispatch screen, saving the screen automatically sends the mail to the users. Results of the E-mail dispatch are available under the Directory menu E-mail Dispatch Results item. Refer to 4.1.5.6.

- **Reload**: refreshes the current E-mail Dispatch screen.
- **Save**: saves the current E-mail Dispatch screen.
6.2 UCS Accounts and Directory

6.2.1 Organization

In the Organization screen, administrators construct an organization chart for the company that is displayed to UCS Clients under the client ‘Organization’ tab. Administrators can create a new department, delete or rename departments. In addition, specific departments can be moved under another department. To import department names of shared users, click the Get Department button.

- **Get Department**: import department information of shared users
- **Add**: adds new departments
- **Rename**: renames a department
- **Delete**: deletes departments
- **Change Organization Position**: modify the position of selected departments
- **Import All Departments**: import department information from an Excel or csv file
- **Move Up**: move up one partition in a group
- **Move Down**: move down one partition in a group
- **Save Position**: save organization position after moving up or down
To add departments
1. Select the parent department where new departments will be added.
2. Click the [Add] button.
3. Enter the name of the new departments
4. Click [OK] button.

To rename departments
1. Select the department that will be renamed.
2. Click the [Rename] button.
3. Enter the new name of the department
4. Click [OK] button.
To change the position of department
1. Select departments to move.
2. Click the [Change Organization Position] button.
3. Select the parent department
4. Click [OK] button.

To delete a department
1. Select or Check the department(s) to delete.
2. Click the [Delete] button.
Import all departments from a `.csv` formatted file

1. Click the [Import All Departments] button.
2. Select the `.csv` formatted file that includes user information.
3. Click the [Import] button

The Example File below shows how to use `.csv` formatted files to import all departments. The file shows how hierarchical organization information is displayed. As shown, 'A' is the top-level department; 'B' is the next level department under 'A', and 'C' is the next level down under 'B'.

Example `.csv` file.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>class1</td>
<td>class2</td>
<td>class3</td>
<td>class4</td>
<td>class5</td>
<td>class6</td>
<td>class7</td>
<td>class8</td>
<td>class9</td>
<td>class10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>A</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE

Each department must have a different name. If the file contains departments with names already in the organization chart, the import will fail.
Export all departments to `.csv` formatted file:

![CSV export table]

After exporting all departments, all department information is saved in `.csv` file.

Use Shared Directory Information Sync (LDAP)
Administrators can import departments using Shared Directory Information Sync from an LDAP database automatically. In this case, administrator cannot change organization information in UCS WebAdmin. Refer to Section 6.4.3.1 LDAP Sync for details.

![Shared Directory Information Sync (LDAP)]
6.2.2 Position

The Position menu establishes the titles and hierarchy of the position within the organization. The iPECS administrator creates the positions and controls the reporting order for the position.

- **Save Position**: Saves sorted position order
- **Add**: Adds position
- **Rename**: Renames selected position
- **Delete**: Deletes selected position
- **Move up**: Moves selected position up
- **Move down**: Moves selected position down

**To add a position**
1. Click the [Add] button.
2. The ‘New Position’ is created as shown below.

**To rename a position**
1. Select position to be renamed.
2. Click [Rename] button.
3. Enter position title in textbox to the left in the Position popup. The textbox to the right is employed when the Shared Directory is synchronized with a LDAP database as the database-mapping key, Refer to 6.4.3.1 LDAP Sync for details.

4. Click [OK].

To save Position

Click the [Save Position] button to save the Positions and hierarchy.

- Save position considering position priority. The first of saved position has the first and next one has second priority. This saved position order is applied to display users in the UCS Client.
- If administrator wants to give a priority, add new position and [Save position].
- If administrator wants to give a priority again, change position clicking move up and down and click [Save position]
6.2.3 Shared Directory

The Shared Directory may be imported or exported in a `.csv` formatted file. For correct registration when importing the UCS Client information, the client must be registered in the iPECS PBX platform.

The UCS Client registration process for each iPECS Voice platform and registration of external contacts varies. The registration process, including Import and Export of the Shared Directory, is covered in the following sections:

- **Three types of Shared Directory**
  - **UCS User**: User who has station number and ucs account.
  - **Phone User**: User who has station number but doesn’t have ucs account
  - **External Contacts**: User who doesn’t have station number or ucs account

- **Exporting**: refers to 6.2.3.1 - Exporting the Shared Directory

- **Importing**: refers to 6.2.3.2 - Importing the Shared Directory

- **Add**: used to add External Contact

- **Edit**: changes user information for UCS User, Phone User and External Contacts

- **Change Department**: changes department for UCS User and Phone User

- **Edit Restriction**: changes user feature restriction

- **Search**: searches for name, station number, office department, position, user ID, VN code, site name

- **Clear All**: clear search text

- **Confirmation from PBX**: UCS User and Phone User information is created in the iPECS PBX system. If the administrator has deleted user information in iPECS PBX, user information in Shared Directory is deleted automatically. But if the administrator needs to delete it in UCS Webadmin, administrator can delete it by unchecking the check-box “confirmation from PBX” on Shared Directory screen (above).
6.2.3.1 Exporting the Shared Directory

UCS User, Phone User and External Contact information in the Shared Directory can be exported as an Excel file.


2. Click [Save].

**NOTE**
Depending on the Windows environment, the extension in the exported file name may be `.xls` not `.csv`. In this case, the file extension must be changed from `.xls` to `.csv` (comma separated) manually for correct importing to the Shared Directory.
6.2.3.2 Importing the Shared Directory (for editing user information)

User can edit user information in shared directory importing file.

1. User can edit user information after exporting the shared directory. However some items are non-editable (UserKey, N/W code, UserID, linkedpair, temporary station).

**NOTE**

In order to change editable fields, the non-editable fields (above) must still be entered correctly or editing will fail to update.

2. Go [Administration - Directory - Shared Directory] in UCS Webadmin, then click [Import].

Click [import] after choosing File to be imported. Confirm import type is selected as [Edit User information]. (UCS User and Phone User set to [Edit User information] as default).

For External Contacts, [Edit User information] should be set.
3. Confirm import result.

```
start
0001:Name{1071}:Succeed to import.
0002:Name{113}:Succeed to import.
0003:Name{114}:Succeed to import.
0004:Name{115}:Succeed to import.
0005:Name{116}:Succeed to import.
End
```
6.2.4 Changeable Fields

In the Changeable Fields Setting screen, the Administrator defines the fields that individual users are permitted to change in their “My Information” window. Checked items in the Changeable Fields screen are available to the UCS Client user in the “My Information” window. Other fields are shown but cannot be changed by the user.

NOTE
The User ID and Station Number are unique values for each UCS Client, and cannot be modified by the user.
6.2.5 Presence Registration

The iPECS administrator can configure a user account to be visible in the Shared Directory so that the user’s Presence is available to other UCS Client users. The administrator can select individual users to make visible with the **Execution** button or all users with the **Register All Users** button.

### Presence Registration

<table>
<thead>
<tr>
<th>Name</th>
<th>User ID</th>
<th>Presence Max Count</th>
<th>Presence Current Count</th>
<th>Presence Permission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abigail</td>
<td>ucp2116</td>
<td>200</td>
<td>55</td>
<td>Execution</td>
</tr>
<tr>
<td>Amelia</td>
<td>ucp2124</td>
<td>200</td>
<td>31</td>
<td>Execution</td>
</tr>
<tr>
<td>Andrew</td>
<td>ucp2110</td>
<td>200</td>
<td>32</td>
<td>Execution</td>
</tr>
</tbody>
</table>

- **Search**: searches the Shared Directory for a user
- **Reload**: refreshes the window
- **Register All Department Members**: register Presence information for all members in department.

**NOTE**

The UCS Client displays Presence for a maximum of 200 other internal and UCS Client users. This maximum may be adjusted down by the administrator in the User Feature Restriction screen. If there are more than 200 users, only the first 200 users created are shown to the client as a default, but the user may select which should display.

To register selected user's presence and assign group from ‘Execution’ button

After selecting the 'Execution' button, a new pop-up appears. Selected user is displayed under the users department. The administrator can register users' presence and assign group. Firstly, from “1. Select Group” the associated drop-down box will list the available groups for the user. Select the required group. Alternatively the administrator can add a group by clicking the **Add Group** button.

Secondly from “2. Select User”, the administrator can search and select users to register their presence.

Finally, select 'Add' button. This will also check that the user(s) are correctly assigned.
6.2.6 E-mail Dispatch Result

When the administrator dispatches an E-mail to UCS Client (refer to 4.1.4 E-mail Dispatch Screen), UCS Server monitors the results to determine if the mail was opened. The administrator can delete individual records, all records, or resend the E-mail to selected users. The latter is accomplished with the “Execution” button, which sets Dispatching Trial Number and Status to 0 (zero) and Ready, respectively.

- **Search**: searches the E-mail Dispatch Result based on User ID or Name
- **Reload**: refreshes this window
- **Delete**: deletes selected records
- **Delete All**: deletes all E-mail Dispatch records
- **Execution**: resends E-mail to the selected user.
6.2.7 User Security Property

The administrator can lock or disable a UCS Client to restrict their use or force a user to change their password. The administrator clicks the **Edit** button to modify the security property.

![User Security Property Table]

- **Search**: searches UCS Client Users based on User ID and Name
- **Reload**: refreshes this window
- **Edit**: edits a user’s restrictions
- **User security property item**: displays user security policy
  - **Account locked**: locks out user account for a nominated period.
  - **Account Disabled**: permanently disables user account.
  - **Must change Password**: forces user to change password before further access.

After Clicking ‘Edit’ button, the screen below is displayed. Check the relevant check-box and enter information to update the user security property.

![User Security Property Edit]

6.3 Feature Restriction of UCS User

6.3.1 User Feature Restriction

The Administrator can limit functions available to each UCS Client. The User Restriction page displays the feature restriction status for all UCS Clients. A checked box indicates the function is available. An explanatory bubble is exposed by focusing the mouse over an item in the table.

- **Reload**: refreshes the current UCS Admin screen.
- **Search User**: returns search results when the Administrator enters a user’s name or ID.
- **Edit**: moves to an editable Feature Restriction screen where the Administrator can modify UCS Client restrictions.
The Feature Restriction page as shown below permits the administrator to modify individual restrictions for each UCS Client. Note that disabled functions can be eliminated from display of the client if the **Invisible or disable** box is checked. Otherwise, menus items are displayed at the client but are not functional.

**User Feature Restriction Edit**

- **Reload**: refreshes the current UCS Admin screen
- **Save**: saves the current UCS Admin screen
- **Enable Template**: shows one of five restriction templates that can be applied to the UCS Client

*NOTE*

Modifications to restrictions take affect after the next client login. Modified restrictions are not applied to an active UCS Client.
### 6.3.2 Restriction Template

The UCS Server database includes five Restriction templates. The templates are available to and can be modified by the administrator.

| Subject | | |
|---------|----------------|
| Level 1 | | |
| ✓ Presence Video Status | ✓ Allow Application Sharing |
| ✓ Presence Schedule Status | ✓ Allow Desktop Sharing |
| ✓ Presence Remote Monitor Status | ✓ Allow Whiteboard |
| ✓ Allow ICR | ✓ Allow Web Push |
| ✓ Allow Remote Call Forward | ✓ Allow File Send |
| ✓ Allow Group Call | ✓ Allow Normal Video |
| ✓ Allow Meet Me Conference Call | ✓ Allow Video Format QCIF |
| ✓ Allow Scheduled Dial | ✓ Allow Video Format CIF |
| ✓ Allow Record Call | ✓ Allow Video Format 4CIF |
| ✓ Allow Flexible Button | ✓ Allow Presentation Mode |
| ✓ Allow Voice Mail Selection | ✓ Allow Remote Monitoring |
| ✓ Allow Stop Call | ✓ Allow Visual Voice Mail |
| ✓ Allow Playback Video File | ✓ Allow Audio Conference |
| ✓ Allow Send SMS | ✓ Allow Organization |
| ✓ Allow Call Memo | ✓ Allow Mobile Dialer Call to UCS For Android |
| | ✓ Allow Password Synchronization |

- **Reload**: refreshes the current UCS Admin screen.
- **Save**: saves the current UCS Admin screen.
6.4 Connection Configuration of External Systems

6.4.1 PBX Systems

The PBX System Admin screen defines the iPECS systems that are linked to and serviced by the iPECS UCS Server. When multiple iPECS systems are configured in a distributed network, each system is assigned a Voice Networking (VN) Code digit(s) that is dialed as a prefix to the extension number, identifying the specific networked system. In this case, the VN Code must be entered in the PBX System Admin screen so that the UCS Server can include the digit when calling a networked system extension.

- **Add**: adds a new system link to the UCS application.
- **Delete**: deletes a system link to the UCS application.
- **Edit**: edits an existing iPECS system link definition.
- **Reload**: refreshes the current UCS Admin screen.

<table>
<thead>
<tr>
<th>System</th>
<th>Site Name</th>
<th>IP Address</th>
<th>VN Code</th>
<th>VN Code in Prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>iPECS CM</td>
<td>Team Test CM for UCS P5</td>
<td>150.150.131.11</td>
<td>11</td>
<td>Yes</td>
</tr>
<tr>
<td>iPECS UCP</td>
<td>UCP600</td>
<td>150.150.131.6</td>
<td>6</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Selecting **Add** or **Edit** exposes the PBX System edit screen as below:

![PBX System edit screen](image)

- **System**: Select the type of System, required field
- **Site Name**: Enter Site Name
- **IP Address**: Enter System Address
- **Firewall IP Address**: Enter IP Address, the firewall address is required if the UCS Server and iPECS PBX are separated by a firewall
- **VN Code**: Enter System Network Code
- **Company Name**: Enter Company Name
- **Company Logo**: Upload Company Logo image. It is used as UCS Client Logo image.

**NOTE**
The checkboxes next to the system IP address and the Firewall address indicate which will be used for communication between the UCS Server and iPECS PBX platform.
Site Name, IP Address and VN Code must be entered.

**WARNING**
When Editing and deleting PBX information, the modification is applied only after stopping Presence Service and restarting.
6.4.2 Shared External User Search (LDAP)

In the LDAP Server screen the Administrator sets LDAP server information. UCS Clients may then query the LDAP server for contact information. UCS Server does not place limits on the number of contact records in the LDAP server.

In the left screen, after selecting ‘New Server’ button (to register new LDAP Server) or ‘Edit’ button (to edit existing LDAP server), the right screen is displayed:

- **Server Display Name**: LDAP Server Name displayed in UCS Client.
- **Server Name (IP)**: LDAP Server IP Address to access in UCS Client.
- **Server Port**: LDAP Server Port to access in UCS Client.
- **Required Login**: Determines if User Id and Password is required to access to LDAP Server
- **SSL (Secure Socket Layer)**: Determines if User Id and Password is required to enable SSL to access LDAP Server.

The screen below shows LDAP Server configuration process in UCS Client.
6.4.3 **Shared Directory Information Sync**

The UCS server can update the Shared Directory periodically, downloading registered user information from an LDAP (version 3) or Oracle database. LDAP (Lightweight Database Access Protocol) is a standard protocol used for retrieving information from database such as Microsoft Active Directory. The administrator must configure general information on the database server as well as define the correlation between the database fields and the UCS contact fields. If users want to link with MySQL database, link application files need to be installed.

MySQL_Link.zip in the server installation package must be copied to “Application” folder of UCS Server Installation folder.

- **Sync DB Type**: Set type of database server employed for database sync service.
6.4.3.1 LDAP Sync

- **Server Info**: Set the LDAP server information.

  - **Use LDAP Link Server**: Check LDAP service activation
  - **LDAP Server**: IP address of LDAP Server
  - **LDAP Port**: TCP/IP port for communication with the LDAP Server
  - **LDAP Security**: SSL implementation for LDAP Server
  - **User ID**: Login ID for LDAP Server
  - **User Password**: Login Password for LDAP Server
  - **LDAP Auth Type**: Authentication method for LDAP Server

- **Update Period**: start time for data retrieval from LDAP

  - **Update Time**: Time of day to retrieve user data from the LDAP server, 0~23

- **LDAP Searching Options**: important setting to update UCS User DB using Data from LDAP Service.

  - **Unique DB mapping Key**: Unique ID
  - **Undefined Organization Name**: Undefined
  - **Root Organization**: iPECS
- **Unique DB mapping Key:** defines the field that maps the specific user in both the UCS Shared Directory and LDAP server database. The value must exist and be unique for each user in both UCS and LDAP database. This is a required entry.

- **Undefined Organization Name:** The Organization name is a required field in the UCS Shared Directory. If the name is not defined in the LDAP database, the Undefined Organization Name is used for the record. This is a required entry.

- **Root Organization:** This value defines the user’s primary top-level organization when the client is assigned several organization strings in the LDAP server. If user is assigned to several organizations, this value should be set.

- **Relationship between UCS DB and LDAP string:** These settings map the field names in the LDAP database to the UCS Shared Directory field names. The default field names are those commonly employed in a MS Active Directory.
- **Organization Info**: LDAP field with the user’s organization (department) information. To include the “CN” string for the organization, select the check box.

- **User Picture**: LDAP field with the user’s photo. The photo format is JPEG. The photo data will be updated only for empty photo user. To force to update all users’ photo, select “Force Update” check box.

- **Name**: LDAP field containing the user’s name

- **Nick Name**: LDAP field containing the user’s nickname

- **Desktop Phone1**: LDAP field containing the unregistered user desktop phone

- **Station Number 2**: LDAP field containing the user’s second station number

- **Station Number 3**: LDAP field containing the user’s third station number

- **Cellular Phone**: LDAP field with the user’s cellular phone number

- **Email Address 1**: LDAP field with the user’s first email address.

- **Home Telephone**: LDAP field with the user’s home telephone number

- **Office Name**: LDAP field with the user’s office name

- **Office Telephone**: LDAP field with the user’s office telephone number

- **Office Fax**: LDAP field with the user’s office FAX number

- **Office Address**: LDAP field with the user’s office address

- **Email Address 2**: LDAP field with the user’s second E-mail address

- **Homepage URL**: LDAP field with the user’s homepage URL

- **Unique ID**: LDAP field with the user’s unique ID. This field should be used as the mapping key field.

- **Position**: LDAP field with the user’s position information. The user’s position values retrieved from LDAP server should be included in the DB mapping Position Name, which can be assigned in the Position menu. Refer to 6.2.2. Position.

- **Official Title**: LDAP field with user’s official title.
6.4.3.2 Oracle Sync

- **Server Info:** Set the Oracle DB server information

  - Use Oracle Link Server: Check Oracle DB Sync service activation
  - Oracle Server: IP address of Oracle DB Server
  - Oracle DB Port: TCP/IP port for communication with the Oracle DB Server
  - User ID: Login ID for Oracle DB Server
  - User Password: Login Password for Oracle DB Server

- **Update Period:** start time for data retrieval from Oracle DB Server

  - Update Time: Time of day to retrieve user data from the Oracle server, 0~23

- **Oracle Searching Options:** important setting to update UCS User DB using Data from Oracle DB Server.

  - DB Name: This is the Service ID in Oracle DB and is a required entry.
  - Organization Table Name: Oracle DB table name with the organization structure. The Organization Table must be configured as follows:
- **User Info Table Name**: Oracle DB table name for contact data. This is a required entry.

- **User Search Table Name**: Oracle DB table name for user search.

- **Unique DB mapping Key**: defines the field that maps the specific user in both UCS Shared Directory and Oracle server’s database. The value must exist and be unique for each user in both UCS and Oracle database. This is a required entry.

- **Undefined Organization Name**: The Organization name is a required field in the UCS Shared Directory. If the name is not defined in the Oracle database, the Undefined Organization Name is used for the record. This is a required entry.
• **Relationship between UCS DB and Oracle string:** These settings map the field names in the Oracle database to the UCS Shared Directory field names.

![Relationship between UCS DB and Oracle string](image)

- **User Picture:** Oracle DB field with the user’s photo. The photo format is JPEG and BMP. The Type of value is BLOB. The photo data will be updated only for empty photo user. To force to update all users’ photo, select “Force Update” check box.

- **User Picture Mapping key:**
  - **Name:** Oracle DB field with the user’s name. The Type of value is VARCHAR2(64 BYTE).
  - **Nick Name:** Oracle DB field with the user’s nickname. The Type of value is VARCHAR2(64 BYTE).
- **Desktop Phone1**: Oracle DB field with the unregistered user. The Type of value is VARCHAR2(64 Byte).

- **Station Number 2**: Oracle DB field with the user’s second station number. The Type of value is VARCHAR2(64 BYTE).

- **Station Number 3**: Oracle DB field with the user’s third station number. The Type of value is VARCHAR2(64 BYTE).

- **Cellular Phone**: Oracle DB field with the user’s cellular phone number. The Type of value is VARCHAR2(64 BYTE).

- **Email Address 1**: Oracle DB field with the user’s first E-mail address. The Type of value is VARCHAR2(64 BYTE).

- **Home Telephone**: Oracle DB field with the user’s home telephone number. The Type of value is VARCHAR2(64 BYTE).

- **Office Name**: Oracle DB field with the user’s office name. The Type of value is VARCHAR2(64 BYTE).

- **Office Telephone**: Oracle DB field name with the user’s office telephone number. The Type of value is VARCHAR2(64 BYTE).

- **Office Fax**: Oracle DB field with the user’s office fax number. The Type of value is VARCHAR2(64 BYTE).

- **Office Address**: Oracle DB field with the user’s office address. The Type of value is VARCHAR2(256 BYTE).

- **Email Address 2**: Oracle DB field with the user’s second E-mail address. The Type of value is VARCHAR2(64 BYTE).

- **Homepage URL**: Oracle DB field with the user’s homepage URL. The Type of value is VARCHAR2(64 BYTE).

- **Unique ID**: Oracle DB field with the user’s unique ID. The Type of value is VARCHAR2(100 BYTE).

- **Position**: Oracle DB field with the user’s position information. The user’s position values retrieved from the Oracle server should be included in the DB mapping Position Name which can be assigned in Position menu. Refer to 4.1.5.2 Position.

- **Home Address**: Oracle DB field with the user’s home address. The Type of value is VARCHAR2(256 BYTE).

- **Department Name**: Oracle DB field with the user’s department value. This value must be one of the “dp_key” values in organization DB table. If this value is not a “dp_key” value, the Undefined Organization Name is used. The Type of value is NUMBER.

- **Official Title**: Oracle DB field with user’s official title.
6.4.3.3 MySQL Sync

- **Server Info:** Set the MySQL DB server information

  ![Server Info Table]

  - **Use MySQL Link Server:** Check MySQL DB Sync service activation
  - **MySQL Server:** IP address of MySQL DB Server
  - **MySQL DB Port:** TCP/IP port for communication with the MySQL DB Server
  - **MySQL Protocol:** If MySQL server version is v3.xx.xxx or there is a problem on authentication, check this option.
  - **MySQL Character Set:** Select character set in MySQL DB configuration. If a wrong character set is selected, failure will occur.
  - **User ID:** Login ID for MySQL DB Server
  - **User Password:** Login Password for MySQL DB Server

- **Update Period:** start time for data retrieval from MySQL DB Server

  ![Update Period]

  - **Update Time:** Time of day to retrieve user data from the MySQL server, 0~23

- **MySQL Searching Options:** important setting to update UCS User DB using Data from MySQL DB Server.

  ![MySQL Searching Options]

  - **DB Name:** This is the Service ID in MySQLDB and is a required entry.
- **Organization Table Name**: MySQL DB table name with the organization structure.
- **User Info Table Name**: MySQL DB table name for contact data. This is a required entry.
- **User Search Table Name**: MySQL DB table name for user search.
- **Unique DB mapping Key**: defines the field that maps the specific user in both UCS Shared Directory and MySQL server’s database. The value must exist and be unique for each user in both UCS and MySQL database. This is a required entry.
- **Undefined Organization Name**: The Organization name is a required field in the UCS Shared Directory. If the name is not defined in the MySQL database, the Undefined Organization Name is used for the record. This is a required entry.
- **Relationship between UCS DB and MySQL string**: These settings map the field names in the MySQL database to the UCS Shared Directory field names.

  - **User Picture**: MySQL DB field with the user’s photo. The photo format is JPEG and BMP. The Type of value is BLOB. The photo data will be updated only for empty photo user. To force to update all users’ photo, select “Force Update” check box.
  
  - **User Picture Mapping key**:

  - **Name**: MySQL DB field with the user’s name. The Type of value is VARCHAR2(64 BYTE).
  
  - **Nick Name**: MySQL DB field with the user’s nickname. The Type of value is VARCHAR2(64 BYTE).
- **Desktop Phone**: MySQL DB field with the unregistered user desktop phone. The Type of value is VARCHAR2 (64 BYTE).
- **Station Number 2**: MySQL DB field with the user’s second station number. The Type of value is VARCHAR2(64 BYTE).
- **Station Number 3**: MySQL DB field with the user’s third station number. The Type of value is VARCHAR2(64 BYTE).
- **Cellular Phone**: MySQL DB field with the user’s cellular phone number. The Type of value is VARCHAR2(64 BYTE).
- **Email Address 1**: MySQL DB field with the user’s first E-mail address. The Type of value is VARCHAR2(64 BYTE).
- **Home Telephone**: MySQL DB field with the user’s home telephone number. The Type of value is VARCHAR2(64 BYTE).
- **Office Name**: MySQL DB field with the user’s office name. The Type of value is VARCHAR2(64 BYTE).
- **Office Telephone**: MySQL DB field with the user’s office telephone number. The Type of value is VARCHAR2(64 BYTE).
- **Office Fax**: MySQL DB field with the user’s office fax number. The Type of value is VARCHAR2(64 BYTE).
- **Office Address**: MySQL DB field with the user’s office address. The Type of value is VARCHAR2(256 BYTE).
- **Email Address 2**: MySQL DB field with the user’s second E-mail address. The Type of value is VARCHAR2(64 BYTE).
- **Homepage URL**: MySQL DB field with the user’s homepage URL. The Type of value is VARCHAR2(64 BYTE).
- **Unique ID**: MySQL DB field with the user’s unique ID. The Type of value is VARCHAR2(100 BYTE).
- **Position**: MySQL DB field with the user’s position information. The user’s position values retrieved from the MySQL server should be included in the DB mapping Position Name which can be assigned in Position menu. Refer to 4.1.5.2 Position.
- **Home Address**: MySQL DB field with the user’s home address. The Type of value is VARCHAR2(256 BYTE).
- **Department Name**: MySQL DB field with the user’s department value. This value must be one of the “dp_key” values in organization DB table. If this value is not a “dp_key” value, the Undefined Organization Name is used. The Type of value is NUMBER.
- **Official Title**: MySQL DB field with user’s official title.
6.4.4 Exchange Link Server

Schedules created in Outlook and available through a Microsoft Exchange Server may be shared with UCS Clients. These schedules will be indicated on the UCS Clients Presence window at the appropriate time. UCS Server can link to schedules available in Exchange Server 2007 SP 1 and later. Note that only the basic Outlook mailbox is available, only 1 year of recurrence is supported, and lunar calendars are not supported.

To configure the link to Exchange Server the following screen is presented.

- **Save**: saves modified values
- **Reload**: update Exchange Server Status
- **Exchange Link Server Address**: Input Exchange Server https address
  
  Example) https://server.exchange.com/EWS/Exchange.asmx

  If DNS (Domain Name Service) is not available for the Exchange Server then enter IP address in place of the domain name.
  
  Example) https://10.10.10.1/EWS/Exchange.asmx

**NOTE**


- **Check Interval for Updated Schedule**: Periodically, UCS Server will check the linked Exchange Server for new and updated schedules. The Check Interval defines the period in minutes for the check. The minimum check interval is 1-minute, and the maximum interval is 60-minutes.

**NOTE**

Based on UCS Server performance and network environment, schedule updates may require additional time before they are available to the UCS Clients

- **Delete Old Schedule**: Old schedules, before the setting value saved in UCS database, are deleted once a day. After deletion, the old schedules are not shown in UCS clients.

  However, old schedules are only deleted from UCS database, not from Microsoft Exchange Server.
• **Exchange Server Status**: UCS Administrator is able to test for connection to Exchange Server.
  - Test ID for status
  - Test Password for status

  ![Exchange Server Status](image)

  • green: connection success
  • red: connection fail

To access schedules from the Exchange Server, the UCS Client user must input their Active Directory or Outlook User Id and password. However, if UCS Client is set to use SSO (Single Sign On) with AD password synchronization, then the Input of Id and password is not required and not shown, since the Id and password to access Exchange Server is the same as UCS Id and password. Refer to [6.4.5.2. AD Password Synchronization](#) for details.
6.4.5 SSO (Single Sign On)
The UCS server provides SSO for UCS user linked with Microsoft AD (Active Directory) provided Id’s are the same. There are two methods for SSO. The first method functions provided that the UCS Client has the right to login without password and the Windows PC is part of the AD domain. The second method functions by having the UCS server synchronize the UCS user password with AD user password. Both methods are independent and are able to be used at the same time.

CAUTION
When an administrator generates UCS account, the UCS User id must be the same as AD User id. If not the SSO function will fail.

6.4.5.1 SSO on AD Joined Windows PC
The UCS Windows client can login using Windows domain login information.

- **Use Password Synchronization for Windows (PC) Client**: Allowing UCS login using domain login. To enable this feature, “Use Password Sync….(PC) Client” check box should be checked and ‘Login Domain Name’ must be entered.

- **Login Domain Name**: Domain name which is used for client’s windows login. If this domain name is different than the users, client login to the UCS will fail.

The display below is shown when UCS Client is executed. If user checks the item of ‘Single Sign-On’, then AD domain name and id is shown. If the ‘Login Domain Name’ is the same as the AD domain name, then UCS Client is able to login without password.

**Note**
This function is only provided by UCS Windows PC client. UCS mobile clients have to enter id and password as usual.
6.4.5.2 SSO with AD Password Synchronization

UCS server provides password synchronization of UCS user with AD user.

CAUTION

To use SSO password synchronization, the SSO Agent must be installed at AD server. Refer to 6.5.5.2.1 Installation of SSO Agent for details.

- **Use Password Synchronization**: Enable SSO Service

CAUTION

To enable SSO Service, both ‘Use Password Synchronization’ in this menu and ‘Allow Password Synchronization’ in user feature restriction must be checked. If this feature is enabled, user’s password changed will be restricted. To enable SSO for user feature restriction, refer to the 6.3.1 Feature Restriction.

After enabling SSO service, AD users’ password must be updated once before UCS login.

- **SSO Service Port**: Service TCP/IP port for SSO. If UCS is behind firewall, this port should be forwarded.
- **Client Authentication ID**: ID to authenticate client. If this value is empty, server will not check client’s ID and allow it. The “Recreate” button will regenerate new ID string.
- **Server Authentication ID**: Represents server identity. This value is used by SSO Agent.
- **Connection Information**: Show connection status.

6.4.5.2.1 Installation of SSO Agent

To enable SSO feature, this agent should be installed at AD server PC.

1. Copy SSO Agent files

Copy the “UCS_PasswdSync64.dll” file to the windows systems directory [C:\Windows\System32] in AD server PC. User can get this file from the UCS install directory [ExternlApp\SSOAgentFiles].

NOTE

If the OS of AD PC is 32bit Windows, the “UCS_PasswdSync32.dll” is required.
2. Install Registry file

Copy the "UCSPwdSync.REG" file to the AD server PC and double click it to install. This is also located in the UCS install directory [ExternlApp\SSOAgentFiles].

Select [Yes]

3. Open Registry

Type the "regedit" in command prompt window. Move to the "HKEY_LOCAL_MACHINE > SOFTWARE > iPECS > UCS > PasswdSyncAgent > Settings".

4. Set UCS server IP Address and port number.

   - UCSServerAddr: IP Address of UCS Server PC
   - UCSServerPort: SSO service port (default: 6470). This value must be the same as 'SSO Service Port' in the SSO configuration in the UCS WebAdmin.

5. Set authentication information for connection.
- **ServerAuthID**: If this value is empty, any server authentication id will be accepted. This value must be the same as ‘Server Authentication ID’ in the SSO configuration in the UCS WebAdmin.

- **SessionID**: This value is used for client authentication. This value must be the same as ‘Client Authentication ID’ in the SSO configuration in the UCS WebAdmin.

- **SessionTimeout (seconds)**: If there is no response from the UCS SSO service within Session Timeout value, session will be disconnected. This value should be greater than 180.

6. Change domain group security policy.

   ► Move to the [Group Policy Management]

   Select [Control Panel > Administrative Tools > Group policy management] or type “gpmc.msc” in command prompt window as administrator.

   ► Move to “Group Policy Management Editor”

   ► Move to the properties of “Password must meet complexity requirements”
► Change complexity to “Enabled”

7. Add “UCS_PasswordSync64”

Open registry editor (Type “regedit”) and move to “HKEY_LOCAL_MACHINE > SYSTEM > CurrentControlSet > Control > Lsa”. Add “UCS_PasswordSync” which is the dll name in the “Notification Packages”.

![Registry Editor](image)

**NOTE**
The last line must be empty line in the “Notification Package” values.

8. Restart system: To apply above configuration, restart AD server PC.
6.4.5.2.2 Upgrading SSO Agent
User runs following steps as administrator right.

1. Delete “User_PasswdSync64” in the “Notification Package” using registry editor and restart system.
2. After restarting, copy new “User_PasswdSync64.dll” to the systems directory.
3. Add the dll name “User_PasswdSync64” in the “Notification Package” using registry editor and restart system.

6.4.5.2.3 Debugging SSO Agent
If debug option is set, trace data will be save in a file (“UCS_Sync_log.txt”) when passwords are changed.

- Change value in the registry “HKEY_LOCAL_MACHINE >SOFTWARE >iPECS >UCS >PasswdSyncAgent >Settings”.
  - `debugtrace`: if value is 1, debug information will be printed.
  - `tracedirectory`: The value is the directory for location of trace file. If value is empty, a trace file is saved at “c:". The file is “UCS_Sync_log.txt".
6.5 Shared Schedule

6.5.1 Schedule Administrators

UCS Server maintains Private schedules for each user, as well as Shared schedules, which can be viewed only by permitted users. Permitted users are defined for each specific Shared schedule.

- **Add**: allows a user access to the selected Schedule.
- **Delete**: deletes selected users from accessing the select schedule
- **Go to Shared Schedule**: Go to shared schedule.

**To allow a user access to a given Schedule**

1. Select the Schedule Type from the drop down menu.
2. Click the **Add** button at the top of the screen.
3. Select the appropriate User ID then click **Add** at the bottom of the screen.

**NOTE**

Users configured as a Schedule Administrator may add, edit, or delete a shared schedule. Changes to the Schedule Administrator take affect after the next login by the configured user.
6.5.2 Shared Schedule

In the Shared Schedule screen, the Administrator manages Shared Schedule folder names.

- The maximum number of entries in all shared folders is defined in the Properties screen.
6.6 UCS Service Configuration

6.6.1 Properties

iPECS UCS Server has several Properties that can be configured to provide optimum performance in various environments, such as the number of users, items in individual databases, etc.

Control buttons

► Reload: refreshes the current UCS Admin screen.

► Save: saves the current UCS Admin screen.

<table>
<thead>
<tr>
<th>Properties</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCS User maximum Entries</td>
<td>4000</td>
</tr>
<tr>
<td>Phone User maximum Entries</td>
<td>10000</td>
</tr>
<tr>
<td>External Contacts maximum Entries</td>
<td>10000</td>
</tr>
<tr>
<td>Max Client Notes</td>
<td>10</td>
</tr>
<tr>
<td>File Sending Peers</td>
<td>5</td>
</tr>
<tr>
<td>File Sharing Peers</td>
<td>5</td>
</tr>
<tr>
<td>Web Push Peers</td>
<td>5</td>
</tr>
<tr>
<td>Sharing Frame Interval</td>
<td>1500  msec 500 ~ 9999</td>
</tr>
</tbody>
</table>

- **UCS User maximum Entries**: maximum number of UCS users that can be registered in Shared Directory.
- **Phone User maximum Entries**: maximum number of phone users that can be registered in the Shared Directory.
- **External Contacts maximum Entries**: maximum number of external contacts that can be registered in Shared Directory
- **Max Client Notes**: maximum number of Notes that can be stored for each UCS Client
- **File Sending Peers**: maximum number of Clients that can receive a file
- **File Sharing Peers**: maximum number of Clients in a single File Sharing session
- **Web Push Peers**: maximum number of Clients in a co-browsing session
- **Sharing Frame Interval**: time interval for sending shared files from the Master to other users in a Sharing session
Chat Room (MeetMe): maximum number of Meet-Me Chat Rooms
Chat Room (Adhoc): maximum number of ad hoc Chat sessions
Schedule Folders: maximum number of Schedule Folders per user
Schedule Item: maximum number of records in a Schedule
ICR Scenario Item: maximum number of ICR Scenarios
File Send Size: maximum size of a file that can be sent
Max Video Conference Room: maximum number of Video Conferences
Video Quality: video resolution available (QCIF/CIF/4CIF)
Video Maximum Member: maximum number of users in a video conference, does not include master
Video Conf Frame: maximum Video frame rate based on number of users in a Video Conference
Statistics Operation: yes or no option for Statistics function
Organization Chart Refresh Interval: time interval for updating organization chart in a UCS Client.
• Minimum Password Length: minimum UCS Client password length,

• Must Change Password at First Login: if ‘Yes’, users must change their password at the initial login.

• Must Change Password after Password Initialization: if ‘Yes’, users must change their password when initialized by the administrator

• Do Not Allow the Same Password and User ID: If ‘Yes’, the User Id cannot be used as the password

• Account Lockout after Invalid Login Attempts: UCS Client login will be blocked automatically when inappropriate User ID and Password entry reaches this number.

• Account Lockout Duration: The period the lockout will continue.

• E-mail Dispatch: If ‘Yes’, a new account creation E-mail is automatically dispatched to UCS Client users.

• E-mail dispatching Count in case of failure: The maximum number of times UCS Server will attempt to dispatch an E-mail.

• E-mail dispatching Period in case of failure: The maximum period UCS Server will attempt to dispatch an E-mail.

• Data transfer protocol and port for client: The protocol and port for UCS Web Service between UCS Web Server and UCS Client.

• Display Office Department in Call Popup: If ‘Yes’, office department is displayed in call popup.

• Display Official Title in Call Popup: If ‘Yes’, official title is displayed in call popup.

• Display Office Position in Call Popup: If ‘Yes’, office position is displayed in call popup.

• Enable external DB Search: If ‘Yes’, external DB Search is enable.
• **Include English Character for password:** If ‘Yes’, new UCS Client and UCS webadmin administrator password should include English character.

• **Include Capital English Character for password:** If ‘Yes’, new UCS Client and UCS webadmin administrator password should include Capital English character.

• **Include Number for password:** If ‘Yes’, new UCS Client and UCS webadmin administrator password should include number.

• **Include Special Character for password:** If ‘Yes’, new UCS Client and UCS webadmin administrator password should include special character.
6.6.2 SIP Parameter

Various parameters associated with Session Initiation Protocol (SIP) handling for both the UCS Server and UCS Client can be adjusted by the Administrator in the SIP Parameter screen. It is recommended that the default values be used wherever possible.

![SIP Parameter Screen]

- **Reload**: refreshes the current UCS Admin screen.
- **Save**: saves the current UCS Admin screen.

**Gateway Server Properties**

- **Server Port**: Gateway Server TCP port used for communication with the Application Servers
- **NAT Relay Server Port**: Gateway Server TCP port UCS Clients use to send TCP streams (IM, File Send and Sharing); the port is used in the NAT environment.
- **Max. Transaction Count**: maximum number of Gateway Server transactions active at a given time.
- **SIP Message Buffer**: maximum size for SIP messages received by the Gateway Server.
- **Active IP echo Server**: defines if the Gateway Server employs multi-cast to notify UCS Clients of the Gateway Server IP Address.
- **Trans. List Delete Timeout**: Gateway timer to delete a transaction from the transaction list in case no final response message is received for a SIP request.

- **TCP Relay List Delete Timeout**: Gateway timer to delete a TCP connection from the TCP relay list in case no final response message is received with a SIP request.

- **SIP UDP Port**: SIP UDP port on which the UCS Gateway expects to receive SIP messages.

- **SIP TCP Port**: SIP TCP port on which the UCS Gateway expects to receive SIP messages.

- **SIP Worker Thread Count**: number of processing threads that may be active.

- **SIP Message Queue Size**: maximum length of the processing queue.

- **Retransmission Timer 1**: UCS Client Invite transaction retransmits request at an interval that starts at T1 seconds.

- **Retransmission Timer 2**: general requests are retransmitted at an interval that starts at T1 and doubles until it reaches T2.

- **Provision Timer**: transaction will stop re-transmission of the Invite request and will wait for a final response for the Provision Timer.

- **Logging Errors**: debug Flag to enable/disable saving error messages to the Gateway Log text file.

- **Logging Info**: debug Flag to enable/disable saving information messages to the Gateway Log text file.

- **Logging TCP Relay Info**: debug Flag to enable/disable saving TCP Relay information messages to the Gateway Log text file.

- **Logging SIP Resources**: debug Flag to enable/disable saving SIP resource messages to the Gateway Log text file.

- **Logging UCC2UC**: debug Flag to enable/disable saving UCS Client messages sent by the Client to the Gateway Log text file.

- **Logging UCS2UCC**: debug Flag to enable/disable saving information for UCS Sever messages to the Gateway Log text file.

- **Session Relay via UCS Server**: Whether or not all sessions are connected through UCS server. If checked, the session stability is improved.

- **User Key to Debug**: Key value of user for debugging.

- **Gateway IP Address**: IP Address of PC where Gateway server is installed.
6.6.3 Timer Settings

In the Periodic Timers screen, various timer settings can be adjusted.

- **Reload**: refreshes the current UCS Admin screen.
- **Save**: saves the current UCS Admin screen.

**Property items**

- **Diagnostic Check Interval for Client**: Interval for checking UCS Client diagnostics.
- **Diagnostic Check Interval for Server Process**: Interval for checking UCS Server process diagnostics.

6.6.4 Message Log

iPECS UCS Server maintains a log of notice and warning messages. The Administrator can define the Category for each message and assign each message to be reported and saved to the history log. If not saved, a reported message will be deleted from the log after it has been reported.

- **Reload**: refreshes the current UCS Admin screen.
- **Save**: saves the current UCS Admin screen.
### 6.6.5 Admin Level

The Admin Level screen is employed to define the lowest Admin Level allowed access to each iPECS UCS Web Admin screen. Users with a higher-numbered Admin Level are not allowed access to the screen, and will receive the message “Your Admin Level is not acceptable.” indicating access is denied. The Download Client Program menu can be assigned for access by Admin Levels 1 to 10; all other screens can be assigned for access by Admin Levels 1 to 5.

```
Admin Level

Reload  Save

Resource Menu  Admin Level
Shared Directory  1
Schedule Administrator  1
Holiday  1
PBX System  1
Property  1
SIP Parameter  1
Periodic Timer  1
Warning/Notice Message  1
Client Version Compatibility  1
Admin Level  1

Reload: refreshes the current UCS Admin screen.
Save: saves the current UCS Admin screen.
```
6.6.6 Admin Users

The Admin User screen defines Admin Users and the Admin Level for each user. Only the Administrator or user with Admin Level 1 may view and modify information on this screen.

<table>
<thead>
<tr>
<th>Admin Users</th>
<th>Admin Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>ucuser1</td>
<td>1</td>
</tr>
<tr>
<td>ucuser10</td>
<td>2</td>
</tr>
<tr>
<td>ucuser11</td>
<td>4</td>
</tr>
<tr>
<td>ucuser12</td>
<td>7</td>
</tr>
<tr>
<td>ucuser13</td>
<td>8</td>
</tr>
<tr>
<td>ucuser14</td>
<td>10</td>
</tr>
<tr>
<td>ucuser15</td>
<td>10</td>
</tr>
</tbody>
</table>

- **Add**: adds a new user to the Admin Group and defines the Admin Level for each user.
- **Delete**: deletes a user from the Admin Group.
- **Save**: saves the current UCS Admin screen.
- **Reload**: refreshes the current UCS Admin screen.

**To add a user to the Admin Group**

1. Click **Add**.
2. Select the appropriate User ID.
3. Click **Save** to accept changes.

**To assign or change the level for a user**

1. Select the user by clicking the corresponding check box.
2. Select the desired Admin Level from the drop-down list.
3. Click **Save** to accept changes.
6.6.7 Initialize Client Password

The Administrator or users with Admin Level 1 can initialize the password for those who forget their passwords. When initialized, the User ID is employed as the password. To initialize a password,

1. Click the **Initialize** button corresponding to the User ID or Name.
2. The **Search** function can be used to locate the appropriate User ID or Name.
3. New Password is used for initializing password. If new password is empty, User Id is used for initializing password.

![Initialize Client Password Table](image)
6.6.8 **Client Version Requirement**

The Client Version Requirement manages the versions of the UCS Clients (Windows (PC), Android, iPhone). The display below shows the recommended and required versions of the UCS Clients. Minimum required version is same as first installation of UCS server.

<table>
<thead>
<tr>
<th>Minimum Required Client Version</th>
<th>Device Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0.1</td>
<td>Windows (PC)</td>
</tr>
<tr>
<td>3.0.1</td>
<td>Android (Mobile)</td>
</tr>
<tr>
<td>A.1Ae</td>
<td>iOS (Mobile)</td>
</tr>
</tbody>
</table>

**Minimum Required Client Version:**

UCS Client cannot login if its version is lower than ‘Minimum Required Client Version’. After selecting 'Edit' button, user can edit client version information in screen below.

**NOTE**

Modifying ‘Minimum Required Client Version’ is not recommended.

Modifying ‘Minimum Required Client Version’ is recommended when UCS Client must be updated.
### 6.6.9 Client Upload

Upload clients is used to upload client files to make UCS User download UCS Client from it. Administrator can upload UCS Client (Windows (PC), Android) from it. User should edit version information according to uploaded file.

#### Upload ‘Windows (PC) Client’ Setup File

To change the ‘Windows (PC) Client’ setup file, check the box and select [EDIT] in ‘Downloadable Client Version’. Then, new display is shown below.

To update the new client version in [Client Version] and select new setup file from [Browse..], then click [Update].

Windows (PC) can be edited but not deleted.

#### NOTE

Updating UCS mobile clients (Android, iPhone) is provided through the Android and Apple online markets.
Upload ‘Android (Mobile)’ Setup file

Users can download UCS Client for Android (Mobile) from Google Play Store at current release. However if a site requires a different (supported) version of UCS Client for Android (Mobile) from that offered by Google Play, the Administrator can upload Android (Mobile) file into UCS Webadmin.

Uploaded file can be edited and deleted from this menu.

User can download Android (Mobile) as follows:
http://UCS server ip address/ucs/client/UCSmClientInstall.apk

6.6.10 ICR Time Option

The ICR (Incoming Call Routing) Option screen defines the office hours and days in the workweek. This screen can only be viewed and modified by the Administrator or users with Admin Level 1.

► Reload: refreshes the current UCS Admin screen.
► Save: saves the current UCS Admin screen.

Property items

- Office Hour Start: start time, work begins.
- Office Hour Stop: end time, work ends.
- Work Day Information: separate check boxes for workdays.

NOTE

Off times are not defined separately, because a UCS Client can select work times or comparative off times when registering ICR.
6.6.11 Holiday

In the Holiday Admin screen, yearly holidays are defined for the ICR function; these dates are used as holidays in the client ICR definitions.

These holiday assignments are not related to UCS scheduling functions.

► Add: adds a new Holiday.
► Delete: deletes a selected Holiday.
► Edit: modifies the definition for an existing Holiday.
► Reload: refreshes the current UCS Admin screen.
6.6.12 Audio Setting By Mobile User

In the ‘Audio Setting By Mobile User’ screen, the administrator can adjust voice quality for each user.

► Search: returns search results for an entered user name or ID.
► Edit: moves to editing screen.
► Reload: refreshes the current screen.

6.6.13 Audio Setting By Mobile Phone

In the ‘Audio Setting By Mobile Phone’ screen, the administrator can adjust voice quality for each phone model.

► Search: returns search for a Model Name.
► Edit: moves to editing screen.
► Reload: refreshes the current screen.
► Add: adds a new phone model
► Delete: deletes the checked model name.
► Delete All: deletes all of phone model information from the UCS Server Database.
6.7 Web Link

6.7.1 Web Link
In the Web Link screen, the Administrator or users with Admin Level 1 can register an external web page to show in the UCS Client. Any URL with a web page height less than 25 pixels can be registered. This function is used as a method for collecting web page links for company use. For example, the company portal shown might contain links for web mail, electronic review and approval, and so on.

This feature is for site-specific demands. The final URL will consist of the combination with the added parameters. For example, when you want the web page to display in the UCS Client main window the number of unread web mail or waiting documents to be approved, you need to provide your identification information to the linked web mail server or approval server using parameters such as User ID or name.

If there is a web link in the URL field, the related web page is displayed in the UCS Client main window between the main menu and user’s presence icons. If this URL field is empty, there is no web page displayed in the UCS Client main window.

- **Reload:** refreshes the current UCS Admin screen.
- **Save:** saves the current UCS Admin screen.
- **Add:** add a new Web Link.
- **Edit:** edit a checked parameter value.
- **Delete:** delete a Web Link.
6.7.2 Multi Web Link

In the multi-web link screen, the Administrator or users with Admin Level 1 can register multiple URLs including self-created URLs. The main contents and the color of screens can also be modified. In order to apply modified parameters, the URL must be registered as a Multi Web Link URL of the Web Link menu. The example below shows a configuration for the Multi Web Link.

![Multi Web Link Configuration](image)

**NOTE**

Web pages that contain Active-X or Java Plug-Ins are prohibited in the Link list of the Multi-Web Link.

► **Reload**: refreshes the current UCS Admin screen.
► **Save**: saves the current UCS Admin screen.
► **Preview**: previews the Multi Web Link in accordance with input parameter values.
► **Add**: add a new parameter value.
► **Edit**: edit a checked parameter value.

► **Delete**: delete a checked parameter.

**Components**

- **Background**: adjusts a background color, top horizontal bar and bottom horizontal bar.
- **Title**: adjusts parameters for the title and font. The title is shown on the top of the Web tab in the UCS Client.
- **Link**: adds, deletes or modifies any URLs, which are available under the Web tab in the UCS Client.
- **Body**: adjusts contents and font for the body.
- **Bottom**: adjusts contents and font for the bottom.

The figure below shows the Multi-Web Link screen when a client user clicks the **Preview** button. A new web browser opens and the corresponding web page displays when the user selects a link.

For correct operation of the Multi Web Link, the Administrator must copy the URL to the URL field of the Web Link menu.
6.8 Status

6.8.1 Client

The Client Status displays information for registered UCS Clients. The information includes the VN code, Station Number, User ID, Name, Nickname, Department, Version, and Presence status. The screen displays All Users or only users that are logged in (Login Users) as selected at the top of the screen.

CAUTION

If Periodic Update is set, the page reloads approximately every 5 seconds. This adds to network traffic and load on the PC, so use Periodic Update only if needed.
6.8.2 Server

The Server Status screen shows the status of the UCS Servers and functions.

- **Green (■):** indicates normal status
- **Red (■):** indicates a fault or abnormal status.

6.8.3 PBX

The PBX Status screen shows the status of iPECS system(s) registered to UCS Server. This screen displays the Site Name, IP Address, Version, Capacity, License, Mobile License, VN Code and Date &Time. A Green colored square indicates normal status, and a Red colored square indicates a fault or abnormal status.
6.8.4 Login User

The Current Login User List displays information on the current logged in users. This screen displays the User ID, Name, Operating System, Public IP, Private IP, NAT, Relay, and login Date &Time for each user.

**Public IP**
Public IP addresses are IP addresses that are visible to the public. Because these IP addresses are public, they allow other network devices to discover and access your computer, like a Web server. The Public IP address shows the UCS Client PC’s Public IP address.

**Private IP**
Private IP addresses are used on a private network, but they cannot be routed through the public Internet. This creates a measure of security and it saves limited IP addresses. The Private IP address shows the UCS Client PC’s Private IP address.

**NAT (Network Address Translation)**
Network Address Translation (NAT), also known as network masquerading, native address translation or IP masquerading, is a technique of transmitting/receiving network traffic through a router that involves re-writing the source and/or destination IP addresses and usually the TCP/UDP port numbers of IP packets as they pass through. The NAT checkbox shows whether UCS Client PC is using NAT.

**Relay**
UCS Clients can be connected to the UCS Server using Relay mode. In Relay mode, UCS Server relays UCS services such as IM, File Send, Sharing, to each UCS Client. The mode is automatically configured by the UCS server, but the UCS Client can be manually adjusted for Relay operation.
6.8.5 Call Connection

The Call Connection Status screen shows the active call information. This screen displays User ID, Name, Result Code, PBX IP Address, Firewall, Remote, Phone Number and Connected Number.

- Result Code
  - 0: Success
  - 1: MAC and ID are Empty
  - 2: MAC is Default
  - 3: Registration Dip S/W is Protected
  - 4: Empty or Not Matching MAC
  - 5: Remote Password Not Matched
  - 6: Remote Registered Device Login Fail
  - 7: Not Allowed Device Registration Information
  - 8: SLT is Not Allowed for Remote Linked Station
  - 9: User Login Password does Not Match
  - 10: User Login Identity is Not Registered
  - 11: New Registration by User Login Identity
  - 12: Unresolved Master Slave Identification
  - 13: Abnormal by System
  - 14: Extension Logical Number Cannot be Assigned
  - 15: Extension Logical Number Cannot be Assigned
  - 19: No License, Please Contact Your Local Dealer
  - 20: UCS Client Identity
- 21: Linked Pair Login Failed by Previous Link
- 22: Wrong Device Type
- 23: Linked Pair Station is Not Idle State
- 25: No Response from System
6.9  Report

6.9.1  Logs

6.9.1.1  Notice

The Notice Logs screen displays a history of notice messages. The screen displays the Date & Time, Code, Cause, Process, Description and Name. The display can be for all users or searched for a specific user. The screen can be searched for a specific code. The meaning of each code is shown in the Appendix of this document.

To enter a Start and End date for display, click the Calendar icon to the right of the date box. Then select the desired date from the Calendar.

- The range of query is 30 days.
6.9.1.2 Warning

The Warning Logs screen shows the history of warning messages. The screen displays the Date & Time, Code, Cause, Process, Description and Name. The display can be for all users or searched for a specific user. The log can be searched for a specific code.

A Start and End date for display, click the Calendar icon to the right of the date box. Then select the desired date from the Calendar.

- The range of query is 30 days.
6.9.1.3 Call

The Call Logs screen shows the history of UCS Client calls. This screen displays the Date & Time, Peer Name, Number, CO and Name. The call type can be selected from the radial buttons as All, Incoming, Outgoing and Conference Room. The display can be for all users or searched for a specific user.

To select a Start and End date for display, click the Calendar icon to the right of the date box. Then select the desired date from the Calendar.

- The range of query is 30 days.
6.9.1.4 Feature Usage

The Feature Usage Logs screen shows a history of features used. This screen displays the Date & Time, Peer Name, Type (name of feature) and Name. The feature Type can be selected from the radial buttons and include: All, IM, Sharing, File Send, Web Push and Video. The display can be for all users or searched for a specific user.

To select a Start and End date for display, click the Calendar icon to the right of the date box. Then select the desired date from the Calendar.

- The range of query is 30 days.
6.9.1.5 File Send

The File Send Logs screen shows detailed history for the file sending feature. In this screen, you can view File Sender, Receiver, File Name, File Size and Date & Time. The display can be for all users or searched for a specific user.

To select a Start and End date for display, click the Calendar icon to the right of the date box. Then select the desired date from the Calendar.

- The range of query is 30 days.
6.9.2 Resource Usage

6.9.2.1 Presence Member
The Presence Member screen shows the counts of presence members that are registered in the Presence window for each UCS Client. The display can be for all users or searched for a specific user.

- Information is arranged in order by the Presence Member Count column.

6.9.2.2 ICR Scenario
The ICR Scenario screen shows the number of ICR scenarios that are registered for each UCS Client. The display can be for all users or searched for a specific user.

6.9.2.3 Unread Note
The Unread Note screen shows the number of the unread notes for each UCS Client. The display can be for all users or searched for a specific user.

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
<th>Unread Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>ucuser18</td>
<td>UCS User 18</td>
<td>8</td>
</tr>
<tr>
<td>ucuser12</td>
<td>UCS User 12</td>
<td>8</td>
</tr>
<tr>
<td>ucuser11</td>
<td>UCS User 11</td>
<td>6</td>
</tr>
<tr>
<td>ucuser10</td>
<td>UCS User 10</td>
<td>5</td>
</tr>
<tr>
<td>ucuser2</td>
<td>UCS User 2</td>
<td>4</td>
</tr>
<tr>
<td>ucuser3</td>
<td>UCS User 6</td>
<td>2</td>
</tr>
<tr>
<td>ucuser7</td>
<td>UCS User 7</td>
<td>2</td>
</tr>
<tr>
<td>ucuser1</td>
<td>UCS User 1</td>
<td>1</td>
</tr>
</tbody>
</table>

### 6.9.2.4 Private Schedule

The Private Schedule screen shows the number of schedules registered by each UCS Client. The display can be for all users or searched for a specific user.

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
<th>Private Schedule Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>ucuser5</td>
<td>UCS User 5</td>
<td>39</td>
</tr>
<tr>
<td>ucuser4</td>
<td>UCS User 4</td>
<td>23</td>
</tr>
<tr>
<td>ucuser3</td>
<td>UCS User 3</td>
<td>20</td>
</tr>
<tr>
<td>ucuser15</td>
<td>UCS User 15</td>
<td>16</td>
</tr>
<tr>
<td>ucuser9</td>
<td>UCS User 9</td>
<td>12</td>
</tr>
<tr>
<td>ucuser1</td>
<td>UCS User 1</td>
<td>5</td>
</tr>
<tr>
<td>ucuser11</td>
<td>UCS User 11</td>
<td>2</td>
</tr>
<tr>
<td>ucuser10</td>
<td>UCS User 10</td>
<td>2</td>
</tr>
<tr>
<td>ucuser12</td>
<td>UCS User 12</td>
<td>1</td>
</tr>
<tr>
<td>ucuser10</td>
<td>UCS User 18</td>
<td>1</td>
</tr>
</tbody>
</table>
### SIP Stack

The SIP Stack Resource Usage screen shows a count of use for each SIP resource. This screen is useful to troubleshoot SIP protocol issues between Gateway server and clients.

<table>
<thead>
<tr>
<th>Resource Name</th>
<th>Current</th>
<th>Max</th>
<th>Allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stack General Pools</td>
<td>7</td>
<td>100</td>
<td>7532</td>
</tr>
<tr>
<td>Stack Message Pool</td>
<td>6</td>
<td>100</td>
<td>12500</td>
</tr>
<tr>
<td>Stack Header Pool</td>
<td>0</td>
<td>0</td>
<td>4134</td>
</tr>
<tr>
<td>Stack Timer Pool</td>
<td>0</td>
<td>115</td>
<td>10000</td>
</tr>
<tr>
<td>Transactions</td>
<td>6</td>
<td>99</td>
<td>5000</td>
</tr>
<tr>
<td>Transmitters</td>
<td>0</td>
<td>99</td>
<td>5010</td>
</tr>
<tr>
<td>Reg Clients</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Transport connections</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Transport ConnHash</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Transport OwnerHash</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Transport pQueueEvents</td>
<td>0</td>
<td>19</td>
<td>1000</td>
</tr>
<tr>
<td>Transport pQueueElements</td>
<td>0</td>
<td>19</td>
<td>1000</td>
</tr>
<tr>
<td>Transport ReadBuffers</td>
<td>0</td>
<td>2</td>
<td>80</td>
</tr>
<tr>
<td>Transport TtlSessions</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Transport TtlEngines</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Transport corEvents</td>
<td>0</td>
<td>0</td>
<td>75</td>
</tr>
<tr>
<td>Call Legs Calls</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Call Legs TransLists</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Call Legs TransHandles</td>
<td>0</td>
<td>0</td>
<td>5000</td>
</tr>
<tr>
<td>Subs Subscriptions</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Subs Notifications</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Subs NotifyLists</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Application Pool</td>
<td>3</td>
<td>22</td>
<td>40000</td>
</tr>
</tbody>
</table>

- **Property items**
  - **Stack General Pools**: General Pools of SIP Stack module
  - **Stack Message Pool**: Message Pools of SIP Stack module
  - **Stack Header Pool**: Header Pools of SIP Stack module
  - **Stack Timer Pool**: Timer Pools of SIP Stack module
  - **Transactions**: Transaction module
  - **Transmitters**: Transmitter module
  - **Reg Clients**: Registered Client module
  - **Transport Connections**: Connection resources of the Transport module
  - **Transport ConnHash**: ConnHash resources of the Transport module
  - **Transport OwnerHash**: OwnerHash resources of the Transport module
- **Transport pQueueEvents**: pQueueEvents resources of the Transport module
- **pQueueElements**: pQueueElements resources of the Transport module
- **Transport ReadBuffers**: ReadBuffers resources of the transport module
- **Transport TlsSessions**: TlsSessions resources of the transport module
- **Transport TlsEngines**: TlsEngines resources of the transport module
- **Transport oorEvents**: oorEvents resources of the transport module
- **CallLegs Calls**: Calls resource of the Call module
- **CallLegsTransLists**: TransLists resource of the Call module
- **CallLegsTransHandles**: TransHandles resource of the Call module
- **Subs Subscriptions**: Subscription resource of the Subscription module
- **Subs Notifications**: Notification resource for the Subscription module
- **Subs NotifyLists**: Notifylist resource of the Subscription module
- **Application Pool**: Resource of Application module
6.9.3 Statistics
iPECS UCS provides statistical information for services (call, chatting, desktop sharing, etc.) and malfunctions. To use statistics, the default usage of ‘Statistics Operation’ must be ‘Yes’ in 6.6.1 Properties.

6.9.3.1 Warning
The Warning Statistics screen shows the number of warning events that occur in the UCS Server daily or monthly.

- You can select to view All Users or Selected User data as well as daily or monthly information.
- In the daily display, data is arranged hourly and in the monthly display, data is arranged daily.
- In addition, if Hide rows with no data are selected, the applicable rows are not displayed.

All Users/Daily
All Users/Monthly

Warning Statistics

Day | 1002 | 1003 | 1102 | 1202 | 1302 | 1402 | 1502 | 1602 | 1702 | Total
---|---|---|---|---|---|---|---|---|---|---
1  | 0   | 0   | 5    | 0    | 0    | 10   | 10   | 0    | 0    | 0    | 25
2  | 0   | 3   | 38   | 9    | 0    | 4    | 4    | 20   | 0    | 0    | 99
3  | 0   | 0   | 20   | 19   | 0    | 3    | 5    | 16   | 0    | 0    | 87
4  | 0   | 0   | 1    | 0    | 0    | 11   | 5    | 0    | 0    | 0    | 20
5  | 0   | 0   | 1    | 0    | 0    | 17   | 16   | 1    | 0    | 0    | 37
6  | 1   | 1   | 2    | 0    | 0    | 15   | 22   | 8    | 0    | 0    | 53
7  | 0   | 0   | 9    | 0    | 0    | 33   | 18   | 13   | 0    | 0    | 105
8  | 0   | 0   | 6    | 0    | 0    | 2    | 0    | 0    | 0    | 0    | 21
9  | 0   | 0   | 2    | 0    | 0    | 3    | 5    | 2    | 0    | 0    | 12
10 | 0   | 0   | 2    | 0    | 0    | 3    | 5    | 2    | 0    | 0    | 12
11 | 0   | 0   | 2    | 0    | 0    | 3    | 5    | 2    | 0    | 0    | 12
12 | 0   | 0   | 2    | 0    | 0    | 3    | 5    | 2    | 0    | 0    | 12
13 | 0   | 0   | 2    | 0    | 0    | 3    | 5    | 2    | 0    | 0    | 12
14 | 0   | 0   | 2    | 0    | 0    | 3    | 5    | 2    | 0    | 0    | 12
15 | 0   | 0   | 2    | 0    | 0    | 3    | 5    | 2    | 0    | 0    | 12
16 | 0   | 0   | 2    | 0    | 0    | 3    | 5    | 2    | 0    | 0    | 12
Total | 16 | 96 | 28 | 0 | 101 | 92 | 65 | 0 | 0 | 134 | 37 | 560

Export: exports queried data to CSV formatted document.

Searched User/Monthly

Warning Statistics

Day | 1002 | 1003 | 1102 | 1103 | 1104 | 1202 | 1203 | 1204 | 1302 | 1303 | 1304 | 1402 | 1403 | 1404 | 1502 | 1503 | 1504 | 1602 | 1603 | 1604 | 1702 | Total
4  | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 0   | 1   | 0   | 0   | 0   | 0   | 0   | 2
7  | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1
14 | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1
15 | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1
Total | 0   | 0   | 0   | 0   | 0   | 4   | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 0   | 5

Export: exports queried data to CSV formatted document.
The figure below is the screenshot of the exported CSV document shown in spreadsheet format.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Daily</td>
<td>2008-04-08</td>
<td>M Users</td>
<td></td>
<td></td>
<td>1002</td>
<td>1003</td>
<td>1102</td>
<td>1103</td>
<td>1202</td>
<td>1203</td>
<td>1301</td>
<td>1302</td>
<td>1305</td>
<td>1501</td>
<td>1601</td>
</tr>
<tr>
<td>2</td>
<td>Time</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>00:00 ~ 01:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>02:00 ~ 03:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>5</td>
<td>03:00 ~ 04:00</td>
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<td>0</td>
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<td>0</td>
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<td>0</td>
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</tr>
<tr>
<td>6</td>
<td>04:00 ~ 05:00</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>05:00 ~ 06:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>06:00 ~ 07:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>07:00 ~ 08:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>08:00 ~ 09:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>09:00 ~ 10:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>10:00 ~ 11:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>11:00 ~ 12:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>12:00 ~ 13:00</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>13:00 ~ 14:00</td>
<td>0</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>14:00 ~ 15:00</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>17</td>
<td>15:00 ~ 16:00</td>
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<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>16:00 ~ 17:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>4</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>6</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>17:00 ~ 18:00</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>19</td>
</tr>
<tr>
<td>20</td>
<td>18:00 ~ 19:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td>19:00 ~ 20:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>22</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>23</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td>22:00 ~ 23:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>25</td>
<td>23:00 ~ 24:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>26</td>
<td>24:00 ~ 01:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>27</td>
<td>Total</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>33</td>
<td>18</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>20</td>
<td>105</td>
<td></td>
</tr>
</tbody>
</table>

The figure below is the screenshot of the exported CSV document shown in spreadsheet format.
6.9.3.2 Call
The Call Statistics screen shows the call log for each UCS Client on daily or monthly basis.

- You can select to view All Users or Selected User data as well as daily or monthly information.
- In the daily display, data is arranged hourly and in the monthly display, data is arranged daily.
- In addition, if ‘Hide rows that have no data’ is selected, the applicable rows are not displayed.

All Users/Daily

<table>
<thead>
<tr>
<th>Time</th>
<th>Incoming</th>
<th>Outgoing</th>
<th>Conference</th>
<th>Missed Call</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 - 09:00</td>
<td>3</td>
<td>7</td>
<td>0</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>09:00 - 10:00</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10:00 - 11:00</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>11:00 - 12:00</td>
<td>0</td>
<td>3</td>
<td>9</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>12:00 - 13:00</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>13:00 - 14:00</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>14:00 - 15:00</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>15:00 - 16:00</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>16:00 - 17:00</td>
<td>0</td>
<td>29</td>
<td>0</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>17:00 - 18:00</td>
<td>15</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>61</td>
<td>89</td>
<td>24</td>
<td>7</td>
<td>181</td>
</tr>
</tbody>
</table>

All Users/Monthly

<table>
<thead>
<tr>
<th>Day</th>
<th>Incoming</th>
<th>Outgoing</th>
<th>Conference</th>
<th>Missed Call</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>8</td>
<td>0</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>65</td>
<td>16</td>
<td>6</td>
<td>93</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>40</td>
<td>0</td>
<td>12</td>
<td>64</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>30</td>
<td>0</td>
<td>17</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>22</td>
<td>0</td>
<td>1</td>
<td>33</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>16</td>
<td>0</td>
<td>5</td>
<td>27</td>
</tr>
<tr>
<td>7</td>
<td>61</td>
<td>89</td>
<td>24</td>
<td>7</td>
<td>181</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>10</td>
<td>12</td>
<td>17</td>
<td>1</td>
<td>4</td>
<td>35</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
<td>282</td>
<td>45</td>
<td>64</td>
<td>518</td>
</tr>
</tbody>
</table>
6.9.3.3 Feature Usage

The Feature Usage Statistics screen shows the number of times each feature was used on a daily or monthly basis.

- You can select to view All Users or Search User data as well as daily or monthly information.
- In the daily display, data is arranged hourly and in the monthly display, data is arranged daily.
- In addition, if ‘Hide rows that have no data’ is selected, the applicable rows are not displayed.

All Users/Daily

![Feature Usage Statistics Table]

All Users/Monthly

![Feature Usage Statistics Table]
6.9.3.4 ICR Result

The ICR Result Statistics screen shows the number of incoming calls routed with ICR and the routing result on daily or monthly basis.

- You can select to view All Users or Search User data as well as daily or monthly information.
- In the daily display, data is arranged hourly and in the monthly display, data is arranged daily.
- In addition, if ‘Hide rows that have no data’ is selected, the applicable rows are not displayed.

All Users/Daily

![ICR Result Statistics Table](image)

All Users/Monthly

![ICR Result Statistics Table](image)
6.9.3.5 **Login Count**

The Login Count Statistics screen shows the number of times each UCS Client has attempted to login on a daily or monthly basis.

- You can select to view All Users or selected User data.

**Searched User/Monthly**

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>ucuser3</td>
<td>UCS User 3</td>
<td>192</td>
</tr>
<tr>
<td>ucuser5</td>
<td>UCS User 15</td>
<td>134</td>
</tr>
<tr>
<td>ucuser1</td>
<td>UCS User 1</td>
<td>106</td>
</tr>
<tr>
<td>ucuser4</td>
<td>UCS User 4</td>
<td>77</td>
</tr>
<tr>
<td>ucuser9</td>
<td>UCS User 9</td>
<td>62</td>
</tr>
<tr>
<td>ucuser2</td>
<td>UCS User 2</td>
<td>58</td>
</tr>
<tr>
<td>ucuser5</td>
<td>UCS User 5</td>
<td>36</td>
</tr>
<tr>
<td>ucuser13</td>
<td>UCS User 13</td>
<td>33</td>
</tr>
<tr>
<td>ucuser10</td>
<td>UCS User 10</td>
<td>24</td>
</tr>
<tr>
<td>ucuser14</td>
<td>UCS User 14</td>
<td>21</td>
</tr>
</tbody>
</table>

- Information is arranged in order by login counts.
The iPECS UCS Server applications are running as a service on Windows. The services are required to register before execution. If services are running, service programs will not stop before stopping and unloading these. And these will keep working after restarting system. The UCS service programs can load/start/stop/unload using the iPECS UCS service controller. Also, each service program can be set trace options and configurations.

To execute the “iPECS UCS service controller”:

- Click “Launch iPECS UCS Server” icon in Windows wallpaper.
- Select menu in [Start Menu – All Program– iPECS - UCS Server].

Following screen will be shown after execute “Launch iPECS UCS server”.

![iPECS UCS Service Controller Screen](image-url)
7.1 Control All services

Every tab icon shows the status of each service status.

- : Run after loading
- : Stop after loading
- : Unload

7.1.1 Load All Services
All UCS services are loaded one by one from Gateway service. Loaded services can be shown in the “Windows Task Manager”.

7.1.2 Start All Services
All UCS services are started one by one from Gateway service

7.1.3 Stop All Services
All UCS services are stopped one by one. The Gateway service will stop at the end.

7.1.4 Unload All Services
All UCS services are unloaded one by one. Once all services are unloaded, the UCS services will not be shown in Windows Task Manager.
7.2 **Control of each Service**

Individual Service control tabs have following operations.

► Load: Register a UCS service program as Windows service.
► Start: Start service.
► Stop: Stop service.
► Unload: unregister a UCS service program from Windows service.

7.2.1 **Gateway**

The Gateway service transmits SIP (Session Initiation Protocol), TCP (Transmission Control Protocol) and messages between application services and UCS clients. This service depends on PostgreSQL DB service program. If PostgreSQL is not running, the Gateway will not run. The PostgreSQL is installed during UCS server installation and run automatically.

7.2.2 **Diagnosis**

The Diagnosis service checks other UCS services’ connection status and saves their status into the DB. This service depends on the Gateway service.
7.2.3 Directory
The Directory service offers login and user-searching features. This service depends on the Gateway service.

7.2.4 Chatting
The Chatting service has 1:1 chatting and group chatting features to the UCS clients. This service depends on the Gateway service.
7.2.5 Presence
The Presence service shows registered member’s IM and phone status to each other. Also it communicates with iPECS PBX and provides IMR feature to the UCS client. This service depends on the Gateway service.

- Configuration
  - Net Interface: Select one of network interfaces, which are installed in the PC, to use for Presence service. The default means that the service selects a network interface automatically. If the connection has problem but there is no connection defect factor (Firewall, NAT), select other network interface to solve problem. This feature can be available on unloaded status.

7.2.6 Email Sender
The Email Sender service sends an email about created user account to the email address which is set when account is created. This service depends on the Gateway service.
7.2.7 LDAP Link

The LDAP Link service provide synchronization feature with other databases (Microsoft Active Directory, ORACLE, MySQL). User information, like name, address etc., will be synchronized. This service depends on the Gateway service.

7.2.8 Exchange Link

The Exchange Link service provides schedule synchronization from Microsoft Exchange server. User schedules will be synchronized. This service depends on the Gateway service.
7.2.9 User Sync

The User sync service can synchronize users' password from Microsoft Active Directory server. If the UCS user and AD user have same ID, password will be synchronized. This service depends on the Gateway service.
7.3 Trace files

Trace files are created using each service names under “Services\Trace” in the UCS installed directory. If trace data is necessary, iPECS UCS maintenance team will obtain these.

Each service may have following trace settings.

- **Level**: Error (default)
  - **Critical**: Critical level trace data will be printed.
  - **Error**: Critical and Error level trace data will be printed.
  - **Debug**: Critical, Error and Debug level trace data will be printed.
  - **Detail**: All level trace data will be printed.

The relation of the Level is as follows:

Detail ⊃ Debug ⊃ Error ⊃ Critical

- **Direction**: None (default)
  - **None**: Only printing at trace file.
  - **Debugview**: Printing trace data to the Debugview and trace file.
• **Options**
  - **Server**: Trace data, which is transmitted with other services, will be printed.
  - **Client**: Trace data, which is transmitted with clients, will be printed.
  - **PBX**: Trace data, which is transmitted with PBX system, will be printed.
  - **Key Value**: Trace data, which is transmitted with specific client, will be printed.

• **Print phone data**: Whenever pressed, all UCS client status will be printed.

---

**NOTE**
Trace configuration about Gateway is set in web admin. Refer to the 7.1.9.2 SIP Parameter

The Debugview is a tool which can see trace information in real time. This tool can be downloaded from [https://technet.microsoft.com/en-us/library/bb896647.aspx](https://technet.microsoft.com/en-us/library/bb896647.aspx). If there is an error when downloading, type “Debugview download” in the web search site.

---

## 7.4 Change password to Access Database

UCS Service applications save and load UCS data from their database (PostgreSQL). To access the database, UCS Service applications must know the password of the database (PostgreSQL) user.

If the database password is changed, changing value must be set in UCS Service applications. To change it, unload all services and type password in password edit box. The password box will be activated after unloading all services.
Chapter 8
Upgrade and Uninstallation

8.1 Upgrade

iPECS UCS Server supports upgrading to the latest version. To do an upgrade, all UCS Server service applications must be unloaded from service list. To do an upgrade from UCS P4 to P5, all UCS Server applications must be shut down.

8.1.1 Upgrade from UCS P4 to P5

Upgrading iPECS UCS Server from P4 to P5 is a multi-step process. Failure to follow the step-by-step process may result in failure of the iPECS UCS Server installation.

**CAUTION**

Upgrading iPECS UCS Server from P4 to P5 is only available up to UCS Server 4.1Ag. iPECS UCS Server is not able to upgrade from P4 to P5 for 4.1Ah and later...

1. Backup UCS Server database file, and save it in another storage device. Refer to 6.1.3.1 Backup Database for details.
2. Shut down existing iPECS UCS Server.
3. Go to [Control Panel – Program and Features]. Uninstall following programs.

- UCS Server
- UCS WebAdmin
- PostgreSQL 9.2
NOTE
In order to upgrade UCS Server application from P4 to P5 you must first uninstall P4 and install P5. iPECS UCS Server database upgrade from P4 to P5 is supported in process of UCS P5 Server Installation

4. Reboot UCS Server PC.

CAUTION
iPECS UCS Server PC must be rebooted. If not, UCS P5 Installation will fail.

5. Run "setup.exe" in UCS Installation Folder.

6. The display of UCS Server installation is shown as below. Click [Next].
7. The Software License Agreement window appears. Read and accept the license terms then click [Next].

8. Select a Setup Type. If you want to change the setup directory, then select [Custom]. Selecting [Typical] is recommended. Click [Next].
9. Before starting installation of UCS Server applications, review the settings. Click [Next].

10. After installation of the UCS Server applications, the installation of VC++ 2013 Redistributable (x86) starts. Click [Install].
11. When installation of VC++ 2013 Redistributable (x86) is complete, click [Close].

12. In the PostgreSQL Information window, enter a password for UCS database, and click [Install].

13. Installing PostgreSQL DBMS.
14. Select "From the P4 DB backup file", then click [Browse]. Select P4 database file backed up in the previous step. Click [Initialize DB data].

15. The installation of iPECS UCS Server package is complete, click [Finish].

16. After finishing the installation, the UCS Server Manager icon below is shown in Windows wallpaper. Click [UCS Server Manager].
17. To finish database upgrade, the UCS Server service applications must be registered as a service of Windows OS. Click [Load All Service].

![UCS Service controller - 5.0.1](image)

18. After loading all services, the database upgrade is complete. Click [OK].

![UCS Service controller - 5.0.1](image)

19. The services must be started. Click [Start All Services]. The upgrade is finished.
8.1.2 **UCS P5 Version Upgrade**

If a previous version of iPECS UCS Server is installed, upgrade of iPECS UCS Server is required. At this time, you must unload all the existing iPECS UCS Server Services.

1. Unload all iPECS UCS Server services. Click **[Unload All Services]**

   ![Unloading Services](image1.png)

2. Run "setup.exe" in UCS Installation Folder.

   ![Setup Executable](image2.png)
3. The display of UCS Server installation is shown as below. Click [Yes].

4. To upgrade to new version, click [Next].

5. The installation for upgrading is finished. Click [Finish].
6. To finish database upgrade, the UCS Server service applications must be registered as a service of Windows OS. Click [Load All Services].

7. After loading all services, the database upgrade is complete. Click [OK].

8. The services must be started. Click [Start All Services]. The upgrade is finished.
8.2 Uninstallation

iPECS UCS can be removed through [Control Panel – Uninstall a program]. Before uninstallation, you must unload all UCS service applications from Windows OS. Refer to 7.1.4 Unload All Service for details.

1. Select ‘UCS Server’, then click [Uninstall] button.

2. Click [Yes] to remove.
3. The component programs of installation package are as follows. Remove any unnecessary programs.

- Microsoft .NET Framework 4.5
- Microsoft Visual C++ 2010 Redistributable (x86)
- Microsoft Visual C++ 2012 Redistributable (x86)
- Microsoft Visual C++ 2013 Redistributable (x86)
- WinPcap 4.1.3
## Appendix

### Port Table

The Ports can be changed if UCS Server or PBX administrator changes them.

**iPECS Unified (UCP, eMG80, eMG800) with UCS Standard**

<table>
<thead>
<tr>
<th>CASE</th>
<th>Source</th>
<th>Destination</th>
<th>Port Usage (Bi-Directional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCS Clients ↔ Unified</td>
<td>Any</td>
<td>Unified IP</td>
<td>UDP: 5588, TCP: 5588, 7878, 8899</td>
</tr>
<tr>
<td>UCS Clients ↔ VOIM</td>
<td>Any</td>
<td>VOIM IP</td>
<td>UDP: 6000<del>6095, UDP 8000</del>8095, 9000~9095</td>
</tr>
</tbody>
</table>

**iPECS Unified (UCP, eMG80, eMG800) with UCS Premium**

<table>
<thead>
<tr>
<th>CASE</th>
<th>Source</th>
<th>Destination</th>
<th>Port Usage (Bi-Directional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCS Clients ↔ Unified</td>
<td>Any</td>
<td>Unified IP</td>
<td>UDP: 5588, TCP: 5588, 7878, 8899</td>
</tr>
<tr>
<td>UCS Clients ↔ VOIM</td>
<td>Any</td>
<td>VOIM IP</td>
<td>UDP: 6000<del>6095, UDP 8000</del>8095, 9000~9095</td>
</tr>
<tr>
<td>UCS Clients ↔ UCS Server</td>
<td>Any</td>
<td>UCS Server IP</td>
<td>UDP: 25060 TCP: 80, 25056 ~ 25060, 3389</td>
</tr>
<tr>
<td>Unified ↔ UCS Server</td>
<td>Unified</td>
<td>UCS Server IP</td>
<td>UDP: 5588, 6254</td>
</tr>
</tbody>
</table>

**iPECS-CM with UCS Premium**

<table>
<thead>
<tr>
<th>CASE</th>
<th>Source</th>
<th>Destination</th>
<th>Port Usage (Bi-Directional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCS Clients ↔ CM</td>
<td>Any</td>
<td>CM IP</td>
<td>UDP: 5588, TCP: 5588, 7878, 8899</td>
</tr>
<tr>
<td>UCS Clients ↔ VOIM</td>
<td>Any</td>
<td>VOIM IP</td>
<td>UDP: 6000<del>6511, UDP 8000</del>8511,</td>
</tr>
<tr>
<td>UCS Clients ↔ UCS Server</td>
<td>Any</td>
<td>UCS Server IP</td>
<td>UDP: 25060 TCP: 80, 25056 ~ 25060, 3389</td>
</tr>
<tr>
<td>CM ↔ UCS Server</td>
<td>PBX</td>
<td>UCS Server IP</td>
<td>UDP: 5588, 6254</td>
</tr>
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## Log Messages

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<th>Code</th>
<th>Message</th>
<th>Default Category</th>
<th>Supplementary Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1001</td>
<td>Server Process Started</td>
<td>Notice</td>
<td>PROCESS NAME</td>
</tr>
<tr>
<td>1002</td>
<td>Server process Stopped</td>
<td>Warning</td>
<td>PROCESS NAME</td>
</tr>
<tr>
<td>1003</td>
<td>Server Process No Answer</td>
<td>Warning</td>
<td>PROCESS NAME</td>
</tr>
<tr>
<td>1101</td>
<td>PBX System Connected</td>
<td>Notice</td>
<td>SITE NAME, IP ADDRESS and SYSTEM TYPE</td>
</tr>
<tr>
<td>1102</td>
<td>PBX System No Answer</td>
<td>Warning</td>
<td>SITE NAME, IP ADDRESS and SYSTEM TYPE</td>
</tr>
<tr>
<td>1103</td>
<td>Presence Service Started</td>
<td>Notice</td>
<td>SITE NAME, IP ADDRESS and SYSTEM TYPE</td>
</tr>
<tr>
<td>1201</td>
<td>ICR Routing Result</td>
<td>Notice</td>
<td>CALLER NUMBER, CALLED NUMBER and DESTINATION NUMBER</td>
</tr>
<tr>
<td>1202</td>
<td>ICR Routing Fail Report</td>
<td>Warning</td>
<td>CAUSE, CALLER NUMBER, CALLED NUMBER and DESTINATION NUMBER</td>
</tr>
<tr>
<td>1203</td>
<td>Invalid ICR Request</td>
<td>Warning</td>
<td>CALLER NUMBER, CALLED NUMBER and DATE_TIME</td>
</tr>
<tr>
<td>1301</td>
<td>UCS Client No Answer</td>
<td>Warning</td>
<td>USER and IP ADDRESS</td>
</tr>
<tr>
<td>1302</td>
<td>UCS Client Re-Login</td>
<td>Warning</td>
<td>USER, IP ADDRESS (BEFORE) and IP ADDRESS (AFTER)</td>
</tr>
<tr>
<td>1303</td>
<td>UCS Client Login</td>
<td>Notice</td>
<td>USER and IP ADDRESS</td>
</tr>
<tr>
<td>1304</td>
<td>UCS Client Logout</td>
<td>Notice</td>
<td>USER and IP ADDRESS</td>
</tr>
<tr>
<td>1305</td>
<td>UCS Client Login Fail</td>
<td>Warning</td>
<td>USER ID, IP ADDRESS and CAUSE</td>
</tr>
<tr>
<td>1311</td>
<td>Inbound Call Log</td>
<td>Notice</td>
<td>DATE_TIME, USER ID and DESTINATION NUMBER</td>
</tr>
<tr>
<td>1312</td>
<td>Outbound Call Log</td>
<td>Notice</td>
<td>DATE_TIME, USER ID, DESTINATION NUMBER and CO LINE NUMBER</td>
</tr>
<tr>
<td>1314</td>
<td>IM Event Log</td>
<td>Notice</td>
<td>DATE_TIME, USER ID and PEER ID</td>
</tr>
<tr>
<td>1315</td>
<td>Sharing Event Log</td>
<td>Notice</td>
<td>DATE_TIME, USER ID and PEER ID</td>
</tr>
<tr>
<td>1316</td>
<td>File Sending Event Log</td>
<td>Notice</td>
<td>DATE_TIME, USER ID and PEER ID</td>
</tr>
<tr>
<td>1317</td>
<td>Web Push Log</td>
<td>Notice</td>
<td>DATE_TIME, USER ID and PEER ID</td>
</tr>
<tr>
<td>1318</td>
<td>Video Log</td>
<td>Notice</td>
<td>DATE_TIME, USER ID and PEER ID</td>
</tr>
<tr>
<td>1320</td>
<td>File Receive Event Log</td>
<td>Notice</td>
<td>DATE_TIME, USER ID, PEER ID, FILE NAME and FILE SIZE</td>
</tr>
<tr>
<td>1321</td>
<td>SMS Send Event Log</td>
<td>Notice</td>
<td>DATE_TIME, SENDER and RECEIVER</td>
</tr>
<tr>
<td>1322</td>
<td>SMS Receive Event Log</td>
<td>Notice</td>
<td>DATE_TIME, SENDER and RECEIVER</td>
</tr>
<tr>
<td>1323</td>
<td>Note Send Event Log</td>
<td>Notice</td>
<td>DATE_TIME, SENDER, RECEIVER</td>
</tr>
<tr>
<td>1324</td>
<td>Note Receive Event Log</td>
<td>Notice</td>
<td>DATE_TIME, SENDER and RECEIVER</td>
</tr>
<tr>
<td>1325</td>
<td>Missed Call Log</td>
<td>Notice</td>
<td>DATE_TIME, USER ID and DESTINATION NUMBER</td>
</tr>
<tr>
<td>1326</td>
<td>Admin Message Log</td>
<td>Notice</td>
<td>DATE_TIME, RECEIVER and SUBJECT</td>
</tr>
<tr>
<td>1327</td>
<td>Whiteboard Event Log</td>
<td>Notice</td>
<td>DATE_TIME, USER ID and PEER ID</td>
</tr>
<tr>
<td>Code</td>
<td>Message</td>
<td>Default Category</td>
<td>Supplementary Information</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------</td>
<td>------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>1328</td>
<td>Desktop Sharing Event Log</td>
<td>Notice</td>
<td>DATE_TIME, USER ID and, PEER ID</td>
</tr>
<tr>
<td>1329</td>
<td>Video Presentation Event Log</td>
<td>Notice</td>
<td>DATE_TIME, USER ID and PEER ID</td>
</tr>
<tr>
<td>1330</td>
<td>Remote Monitoring Event Log</td>
<td>Notice</td>
<td>DATE_TIME, USER ID and PEER ID</td>
</tr>
<tr>
<td>1401</td>
<td>Chat Room Created</td>
<td>Notice</td>
<td>TYPE, CREATOR, ROOM NAME, SUBJECT, ACCESS TYPE and MEMBER COUNT</td>
</tr>
<tr>
<td>1402</td>
<td>Chat Room Deleted</td>
<td>Notice</td>
<td>TYPE, OPERATOR and ROOM NAME</td>
</tr>
<tr>
<td>1403</td>
<td>Enter Chat Room</td>
<td>Notice</td>
<td>TYPE, MEMBER and ROOM NAME</td>
</tr>
<tr>
<td>1404</td>
<td>Exit Chat Room</td>
<td>Notice</td>
<td>TYPE, MEMBER and, ROOM NAME</td>
</tr>
<tr>
<td>1501</td>
<td>Voice Network Code Mismatch</td>
<td>Warning</td>
<td>SITE NAME, IP ADDRESS, VN CODE (DB) and VN CODE (PBX)</td>
</tr>
<tr>
<td>1601</td>
<td>DB Table not Exist</td>
<td>Warning</td>
<td>TABLE NAME</td>
</tr>
<tr>
<td>1602</td>
<td>DB View not Exist</td>
<td>Warning</td>
<td>VIEW NAME</td>
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<tr>
<td>1701</td>
<td>Call Connection Fail</td>
<td>Warning</td>
<td>USER, DESKTOP PHONE NUMBER and CAUSE</td>
</tr>
<tr>
<td>1702</td>
<td>Desktop Phone Number Mismatch</td>
<td>Warning</td>
<td>USER, DESKTOP PHONE NUMBER and CONNECTED NUMBER</td>
</tr>
<tr>
<td>1801</td>
<td>Schedule Folder Created</td>
<td>Notice</td>
<td>NAME and, CREATED BY</td>
</tr>
<tr>
<td>1802</td>
<td>Schedule Folder Deleted</td>
<td>Notice</td>
<td>NAME and DELETED BY</td>
</tr>
<tr>
<td>1803</td>
<td>Schedule Folder Name Changed</td>
<td>Notice</td>
<td>OLD NAME, NEW NAME and CHANGED BY</td>
</tr>
<tr>
<td>1804</td>
<td>Schedule Item Created</td>
<td>Notice</td>
<td>FOLDER, SUBJECT and CREATED BY</td>
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<tr>
<td>1805</td>
<td>Schedule Item Deleted</td>
<td>Notice</td>
<td>FOLDER, SUBJECT and DELETED BY</td>
</tr>
<tr>
<td>1806</td>
<td>Schedule Item Contents Changed</td>
<td>Notice</td>
<td>FOLDER, SUBJECT and CHANGED BY</td>
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SRN (Software Release Note)
The table below shows major items for each software release. Refer to SRN document on Global Partner Site for details.

<table>
<thead>
<tr>
<th>Title</th>
<th>Related Chapters in Manual</th>
<th>Type</th>
<th>Version</th>
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<tbody>
<tr>
<td>UCS Server Service</td>
<td>Chapter7. Administration(Service Controller)</td>
<td>New</td>
<td>T5.0.1</td>
</tr>
<tr>
<td>SSO for Windows Client</td>
<td>6.4.5.1 SSO on AD Joined Windows PC</td>
<td>New</td>
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<td>SSO (password Synchronization)</td>
<td>6.4.5.2 SSO with AD Password Synchronization</td>
<td>New</td>
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<td>Exchange Server Status</td>
<td>6.4.4 Exchange Link Server</td>
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<td>T5.0.1</td>
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<tr>
<td>Single Sign On to synchronize schedule information with Exchange Server</td>
<td>6.4.4 Exchange Link Server</td>
<td>New</td>
<td>T5.0.1</td>
</tr>
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<td>6.4.4 Exchange Link Server</td>
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</tr>
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<td>Register All User Group Member</td>
<td>6.2.5 Presence Registration</td>
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<td>T5.0.1</td>
</tr>
<tr>
<td>UCS Client Upload</td>
<td>6.6.9 Client Upload</td>
<td>Change</td>
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Open Source Software Notice

<table>
<thead>
<tr>
<th>Open Source</th>
<th>License</th>
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</thead>
<tbody>
<tr>
<td>openssl</td>
<td>BSD</td>
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</table>

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