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How to Setup NEC IP Phones on NEC Univerge SL1000

The objective of this document is to provide the necessary configuration steps to assist the installer to setup IP terminals connected to the NEC Univerge SL1000 system. This exercise shall consist of the following explanations and procedures.

Note: this configuration setup only gives you the guide on how to setup using standard NEC IP terminal (IP4WW-24TIXH-C-TEL), in a static IP environment for the IP terminals.

1. Overview

The IP terminals connect to the NEC Univerge SL1000 system in the following manner;

IP terminal powered locally by AC/DC adaptor
- IP terminal (with AC/DC adaptor, AC-LE) → L2 switch → SL1000 CPU (VoIP)

IP terminal powered by L2 PoE switch
- IP terminal* → L2 Power over Ethernet (PoE) switch → SL1000 CPU (VoIP)
* NEC IP Terminal 24TIXH supports standard IEEE802.3af

In order to setup IP terminals in an NEC Univerge SL1000 environment, the following specified items are required;

Hardware =>
- VoIP board (IP4WW-VOIPDB-C1) – *Mandatory*
- Expansion Memory card (IP4WW-MEMDB-C1) - *Mandatory*
- L2 Power over Ethernet (PoE) switch or AC/DC adaptor [AC-LE] (to provide power for the hard phone itself) - *Mandatory*

Software License =>
- No licenses is required for deploying NEC IP Terminal 24TIXH, with a maximum of 16 IP phones registered to NEC SL1000

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2. Registration Types

There are 3 types of registration methods that can be used to connect the IP terminals to the NEC Univerge SL1000 system. The 3 methods as follows;

- Plug and Play
  - Plug and Play requires no user name and password. Extension number automatically assign by the system based on the first free number.
  - Advantage: Good for fast deployment.
- Automatic
  - Automatic requires a user name and password and it can be entered into the configuration so the user never has to enter. User ID and Password need to be input in the phone configuration setting.
  - Advantage: Good for fixed number tagged to the phone set.
- Manual
  - Manual requires a user name and password and the user is prompted to enter after the phone has initialized.
  - Advantage: Good for hot-desking. Able to have extension mobility for the users. The user can then logout from the terminal and the next user can login to his phone with his own number assigned.

Key Note when Deploying softphone (**supported in the near future**)

Manual registration is required if the Soft Phone is to override an IP multiline phone and use the same extension number. When this is done, the IP multiline phone goes into a Log Off state and the Soft Phone comes up as the extension the IP phone used to be. This allows a user to use the same extension whether in the office or on the road.

If automatic or manual mode is used the Desktop Application must enter a user name and password. If the Desktop Application is run in deskset mode (controlling a physical phone) and the deskset phone used is an IP phone, the user name and password used for the Desktop Application is different than that of the actual IP phone.

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3. Configuration

Follow this section to assist you to setup the IP terminal for connection to the NEC Univerge SL1000 system. Perform a SL1000 PCPro login and follow the flow of the guide as follows;

- Step A   3.1 Common Configuration

- Step B: 3.2 Plug and Play Configuration or
                      3.3 Automatic / Manual Configuration

- Step C: 3.4 IP Terminal Configuration or
                      3.5 Desktop Application Suite Application Configuration

3.1 Common Configuration

Follow the steps given here to setup the common configuration required for IP telephony setup;

1. **Declare the VOIPDB card in the system**
   a. Login to NEC GE SL1000 PCPro.
   b. Select the 'Standard' tab at the bottom left and click 'Blade Configuration'.
   c. Declare all the cards in your system including VOIPDB as shown below;

2. **Check the current IP address given for the CPU & VoIP board**
   a. Still in the 'Blade Configuration' screen, right-click on slot 1 which is your CPU board which you had declared earlier and select 'Configure Blade / 10-12: CD-CP00 Network Setup'
   b. Check to see that your current IP address for the CPU is 01: '192.168.0.10' and the subnet mask is 02: '255.255.255.0'

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c. Check to see that your current VoIP IP address for the CPU is 09: '172.16.0.10' and the subnet mask is 02: '255.255.0.0' and apply the changes.

Important Note: if you changed the IP address of the VoIP card, please perform the additional steps below;

d. Go to 84-26: VOIPDB Basic Setup (DSP) and input the 1 new IP address required for the VOIPDB DSP resources. *(The IP addresses need to be in the same subnet as the VOIPDB card)*

For example;

> ➢ IP Address of VOIPDB card: 10.22.0.5
> ➢ Subnet Mask: 255.255.255.0
> ➢ IP Address of VOIPDB DSP Resources: 10.22.0.6
> (note that it is in the same network, 10.22.0.X)

Note that if you need to change any IP configuration, you need to reset the system in order for the changes to take effect.

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3.2 Plug and Play Configuration

Follow the steps given here to setup the common configuration required for Plug and Play setup;

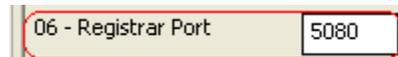1. **Setup the Plug and Play Register Mode**
   a. Select the 'System' tab at the bottom left and click '10-XX: System Configuration'
   b. Click on '10-46: DT700 Server Information Setup', and under '01 Register Mode' select 'Plug and Play'

01 - Register Mode	Plug and Play ⌄

2. **Check the IP port number**
   a. In the same screen check under '06 Registrar Port' that the port number is 5080 and apply the changes.

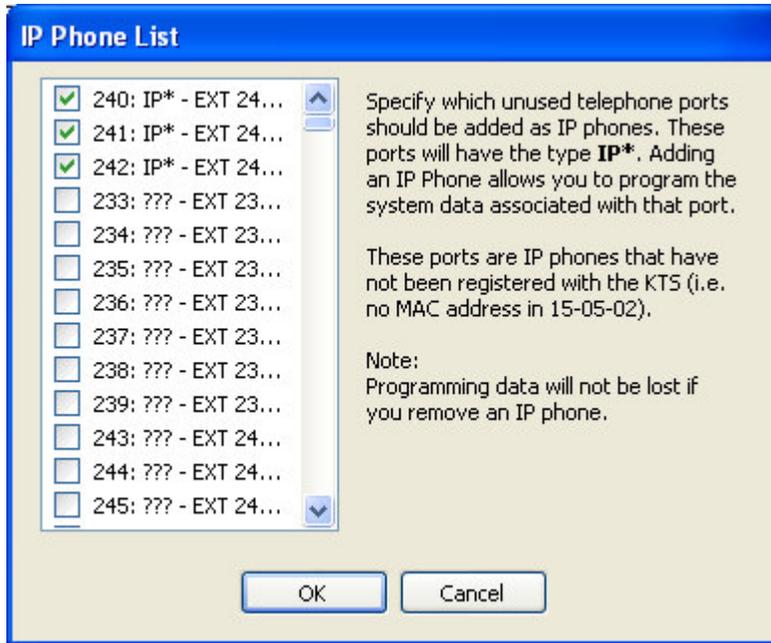 | 06 - Registrar Port | 5080 |
   |---|---|

   b. This L4 IP port number is used by NEC IP Proprietary (ITL-series) terminals.

3.3 Automatic & Manual Configuration

Follow the steps given here to setup the common configuration required for Automatic / Manual setup;

1. **Reserve system extension numbers to be used for IP terminals**
   a. Under Menu click on 'Programming / Unregistered Phones / IP Phone List'.
   b. Click on the checkbox to select the numbers you are reserving for IP extensions as shown below;
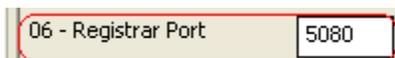
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2. **Setup the Automatic / Manual Register Mode**
   a. Select the 'System' tab at the bottom left and click '10-XX: System Configuration'
   b. Click on '10-46: DT700 Server Information Setup', and under '01 Register Mode' select 'Automatic' or 'Manual'.

 or

3. **Check the IP port number**
   a. In the same screen check under '06 Registrar Port' that the port number is 5080.

   b. This L4 IP port number is used by NEC IP Proprietary (24TIXH) terminals.

4. **Define the IP terminal extension number in the SL1000 system**
   a. Select the 'System' tab at the bottom left and click '11-XX: System Numbering Plan'.

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b. Click on '11-02: Extension Numbering', and note down the 'Station Port' number for the IP extension which you had reserved earlier under 'Common Configuration'.

c. Select the 'System' tab at the bottom left and click '15-XX: Extension Setup'.
d. Click on '15-05: IP Phone Basic Setup', on the top right corner select the IP extension you want.
e. Go to '27: Personal ID Index' and input the station port number that you had recorded earlier.

f. Select the 'System' tab at the bottom left and click '84-XX: VoIP Hardware Setup'.
g. Click on '84-22: DT700 Logon Information', at the top right corner select the 'Personal ID Index' you need.
h. In the correct 'Personal ID Index' input the 'User ID' (e.g. username or extn number) & 'Password' (up to 16 chars)

3.4 IP Terminal Configuration

Follow the steps given here to setup the common configuration required for IP terminal setup;

1. Ensure the IP terminal is powered.

2. Enter configuration mode by keying Hold, Transfer, *, #.

3. Input the following and press OK;
   a. Username: ADMIN

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        b. Password: 6633222

4. Key 1 to select 'Network Setting'.

5. Key 1 to select 'DHCP Mode' and Key 1 to select 'Disable' and press OK.

6. Key 2 to select 'IP Address' and input the IP address given for this phone and press OK. (* press * to input dot).

   Note must be in the same IP subnet as the VoIP card

7. Scroll down and Key 4 to select 'Subnet Mask' and input the subnet mask given.

   Note must be the same IP subnet mask as the VoIP VOIPDB card

8. Key 2 to select 'SIP Settings', Key 2 to select 'Server Address & URI' and Key 1 to select '1st Server Address' and input the IP address of the VoIP card and press OK.

9. Scroll down and Key 4 to select 'SIP Server Port', Key 1 to select '1st Server Port' and input '5080' and press OK.

(Do this only when you are registering the phone in Automatic Mode)
10. Key 2 to select 'SIP Settings', Key 1 to select 'SIP User', and Key 1 to select 'User ID' and input the User ID.

11. Key 2 to select 'SIP Settings', Key 1 to select 'SIP User', and Key 2 to select 'Password' and input the Password.

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4. Phone Registration

If you have completed the 3. Configuration section, the phone now should be in the following behavior;

- Plug and Play mode
    - The phone should reboot after your IP terminal configuration and upon booting up, it will register to the NEC Univerge SL1000 system.
    - The system will auto assign one free number for IP terminal to this phone set.
    - Phone now registered and able to make / receive calls.

- Automatic Mode
    - The phone should reboot after your IP terminal configuration and upon booting up, it will register to the NEC Univerge SL1000 system.
    - Since the extension number is already pre-set in the phone and system, the phone will boot up using the assigned number.
    - Phone now registered and able to make / receive calls.

- Manual Mode
    - The phone should reboot after your IP terminal configuration and upon booting up, it will register to the NEC Univerge SL1000 system.
    - Since the extension number is only pre-set in the system, the phone will boot up with the login screen.

    - Input the extension number and password (If prompted with the 'Override' message, just key Yes). The system will match this with the current setting in the database and when matched the phone will use this number.
    - Phone now registered and able to make / receive calls.
    - To sign out from the phone, perform the following;
        - Look at the phone and press the Key which corresponds to 'PROG'

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- Press the key which corresponds to '↓' and press it to scroll down until you see 'LogOff'
- Press the Key which corresponds to 'LogOff' to logout your extension number
- Press the key which corresponds to 'Yes' to confirm
- Press the key which corresponds to 'Exit' to finish
- Now the phone will boot up with the login screen

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