

# **InDECT Additional Information Manual**

December 2021

For InDECT 1.6.0

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## Revision History

Version	Author	Date	Changes
1.0	Jake List	July 2021	Initial release of InDECT v1.5.1
1.1	Raimond Couwenbergh	December 2021	Initial release of InDECT v1.6.0

## Preface

This manual is valid for the installation of the InDECT software Release 1.5.

### **IMPORTANT:**

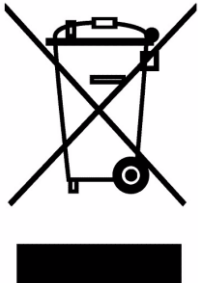
This manual gives information for setting up an InDECT IP DECT system. However, the Business Mobility IP DECT is normally part of an IP network. The success of the installation depends on the structure and components in the IP network. Make sure that you have sufficient knowledge of the customers IP network.

The InDECT IP DECT is also a wireless data communication system. This requires knowledge of radio signal propagation. The radio signal propagation in InDECT IP DECT system requires a different approach than for the traditional DECT systems. The success of the installation also depends on the radio signal propagation. Make sure that you have sufficient knowledge about this subject as well.

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## PRODUCT DISPOSAL INFORMATION (EN)

### For countries in the European Union



The symbol depicted here has been affixed to your product in order to inform you that electrical and electronic products should not be disposed of as municipal waste.

Electrical and electronic products including the cables, plugs and accessories should be disposed of separately in order to allow proper treatment, recovery and recycling. These products should be brought to a designated facility where the best available treatment, recovery and recycling techniques is available. Separate disposal has significant advantages: valuable materials can be re-used and it prevents the dispersion of unwanted substances into the municipal waste stream. This contributes to the protection of human health and the environment.

Please be informed that a fine may be imposed for illegal disposal of electrical and electronic products via the general municipal waste stream.

In order to facilitate separate disposal and environmentally sound recycling arrangements have been made for local collection and recycling. In case your electrical and electronic products need to be disposed of please refer to your supplier or the contractual agreements that your company has made upon acquisition of these products.

At <https://www.nec-enterprise.com/Support/WEEE-934> you can find information about separate disposal and environmentally sound recycling.

### For countries outside the European Union

Disposal of electrical and electronic products in countries outside the European Union should be done in line with the local regulations. If no arrangement has been made with your supplier, please contact the local authorities for further information.

# InDECT System

## What is InDECT

InDECT is a toolset that can be integrated to either NEC's UNIVERGE SV9100 or SL2100 communication servers. It allows for easy installation, deployment and maintenance of a small scale IP DECT system with no additional IT servers required.

InDECT minimises the installation effort by automatically retrieving settings such as regional, tone plan, SIP settings etc. from the PBX configuration, whilst enabling access points to download configuration files from the on-board file server with minimal intervention by the installation engineer to the end users network.

The user interface of InDECT consists of web pages that can be accessed by means of a web browser, so not requiring a dedicated PC configurator tool for installing or upgrading a system.

InDECT is part of the family of NEC's easy to use 'InApps' range of applications and future versions will include additional functionality as the application is developed further.

An external DHCP Server is preferred. E.g. a DHCP Server in a (small) Router in combination with IP Switch functionality.

## Characteristics

The IP DECT InDECT system has the following characteristics:

- Applicable for PBX platforms:
  - SIP on SV9100 (CP10/CP20)/SL2100
- Maximum 32 DAPs (DECT Access Points)
- Maximum 64 handsets.

One of the main differences between the full DAP Controller and the InDECT system is that you can do the subscription management (subscribing handsets or removing handsets) via a WEB interface in the DAPs, instead of via the DAP Controller. Please note that the number of DAPs and handsets are limited, as mentioned above.

## System Overview

The InDECT IP DECT system is an easy to install, relatively small IP DECT system.

The implementation of IP DECT InDECT is a standalone DECT system that is connected to one of the supported PBX types via a TCP/IP connection. This means that in the PBX, the extension numbers that you will use on the InDECT System must be prepared.

InDECT also supports iSIP, however the functionality is only available when the handsets and the PBX support it as well. The figure below shows an example IP DECT InDECT system configuration. All connections are IP connections over Ethernet. The following components are distinguished:

### Handsets

Handsets must be the type of DECT handsets that are supported on this type of IP DECT system. Supported handsets are the following models G266/G277/G566/G577/G577h/i766/M166.

### DAPs

A DAP (DECT Access Point) is the actual transceiver.

The DAPs support up to 11 simultaneous calls and are for indoor applications. However, a dedicated outdoor box can be ordered, which allows you to install a DAP outdoors. The following DAP types are supported:

#### AP400E

This type of DAP is similar to the AP400 (generic) but is equipped with SMA antenna connectors, to connect an external antenna. It is deliverable from January 2013 onwards. The total number of DAPs is limited to either 10, in case of a mix with AP400S, or 32 in case of a mix with AP400C or generic AP400.

#### AP400C

This type of DAP is the standard DAP type delivered from January 2013 onwards. A maximum of 32 x AP400C is allowed in InDECT Release 1.4.x.

When a mix with other types, the total number of DAPs is limited to either 10, in case of a mix with AP400S, or 32 in case of a mix with AP400C or generic AP400.

#### AP400S

This type of DAP is available for small InDECT systems. A mix with other DAP types is possible. However, the overall maximum number of DAPs in the system is limited to 10.

DAPs are powered by means of PoE. We strongly recommend you to use "Power-Over-Ethernet" capable Switches.



## IP Switch

The IP Switch connects the Ethernet connections together. Only use an IP Switch that is supported for this DECT solution, preferably an un-managed IP Switch, because they are normally transparent for IP Multicast. In case of using a managed IP Switch, please make sure that the following settings in the IP Switch are correct:

- The IP Switch must support forwarding "IP Multicast".
- **"IGMP snooping" must be disabled.**
- The ports should be set to "Auto Negotiate".
- The ports should be set to "Fast Forward".
- The IP Switch should support PoE.

## Router (optional)

There can be a router in the IP network to have access to/from the external network. Please note that the router can be equipped with a DHCP server. In particular in small systems, the router most likely will be equipped with a DHCP server (default) for this IP segment only. This is important info because this may mean that you must use that DHCP server, also for your IP DECT system.

**Note:** *All DAPs must be in one IP Subnet, which supports IP Multicast. Also the PBX must be in the same IP Subnet as the DAPs.*

## PBX

This is one of the PBX types mentioned in [Section 0 Characteristics](#).

## Laptop PC (or Desktop computer)

The Laptop PC or Desktop computer is needed for initial configuration only by means of the InDECT web interface.

# DAP Planning

## Requirements

The position of the DAPs depends on two factors:

- DAPs must provide radio coverage for the handsets, in such a way that the sound quality of the handsets is good or excellent.
- The DAPs for the IP DECT Lite system should be installed in such a way, that one DAP can see at least two other DAPs with a signal strength of -80 dBm or better. After the installation, you can check this signal strength in the WEB page of the DAPs, because there the RSSI value should be 3 or better.
- All DAPs should see each other directly or indirectly and should form one cluster of DAPs with seamless handover.

## Simple DAP Planning

Before you determine where DAPs are needed, make sure that you have a map of the area/building to be covered.

Mind the following items:

- In an average office building the radiation around a DAP is about 20 meters where you will have good sound quality. This depends of course on the building materials and the size of the rooms in the buildings. Mind toilets and elevators, which give a higher loss in signal radiation. In open space, the radiation around the DAPs is of course (much) more.
- Try to position the DAPs in open space rather than in rooms.
- Also mind metal objects and metal (inside) walls, which may cause quite some loss and reflection.
- Please note, that by means of an estimation of coverage of the DAPs, you run a risk that you need more DAPs after the installation is finished, or that you order more DAPs than strictly needed. If you want to be sure about the number and the position of the DAPs, you should perform a Site Survey with the special tool kit, the Site Survey kit.

## Licensing

For any operational IP DECT system you must have a unique system identifier called PARI (Primary Access Right Identifier). This is an 8 digit hexadecimal number. Prophix generates a PARI when you order an InDECT system.

License Code 3518 is required to run InDECT on the SV9100 or SL2100 communication servers, it can also run if the 60 day license is enabled. The following LMS licenses are available for InDECT:

PBX	Part Number	Description
<b>SV9100</b>	BE118719	SV9100 OnBoard App. InDECT Lic.
<b>SL2100<sup>1</sup></b>	BE118720	SL2100 OnBoard App. InDECT Lic.

*<sup>1</sup>An EU917108 Gx66 Memory Card is also included with the SL2100 InDECT license for additional file storage space. This memory card that was originally selected for DECT handsets is delivered along with an adapter that enables it to fit in to the SL2100 CPU memory card slot.*

## DHCP Server

The IP addressing is based on DHCP. There can be a DHCP server in the network (e.g. in the Router or Windows sever) as "External DHCP server".

### Using "External DHCP" Server (e.g. in the Router or Windows server).

#### Characteristics:

- DHCP Server is part of the network segment where IP DECT is installed.
- DHCP Server can be part of the Router. In particular the smaller Routers with built-in Switch functionality can be equipped with DHCP.
- DHCP server must issue IP addresses and Subnet mask and Gateway (optional) address.
- DHCP Server should NOT issue option 66 (TFTP address)/67(boot program file name)!

#### IP data stored in the DAPs.

The issued IP Address, together with Subnet mask and default Gateway address, are stored in the DAPs, even when the lease time is shorter than infinite. When DAPs reboot and there is no External DHCP server, they will reboot with the stored IP Addresses. In During reboot, the DAPs will check on duplicate IP addresses.

## Provisioning

The DAPs need to be provided with firmware and a configuration file. This is done by means of the file server built in the InDECT software running on the PBX.

There is only one possibility for provisioning server and that is using the InDECT PBX file server.

## DHCP and Provisioning Configuration Overview

The DHCP and Provisioning configuration is as follows:

- DHCP server  
Preferred DHCP Server is an external DHCP server!
- Provisioning  
Automatically, the built-in file server is used on the PBX.

## PBX PREPARATION

The PBX must be prepared to work in combination with InDECT.

**Note:** Prepare the PBX for InDECT, before setting up the InDECT Configuration.

The PBX setup for IP DECT is the same standard procedure used for setting up SIP extensions on the system. The process consists of three sub-procedures:

- Setting up the IPLE configuration (IP addressing etc.)
- Setting up IP extensions
- Setting up IP extension features

In the following sections, examples are given on how to setup the PBX. If the information is not sufficient, please also consult the PBX documentation for further details.

**Note:** Ensure that the extension numbers you want to use as IP DECT extensions have not been used already as other IP devices in the PBX. Also make sure the IP DECT extensions are either not yet setup in the IP DECT configuration or are switched off. If not, there may be registration data in the PBX which causes the handsets to register or perform improperly.

## Licensing

For IP DECT extensions, PBX device licenses will be required to be installed on the PBX.

The following table provides license details for the standard SIP/iSIP IP DECT extensions.

License Code	Applied Device	License Capacity & Type
SV9100 EU901001 / BE114054 SL2100 EU909388 / BE116746 <sup>3</sup>	G266, G566, I766, G277, G577, G577h	Per standard SIP / iSIP device registered <sup>2</sup>
SV9100 BE114497 SL2100 EU909388 / BE116746 <sup>3</sup>	G566 <sup>1</sup> , I766 <sup>1</sup> , G277, G577 <sup>1</sup> , G577h <sup>1</sup>	Per iSIP Device registered

<sup>1</sup>The G566, I766, G577, G577h handsets can use either standard SIP or iSIP protocol if running compatible handset firmware and the IP DECT system is configured to support iSIP on these devices.

<sup>2</sup>The Standard SIP license will support either Standard SIP or iSIP operation for the DECT handset. Prophix will configure this license code EU901001 as this gives the choice of either mode.

<sup>3</sup>The SL2100 has a single IP device license that supports either Standard SIP or iSIP mode.

<sup>4</sup>The INDECT license must be available prior to installation

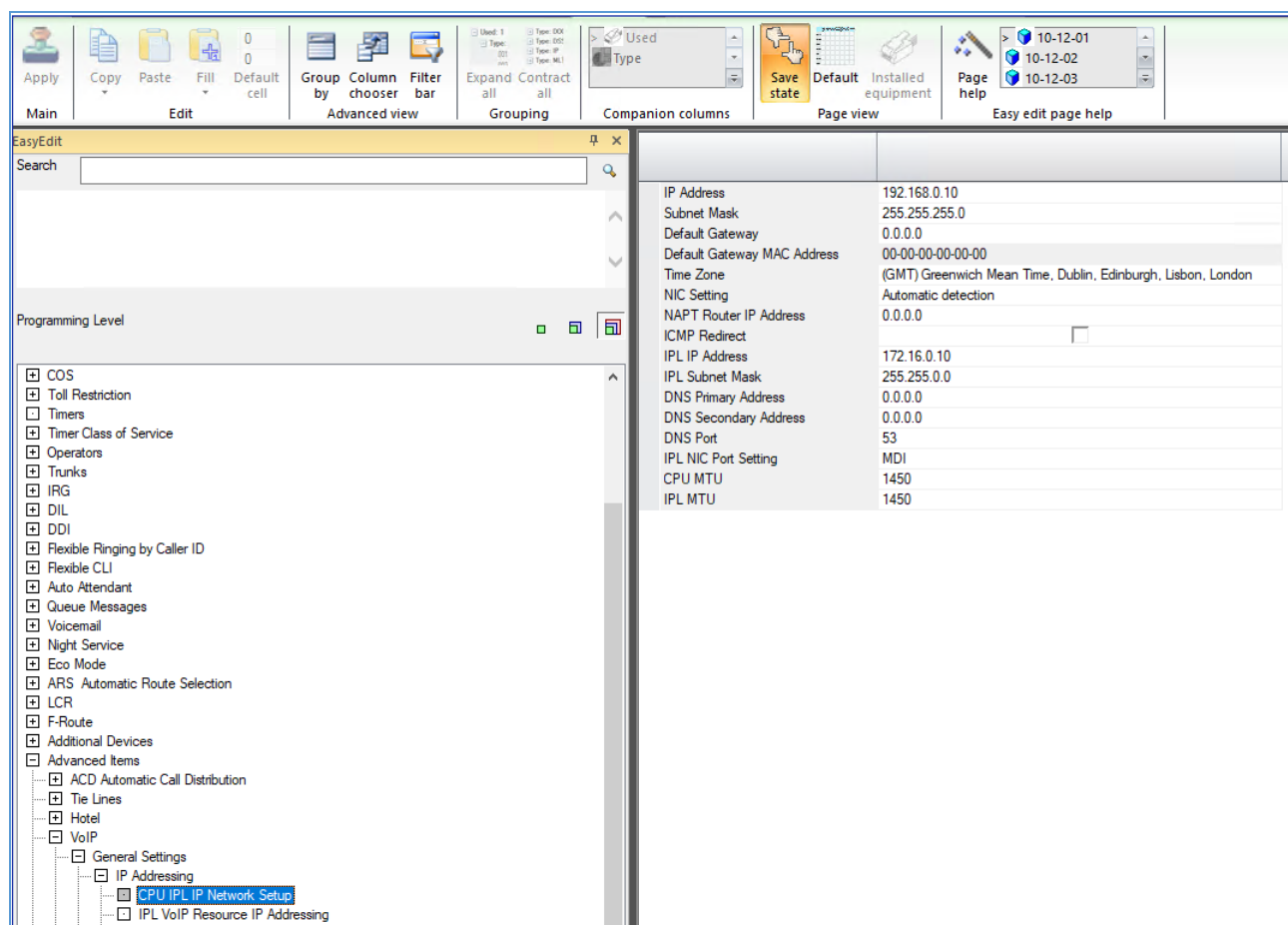
## IP Configuration Settings

The default IP DECT configuration assumes the default PBX network settings are used as given in the below table. These can be:

DEVICE	IP Addresses
PBX IPLE IP Address	172.16.0.10
IPLE VoIP Gateway IP Address	172.16.0.20
Management PC	172.16.0.5
DAPs	172.16.0.100 – 172.16.0.150 (Addresses are assigned)

## Configure PBX VoIP IP Addressing

1. Ensure that the relevant PC Programming tool for offline programming of your PBX is running on your management PC. If not already, start the application and connect to the PBX.
2. Take a full download of the PBX configuration.
3. Go to **Easy Edit > Advanced Items > VoIP > General Settings > IP Addressing > CCPU IPL IP Network Setup** or if using the system data commands then go to PRG10-12.

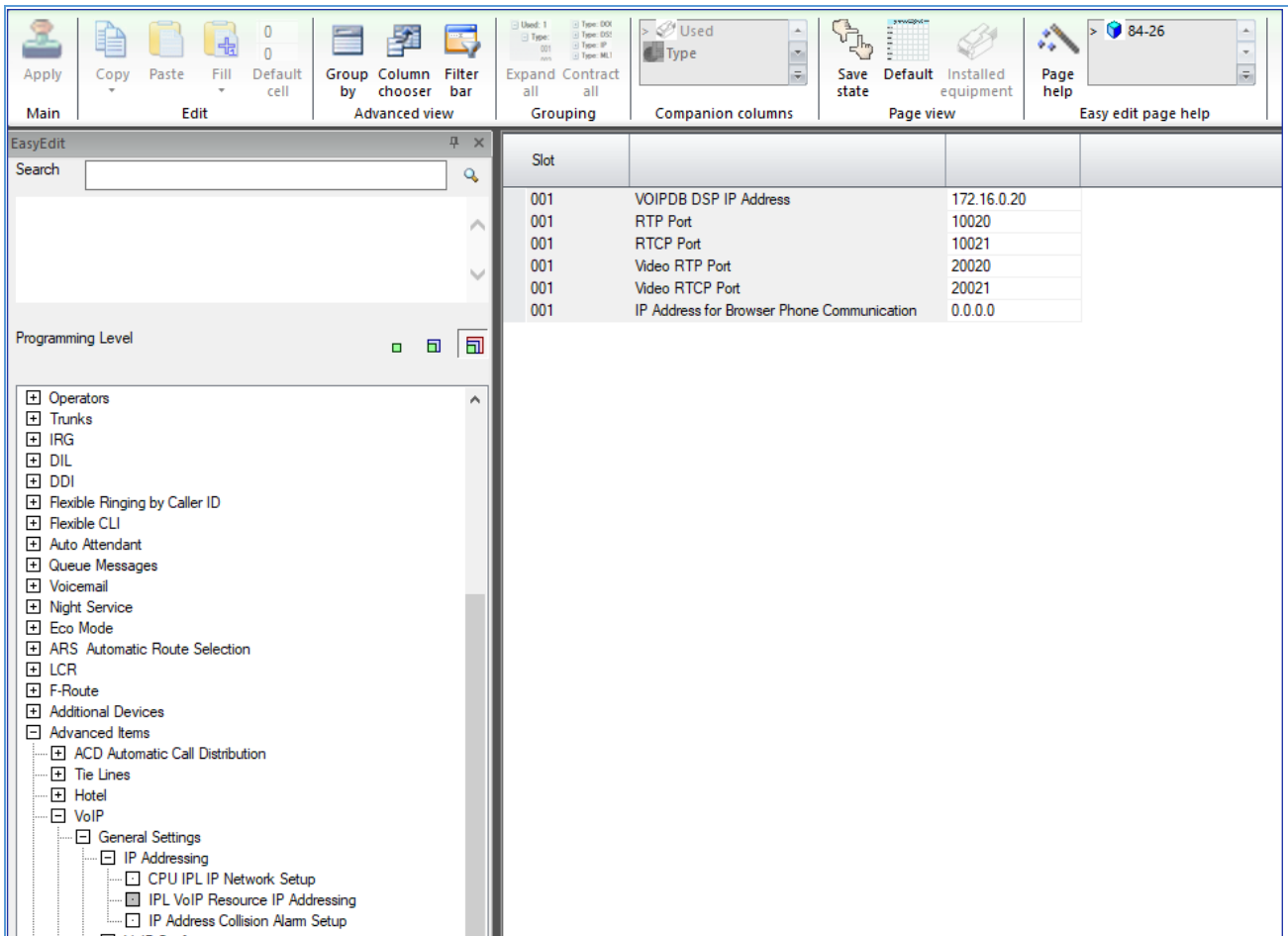


4. Set the IPL IP address and subnet mask (PRG items **10-12-09** and **10-12-10**) to the required settings for the customers network along with the default gateway address (PRG item **10-12-03**) if required.

5. Click **Apply** when finished.

## Configure PBX VoIP Gateway IP Addressing

1. Go to *Easy Edit > Advanced Items > VoIP > General Settings > IP Addressing > IPL VoIP Resource IP Addressing* or if using the System Data commands then go to PRG **84-26**.



The screenshot shows the EasyEdit software interface. The left pane displays a tree view of configuration items, with 'IPL VoIP Resource IP Addressing' selected under 'General Settings'. The right pane shows a table with configuration data for Slot 001.

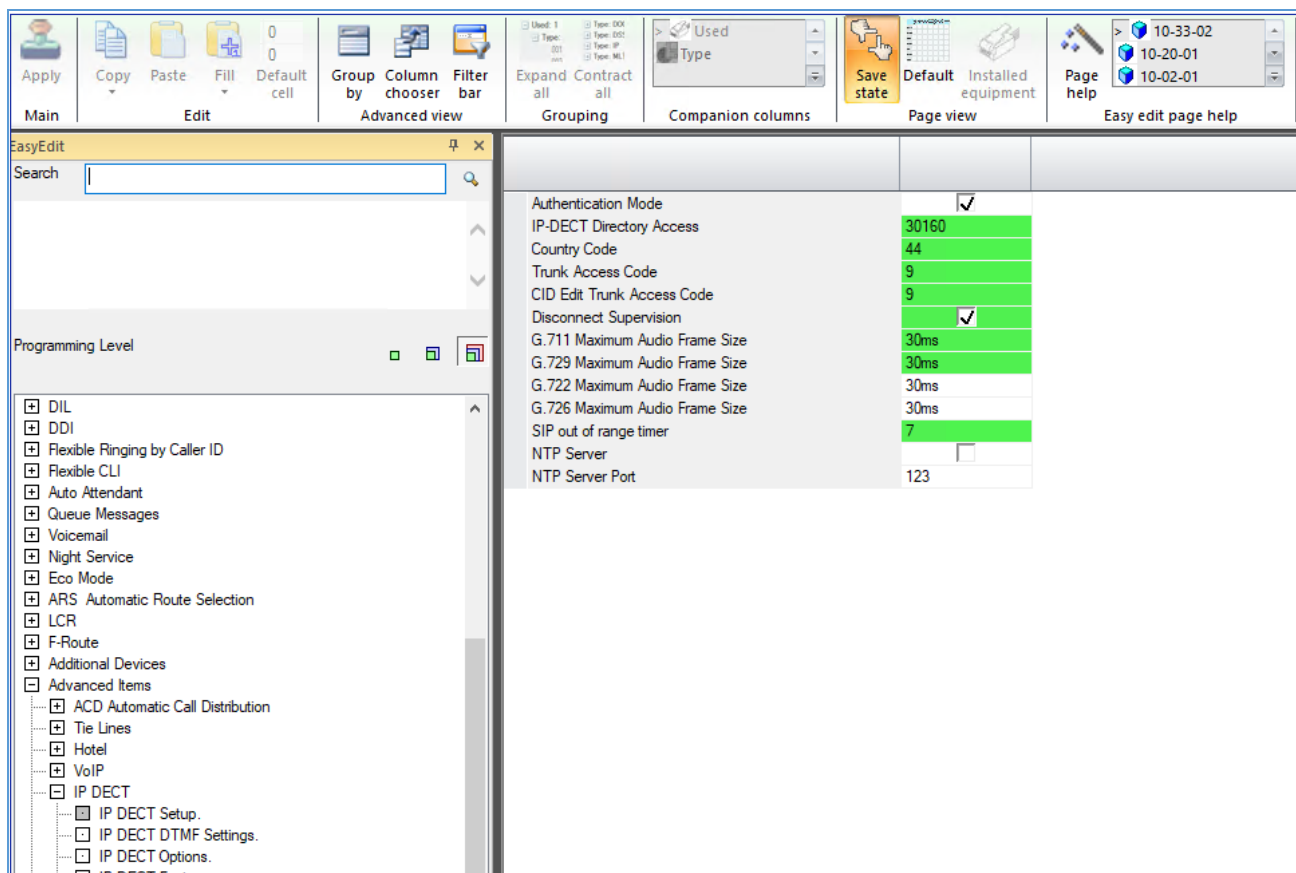
Slot	Configuration Item	Value
001	VOIPDB DSP IP Address	172.16.0.20
001	RTP Port	10020
001	RTCP Port	10021
001	Video RTP Port	20020
001	Video RTCP Port	20021
001	IP Address for Browser Phone Communication	0.0.0.0

2. Set the IPL VoIPDB DSP IP address (PRG **84-26-01**) information to the required settings for the customer's network.
3. Generally the port numbers can be left as the default values and start from 10020 for RTP and 10021 for RTCP.
4. Click **Apply** when finished.



## Configure Standard SIP IP DECT Settings (Gx66/i766/Gx77/G577h)

1. Go to *Easy Edit > Advanced Items > IP DECT > IP DECT Setup*.



2. Configure the recommended standard SIP IP DECT settings as per your installation requirements.

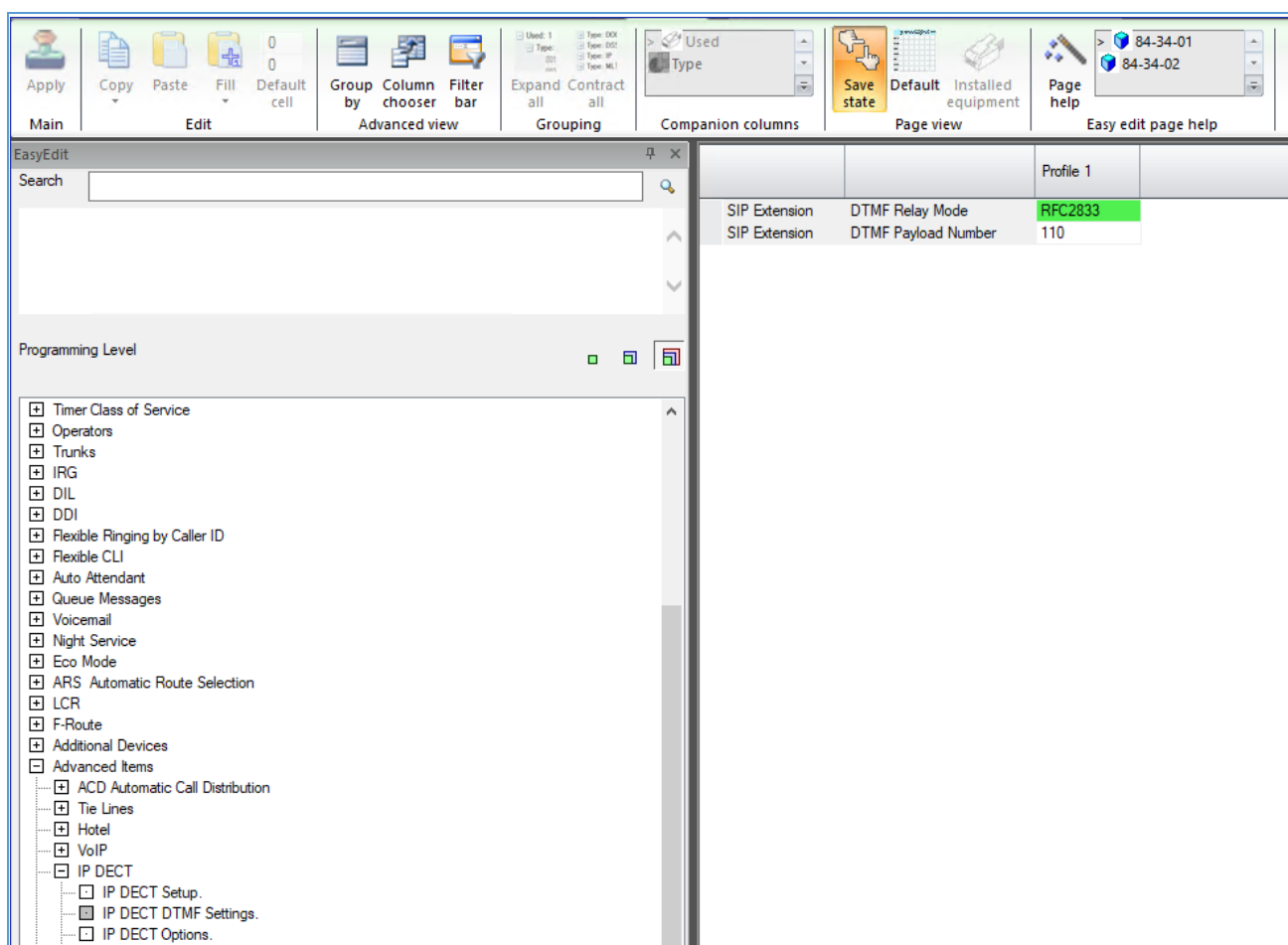
Program Name	Program Number	Input Data	Default Value	Recommended Settings
Authentication Mode	10-33-02	0=Disable  d  1=Enable  d	1=Enabled d	1=Enabled
IP DECT Directory Access	10-20-01 Device 14	0-65535	0	30160
Country Code <sup>1</sup>	10-02-01	0-9	Blank	As per location
Trunk Access Code	11-09-01	0-9,*,#	Blank	9 or 0
CID Edit Trunk Access Code <sup>2</sup>	10-02-05	0-9,*,#	Blank	9 or 0

Program Name	Program Number	Input Data	Default Value	Recommended Settings
G.711 Maximum Audio Frame Size	84-19-01	10ms - 40ms	20ms	30ms
G.729 Maximum Audio Frame Size	84-19-07	10ms – 60ms	20ms	30ms
G.722 Maximum Audio Frame Size	84-19-33	10 – 40ms	30ms	30ms
G.726 Maximum Audio Frame Size	84-19-38	10 – 40ms	30ms	30ms
SIP Out of Range Timer	24-02-15	0 – 64800	4	7

<sup>1</sup>This item is required to determine which radio frequency to use based on the country code of the PBX. Use of the incorrect frequencies could be unlawful.

<sup>2</sup>This item is required for the correct operation of call back from the SIP/iSIP IP DECT extensions using the handsets call history lists.

- Click the **Apply** button when finished.
- Go to **Easy Edit > Advanced Items > IP DECT > IP DECT DTMF Settings**



Program Name	Program Number	Input Data	Default Value	Recommended Settings
DTMF Relay Mode	84-34-01 (04 – SIP Extension)	0=Disabled  1=Enabled	0=Disabled	1=Enabled
DTMF Payload Number	84-34-02	0-65535	110	110

5. Enter the recommended standard SIP IP DECT DTMF Settings as per your installation requirements.

6. Click **Apply** when finished.

7. Go to **Easy Edit > Advanced Items > IP DECT > IP DECT Options**.

<div> <div> <div>Apply</div> <div>Copy</div> <div>Paste</div> <div>Fill</div> <div>Default cell</div> </div> <div> <div>Group by</div> <div>Column chooser</div> <div>Filter bar</div> </div> <div> <div>Expand all</div> <div>Contract all</div> </div> <div> <div>Used</div> <div>Type</div> </div> <div> <div>Save state</div> <div>Default</div> <div>Installed equipment</div> </div> <div> <div>Page view</div> <div>Page help</div> </div> </div> <div> <div>11-02-01</div> <div>15-01-01</div> <div>15-05-16</div> </div>						
<div> <div>EasyEdit</div> <div>Search</div> <div> <div>Programming Level</div> <div> <div>Timer Class of Service</div> <div>Operators</div> <div>Trunks</div> <div>IRG</div> <div>DIL</div> <div>DDI</div> <div>Flexible Ringing by Caller ID</div> <div>Flexible CLJ</div> <div>Auto Attendant</div> <div>Queue Messages</div> <div>Voicemail</div> <div>Night Service</div> <div>Eco Mode</div> <div>ARS Automatic Route Selection</div> <div>LCR</div> <div>F-Route</div> <div>Additional Devices</div> <div>Advanced Items</div> <div>ACD Automatic Call Distribution</div> <div>Tie Lines</div> <div>Hotel</div> <div>VoIP</div> <div>IP DECT</div> <div>IP DECT Setup</div> <div>IP DECT DTMF Settings</div> <div>IP DECT Options</div> </div> </div> </div>						
Station Port	Extension	Name	Authentication Password	IP duplication allow mode	Receiving SIP INFO	
001	200	EXT 200	*****	Disable	Allowed any time	
002	201	EXT 201	*****	Disable	Allowed any time	
003	202	EXT 202	*****	Disable	Allowed any time	
004	203	EXT 203	*****	Disable	Allowed any time	
005	204	EXT 204	*****	Disable	Allowed any time	
006	205	EXT 205	*****	Disable	Allowed any time	
007	206	EXT 206	*****	Disable	Allowed any time	
008	207	EXT 207	*****	Disable	Allowed any time	
009	208	EXT 208	*****	Disable	Allowed any time	
010	209	EXT 209	*****	Disable	Allowed any time	
011	210	EXT 210	*****	Disable	Allowed any time	
012	211	EXT 211	*****	Disable	Allowed any time	
013	212	EXT 212	*****	Disable	Allowed any time	
014	213	EXT 213	*****	Disable	Allowed any time	
015	214	EXT 214	*****	Disable	Allowed any time	
016	215	EXT 215	*****	Disable	Allowed any time	
017	216	EXT 216	*****	Disable	Allowed any time	
018	217	EXT 217	*****	Disable	Allowed any time	
019	218	EXT 218	*****	Disable	Allowed any time	
020	219	EXT 219	*****	Disable	Allowed any time	
021	220	EXT 220	*****	Disable	Allowed any time	
022	221	EXT 221	*****	Disable	Allowed any time	
023	222	EXT 222	*****	Disable	Allowed any time	
024	223	EXT 223	*****	Disable	Allowed any time	
025	224	EXT 224	*****	Disable	Allowed any time	
026	225	EXT 225	*****	Disable	Allowed any time	
027	226	EXT 226	*****	Disable	Allowed any time	
028	227	EXT 227	*****	Disable	Allowed any time	
029	228	EXT 228	*****	Disable	Allowed any time	
030	229	EXT 229	*****	Disable	Allowed any time	
031	230	EXT 230	*****	Disable	Allowed any time	
032	231	EXT 231	*****	Disable	Allowed any time	
033	232	EXT 232	*****	Disable	Allowed any time	
034	233	EXT 233	*****	Disable	Allowed any time	

8. Determine a port range that is unallocated to existing extension cards or IP terminals and are available for IP DECT devices.
9. Assign extension numbers the IP DECT to the relevant ports.
10. If Authentication Mode (PRG **10-33-02**) is used between the PBX and IP DECT for added security, then assign an 'Authentication Password' (PRG **15-05-16**) to the relevant ports here. The password should be secure but the password should be the same for all standard SIP IP DECT extensions.
11. Check that the IP Duplication Allowed Group (PRG**15-05-18**) is set to 'not used' for all standard SIP IP DECT extension numbers. This field will automatically update when standard SIP IP DECT extensions complete registration with the PBX.
12. Click **Apply** when finished.
13. Go to **Easy Edit > Advanced Items > IP DECT > IP DECT Features > COS per Mode**.

Station Port	Extension	Name	Mode 1 CoS	Mode 2 CoS	Mode 3 CoS	Mode 4 CoS	Mode 5 CoS	Mode 6 CoS	Mode 7 CoS	Mode 8 CoS
001	200	EXT 200	1	1	1	1	1	1	1	1
002	201	EXT 201	1	1	1	1	1	1	1	1
003	202	EXT 202	1	1	1	1	1	1	1	1
004	203	EXT 203	1	1	1	1	1	1	1	1
005	204	EXT 204	1	1	1	1	1	1	1	1
006	205	EXT 205	1	1	1	1	1	1	1	1
007	206	EXT 206	1	1	1	1	1	1	1	1
008	207	EXT 207	1	1	1	1	1	1	1	1
009	208	EXT 208	1	1	1	1	1	1	1	1
010	209	EXT 209	1	1	1	1	1	1	1	1
011	210	EXT 210	1	1	1	1	1	1	1	1
012	211	EXT 211	1	1	1	1	1	1	1	1
013	212	EXT 212	1	1	1	1	1	1	1	1
014	213	EXT 213	1	1	1	1	1	1	1	1
015	214	EXT 214	1	1	1	1	1	1	1	1
016	215	EXT 215	1	1	1	1	1	1	1	1
017	216	EXT 216	1	1	1	1	1	1	1	1
018	217	EXT 217	1	1	1	1	1	1	1	1
019	218	EXT 218	1	1	1	1	1	1	1	1
020	219	EXT 219	1	1	1	1	1	1	1	1
021	220	EXT 220	15	15	15	15	15	15	15	15
022	221	EXT 221	15	15	15	15	15	15	15	15
023	222	EXT 222	15	15	15	15	15	15	15	15
024	223	EXT 223	15	15	15	15	15	15	15	15
025	224	EXT 224	15	15	15	15	15	15	15	15
026	225	EXT 225	15	15	15	15	15	15	15	15
027	226	EXT 226	15	15	15	15	15	15	15	15
028	227	EXT 227	15	15	15	15	15	15	15	15
029	228	EXT 228	1	1	1	1	1	1	1	1
030	229	EXT 229	1	1	1	1	1	1	1	1
031	230	EXT 230	1	1	1	1	1	1	1	1
032	231	EXT 231	1	1	1	1	1	1	1	1
033	232	EXT 232	1	1	1	1	1	1	1	1
034	233	EXT 233	1	1	1	1	1	1	1	1
035	234	EXT 234	1	1	1	1	1	1	1	1

14. Assign the standard SIP IP DECT extensions to a class of service group between the values of 1 – 15. By default all station ports are members of class of service group 1.
15. Click **Apply** when finished.
16. Go to Easy Edit > Advanced Items > IP DECT > IP DECT Features > IP DECT COS Features.

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Call waiting for standard SIP terminal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Call Forward Both Ring Enhancement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Automatic On-hook Transfer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

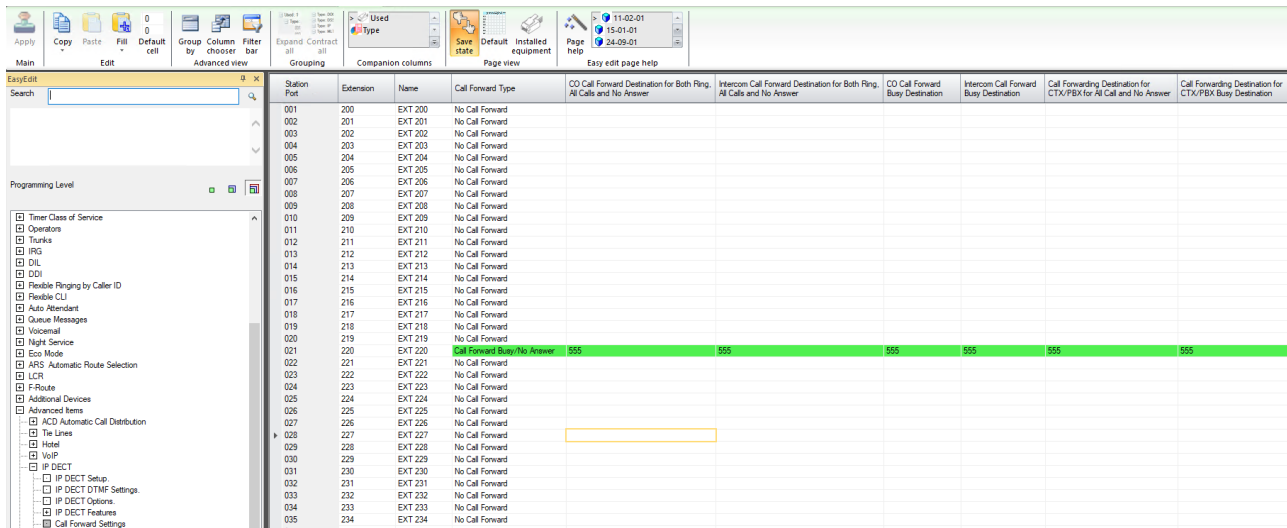
17. If the users of the IP DECT system require using either Call Waiting or Call Forward Both Ring features of the PBX then enable these items on this screen for the relevant class of service group the standard SIP IP DECT extensions were assigned to previously at step 12. Automatic On-hook Transfer can also be disabled.

<b>Program Name</b>	<b>Program Number</b>	<b>Input Data</b>	<b>Default Value</b>	<b>Recommended Settings</b>
Call waiting for standard SIP terminals	20-13-01	0=Disabled 1=Enabled	0=Disabled	1=Enabled
Call forward Both Ring Enhancement	20-11-01	0=Disabled 1=Enabled	0=Disabled	1=Enabled
Automatic On-hook Transfer	20-11-01	0=Disabled 1=Enabled	1=Enabled	0=Disabled

18. Click **Apply** when finished.

## Configure IP DECT Call Forward Settings

1. Go to *Easy Edit > Advanced Items > IP DECT > IP DECT Features > Call Forward Settings*



Station Post	Extension	Name	Call Forward Type	CO Call Forward Destination for Both Ring, All Calls and No Answer	Intercom Call Forward Destination for Both Ring, All Calls and No Answer	CO Call Forward Busy Destination	Intercom Call Forward Busy Destination	Call Forwarding Destination for CTX/PBX for All Call and No Answer	Call Forwarding Destination for CTX/PBX Busy Destination
001	200	EXT 200	No Call Forward						
002	201	EXT 201	No Call Forward						
003	202	EXT 202	No Call Forward						
004	203	EXT 203	No Call Forward						
005	204	EXT 204	No Call Forward						
006	205	EXT 205	No Call Forward						
007	206	EXT 206	No Call Forward						
008	207	EXT 207	No Call Forward						
009	208	EXT 208	No Call Forward						
010	209	EXT 209	No Call Forward						
011	210	EXT 210	No Call Forward						
012	211	EXT 211	No Call Forward						
013	212	EXT 212	No Call Forward						
014	213	EXT 213	No Call Forward						
015	214	EXT 214	No Call Forward						
016	215	EXT 215	No Call Forward						
017	216	EXT 216	No Call Forward						
018	217	EXT 217	No Call Forward						
019	218	EXT 218	No Call Forward						
020	219	EXT 219	No Call Forward						
021	220	EXT 220	Call Forward Busy No Answer	555	555	555	555	555	555
022	221	EXT 221	No Call Forward						
023	222	EXT 222	No Call Forward						
024	223	EXT 223	No Call Forward						
025	224	EXT 224	No Call Forward						
026	225	EXT 225	No Call Forward						
027	226	EXT 226	No Call Forward						
028	227	EXT 227	No Call Forward						
029	228	EXT 228	No Call Forward						
030	229	EXT 229	No Call Forward						
031	230	EXT 230	No Call Forward						
032	231	EXT 231	No Call Forward						
033	232	EXT 232	No Call Forward						
034	233	EXT 233	No Call Forward						
035	234	EXT 234	No Call Forward						

2. Configure call forwards as required<sup>1</sup>
3. Click apply

<sup>1</sup> Call forward settings also have an effect if the DECT phone is switched off.

## Configure iSIP IP DECT Device Settings (G566/i766/G577/G577h)

1. Go to **Easy Edit > Advanced Items > IP DECT > iSIP > iSIP Extensions**.

Station Port	Extension	Name	Park Group	Hold Key Operation Mode	Off-hook Signalling Type	LND - Outgoing Mode	CID List - Call Register Mode	Additional Information	Codes Type	Peer to Peer Mode	CAP/Loop Key Operation Mode
001	200	EXT 200	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	Loop Key Operation Mode
002	201	EXT 201	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
003	202	EXT 202	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
004	203	EXT 203	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
005	204	EXT 204	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
006	205	EXT 205	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
007	206	EXT 206	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
008	207	EXT 207	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
009	208	EXT 208	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
010	209	EXT 209	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
011	210	EXT 210	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
012	211	EXT 211	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
013	212	EXT 212	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
014	213	EXT 213	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
015	214	EXT 214	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
016	215	EXT 215	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
017	216	EXT 216	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
018	217	EXT 217	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
019	218	EXT 218	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
020	219	EXT 219	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
021	220	EXT 220	1	Normal Hold	Muted Offhook Ringing	Extension/Trunk M	Extension/Trunk M		Type 1	On	
022	221	EXT 221	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
023	222	EXT 222	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
024	223	EXT 223	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
025	224	EXT 224	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
026	225	EXT 225	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
027	226	EXT 226	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
028	227	EXT 227	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
029	228	EXT 228	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
030	229	EXT 229	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
031	230	EXT 230	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
032	231	EXT 231	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
033	232	EXT 232	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	
034	233	EXT 233	1	Normal Hold	Muted Offhook Ringing	Trunk Mode	Trunk Mode		Type 1	On	

2. Determine a port range that is unallocated already to existing extension cards or IP terminals and are available for IP DECT devices.
3. Assign extension numbers for the iSIP IP DECT devices to the relevant ports.
4. Configure the recommended iSIP IP DECT settings as per your system requirements.

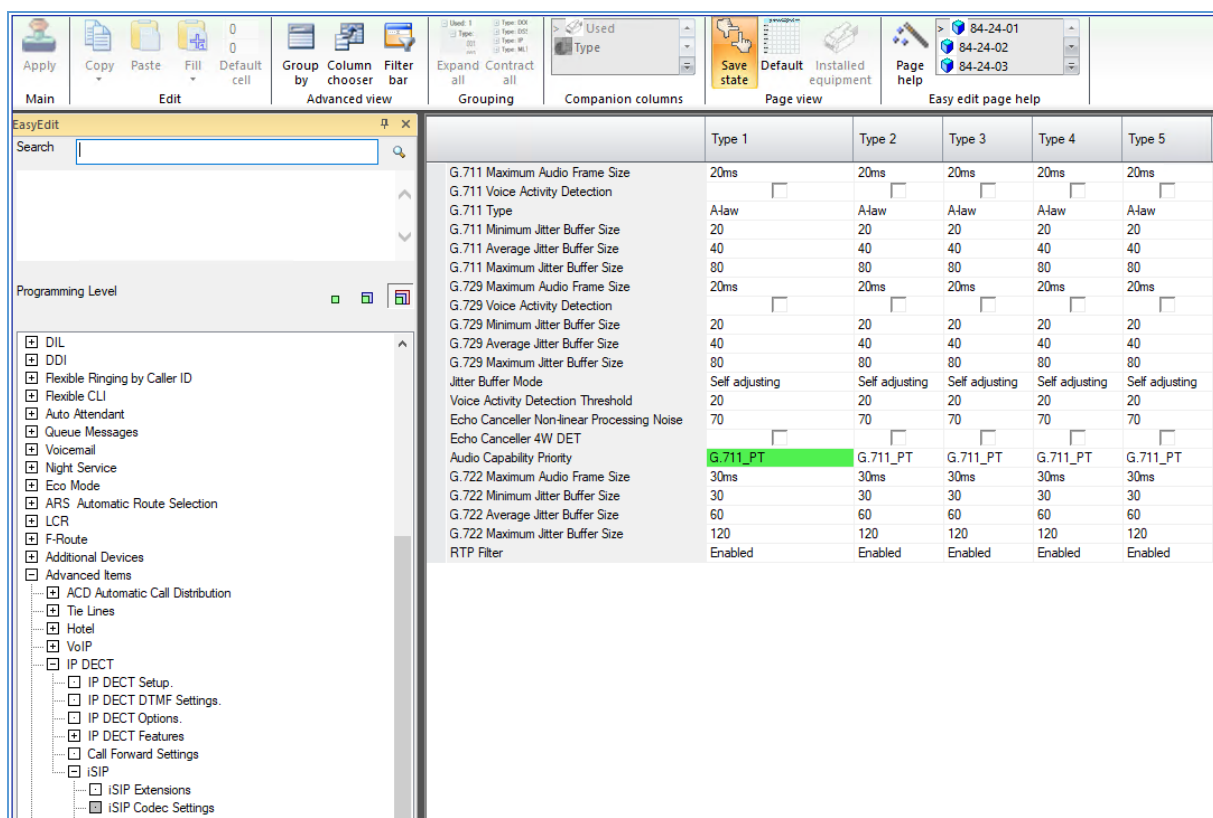
Program Name	Program Number	Input Data	Default Value	Recommended Settings
Extension	11-02-01	0-9  (up to 8 digits)		
Name	15-01-01	Up to 12 characters		
Park Group	24-03-01	1-64	1	No longer required
Hold Key Operation <sup>1</sup> Mode	15-02-06	0=Normal Hold 1= Exclusive hold 2=Park Hold	0 Normal Hold	0=Normal Hold
Off-hook Signalling Type	15-02-12	0=Muted Off-hook Ringing 1=No Off hook Ringing 2=----- 3=1 Beep Tone on Speaker 4=1 Beep Tone on	0=Muted Off-hook Ringing	0=Muted Off-hook Ringing **IMPORTANT – MUST BE SET CORRECTLY**



Program Name	Program Number	Input Data	Default Value	Recommended Settings
		Handset 5=1 Beep tone in Speaker and Handset		
LND – Outgoing Mode	15-02-13	0=Extension/Trunk Mode 1=Trunk Mode	1=Trunk Mode	0=Extension/Trunk Mode
CID List – Call Register Mode	15-02-34	0=Extension/Trunk Mode 1=Trunk Mode	1=Trunk Mode	0=Extension/Trunk Mode
Additional Information	15-05-28	0=Disable 1=Enable	0=Disable	1=Enable
CODEC Type	15-05-15	1=Type 1 2=Type 2 3=Type 3 4=Type 4 5=Type 5	1=Type 1	
Peer to Peer Mode	15-05-50	0=On 1=Off	0=On	0=On
CAP/Loop Key Operation Mode	20-02-23	0=CAP Key Operation Mode 1=Loop Key Operation Mode	1=Loop Key Operation Mode	

<sup>1</sup> The iSIP IP DECT extension(s) is recommended to be configured to use Normal Hold instead of Park Hold. This means that when the extension uses the Hold function, Call Appearance keys Feature/ Answer are virtualised. This leaves all four programmable keys available for features and functions.

5. Click the **Apply** button when finished.
6. Go to **Easy Edit > Advanced Items > IP DECT > iSIP > iSIP Codec Settings**.



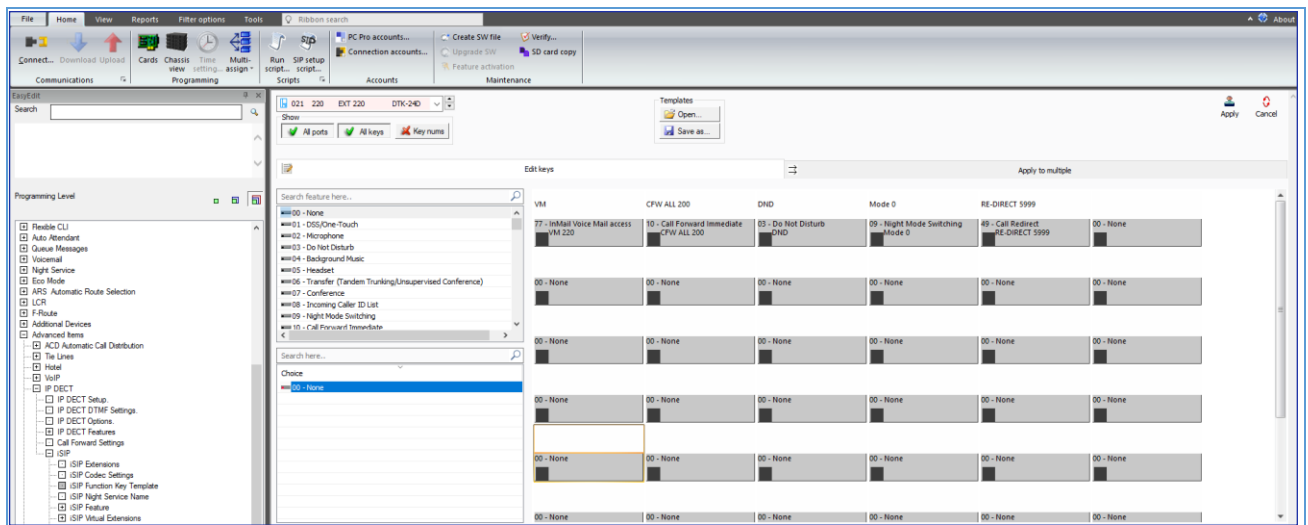
7. Configure the recommended iSIP IP DECT settings as per your system requirements.

Program Name	Program Number	Input Data	Default Value	Recommended Settings
G.711 Maximum Audio Frame Size	84-24-01	1=10ms  2=20ms  3=30ms  4=40ms	2=20ms	2=20ms
G.711 Type	84-34-02	0=A-Law 1=u-Law	0=A-Law	
Audio Capability Priority	84-24-28	0=G.711 1=G.729 2=G.722	0=G.711	0=G.711

8. Click the **Apply** button when finished

## Configure iSIP IP DECT Programmable Keys

1. Go to **Easy Edit > Advanced Items > IP DECT > iSIP > iSIP Function Keys** or if using the System Data commands then go to PRG areas **11-02, 15-07, 15-20**.



2. Assign and configure function keys for the iSIP IP DECT extension. Keys 1 – 4 can be programmed. \*\*It's not necessary to program any keys for basic operation.

## Configure iSIP IP DECT Features

1. Go to **Easy Edit > Advanced Items > IP DECT > iSIP > iSIP Feature > COS per Mode** or if using the System Data commands then go to PRG areas **11-02, 15-01, 20-06**.

Station Port	Extension	Name	Mode 1 CoS	Mode 2 CoS	Mode 3 CoS	Mode 4 CoS	Mode 5 CoS	Mode 6 CoS	Mode 7 CoS	Mode 8 CoS
001	200	EXT 200	1	1	1	1	1	1	1	1
002	201	EXT 201	1	1	1	1	1	1	1	1
003	202	EXT 202	1	1	1	1	1	1	1	1
004	203	EXT 203	1	1	1	1	1	1	1	1
005	204	EXT 204	1	1	1	1	1	1	1	1
006	205	EXT 205	1	1	1	1	1	1	1	1
007	206	EXT 206	1	1	1	1	1	1	1	1
008	207	EXT 207	1	1	1	1	1	1	1	1
009	208	EXT 208	1	1	1	1	1	1	1	1
010	209	EXT 209	1	1	1	1	1	1	1	1
011	210	EXT 210	1	1	1	1	1	1	1	1
012	211	EXT 211	1	1	1	1	1	1	1	1
013	212	EXT 212	1	1	1	1	1	1	1	1
014	213	EXT 213	1	1	1	1	1	1	1	1
015	214	EXT 214	1	1	1	1	1	1	1	1
016	215	EXT 215	1	1	1	1	1	1	1	1
017	216	EXT 216	1	1	1	1	1	1	1	1
018	217	EXT 217	1	1	1	1	1	1	1	1
019	218	EXT 218	1	1	1	1	1	1	1	1
020	219	EXT 219	1	1	1	1	1	1	1	1
021	220	EXT 220	14	14	14	14	14	14	14	14
022	221	EXT 221	14	14	14	14	14	14	14	14
023	222	EXT 222	1	1	1	1	1	1	1	1
024	223	EXT 223	1	1	1	1	1	1	1	1
025	224	EXT 224	1	1	1	1	1	1	1	1
026	225	EXT 225	1	1	1	1	1	1	1	1
027	226	EXT 226	1	1	1	1	1	1	1	1
028	227	EXT 227	1	1	1	1	1	1	1	1
029	228	EXT 228	1	1	1	1	1	1	1	1
030	229	EXT 229	1	1	1	1	1	1	1	1
031	230	EXT 230	1	1	1	1	1	1	1	1
032	231	EXT 231	1	1	1	1	1	1	1	1
033	232	EXT 232	1	1	1	1	1	1	1	1
034	233	EXT 233	1	1	1	1	1	1	1	1
035	234	EXT 234	1	1	1	1	1	1	1	1
036	235	EXT 235	1	1	1	1	1	1	1	1
037	236	EXT 236	1	1	1	1	1	1	1	1
038	237	EXT 237	1	1	1	1	1	1	1	1
039	238	EXT 238	1	1	1	1	1	1	1	1

2. Assign the iSIP IP DECT extension numbers to an unused class of service group between the values 1 – 15.  
By default all system extensions are members of class of service group 1.
3. Click the **Apply** button when finished.
4. Go to **Easy Edit > Advanced Items > IP DECT > iSIP > iSIP Feature > iSIP COS Feature** or if using the System Data commands then go to PRG **20-08**.

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Automatic Off-hook Answer for Virtual Keys															
Automatic On-hook Transfer															
Call Mode Switching Protection from Caller (Internal Call)															
Check List - Notification for Incoming Call List Existence															
Disconnect Supervision															
Hit Key Fail															

5. Configure the recommended iSIP IP DECT settings as per your system requirements.

Program Name	Program Number	Input Data	Default Value	Recommended Settings
Automatic On-hook transfer	20-11-11	0=Disabled 1=Enabled	1=Enabled	0=Disabled
Call Mode Switching Protection from Caller (Internal Call) <sup>1</sup>	20-08-11	0=Disabled  1=Enabled	0=Disabled	1=Enabled
Check List – Notification for Incoming Call List Existence	20-09-04	0=Disabled 1=Enabled	1=Enabled	0=Disabled
Disconnect Supervision	20-13-43	0=Disabled 1=Enabled	0=Disabled	0=Disabled
Hot Key Pad <sup>2</sup>	20-08-20	0=Disabled 1=Enabled	0=Disabled	0=Disabled

<sup>1</sup> iSIP IP DECT extensions do not fully support the voice announce calls feature of the PBX. To protect the devices from this feature being used, this COS option is recommended to be enabled.

<sup>2</sup> iSIP IP DECT extensions do not fully support Hot Keypad feature of the PBX. To protect the devices from this feature being used this COS option should be disabled.

<sup>3</sup> The recommended setting for programming command 20-10-08 Automatic off-hook Answer for Virtual keys is detailed in the **Configure iSIP Virtual Extensions (optional)** section of this document.

6. Click the **Apply** button when finished

The above procedures are applicable for a common installation of standard SIP/iSIP IP DECT extensions in the PBX.

There are additional settings in the PBX that can be changed to fine-tune the behavior of the SIP/iSIP IP DECT extensions.

## Configure iSIP Virtual Extensions (optional)

Go to Easy Edit > Advanced Items > IP DECT > iSIP > Isip Virtual Extensions > iSIP Virtual Basic Setup or if using system data commands 11-04 and 15-01.

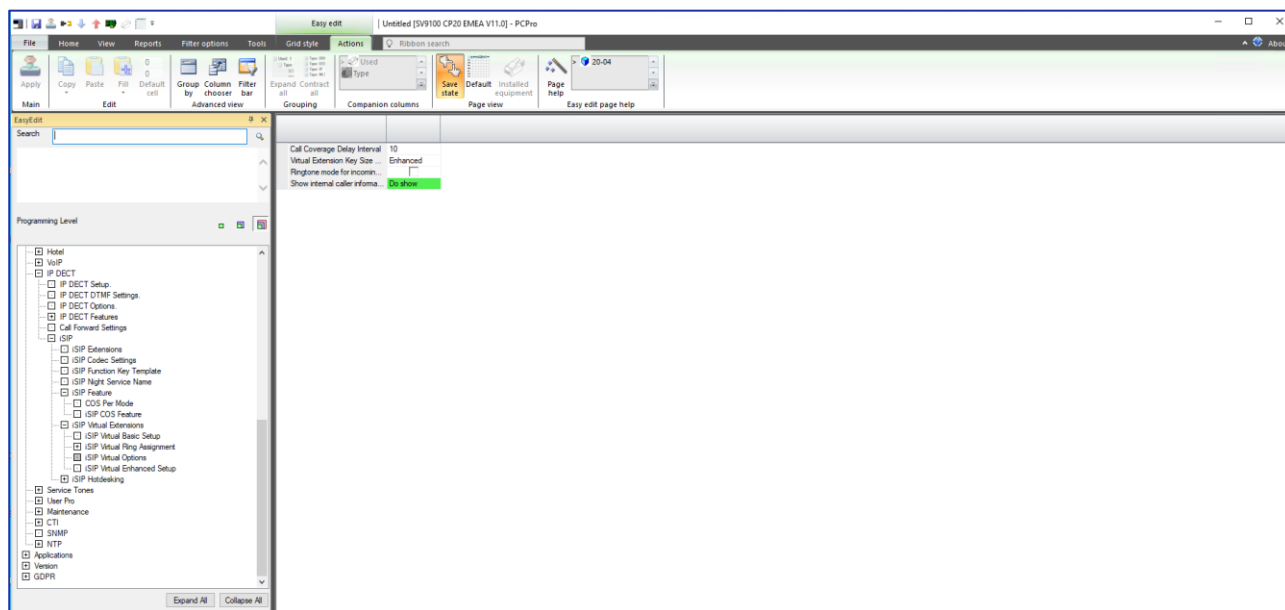
Virtual Extension	Name	Large LED Illumination Setup (Vtusa)	Call Pickup Group	Department Group	Priority Order	Extension CPU Calling Party Number	Call Forward Type	CO Call Forward Destination f.	Intercom Call Forward Destination f.	CO Call Forward Busy Destination	Intercom Call Forward Busy Destination	Call Forwarding Destination f.	Call Forwarding Destination f.
001		Red	1	1	961		No Call Forw...						
002	Sub VE	Red	1	1	962		No Call Forw...						
003	Account VE	Red	1	1	963		No Call Forw...						
004	Tech VE	Red	1	1	964		No Call Forw...						
005		Red	1	1	965		No Call Forw...						
006		Red	1	1	966		No Call Forw...						
007		Red	1	1	967		No Call Forw...						
008		Red	1	1	968		No Call Forw...						
009		Red	1	1	969		No Call Forw...						
010		Red	1	1	970		No Call Forw...						
011		Red	1	1	971		No Call Forw...						
012		Red	1	1	972		No Call Forw...						
013		Red	1	1	973		No Call Forw...						
014		Red	1	1	974		No Call Forw...						
015		Red	1	1	975		No Call Forw...						
016		Red	1	1	976		No Call Forw...						
017		Red	1	1	977		No Call Forw...						
018		Red	1	1	978		No Call Forw...						
019		Red	1	1	979		No Call Forw...						
020		Red	1	1	980		No Call Forw...						
021		Red	1	1	981		No Call Forw...						
022		Red	1	1	982		No Call Forw...						
023		Red	1	1	983		No Call Forw...						
024		Red	1	1	984		No Call Forw...						
025		Red	1	1	985		No Call Forw...						
026		Red	1	1	986		No Call Forw...						
027		Red	1	1	987		No Call Forw...						
028		Red	1	1	988		No Call Forw...						
029		Red	1	1	989		No Call Forw...						
030		Red	1	1	990		No Call Forw...						
031		Red	1	1	991		No Call Forw...						
032		Red	1	1	992		No Call Forw...						
033		Red	1	1	993		No Call Forw...						
034		Red	1	1	994		No Call Forw...						
035		Red	1	1	995		No Call Forw...						
036		Red	1	1	996		No Call Forw...						
037		Red	1	1	997		No Call Forw...						
038		Red	1	1	998		No Call Forw...						
039		Red	1	1	999		No Call Forw...						

Create the virtual extensions required. These must fit within the system number plan as 'Extensions' number types, and for Enhanced display information a maximum of 5 digits number length is supported.

Go to **Advanced Items > IP DECT > iSIP > iSIP Virtual Extensions > iSIP Virtual Ring Assignment > Virtual Keys 01 – 12** or if using system data commands 15-07 and 15-20. Program virtual keys as required.

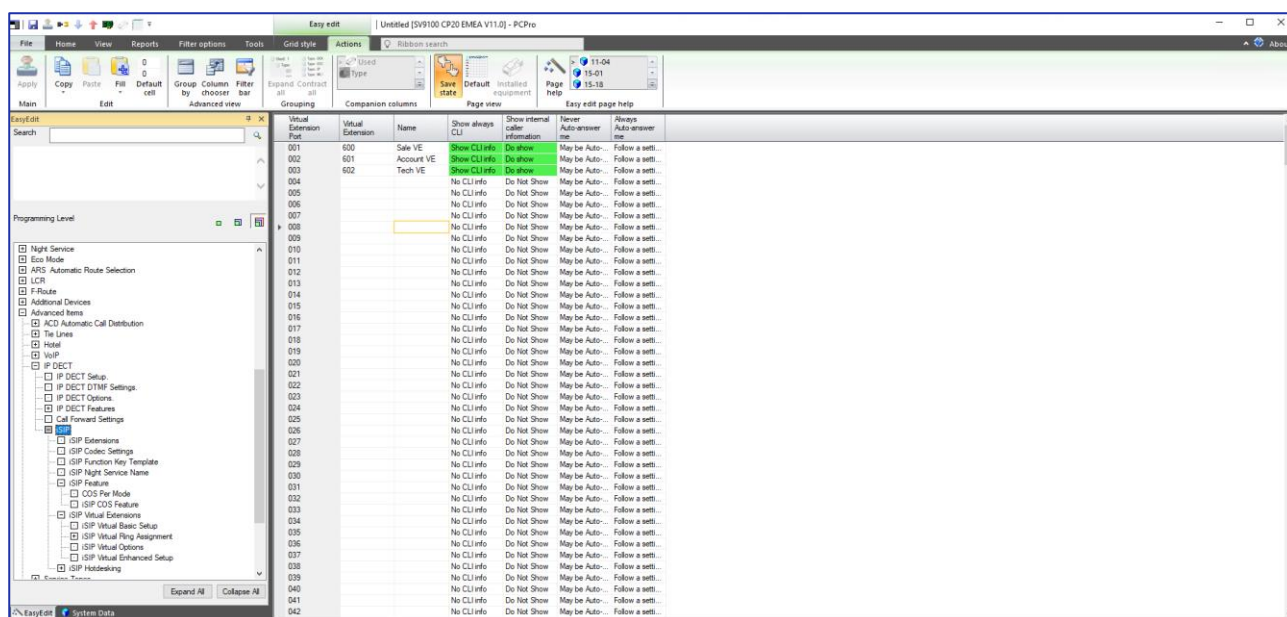
Station	Extension	Function	Additional Data	Mode 1 Ring	Mode 1 Delay	Mode 2 Ring	Mode 2 Delay	Mode 3 Ring	Mode 3 Delay	Mode 4 Ring	Mode 4 Delay	Mode 5 Ring	Mode 5 Delay	Mode 6 Ring	Mode 6 Delay	Mode 7 Ring	Mode 7 Delay
001	200	'01 - Trunk Key	6														
002	201	'01 - Trunk Key	6														
003	202	'01 - Trunk Key	6														
004	203	'01 - Trunk Key	6														
005	204	'01 - Trunk Key	6														
006	205	'01 - Trunk Key	6														
007	206	'01 - Trunk Key	6														
008	207	'01 - Trunk Key	6														
009	208	'01 - Trunk Key	6														
010	209	'01 - Trunk Key	6														
011	210	'01 - Trunk Key	6														
012	211	'01 - Trunk Key	6														
013	212	'01 - Trunk Key	6														
014	213	'01 - Trunk Key	6														
015	214	'01 - Trunk Key	6														
016	215	'01 - Trunk Key	6														
017	216	'01 - Trunk Key	6														
018	217	'01 - Trunk Key	6														
019	218	'01 - Trunk Key	6														
020	219	'01 - Trunk Key	6														
021	220	'03 - Virtual Extension Key	6														
022	221	'03 - Virtual Extension Key	6														
023	222	'01 - Trunk Key	6														
024	223	'01 - Trunk Key	6														
025	224	'01 - Trunk Key	6														
026	225	'01 - Trunk Key	6														
027	226	'01 - Trunk Key	6														
028	227	'01 - Trunk Key	6														
029	228	'01 - Trunk Key	6														
030	229	'01 - Trunk Key	6														
031	230	'01 - Trunk Key	6														
032	231	'01 - Trunk Key	6														
033	232	'01 - Trunk Key	6														
034	233	'01 - Trunk Key	6														
035	234	'01 - Trunk Key	6														
036	235	'01 - Trunk Key	6														
037	236	'01 - Trunk Key	6														
038	237	'01 - Trunk Key	6														
039	238	'01 - Trunk Key	6														
040	239	'01 - Trunk Key	6														
041	240	'01 - Trunk Key	6														

Go to **Advanced Items > IP DECT > iSIP > iSIP Virtual Extensions > Isip Virtual Options** to configure the system behavior for virtual extensions.



Programming Name	Programming Number	Input Data	Default Value	Recommended Settings
Call Coverage Delay Interval	20-04-03	1-64800	10 Seconds	10 Seconds
Virtual Extensions Key Seize Mode	20-04-04	0 = Normal 1 = Enhanced	1 = Enhanced	1 = Enhanced
Ringtone mode for incoming VE	20-04-05	0 = Disabled 1 = Enabled	0 = Disabled	0 = Disabled
Show Internal Caller information	20-04-06	0 = Do Not Show 1 = Do Show	0 = Do Not Show	1 = Do Show

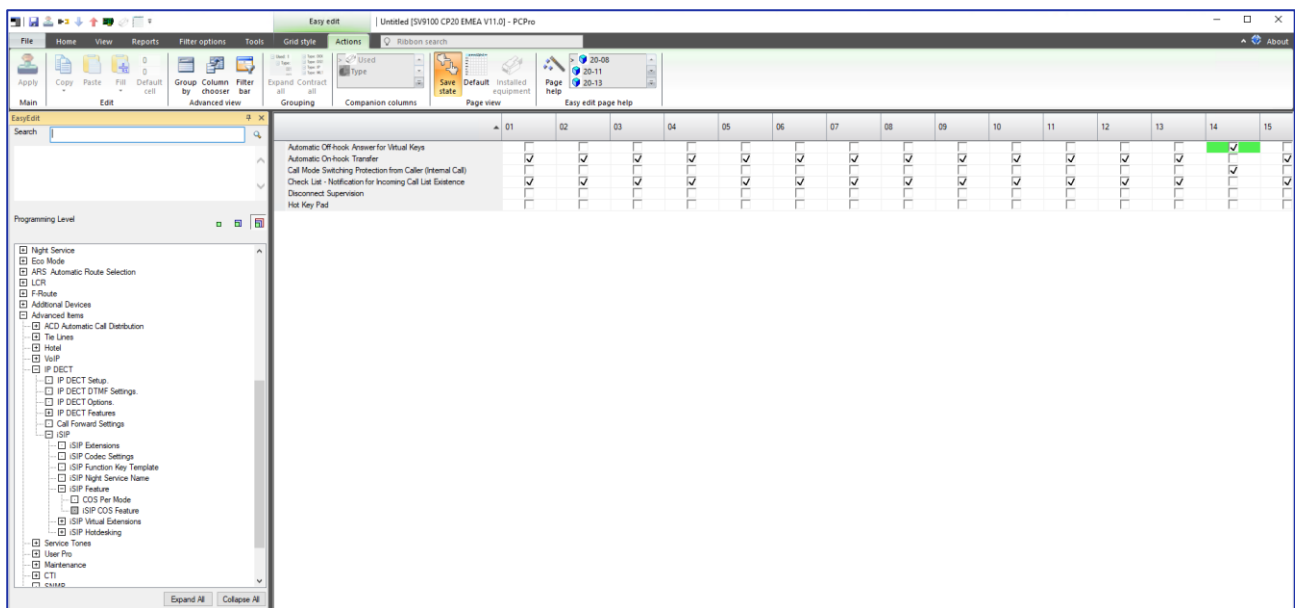
Go to Easy Edit > Advanced Items > IP DECT > iSIP > iSIP Virtual Extensions > iSIP Virtual Enhanced Setup or if using system data commands 15-18



Programming Name	Programming Number	Input Data	Default Value	Recommended Settings
Show always CLI	15-18	0 = Disabled 1 = Enabled	0 = Disabled	1 = Enabled
Show internal caller information	15-18	0 = Disabled 1 = Enabled	0 = Disabled	0 = Disabled
Never Auto-Answer Me	15-18	0 = May be Auto-answered 1 = May not be Auto-Answered	0 = May be Auto-answered	0 = May be Auto-answered
Always Auto-Answer me	15-18	0 = Disabled 1 = Enabled	0 = Disabled	1 = Enabled

Go to Easy Edit > Advanced Items > IP DECT > iSIP > iSIP Feature > iSIP COS Feature or if using the System Data commands then go to PRG 20-08.





Programming Name	Programming Number	Input Data	Default Value	Recommended Settings
Automatic Off-hook Answer for Virtual Keys <sup>1</sup>	20-10-08	0 = Disabled 1 = Enabled	0 = Disabled	1 = Enabled

<sup>1</sup> Should always be enabled if \*03 Virtual Extension key is programmed on hidden key. If \*03 Virtual Extension key is programmed on physical key this command is optional.



## Data Backup Restore and Archive

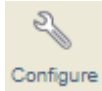
InDECT offers a feature for making a Backup or doing a Restore.

In an InDECT system, the primary configuration data is held on the PBX file server and the subscription data is held on the DAPs.

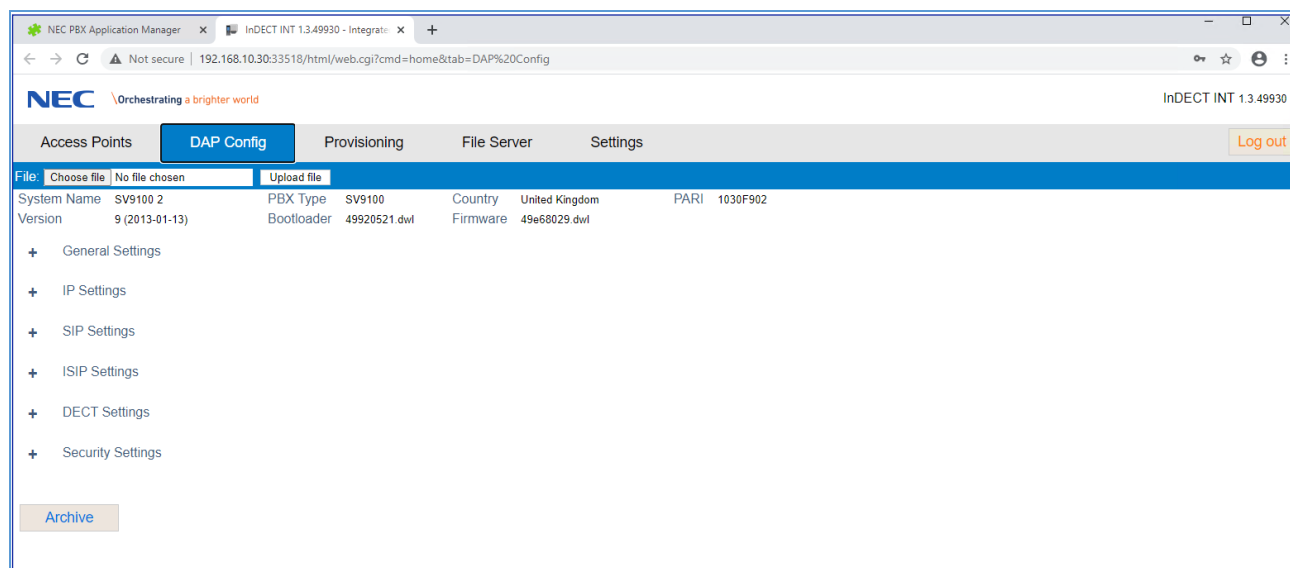
The Archive which can be created using InDECT contains all the required files to restore the configuration and handset subscriptions.

### Creating a System Archive

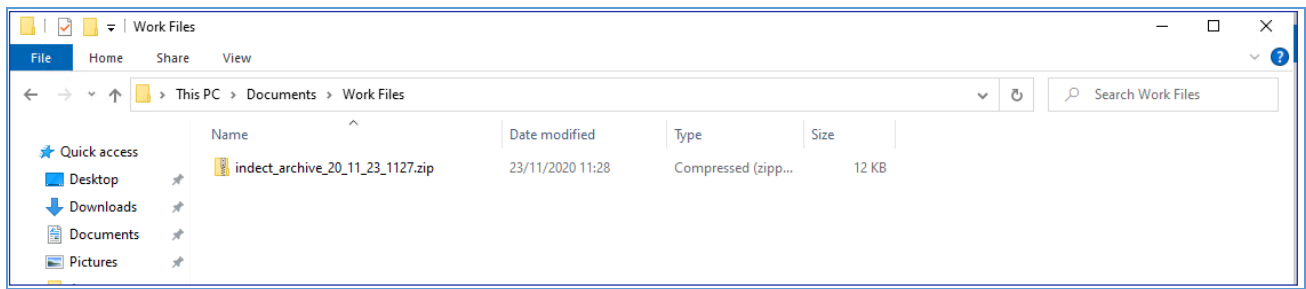
It is possible to create an archive of the InDECT system. The archive is a full report of the state and configuration of the system. An InDECT archive is required for external support from NEC.

To create an InDECT archive Open the InDECT web interface using the **Configure** button  and go to the **DAP Config** screen.

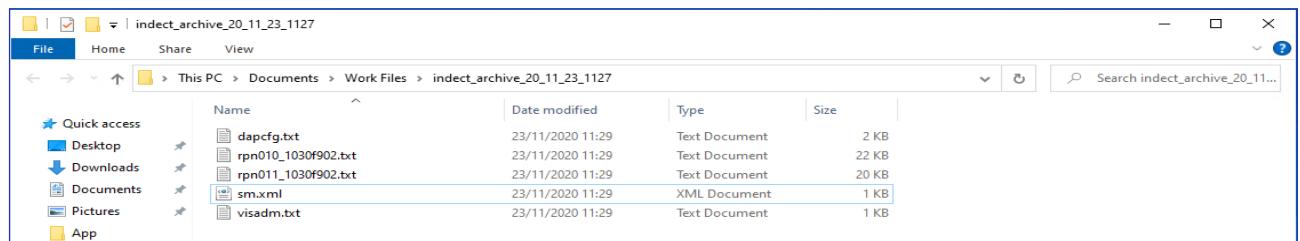
*Note: the account used to access InDECT must have the characteristic of CONFIG assigned to create the InDECT archive.*



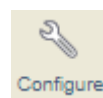
Click the Archive button, the InDECT archive will now be downloaded to a chosen location. The file will be saved as a .zip file following the name format: <name>\_yy\_mm\_dd\_hhmm.zip



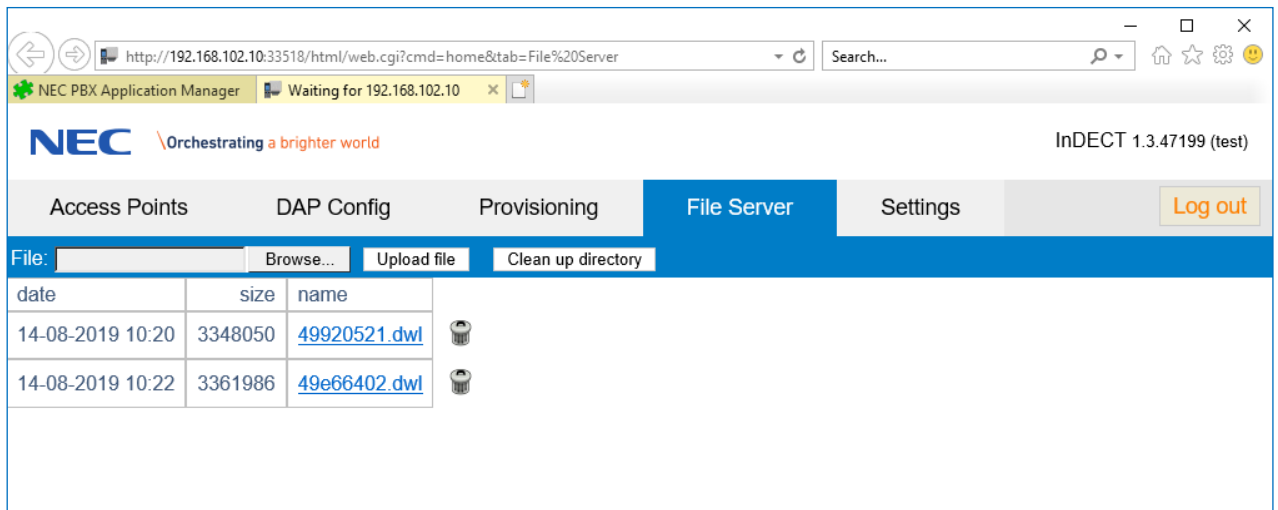
A DECT archive will contain, the InDECT configuration file `dapcfg.txt`, the archive file of each DAP this file is named `rpnxxx_pppppppp.txt`, where `xxx` is the RPN of the DAP and `pppppppp` is the PARI of the system, a `visadm.txt` file and a `sm.xml` file.



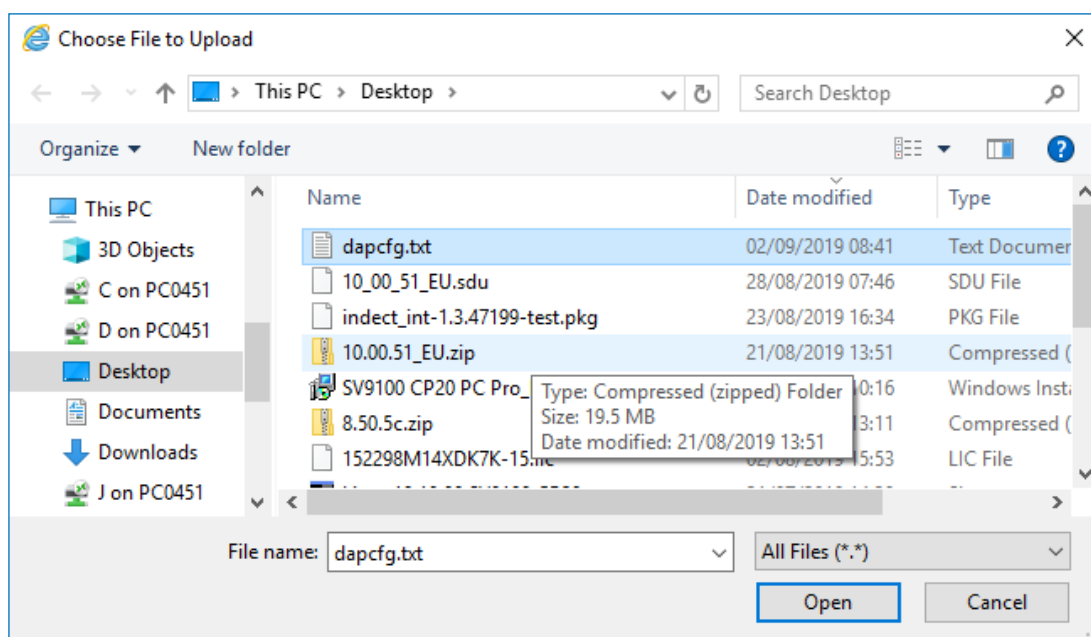
## Restore Configuration Data



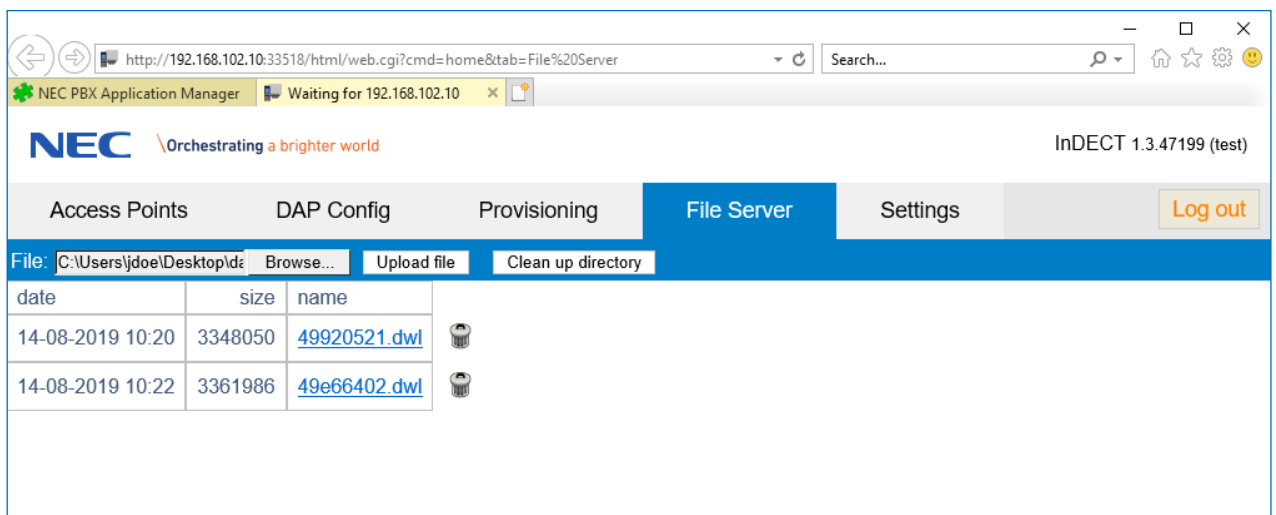
Open the InDECT web interface using the **Configure** button and go to the **File Server** screen.



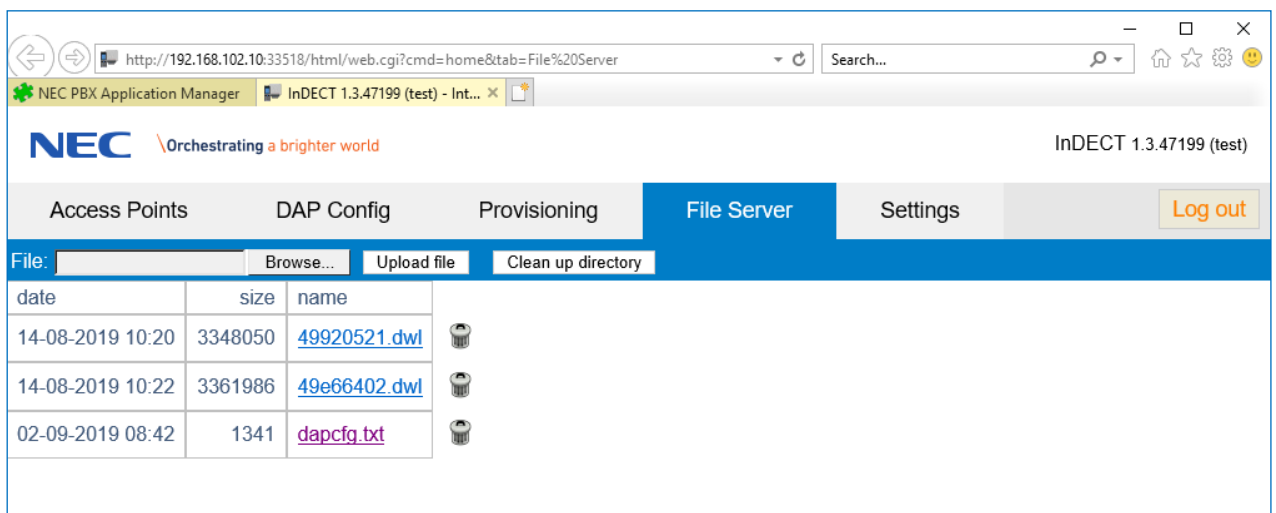
To restore an InDECT system configuration file, press the **Browse** button first and locate the dapcfg.txt file of the InDECT configuration you want to restore. Then press the **Open** button.



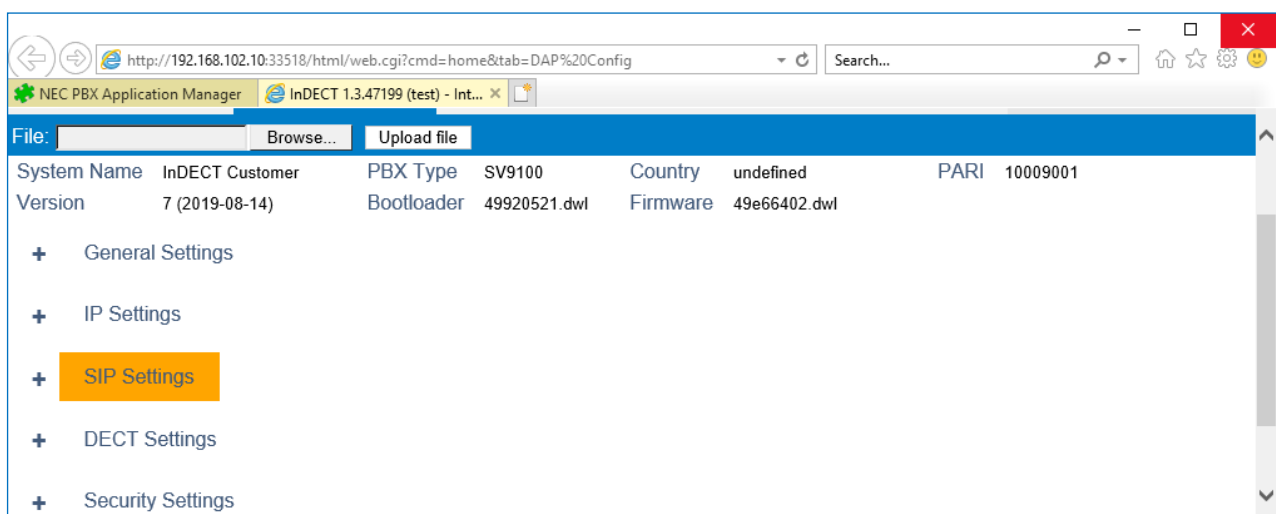
You can when ready upload the file to the PBX file server using the **Upload** button.



The file will be uploaded and appear in the list of files on the **File Server** screen.

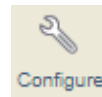


You can check the configuration has been restored successfully then by going to the **DAP Config** screen.

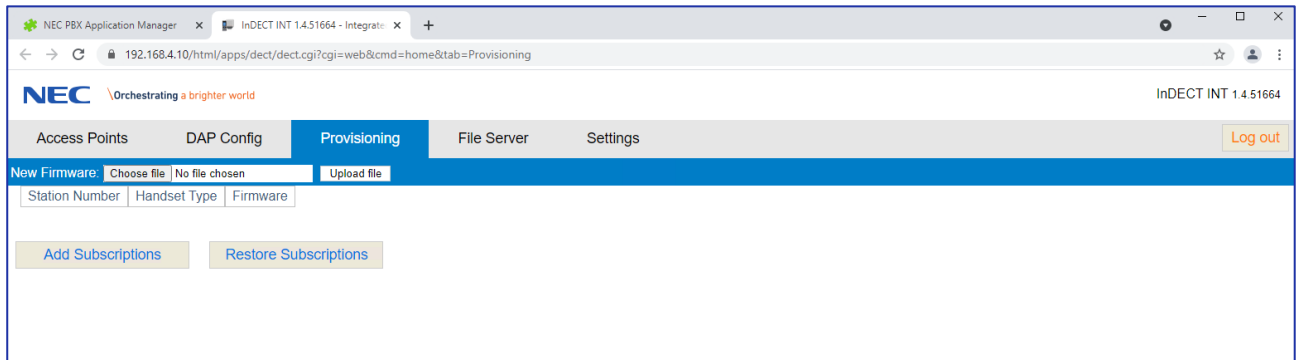


Using the same process, you can also upload DAP bootloader and firmware packages here.

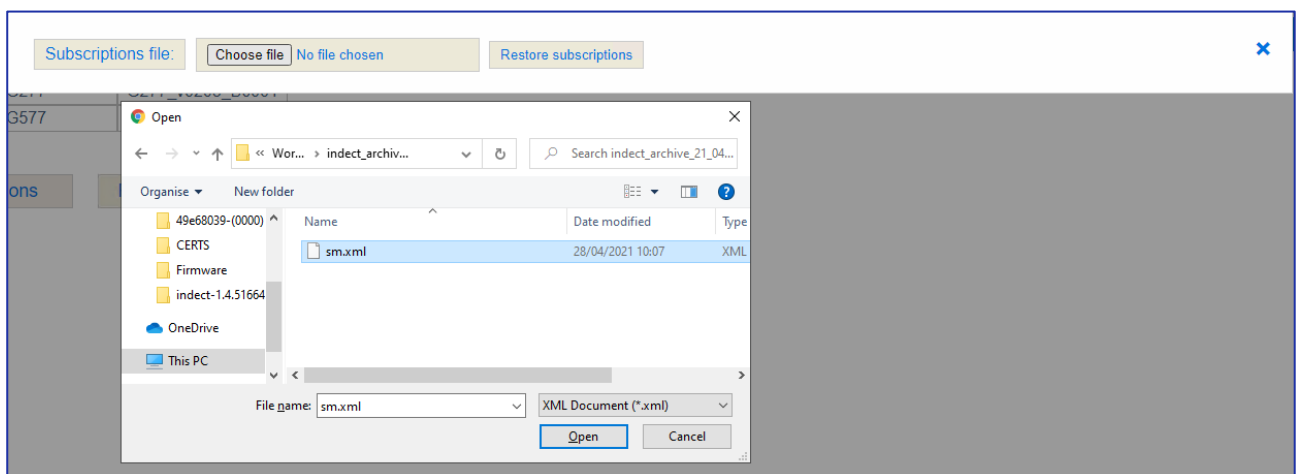
## Restore Subscription Data



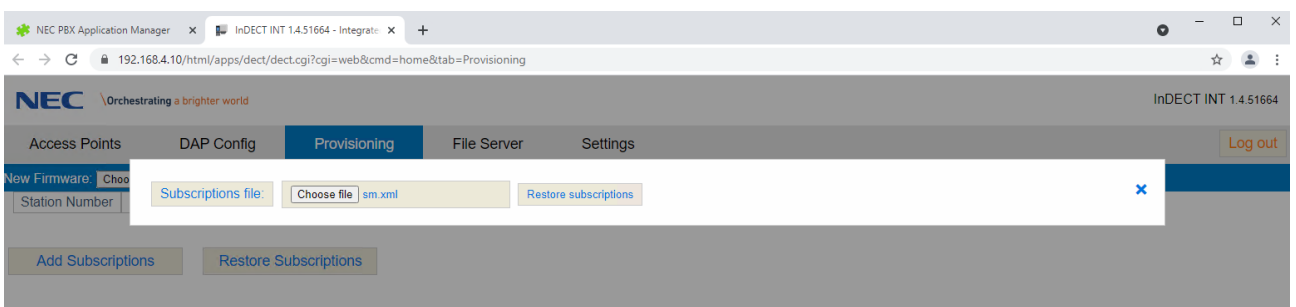
Open the InDECT web interface using the **Configure** button and go to the **Provisioning** screen.



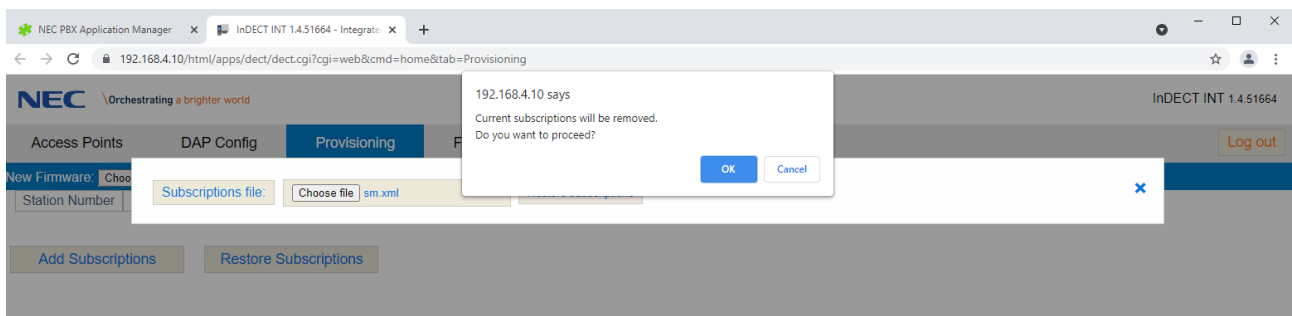
To restore the subscriptions select Restore Subscriptions and browse to the required sm.xml file



Once the sm.xml file is selected click The Restore subscriptions button



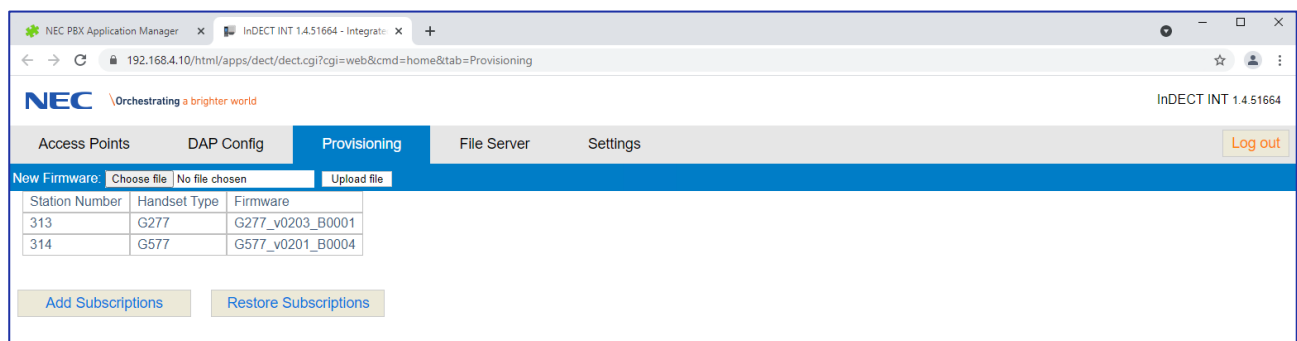
Click OK to proceed <sup>12</sup>.



<sup>1</sup> All subscriptions which are registered but not contained in the sm.xml file will be removed from the InDECT system.

<sup>2</sup> Any subscriptions which are contained in the sm.xml which are registered to InDECT prior to restoring the sm.xml file should be deregistered and removed from the InDECT system. For example, DNR 200 is registered and in use on the InDECT system, the sm.xml file contains a registration for DNR 200, the DNR 200 should be removed from InDECT before completing the subscription restoration.

Once the restore process completes the DNR's will be displayed on the provisioning page <sup>1</sup>.



<sup>1</sup> If the handsets still contain the registration data the handsets will automatically reregister. If the subscription data has been removed from the handset, the handset will need to be reregistered to the DNR's.



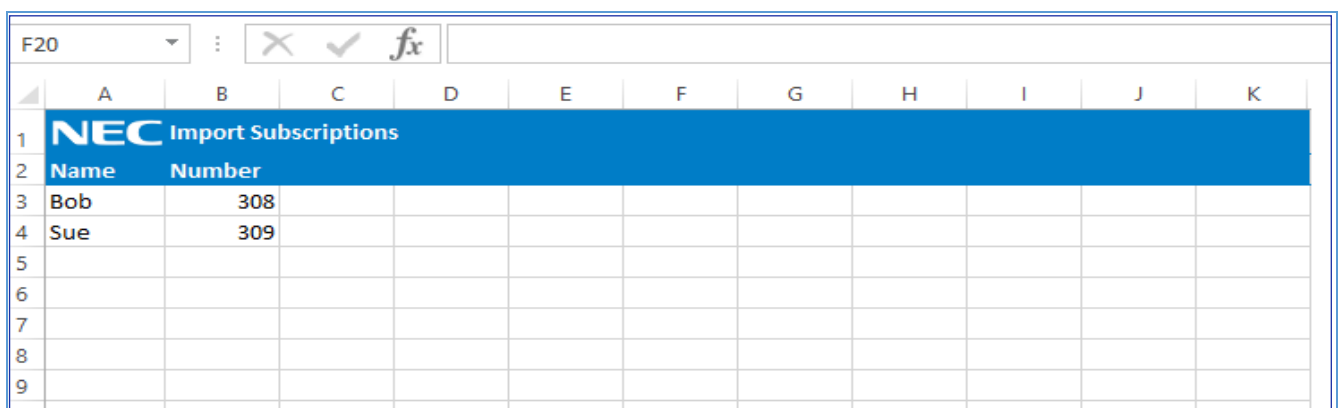
## Subscription Import

InDECT supports import of subscription files into the InDECT system. These files are created with the DECT Handset Configurator tool which can be downloaded from NEC BusinessNet.

The process below details how to import subscriptions into the InDECT system

*Note: Full details of this process can be found in the IP DECT Easy Subscription Guide*

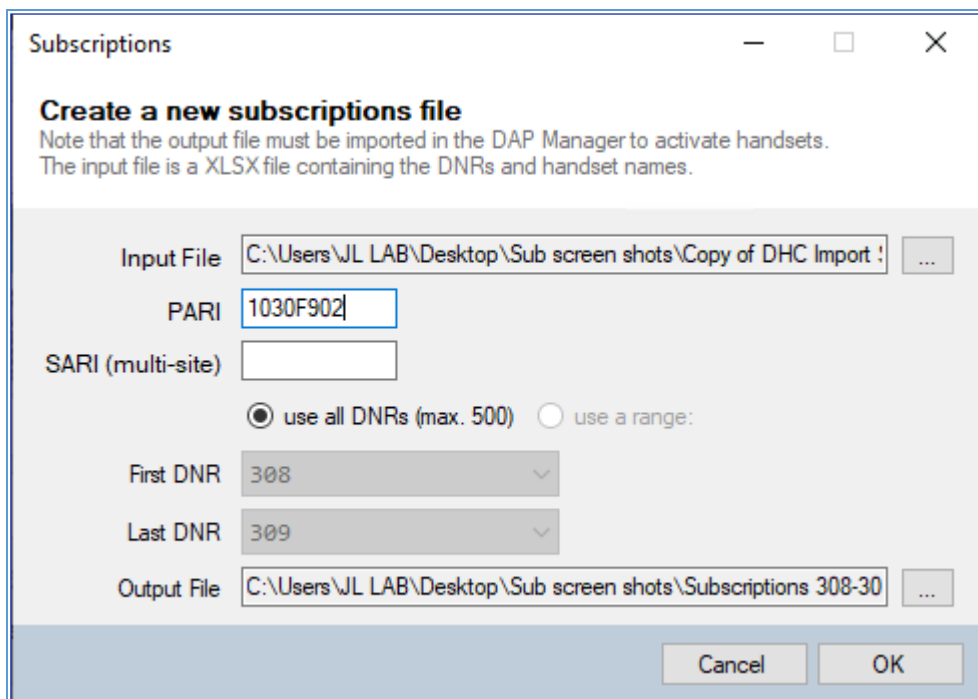
1. Create a spread sheet with the subscriptions to import, there is a sample spread sheet included with the DECT Handset Configurator installation package



The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F	G	H	I	J	K
1	<b>NEC Import Subscriptions</b>										
2	<b>Name</b>	<b>Number</b>									
3	Bob	308									
4	Sue	309									
5											
6											
7											
8											
9											

2. Open the DECT Handset Configurator, select Subscription file (Easy Subscription) and create the subscription file.



The 'Subscriptions' dialog box contains the following fields and options:

- Create a new subscriptions file**  
Note that the output file must be imported in the DAP Manager to activate handsets.  
The input file is a XLSX file containing the DNRs and handset names.
- Input File:** C:\Users\JL LAB\Desktop\Sub screen shots\Copy of DHC Import !
- PARI:** 1030F902
- SARI (multi-site):** (empty field)
- ☒ use all DNRs (max. 500) ☐ use a range:
- First DNR:** 308
- Last DNR:** 309
- Output File:** C:\Users\JL LAB\Desktop\Sub screen shots\Subscriptions 308-30
- Buttons:** Cancel, OK

Input file – Browse to the spread sheet created in step 1


PARI – Enter the PARI code for the system<sup>1</sup>

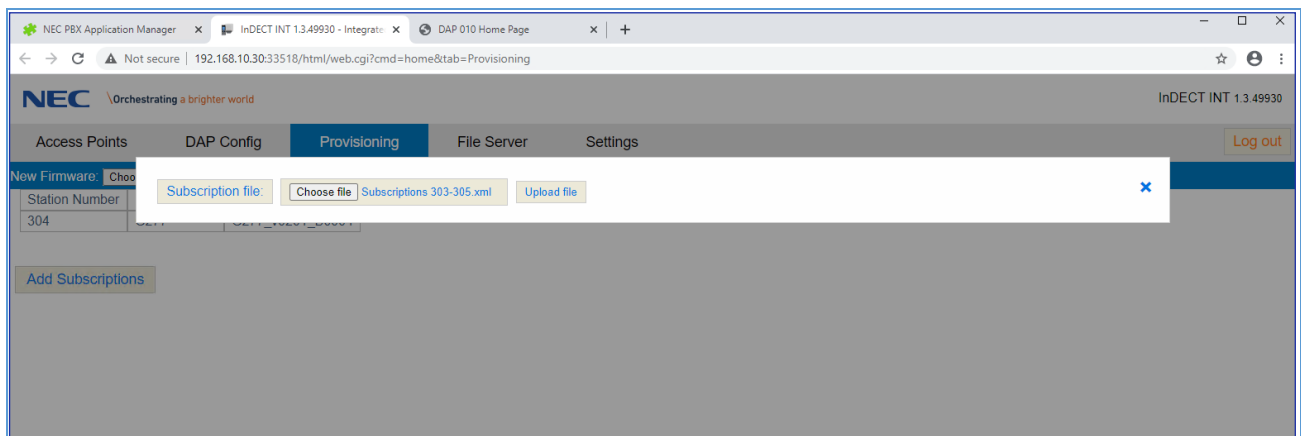
Frist DNR – The first subscription to be imported

Last DNR – The last subscription to be imported

Output File – Browse to the location where the XML output file is to be saved

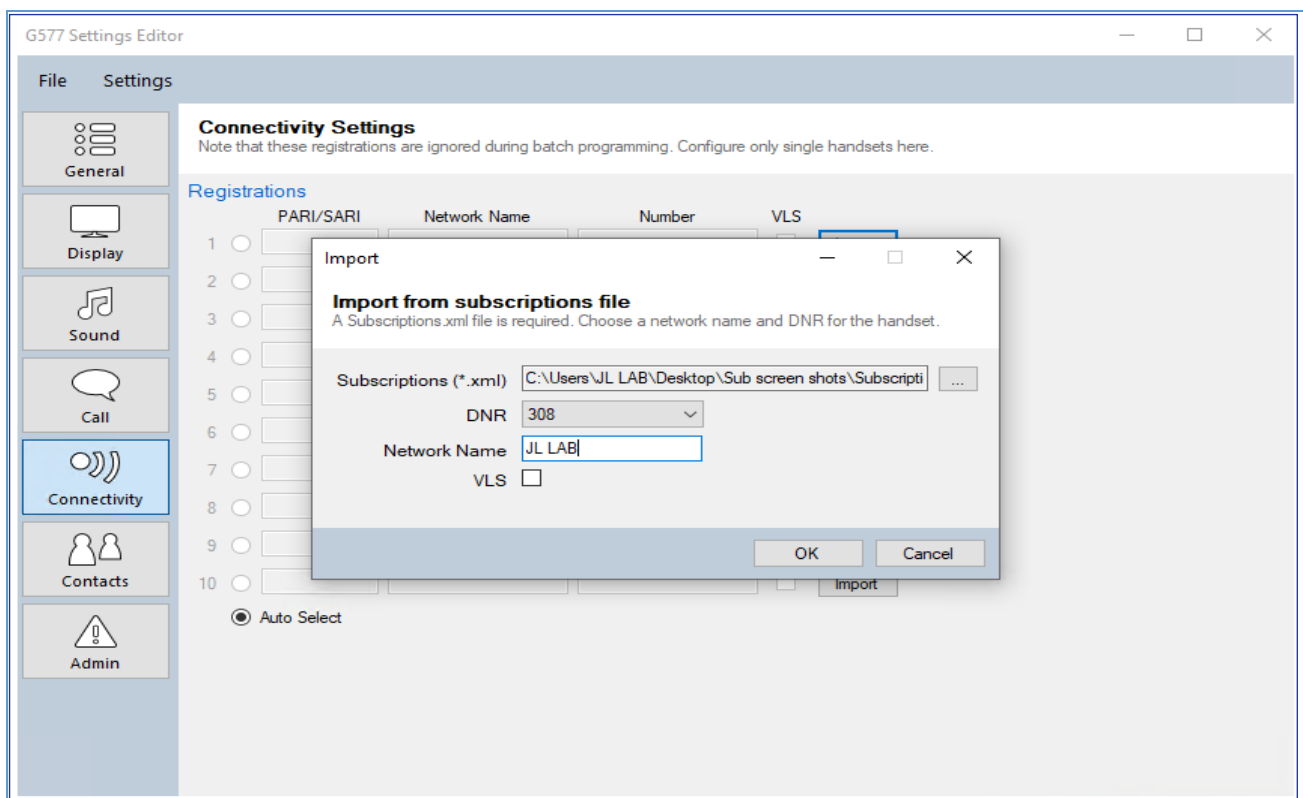
<sup>1</sup>The PARI code is case-sensitive

3. Open the InDECT web interface using the **Configure** button  and go to the **Provisioning** screen, Click the Add Subscriptions icon, browse to the subscription XML file created in step 2 and click upload



*Note: The DNR's will now appear in the DNR list on the DAP but without the handset type until the SD card is loaded.*

4. Open the DECT Handset Configurator, select the required handset, select the Settings Editor and select Connectivity



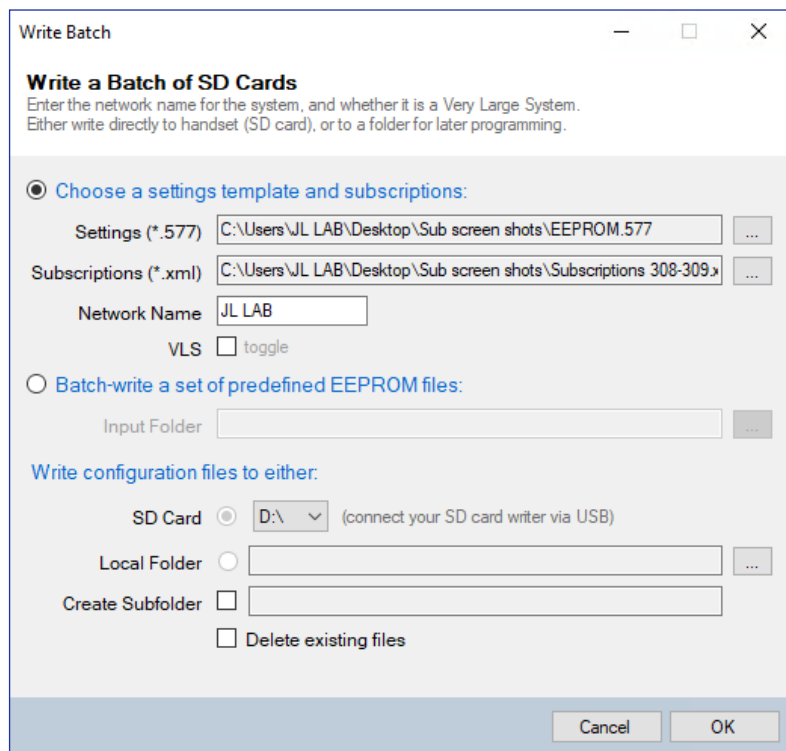
Subscriptions (\*.xml) – Browse to the subscription file created in step 2

DNR – Select the DNR to be subscribed

Network Name – Input the network name as per the customers' requirements

*Repeat for all additional DNR's as required, Click OK and save the settings file.*

5. From the DECT Handset Configurator, select the required handset, select Write a batch of SD cards



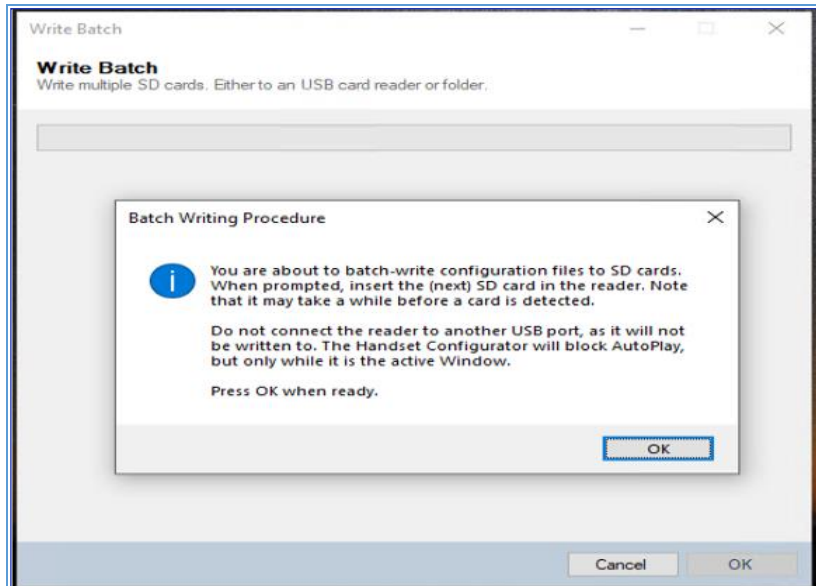
Settings (\*.XXX) XXX being the handset type – Browse to the settings file created in step 4

Subscriptions (\*.xml) – Browse to the subscription file created in step 2

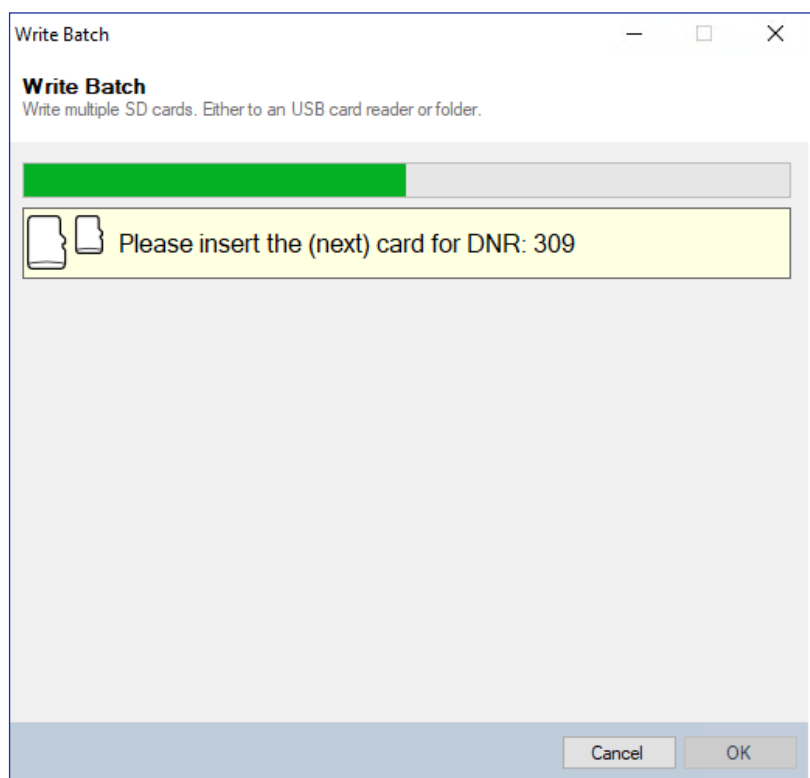
Network Name – Input the network name as per the customers' requirements

SD card – select the drive letter assigned to the SD card in windows explorer

6. Click OK to begin writing subscriptions to SD cards



When a new SD card is require the below will be display, insert the new SD card and click OK



7. Install the SD into the required handset, power on the handset and check the handset shows as subscribed on the handset display and the **Provisioning** screen on the InDECT web GUI.

NEC PBX Application Manager
 InDECT INT 1.3.49930 - Integrate
 DAP 010 Home Page

[←](#)
[→](#)
[↻](#)
⚠ Not secure | 192.168.10.30:33518/html/web.cgi?cmd=home&tab=Provisioning

Orchestrating a brighter world

Access Points

DAP Config

Provisioning

File Server

Settings

New Firmware:

Choose file

No file chosen

Upload file

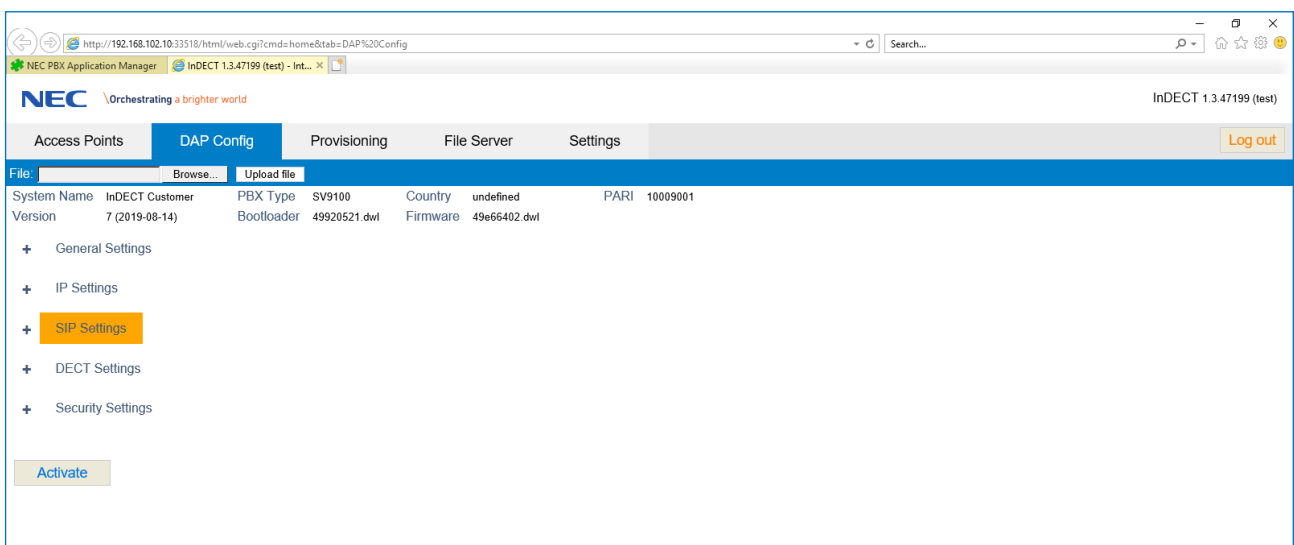
Station Number	Handset Type	Firmware
304	G277	G277_v0201_B0004
308	G577	G577_v0201_B0004

## DAP Web Page Security

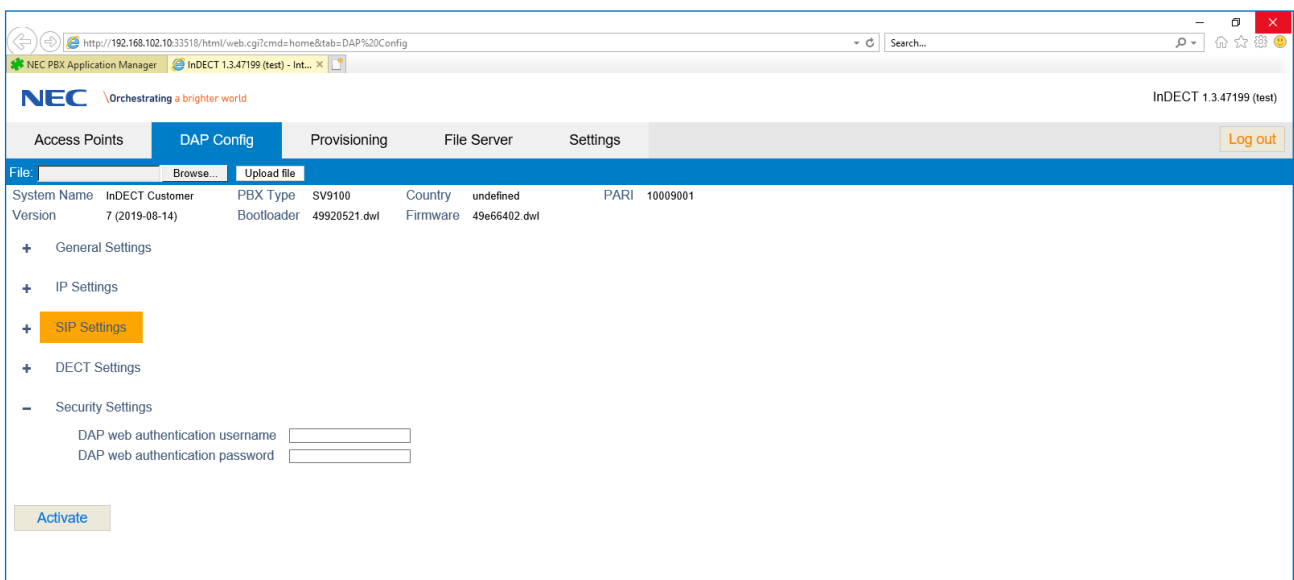
You can easily protect the DAP WEB page with a user name and password. Use the following procedure to do this:



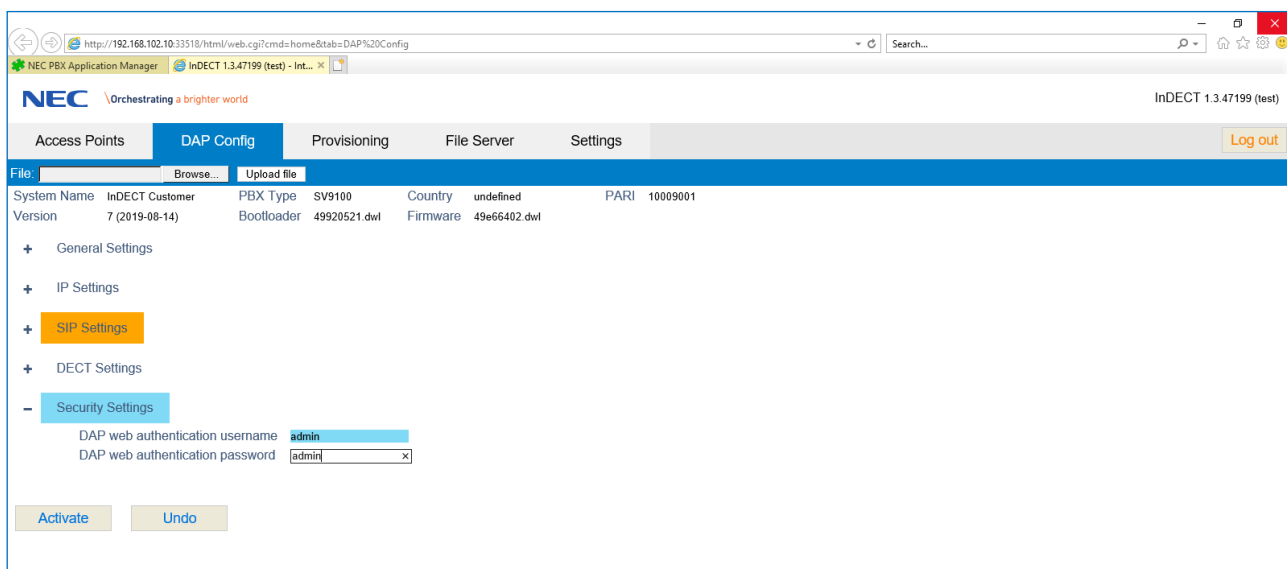
Open the InDECT web interface using the **Configure** button and go to the **Dap Config** screen.



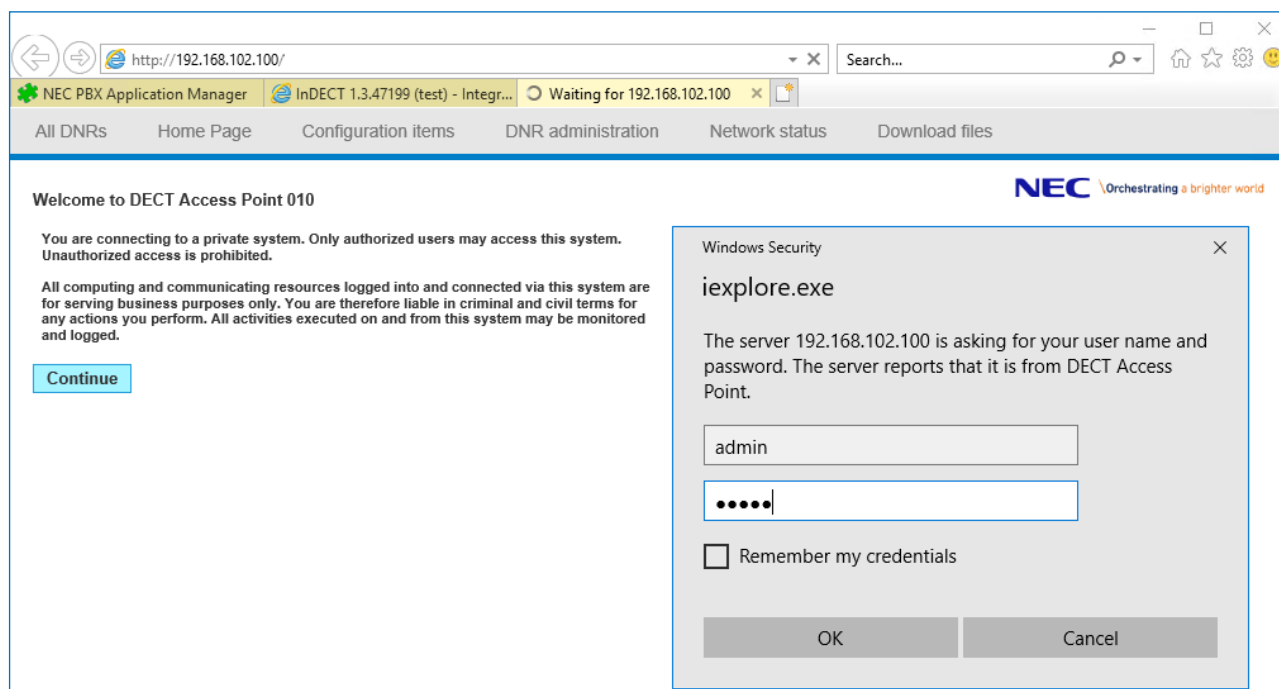
Expand the **Security Settings** section.



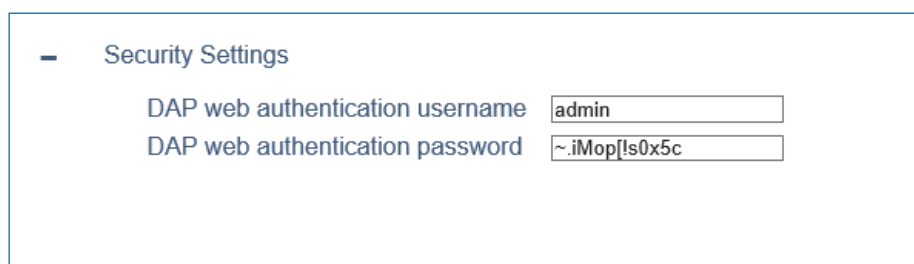
Fill in the user name and the password that you want to use on the DAP WEB Pages.



Click the **Activate** button and then **OK** button at the prompt asking if you want to reboot the DAPs for them to detect the configuration changes. After the reboot, the Login on the DAPs is active.



Please note that the password that you have entered in the DAP Configurator is encrypted in the DAP Configurator.



# Synchronisation

**Note:** This chapter is not applicable for the Hotspot mode. In Hotspot mode, DAPs do not synchronize.

## What about Synchronisation

DAPs must be synchronized with each other to allow handset handover between DAPs during a call. This means that each DAP should "see" two or more other DAPs in the air.

Each DAP has a cell around it, in which you can make and receive phone calls. The minimum signal strength must be -72 dBm. However, for synchronization a DAP should receive signal from at least one other DAP with a signal strength of at least -80 dBm (down to -85 dBm.) See [Figure. Coverage for Synchronisation](#)

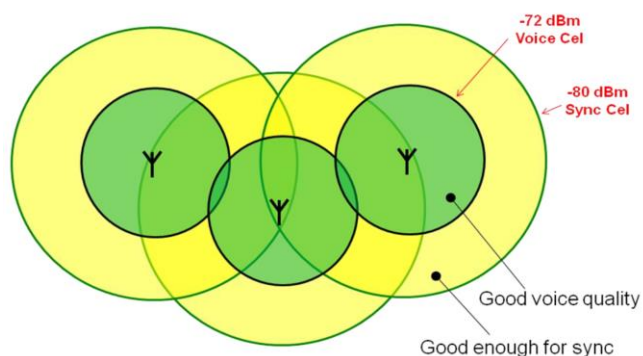


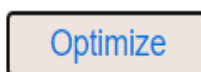
Figure. Coverage for Synchronisation

When DAPs try to synchronize to each other, there must be a hierarchy structure. The system arranges this itself to a certain extent.

However, when you have started the system for the first time, you should use the "Optimize" feature to make sure that the synchronization structure is setup efficiently. After that the synchronization structure will not change, unless you move DAPs or make changes in the DAPs (adding DAPs etc.). When you have made changes, you must run the "Optimize" feature again.

To run the "Optimize" feature open the InDECT web interface using the **Configure** button  and go to

the **Access point** screen. Click the **Optimize**



button to start the process. It will only be possible to run the optimization process when all DAPs are in the Active status, the Optimize button will not





























be available if a DAP is in any other status.

An optimization report containing the following will be displayed:

1. The maximum number of hops from any DAP to the current master DAP
2. The maximum improvement which can be reached by proceeding with the optimization

Click OK to apply the suggested changes in the optimization report, the Access Points screen will now be displayed with some, if not all DAPs given new RPN numbers, click activate and reboot all DAPs to apply the changes, all DAPs will now reboot with the new RPN numbers.

Example of DAP synchronization hierarchy prior to optimization

Access Points		DAP Config		Provisioning	File Server	Settings	Log out	
RPN	Status	IP Address	MAC Address	Package	Nbr. of Subs	Comment		
000	Active	192.168.20.167	00:18:27:50:CF:A7	4920b664	4	Reception		
001	Active	192.168.20.168	00:18:27:50:CC:A8	4920b664	5	Central stairs		
002	Active	192.168.20.169	00:18:27:50:84:A9	4920b664	2	East wing 1		
003	Active	192.168.20.170	00:18:27:50:00:AA	4920b664	3	West wing 1		
004	Active	192.168.20.171	00:18:27:5F:69:AB	4920b664	4	East wing 2		
005	Active	192.168.20.172	00:18:27:50:D4:AC	4920b664	5	West wing 2		
006	Active	192.168.20.174	00:18:27:50:DE:AE	4920b664	2	East wing 3		
007	Active	192.168.20.174	00:18:27:5F:69:AE	4920b664	3	West wing 3		
008	Active	192.168.20.175	00:18:27:50:CF:AF	4920b664	4	Penthouse		
009	Active	192.168.20.176	00:18:27:50:19:B0	4920b664	5	Tennis court		
00A	Active	192.168.20.177	00:18:27:5F:66:B1	4920b664	2	Swimming pool		
00B	Active	192.168.20.178	00:18:27:5F:66:B2	4920b664	3	Garden		
00C	Active	192.168.20.179	00:18:27:50:CC:B3	4920b664	4	Lodge		

Reboot All
Optimize

DAP synchronization hierarchy after applying suggested changes in optimization report

Access Points		DAP Config	Provisioning	File Server	Settings	Log out
RPN	Status	IP Address	MAC Address	Package	Nbr. of Subs	Comment
007	Active	192.168.20.167	00:18:27:50:CF:A7	4920b664	4	Reception
001	Active	192.168.20.168	00:18:27:50:CC:A8	4920b664	5	Central stairs
00A	Active	192.168.20.169	00:18:27:50:84:A9	4920b664	2	East wing 1
003	Active	192.168.20.170	00:18:27:50:00:AA	4920b664	3	West wing 1
004	Active	192.168.20.171	00:18:27:5F:69:AB	4920b664	4	East wing 2
005	Active	192.168.20.172	00:18:27:50:D4:AC	4920b664	5	West wing 2
00C	Active	192.168.20.174	00:18:27:50:DE:AE	4920b664	2	East wing 3
000	Active	192.168.20.174	00:18:27:5F:69:AE	4920b664	3	West wing 3
008	Active	192.168.20.175	00:18:27:50:CF:AF	4920b664	4	Penthouse
00B	Active	192.168.20.176	00:18:27:50:19:B0	4920b664	5	Tennis court
002	Active	192.168.20.177	00:18:27:5F:66:B1	4920b664	2	Swimming pool
009	Active	192.168.20.178	00:18:27:5F:66:B2	4920b664	3	Garden
006	Active	192.168.20.179	00:18:27:50:CC:B3	4920b664	4	Lodge
Activate		Undo				

Resulting synchronization hierarchy after all DAPs are rebooted

Access Points		DAP Config	Provisioning	File Server	Settings	Log out
RPN	Status	IP Address	MAC Address	Package	Nbr. of Subs	Comment
000	Active	192.168.20.174	00:18:27:5F:69:AE	4920b664	4	West wing 3
001	Active	192.168.20.168	00:18:27:50:CC:A8	4920b664	5	Central stairs
002	Active	192.168.20.177	00:18:27:5F:66:B1	4920b664	2	Swimming pool
003	Active	192.168.20.170	00:18:27:50:00:AA	4920b664	3	West wing 1
004	Active	192.168.20.171	00:18:27:5F:69:AB	4920b664	4	East wing 2
005	Active	192.168.20.172	00:18:27:50:D4:AC	4920b664	5	West wing 2
006	Active	192.168.20.179	00:18:27:50:CC:B3	4920b664	2	Lodge
007	Active	192.168.20.167	00:18:27:50:CF:A7	4920b664	3	Reception
008	Active	192.168.20.175	00:18:27:50:CF:AF	4920b664	4	Penthouse
009	Active	192.168.20.178	00:18:27:5F:66:B2	4920b664	5	Garden
00A	Active	192.168.20.169	00:18:27:50:84:A9	4920b664	2	East wing 1
00B	Active	192.168.20.176	00:18:27:50:19:B0	4920b664	3	Tennis court
00C	Active	192.168.20.174	00:18:27:50:DE:AE	4920b664	4	East wing 3
Reboot All		Optimize				

Each DAP has its own unique identifier, the RPN (Radio Part Number). The RPN is a hexadecimal three digit number in the range 000 – 01F. The DAP with the lowest RPN will be the synchronization master/source. The other DAPs will try to synchronize to a DAP that has the shortest path to the synchronization master/source. Normally, the master/source will be more or less in the middle of the IP DECT System. But that is determined by the Optimize Feature. See [Figure. Synchronisation Hierarchy.](#)

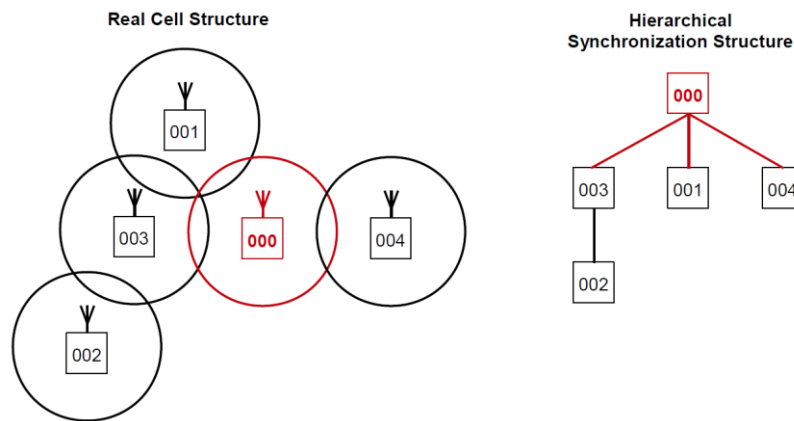


Figure. Synchronisation Hierarchy.

## How to Check the Synchronisation Structure

After you have done an installation, it is necessary to do a quick check of the synchronisation structure. You can simply check the synchronisation structure by means of the information in the DAP WEB Page.

Make sure that the system is running *for at least 5 minutes*.

Open the WEB Page of one of the DAPs from the **Access Points** screen.

Click to view the **Network Status** screen. You will see the following window displayed.

The screenshot shows a web browser window with the URL <http://192.168.102.100/network.htm>. The browser tabs include 'NEC PBX Application Manager', 'InDECT 1.3.47199 (test) - Integr...', 'DAP 010 Home Page', and another 'DAP 010 Home Page'. The navigation bar has links for 'All DNRs', 'Home Page', 'Configuration items', 'DNR administration', 'Network status' (which is active), and 'Download files'.

**Network characteristics**

Item	Value
Duplex mode	Full duplex
Speed	100Mbit

**Gatekeeper status**

GK address	Portables registered	User-Agent	IP address reachable
192.168.102.10:4072	yes	NEC SV9100-GE 10.00.51	no ping done

If you click the button below, the Gatekeepers will be pinged. Please pay attention that ping takes 1 second for each Gatekeeper

**Visibility status of DAP 010 with IP address 192.168.102.100**

RPN	RSSI	Phase diff	Reachable via multicast	IP address	Comment
012	14	Frame:0 Slot:0 Bit:-1	yes	192.168.102.108	Warehouse
00B	14	Frame:0 Slot:0 Bit:0	yes	192.168.102.107	

**List of all other DAPs**

RPN	Reachable via multicast	Pings sent	Pings received	Date last error	IP address	Comment
00B	yes	6	6	-	192.168.102.107	
011	no	6	0	09:13:20 02-09-2019	0.0.0.17	Security
012	yes	6	6	-	192.168.102.108	Warehouse

Check the part "Visibility status of DAP 000 with IP Address".

Here you see an overview of the DAPs that are seen by this DAP.

Check that:

- There is at least one DAP with an RSSI value (signal strength) of "3" or higher!
- All shown DAPs have a Phase Diff in the Bit range -7 to 7. (Frame and Slot must both be "0".)

If the above mentioned requirements are not met, you must change the position of one or more DAPs.

Repeat step 1 to 4 for all other DAPs.

Please note that you can download the synchronisation information by means of clicking the button `visadm.txt`. Check that all DAPs are directly or in-directly connected to the Master DAP via the hierarchical structure (see [Figure. Synchronisation Hierarchy](#)).

## RSSI and Phase Diff (More Insight)

In the DAP Web interface, on the **Network status** screen, there are two important items that gives information about the synchronisation between the DAPs:

- **RSSI**

The RSSI is Radio Signal Strength Indication. It gives a signal Strength value of the received signal from another DAP. This value is in the range 0 ...14. However, for synchronisation, the minimum signal strength should be 3 from at least one other DAP. However, it is strongly recommended to position the DAPs in such a way that all DAPs see at least two other DAPs with a signal strength of 3 or higher.

- **Phase Diff**

The phase difference gives information about the actual synchronisation. It shows the difference between the clock signals between DAPs. There are three indications: *Frame, Slot and Bit*.

The "*Frame*" indication must always be "0".

The "*Slot*" indication should also always be "0".

The "*Bit*" value **must be** in the range -7 to 7 for ALL DAPs.

When the value of one of the DAPs is not in this range, synchronisation is not established and handset handover is not possible.

When the Phase Difference is out of range, the following three items could be the cause:

- Not sufficient signal strength between the DAPs.
- Multicast problems on the IP network.
- Too many reflections in the environment (due to too much metal in the environment).

## Time Provisioning

The handsets in an InDECT IP DECT system must show the correct date and time in the display. This date and time comes from the DAPs. The InDECT application checks the time with the NEC communication platform at regular intervals and updates the DAPs. There are no additional network configuration items required to pass the correct time to the handsets in an InDECT system.

### For your info:

The **Unix epoch** (or **Unix time** or **POSIX time** or **Unix timestamp**) is the number of seconds that have elapsed since January 1, 1970 (midnight UTC/GMT), not counting leap seconds. The “epoch” is *Unix time 0* (midnight 1/1/1970), but 'epoch' is often used as a synonym for 'Unix time'.

## Hotspots

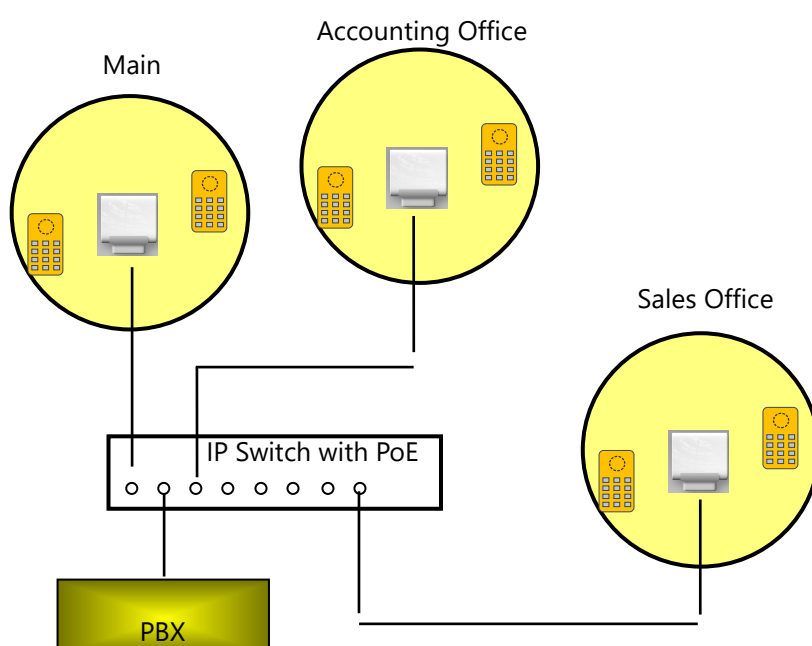
InDECT supports the option of hotspots. When enabled, the DAPs will not synchronize to each other anymore and they don't "see" each other anymore via the air. Each DAP will behave as a stand-alone cell.

This means that:

- there is **no** "handover" possible between the DAPs.
- "Roaming" is possible with a disconnection from current Hotspot DAP.

**Note:** There should not be any overlap between cells. This means that the distance between the hotspots must be such, that a handset never "sees" two DAPs.

**Note:** in Hotspot mode, the output of the DAPs is reduced to 12 dBm. (Normal operation is 24 dBm).



When the handset moves to another hotspot (DAP), the subscription record of the handset will move with it to the other hotspot.

Please note that the distance between the individual DAPs must be such that the handset can never see more than one DAP. In open area, this will be around 200 meters between the DAPs. In office environment, the distance between the DAPs could be around 100 meters. However, you can only be sure about the distance when you measured it in advance.

It is advised to have all DAPs together with the DAP Configurator PC (when present) in one IP subnet. In case of having DAPs in different IP Subnets, you must make sure that IP Multicast is supported over the routers.

- **How to enable Hotspot mode?**

You can enable the hotspot mode during setting up of a new system configuration or from the **DAP Config** screen.

Also see the screens below.

NEC PBX Application Manager InDECT INT 1.3.46622 - Inte...

NEC \Orchestrating a brighter world InDECT INT 1.3.46622

Access Points **DAP Config** Provisioning File Server

Settings Log out

File: Browse... Upload file

### New System Setup Wizard

System Name

PBX Type

PARI

Country

Bootloader

Firmware

ISIP on G566 I766 G577 ☐

Hotspot mode ☐

Create

http://192.168.102.10:33518/html/web.cgi?cmd=home&stab=DAP%20Config Search...

NEC PBX Application Manager InDECT 1.3.47199 (test) - Int...

NEC \Orchestrating a brighter world InDECT 1.3.47199 (test)

Access Points **DAP Config** Provisioning File Server Settings

Log out

File: Browse... Upload file

System Name	InDECT Customer	PBX Type	SV9100	Country	undefined	PARI	10009001
Version	10 (2019-09-02)	Bootloader	49920521.dwl	Firmware	49e66402.dwl		

- + General Settings
- + IP Settings
- + SIP Settings
- DECT Settings
  - ISIP network name
  - ISIP on G566 I766 G577 ☒
  - Hotspot mode ☐
- + Security Settings





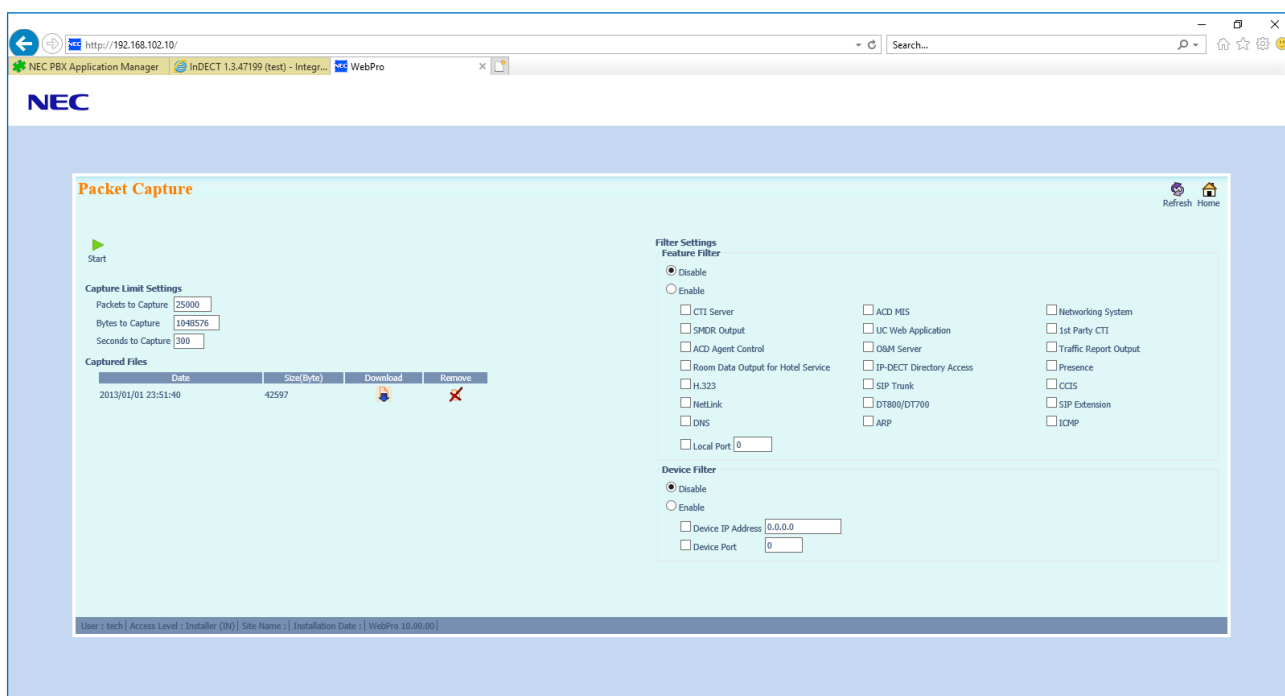
# Troubleshooting

## Making Traces

When there are problems at the interface level between the DAPs and the PBX, you will probably need to make a network protocol trace. Please note that for making a trace, you need to have a laptop PC or other PC that can be installed with an application such as Wireshark in order to look at the capture files further.

To create the capture file. Access WebPro on the PBX and go to the Packet Capture function (SL2100 screens will differ from the SV9100 but function is similar)

Begin capturing network traffic by pressing the **Start** button



Perform the problem operation to recreate a specific issue and capture the network traffic. Once this is

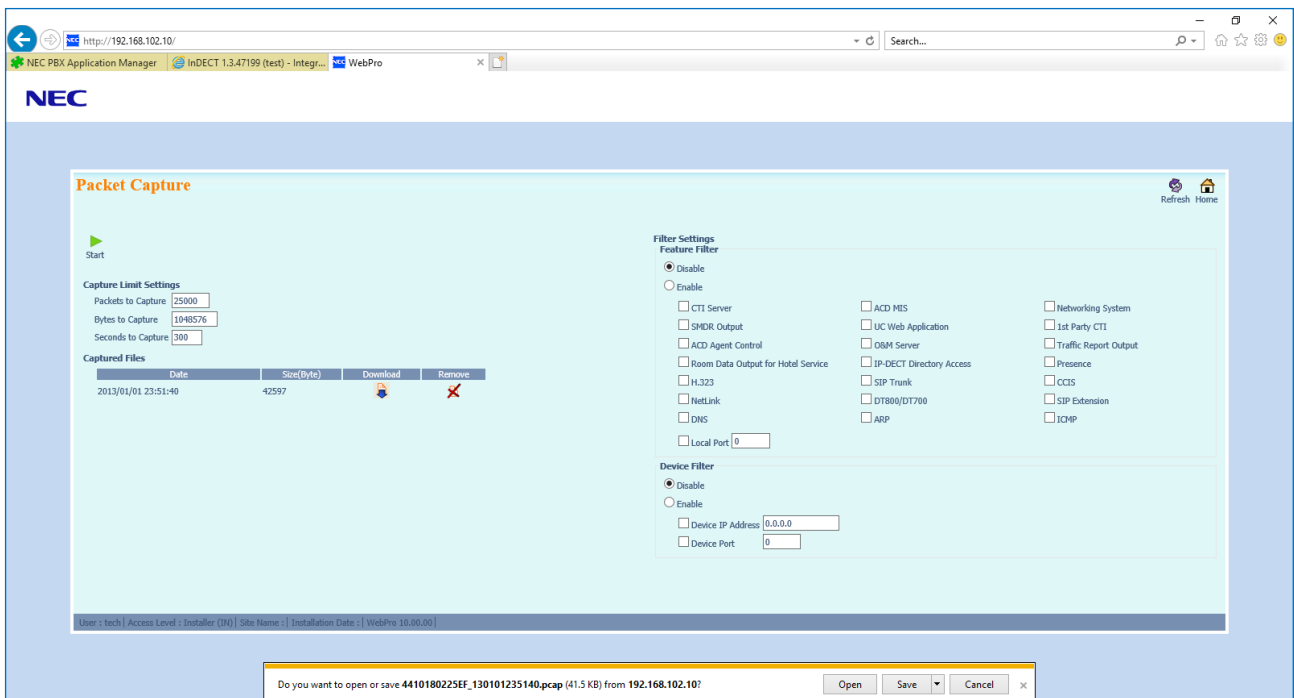
recreated press the **Stop** button



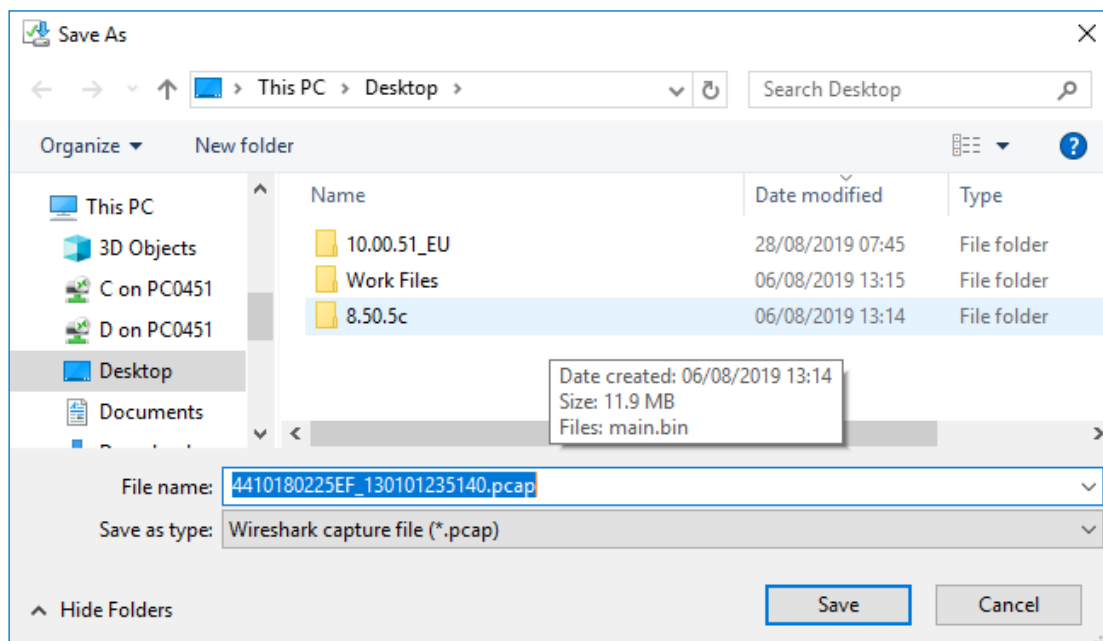
to end the packet capture and download the capture file from the

PBX using the **Download** button





Save the file to a save location on your computer.

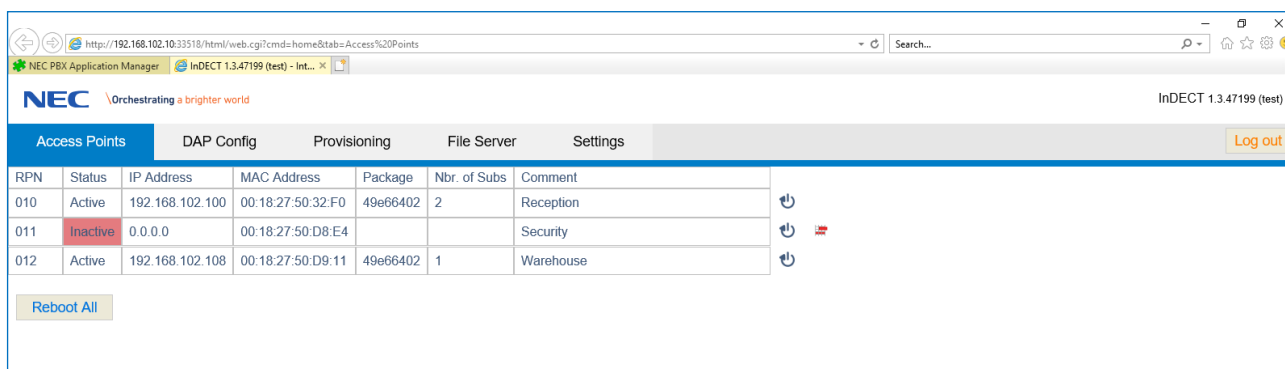


This file can now be opened and analysed further using Wireshark or similar packet capture analysis tool.



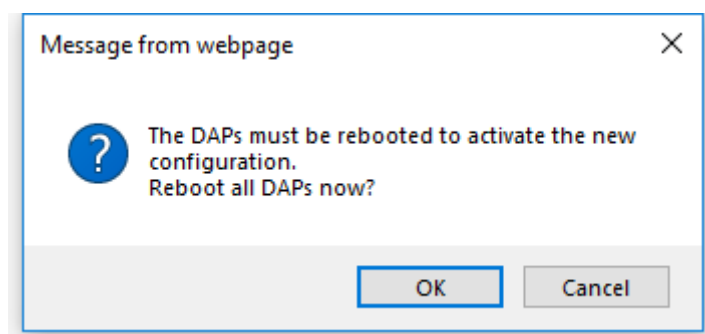
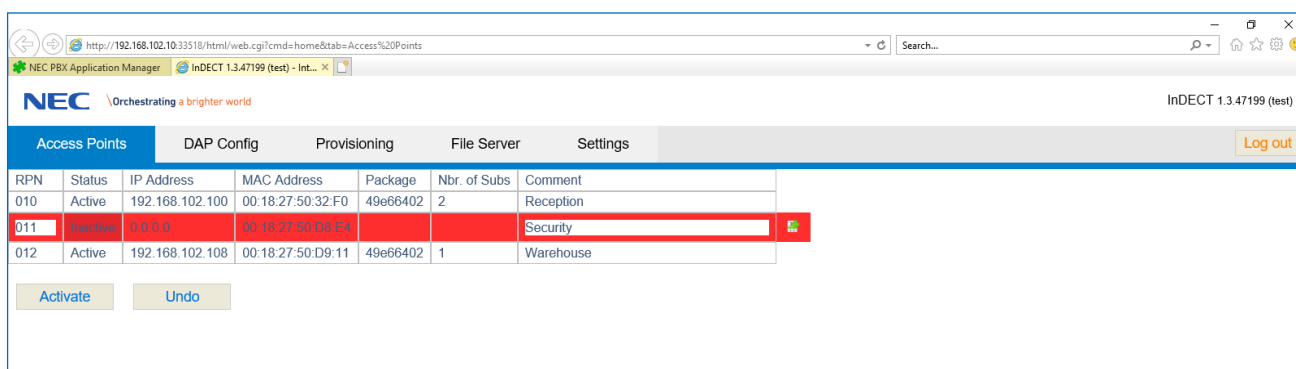
## How to Replace A DAP

When a DAP is not operating as expected with InDECT, it will be displayed with a status as 'Inactive' on the **Access Points** screen. At this point disconnect the DAP that must be replaced.

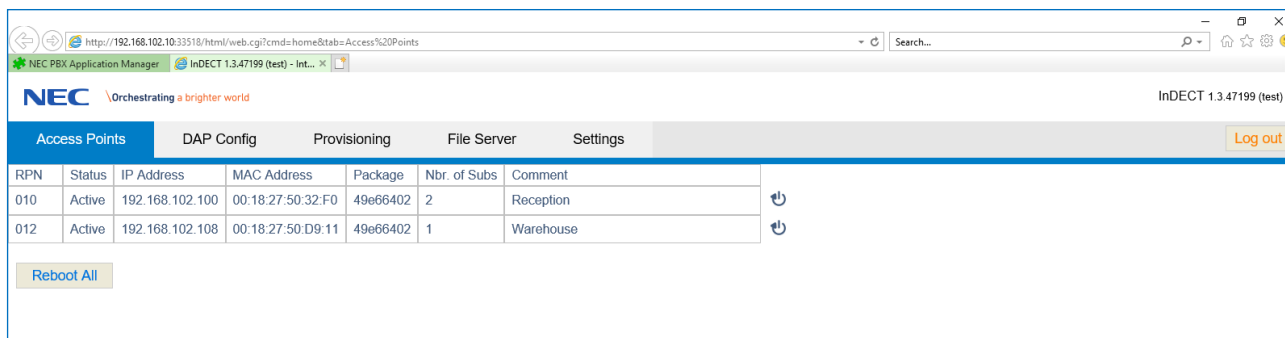


To remove the DAP from InDECT press the **Remove DAP** button  next to the row listed as 'Inactive'. The row will change to be **RED highlight**.

Send the changes to the DAPs by pressing the **Activate** button and then the **OK** button at the prompt asking if you want to reboot the DAPs for them to detect the configuration changes.




Once the 'Inactive' DAP has been removed from the InDECT system. The new DAP can be connected the system. Connect the new DAP to the PBX network.

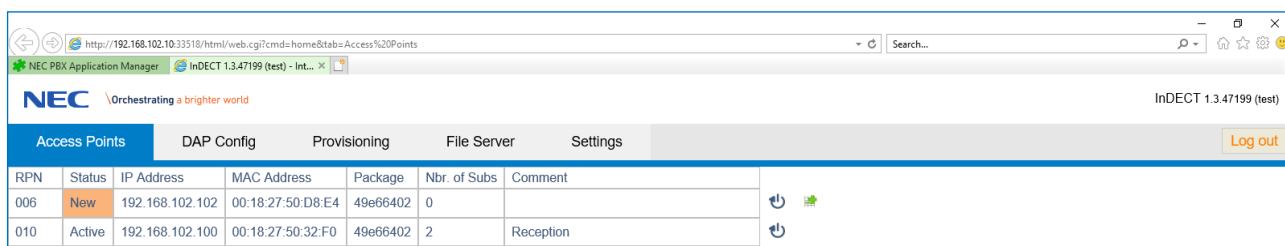


NEC PBX Application Manager | InDECT 1.3.47199 (test) | Log out

Access Points						
RPN	Status	IP Address	MAC Address	Package	Nbr. of Subs	Comment
010	Active	192.168.102.100	00:18:27:50:32:F0	49e66402	2	Reception
012	Active	192.168.102.108	00:18:27:50:D9:11	49e66402	1	Warehouse

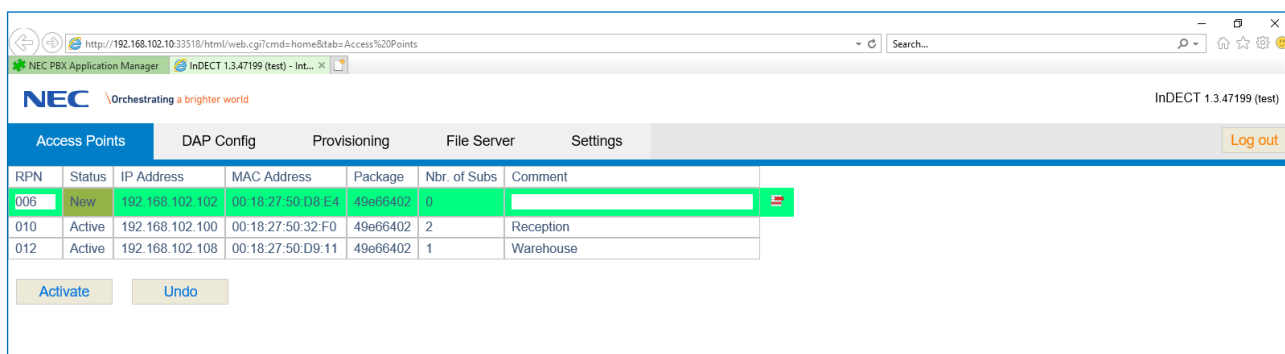
Reboot All

InDECT will detect the new DAP on the network and show it as 'New'. To add detected access points to your InDECT system press the **Add** button  next to each access point.. The selected access point row should change to **green highlight**.



NEC PBX Application Manager | InDECT 1.3.47199 (test) | Log out

Access Points						
RPN	Status	IP Address	MAC Address	Package	Nbr. of Subs	Comment
006	New	192.168.102.102	00:18:27:50:D8:E4	49e66402	0	
010	Active	192.168.102.100	00:18:27:50:32:F0	49e66402	2	Reception



NEC PBX Application Manager | InDECT 1.3.47199 (test) | Log out

Access Points						
RPN	Status	IP Address	MAC Address	Package	Nbr. of Subs	Comment
006	New	192.168.102.102	00:18:27:50:D8:E4	49e66402	0	
010	Active	192.168.102.100	00:18:27:50:32:F0	49e66402	2	Reception
012	Active	192.168.102.108	00:18:27:50:D9:11	49e66402	1	Warehouse

Activate Undo

When ready to continue, press the **Activate** button and the system asks for a reboot of all DAPs. Press **OK** to reboot all DAPs.



# Provisioning Handset Firmware

## General

InDECT supports handset firmware updates over the air. This is done by means of the **Provisioning** screen.

Uploading the firmware to the handsets has the following characteristics:

- Upload time per handset can be as much as 4 hours.
- Handset remains fully operational during the upload process. Updating does not disturb the normal operation of the handset.
- The user will NOT notice that firmware uploading is taking place.
- Only when the new firmware package has been uploaded successfully and the handset is in the charger for more than one minute, the new firmware is activated.
- Upload process is fail-safe. Even when the handset goes down as a result of an empty battery, the upload process will resume when the handset is back again.
- While the upload takes place, one channel on a DAP is occupied.

**Important** – Due to DAP channel occupation during FW uploading, the number of simultaneous uploads should be limited, by default InDECT has it set to 6 simultaneous updates.

## Supported Handsets

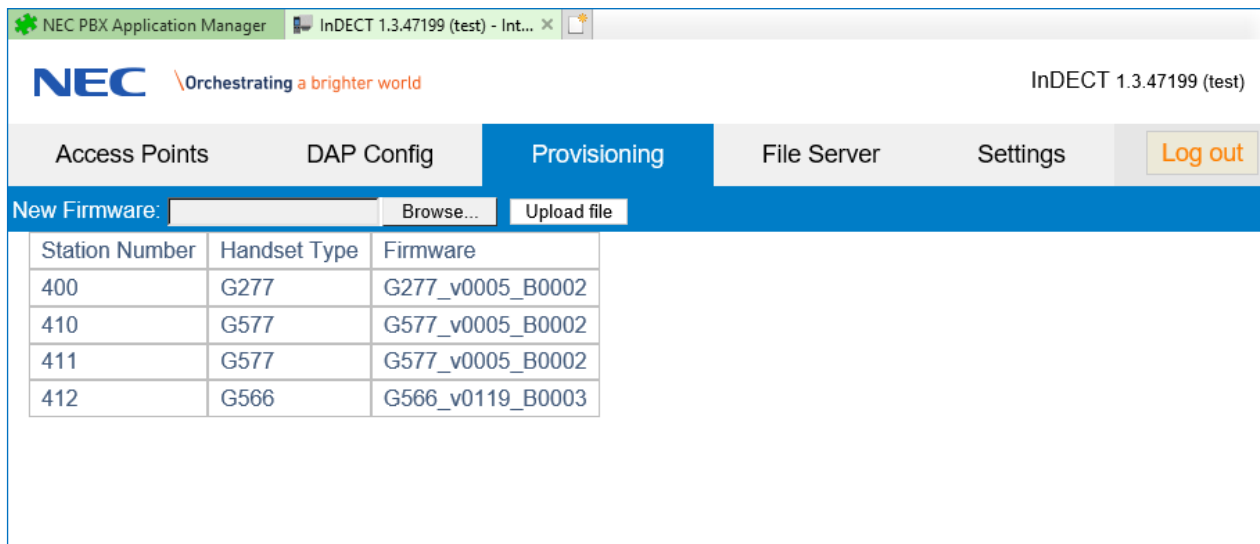
Handset Firmware Upload is available for the following handsets:

- G266
- G277
- G566
- G577/G577h
- I766

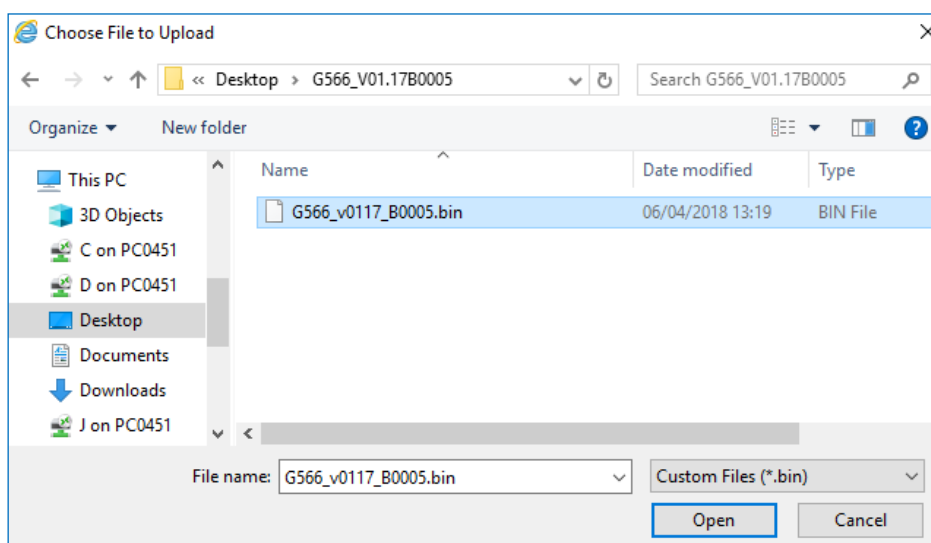


## Firmware Update Procedure

Go to the **Provisioning** screen. Handsets subscribed to the InDECT system will be displayed here along with their current firmware running on the device.



Press the **Browse** button and locate a valid firmware package for the handset type you want to update the firmware to. Press the **Open** button to select the file.



Press the **Upload File** button to transfer the file to the PBX file server.

NEC PBX Application Manager InDECT 1.3.47199 (test) - Int...

NEC \Orchestrating a brighter world InDECT 1.3.47199 (test)

Access Points DAP Config Provisioning File Server Settings Log out

New Firmware: C:\Users\jdoe\Desktop\G Browse... Upload file

Station Number	Handset Type	Firmware
400	G277	G277_v0005_B0002
410	G577	G577_v0005_B0002
411	G577	G577_v0005_B0002
412	G566	G566_v0119_B0003

Wait until the blue progress bar is filled and the new package is listed next to the supported handset type.

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Access Points DAP Config Provisioning File Server Settings Log out

New Firmware: C:\Users\jdoe\Desktop\G Browse... Upload file

Station Number	Handset Type	Firmware
400	G277	G277_v0005_B0002
410	G577	G577_v0005_B0002
411	G577	G577_v0005_B0002
412	G566	G566_v0119_B0003

If multiple handsets are available of the same type for the firmware package uploaded, then check the tick box of the devices you want to update down the left hand side of the screen next to the handsets Station Numbers.

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Access Points DAP Config Provisioning File Server Settings Log out

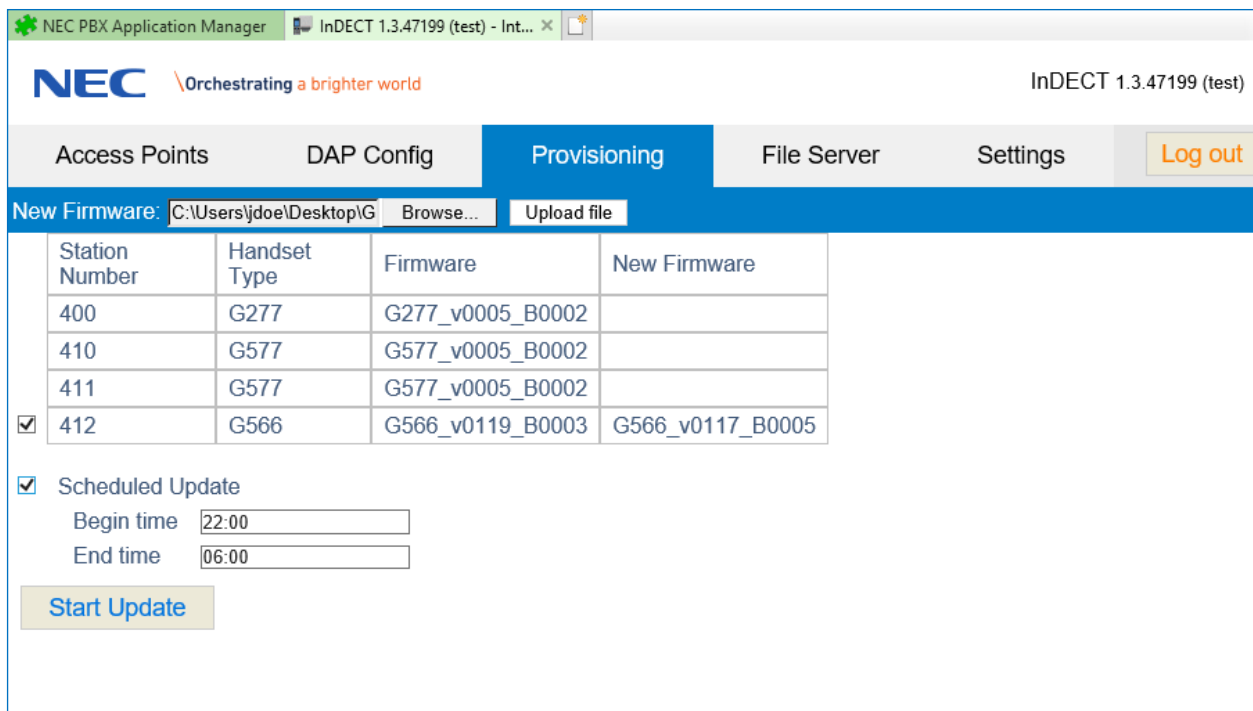
New Firmware: C:\Users\jdoe\Desktop\G Browse... Upload file

Station Number	Handset Type	Firmware	New Firmware
400	G277	G277_v0005_B0002	
410	G577	G577_v0005_B0002	
411	G577	G577_v0005_B0002	
<input checked="" type="checkbox"/> 412	G566	G566_v0119_B0003	G566_v0117_B0005

☐ Scheduled Update

Start Update

You can enable a schedule if you want to for the update to be performed automatically between a Start Time and End Time if entered. This schedule will operate on a daily basis.



NEC PBX Application Manager | InDECT 1.3.47199 (test) - Int...

NEC \Orchestrating a brighter world InDECT 1.3.47199 (test)

Access Points DAP Config **Provisioning** File Server Settings Log out

New Firmware: C:\Users\jdoe\Desktop\G Browse... Upload file

Station Number	Handset Type	Firmware	New Firmware
400	G277	G277_v0005_B0002	
410	G577	G577_v0005_B0002	
411	G577	G577_v0005_B0002	
<input checked="" type="checkbox"/> 412	G566	G566_v0119_B0003	G566_v0117_B0005

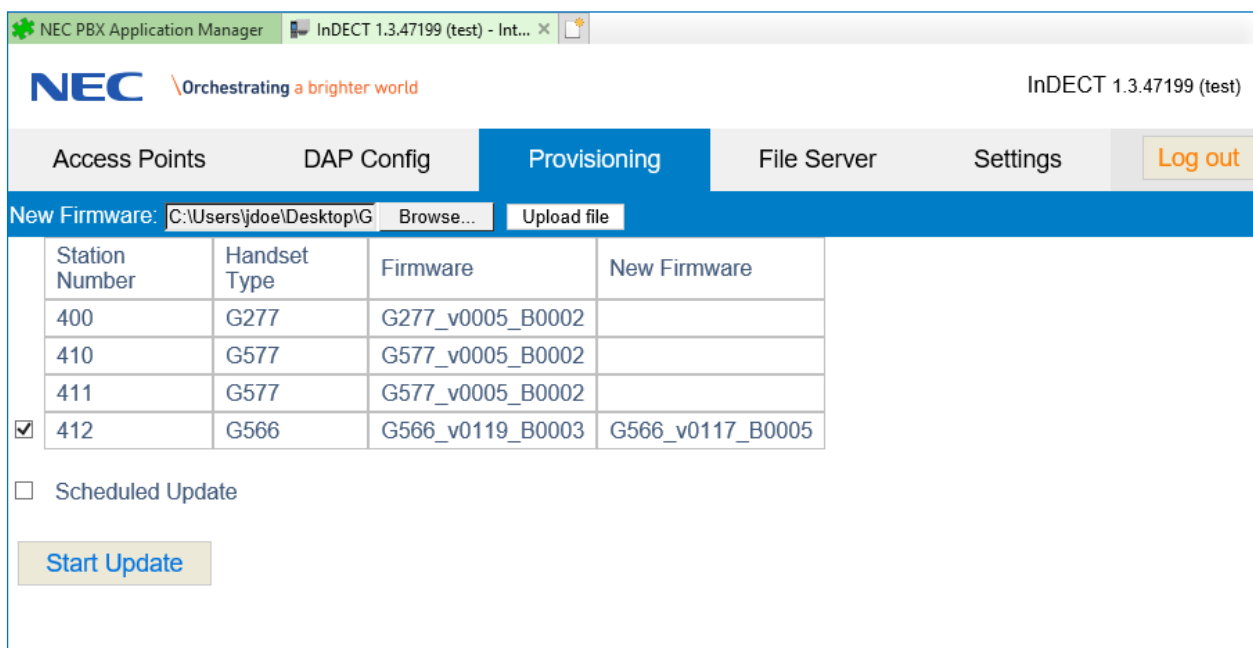
☒ Scheduled Update

Begin time 22:00

End time 06:00

Start Update

To begin either a schedule update or manual update immediately press the **Start Update** button.



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Access Points DAP Config **Provisioning** File Server Settings Log out

New Firmware: C:\Users\jdoe\Desktop\G Browse... Upload file

Station Number	Handset Type	Firmware	New Firmware
400	G277	G277_v0005_B0002	
410	G577	G577_v0005_B0002	
411	G577	G577_v0005_B0002	
<input checked="" type="checkbox"/> 412	G566	G566_v0119_B0003	G566_v0117_B0005

☐ Scheduled Update

Start Update

The update process will begin. If a scheduled update was set then the update will begin at the designated time.

NEC PBX Application Manager InDECT 1.3.47199 (test) - Int...

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Access Points DAP Config Provisioning File Server Settings Log out

	Station Number	Handset Type	Firmware	New Firmware	Update State	Progress (%)	Nr. of Retries
<input checked="" type="checkbox"/>	412	G566	G566_v0119_B0003	G566_v0117_B0005	Updating	0.06	0
	400	G277	G277_v0005_B0002				
	410	G577	G577_v0005_B0002				
	411	G577	G577_v0005_B0002				

Abort Update

Once the update has completed successfully, the handset will need to be first placed in it's charging cradle for the new firmware to be applied to the device.

## Settings Screen – User Configuration

The **Settings** screen in InDECT can be used to configure additional users for the system if required.

You can create additional users in InDECT, so you do not always have to use the default installer user. The default installer username and password is tech/12345678

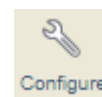
There are different user characteristics (roles) that can be applied to each user. These are detailed below.

Characteristic	Typical User Type	Description	Screens Accessible
<b>VIEW</b>	End-user	Is enabled to inspect the state of the system, but is not allowed to make any changes.	[Access Points], [DAP Config] (read-only), [Provisioning]
<b>CHANGE</b>	IT Admin at customer site	Next to being enabled to inspect the state of the system, this user can changes the current DAP configuration; add/remove DAPs, change DAP settings, upload/download files. This user can not create or remove a DAP configuration, nor change the settings of InDECT itself through the Settings screen.	[Access Points], [DAP Config], [Provisioning], [File Server]
<b>CONFIG</b>	PBX Service Engineer	This engineer installs InDECT and is allowed to change its settings later on. This engineer can also create and remove DAP configurations all together.	[Access Points], [DAP Config], [Provisioning], [File Server], [Settings]

A user with VIEW or CHANGE characteristic can only access InDECT using the **InDECT INT** button



Users with CONFIG characteristic can access InDECT using the **Configure** button



# Adding a new user

Open the **Settings** screen.

NEC PBX Application Manager InDECT 1.3.47199 (test) - Int...

NEC Orchestrating a brighter world

Access PointsDAP ConfigProvisioningFile ServerSettings

Interface IP address (HTTP)192.168.102.10

Subnet prefix length (0..32)24

Syslog Server IP address0.0.0.0

Minimum diagnostic levelWarning

Simultaneous Handset Updates (1..64)6

Multicast IP address (read only)239.192.49.49

TCP port# for File Server33518

UDP port# for WIMFS (read only)27999

UDP port# for Radio Services (read only)3000

TCP port# for Handset update3003

UsernamePasswordCharacteristic

tech.....CONFIG

New usernamepasswordCharacteristic

Activate

Undo

Enter a username and password and select the characteristic for the user.

NEC PBX Application Manager InDECT 1.3.47199 (test) - Int...

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Access PointsDAP ConfigProvisioningFile ServerSettings

Interface IP address (HTTP)192.168.102.10

Subnet prefix length (0..32)24

Syslog Server IP address0.0.0.0

Minimum diagnostic levelWarning

Simultaneous Handset Updates (1..64)6

Multicast IP address (read only)239.192.49.49

TCP port# for File Server33518

UDP port# for WIMFS (read only)27999

UDP port# for Radio Services (read only)3000

TCP port# for Handset update3003


UsernamePasswordCharacteristic

tech.....CONFIG

itadminitadminCHANGE

Activate

Undo

To add the user press the **Add** button  next to the username entered The selected user row should

change to **green highlight**.

http://192.168.102.10:33518/html/web.cgi?cmd=home&tab=Settings

NEC PBX Application Manager InDECT 1.3.47199 (test) - Int...

NEC \Orchestrating a brighter world

Access Points DAP Config Provisioning File Server **Settings**

Interface IP address (HTTP) 192.168.102.10  
Subnet prefix length (0..32) 24  
Syslog Server IP address 0.0.0.0  
Minimum diagnostic level Warning  
Simultaneous Handset Updates (1..64) 6

Multicast IP address (read only) 239.192.49.49  
TCP port# for File Server 33518  
UDP port# for WIMFS (read only) 27999  
UDP port# for Radio Services (read only) 3000  
TCP port# for Handset update 3003

Username	Password	Characteristic
tech	.....	CONFIG
<b>itadmin</b>	<b>itadmin</b>	<b>CHANGE</b>
New username	password	Characteristic

Activate Undo

When ready to continue, press the **Activate** button and the system will add the new user. You can now access InDECT user the entered username/password using the relevant application icon depending on the characteristic set.

NEC PBX Application Manager InDECT 1.3.47199 (test) - Int...

NEC \Orchestrating a brighter world

Access Points DAP Config Provisioning File Server **Settings**

Interface IP address (HTTP) 192.168.102.10  
Subnet prefix length (0..32) 24  
Syslog Server IP address 0.0.0.0  
Minimum diagnostic level Warning  
Simultaneous Handset Updates (1..64) 6

Multicast IP address (read only) 239.192.49.49  
TCP port# for File Server 33518  
UDP port# for WIMFS (read only) 27999  
UDP port# for Radio Services (read only) 3000  
TCP port# for Handset update 3003

Username	Password	Characteristic
itadmin	.....	CHANGE
tech	.....	CONFIG
New username	password	Characteristic

Activate Undo

## Deleting a User

Open the **Settings** screen.

NEC PBX Application Manager InDECT 1.3.47199 (test) - Int... x

NEC \Orchestrating a brighter world InDECT 1.3.47199 (test)


Access Points DAP Config Provisioning File Server **Settings** Log out

Interface IP address (HTTP) 192.168.102.10  
Subnet prefix length (0..32) 24  
Syslog Server IP address 0.0.0.0  
Minimum diagnostic level Warning  
Simultaneous Handset Updates (1..64) 6

Multicast IP address (read only) 239.192.49.49  
TCP port# for File Server 33518  
UDP port# for WIMFS (read only) 27999  
UDP port# for Radio Services (read only) 3000  
TCP port# for Handset update 3003

Username	Password	Characteristic
itadmin	.....	CHANGE
tech	.....	CONFIG
<input type="text" value="New username"/>	<input type="password" value="password"/>	Characteristic

Activate Undo

To remove a user from InDECT press the **Remove DAP** button  next to the username you want to remove. The row will change to be **RED highlight**.



NEC PBX Application Manager InDECT 1.3.47199 (test) - Int...

NEC \Orchestrating a brighter world InDECT 1.3.47199 (test)

Access Points DAP Config Provisioning File Server **Settings** Log out

Interface IP address (HTTP) 192.168.102.10  
 Subnet prefix length (0..32) 24  
 Syslog Server IP address 0.0.0.0  
 Minimum diagnostic level Warning  
 Simultaneous Handset Updates (1..64) 6

Multicast IP address (read only) 239.192.49.49  
 TCP port# for File Server 33518  
 UDP port# for WIMFS (read only) 27999  
 UDP port# for Radio Services (read only) 3000  
 TCP port# for Handset update 3003

Username	Password	Characteristic
admin	.....	CHANGE
tech	.....	CONFIG
New username	password	Characteristic

Activate Undo

When ready to continue, press the **Activate** button.

NEC PBX Application Manager InDECT 1.3.47199 (test) - Int...

NEC \Orchestrating a brighter world InDECT 1.3.47199 (test)

Access Points DAP Config Provisioning File Server **Settings** Log out

Interface IP address (HTTP) 192.168.102.10  
 Subnet prefix length (0..32) 24  
 Syslog Server IP address 0.0.0.0  
 Minimum diagnostic level Warning  
 Simultaneous Handset Updates (1..64) 6

Multicast IP address (read only) 239.192.49.49  
 TCP port# for File Server 33518  
 UDP port# for WIMFS (read only) 27999  
 UDP port# for Radio Services (read only) 3000  
 TCP port# for Handset update 3003

Username	Password	Characteristic
tech	.....	CONFIG
New username	password	Characteristic

Activate Undo

The user should now be removed from the system and you can no longer logon to InDECT using the username and password.

# InDECT – Software Licence Agreement

**PLEASE READ THIS SOFTWARE LICENCE AGREEMENT ("LICENCE") CAREFULLY BEFORE USING THE INDECT SOFTWARE. BY USING THE INDECT SOFTWARE YOU ARE AGREEING TO BE BOUND BY THE TERMS OF THIS LICENCE. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENCE DO NOT USE THE SOFTWARE.**

## 1. The Definitions

1.1. "Licence" means this Software Licence.

1.2. "Customer" means Software User.

1.3. "Software" means all InDECT Software, the subject of this Licence, including (a) the accompanying documentation and any Updates and (b) any Upgrades purchased by the Customer or provided by NEC at no cost pursuant to §5.2 below.

1.4. "Update" means minor Software release the primary purpose of which is to remove incompatibilities, apply corrections, enhance the stability or remedy technical faults in the Software.

1.5. "Upgrade" means major Software release the primary purpose of which is to add new functionality or enhance the performance of the Software.

## 2. The Licence

2.1. NEC grants the Customer a limited, non-exclusive, non-transferable, non-sub licensable Licence to use the Software, subject to the following conditions:

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4.2. NEC shall repair or replace Software subject to a valid warranty claim made within the warranty period, either on-site or off-site, at NEC's discretion and during normal business hours. If the Customer asks NEC to provide services outside its normal business hours, it shall be charged for such services at NEC's standard after-hours rates. If it is not possible to repair or replace the Software, the Software licence fee shall be refunded. The remedies described in this §4.2 shall be NEC's sole obligation and the Customer's sole remedy in the event Software fails to perform according to its specifications during the warranty period. For support purposes, the Customer shall permit remote access to the Software, during normal business hours, upon request for support. The Customer recognises that NEC's ability to support the Software is dependent upon the Customer providing this remote access.

4.3. Because there is such a diverse range of telecommunications environments, NEC cannot warrant that the Software will be compatible in every operating environment. It is the Customer's responsibility to ascertain whether its own operating environment is compatible with the Software.

Any Software modifications which NEC may agree to make to achieve compatibility shall be at its prevailing rates and charges. NEC does not warrant that the Software will meet the Customer's requirements or that its operation will be uninterrupted or error-free. NEC does not warrant that the Software is free of errors or defects. The existence of such Software errors or defects shall not constitute a breach of this warranty. Notwithstanding the foregoing NEC shall provide the Customer with Software corrections for known errors that also affect NEC's other licensees. NEC excludes, and expressly disclaims, all express and implied warranties of merchantability or fitness for any particular purpose. NEC shall not be responsible for external factors affecting the performance of the Software, including without limitation, telecommunications and network breakdowns, power surges or interruptions and other "Acts of God".

4.4. TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT SHALL NEC BE LIABLE FOR PERSONAL INJURY OR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES WHATSOEVER, INCLUDING WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, LOSS OF DATA, BUSINESS INTERRUPTION OR ANY OTHER COMMERCIAL DAMAGES OR LOSSES ARISING OUT OF OR RELATED TO YOUR USE OR INSTABILITY TO USE THE NEC SOFTWARE, HOWEVER CAUSED REGARDLESS OF THE THEORY OF LIABILITY (CONTRACT, TORT OR OTHERWISE) AND EVEN IF NEC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

4.5. Some jurisdictions do not allow the exclusion of certain implied warranties or conditions, so the above exclusions may not apply to the Customer. This Licence does not exclude any implied warranties or conditions that may not under applicable law be excluded. In no event shall NEC total liability to you for all damages (other than as may be required by applicable law in cases involving personal injury) exceed the amount of seventy five pounds (£75). The foregoing limitations will apply even if the above stated remedy fails of its essential purpose.

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4.6. This Licence does not impose any obligations upon NEC to provide support and Software Assurance ("SA") services outside of the warranty period. Should the Customer require such services, they shall be obtained by arrangement with NEC Technical Services.

### **5. Other Services**

5.1. If NEC provides services outside the coverage of its limited warranty or after it has expired, the Customer shall pay for such services at NEC's standard rates and charges, plus travel and accommodation if applicable.

5.2. To fix an error in the Customer's Software, it may be necessary to install an Upgrade containing both version enhancements and bug fixes. During the warranty period, NEC shall provide such Software Upgrade at no cost. After the warranty period, NEC shall provide such Upgrade at its standard price. In addition to the price of such Upgrade, the Customer shall pay us for any services that NEC provides pursuant to §5.1.

## 6. Termination/Cancellation

6.1. NEC may Terminate/Cancel this Licence if the Customer breaches any condition thereof. If the breach is capable of remedy, NEC shall give the Customer thirty (30) days written notice within which to do so. Otherwise, Termination/Cancellation shall take effect immediately upon the Customer's receipt of NEC's notice.

6.2. The Customer may Terminate/Cancel this Agreement upon forty five (45) days prior written notice to NEC. Upon the date of Termination/Cancellation, the Customer's Licence to use the Software shall be deemed revoked, the customer will no longer be bound by the terms of this Agreement. Payment for the Software remains unaffected by this clause; this clause does not grant any free period of usage.

## 7. Term of Licence

7.1. This Licence commences upon the Customer's acceptance hereof. It shall continue, in perpetuity, subject to termination by NEC in the event that the Customer breaches any term herein, or by the Customer with written notice as stipulated in §6.2.

7.2. Upon termination/cancellation the Customer or its representatives shall immediately stop using the Software and documentation and shall return, or destroy all copies of the Software and documentation in a manner directed by NEC.

## 8. Other Clauses

8.1. If NEC foregoes or delays enforcing an obligation or remedy under this Licence, such forbearance or delay shall not result in a waiver or variation of such obligation or remedy. No failure by NEC to insist upon strict performance of any term or condition in this Licence shall constitute a waiver or variation of such term or condition. Such failure shall not prevent NEC from claiming default or seeking a remedy under this Licence.

8.2. This is the entire agreement between NEC and the Customer. Upon agreeing to the terms of this Licence the Customer agrees that this Licence supersedes prior licensing agreements, both written and verbal for NEC Software.

8.3. This Agreement shall be governed by and construed in all aspects in accordance with the Laws of the jurisdiction in which NEC as the supplier of the Software is geographically based and each party submits to the non-exclusive jurisdiction of the courts in that geographic location.

8.4. The Customer acknowledges that a breach of this Agreement may cause irreparable and continuing damage to NEC for which money damages may be insufficient, and NEC shall be entitled to injunctive relief and/or a decree for specific performance and such other relief as may be proper (including money damages if appropriate). In the event of litigation between NEC and the Customer concerning Software or any other item which is subject to this Agreement, the prevailing party in the litigation will be entitled to recover legal fees and expenses from the other party.

8.5. If any part of this Agreement is found void and unenforceable, it will not affect the validity of the balance of the Agreement, which shall remain valid and enforceable according to its terms.

8.6. Acknowledgement. **BY INSTALLING SOFTWARE, THE CUSTOMER ACKNOWLEDGES THAT IT HAS READ THIS AGREEMENT, UNDERSTANDS IT, AND AGREES TO BE BOUND BY ITS TERMS AND CONDITIONS.**



NEC Enterprise Solutions reserves the right to change the specifications, functions, or features at any time without notice.

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