



## IP Office Technical Tip

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**Region: GLOBAL**

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### **Avaya one-X Mobile and Mobile Call Control for IP Office**

This document provides information on how to configure one-X Mobile and Mobile Call Control for IP Office.

#### **Avaya one-X Mobile**

Avaya one-X Mobile is a client and server solution that provides users with IP Office telephony features in their mobile phones. one-X Mobile client software installed in supported mobile phones work with the IP500 acting as a feature server to provide desktop features to the mobile phone user.

#### **Requirements for implementing one-X Mobile**

- 1) one-X mobile is supported on IP500 running release 4.2 or above.
- 2) A Mobility license required for each configured user. It is the same license as the Mobile Twinning license in 4.1 and earlier.
- 3) Trunks that support clearing supervision required. Supported trunk types are:
  - a) IP500 Universal PRI (Not supported on legacy PRI on a carrier card)
  - b) IP500 BRI
  - c) SIP (RFC2833)
- 4) Available DID/DDI numbers equal to the number of features to implement.
- 5) one-X Mobile Client application downloadable from <http://support.avaya.com>
- 6) IP Office release 4.2 supports Windows Mobile (5 or 6) and Symbian (Single Mode) devices only.

#### **Verify support for your Mobile Phone**

Please refer to the list of IP Office supported phones and operating system versions to verify support for your mobile phone.

To find out the Windows Mobile version go to Start>Settings>System>About.  
To display Symbian (Nokia) firmware version enter **\*#0000#** on the keypad.

## Feature Name Extension (FNE)

A Feature Name Extension is a number you can dial that allows you to access an Avaya IP Office feature from your mobile phone. All FNEs that the administrator would like to activate must be associated to a DID/DDI that comes in over a supported trunk type. This is done in the IP Office configuration shown later. Additionally, the DID/DDI number must be configured in the configuration file for the one-X Mobile client.

The table below lists the supported IP Office FNEs, the corresponding FNE number and tag name. The FNE numbers are entered in the telephone number field when creating FNE Service short codes in the IP Office configuration. The tag names are used in the client configuration files to enable and disable a specific feature. The feature is enabled by populating a valid DID/DDI number in the associated tag. An empty tag does not enable the feature.

FNE Number	Feature	Tag Name
00	System Dial Tone	IDLE_APPEARANCE_SELECT = ;
01	Steal Call	ACTIVE_APPEARANCE_SELECT = ;
02	Auto Call Back	AUTO_CALL_BACK_TOGGLE = ;
04	Forward All Calls	CALL_FORWARDING_ALL_ACTIVATION = ;
05	Forward Busy and No Answer Calls	CALL_FORWARDING_BUSY_NO_ANSWER_ACTIVATION = ;
06	Call Forward Disable	CALL_FORWARDING_DISABLE = ;
07	Park Call	CALL_PARK = ;
08	Call UnPark	CALL_UNPARK = ;
09	Pick Up Group	CALL_PICKUP_GROUP_EXTENDED = ;
10	Directed Call Pick Up	CALL_PICKUP_DIRECTED = ;
12	Withheld CLI (To External Calls off IPO)	CALLING_PARTY_NUMBER_BLOCK = ;
13	Enable CLI (To External Calls off IPO)	CALLING_PARTY_NUMBER_UNBLOCK = ;
14	Conference Add	CONFERENCE_ON_ANSWER = ;
15	Drop Call	DROP_LAST_ADDED_PARTY = ;
16	Private Call (cannot be intruded or recorded)	EXCLUSION = ;
17	Held Appearance Select	HELD_APPEARANCE_SELECT = ;
18	Same as FNE 00 - Dial Tone Appearance (a=)	IDLE_APPEARANCE_SELECT = ;
19	Enable Twinning	OFF_PBX_ENABLE = ;
20	Disable Twinning	OFF_PBX_DISABLE = ;
24	DND On	SEND_ALL_CALLS_ENABLE = ;
25	DND Off	SEND_ALL_CALLS_DISABLE = ;
26	Blind Transfer	TRANSFER_ON_HANGUP = ;
27	Transfer to Voicemail	TRANSFER_TO_COVERAGE = ;

## Configuration File

The configuration file sets up system information and specifies the features available to the mobile user. It is prepared by the administrator and usually deployed to the end user for installation. For a Windows Mobile device the configuration file must have the file extension of “.ini”, whereas Symbian devices need to have a file extension of “.1xme”.

A configuration file consists of 3 types of tags.

- 1) Prefixes and codes - These are either mandatory or optional tags that specify system information. Most of these tags are common to both Windows Mobile and Symbian configurations files except for the LOCATION\_NAME tag.
- 2) FNE tags - These are feature name extension tags shown above. They are common to both Windows Mobile and Symbian configuration files.
- 3) Enterprise Settings - Additional settings to provide sub-menus to the client application.

An example configuration file is included in your downloaded package from the Avaya support web site. It contains all the tags that will need to be configured by the administrator.

The following is a brief description of all the tags for prefixes and codes. The values you enter for these tags depend on your country and the settings of your IP Office system. Examples of values for the United States are provided in the tags listed below.

### **LOCATION\_NAME = ;**

e.g LOCATION\_NAME = Boston;

This is a required tag for Windows Mobile .ini settings file only. It is not present or required for a Symbian configuration file. The string defines the location name of the one-X Mobile server and it will be displayed in the Avaya one-X Mobile menu on the mobile phone. If you have multiple locations, each location must have a unique LOCATION\_NAME value.

### **PRE\_IMS = ;**

This tag is not used by IP Office

### **DID\_PREFIX = ;**

e.g DID\_PREFIX = 173255512;

This required tag defines the DID/DDI prefix that is used to specify the FNE features in the IP Office. For example, if you are using 73255512XX as DID/DDI numbers to activate your FNEs, the DID\_PREFIX as shown above would be set intentionally short 2 digits since the FNE tag will be populated with the last 2 digits (e.g. IDLE\_APPEARANCE\_SELECT = 85;). The DID\_PREFIX and the FNE digits when put together must equal the full DID/DDI number like in this example.

### **INTERNATIONAL\_DIRECT\_DIAL\_PREFIX = ;**

e.g INTERNATIONAL\_DIRECT\_DIAL\_PREFIX = 011;

This required tag specifies the international call prefix for your country.

### **NATIONAL\_DIRECT\_DIAL\_PREFIX = ;**

e.g NATIONAL\_DIRECT\_DIAL\_PREFIX = 1;

This optional tag specifies the prefix for dialing national numbers.

**HOME\_COUNTRY\_DIAL\_CODE = ;**  
e.g HOME\_COUNTRY\_DIAL\_CODE = 1;  
This required tag is the home country code.

**ARS\_CODE = ;**  
e.g ARS\_CODE = 9;  
This optional tag set the ARS access code.

**EXTENSION\_LENGTH = ;**  
e.g EXTENSION\_LENGTH = 5;  
This required tag sets the dial plan length of the IP Office.

**NATIONAL\_NUMBER\_LENGTH = ;**  
e.g NATIONAL\_NUMBER\_LENGTH = 9, 10;  
This required tag specifies the number of digits for a national number. This field accepts multiple numbers separated by commas for countries that have different number lengths.

**USERS\_EMERGENCY\_NUMBERS = ;**  
e.g USERS\_EMERGENCY\_NUMBERS = 911;  
This is a required tag and it specifies the numbers dialed for emergency.

**SETTINGS\_PIN = ;**  
e.g SETTINGS\_PIN = 1234;  
This is an optional tag. When set, the client will prompt for this pin when installing or modifying the configuration.

Below are some general guidelines for modifying the configuration file.

- Fill in the values for the tags you want to use.
- Do not modify the tag name or equal sign (=) for a tag.
- Do not remove the terminating semi-colon (;) for a tag. The client application will ignore any characters after the semi-colon so description text can be added after the semi-colon.
- Do not remove any tag rows. If tag values are unavailable or not provided, leave the value position blank (for example, **CALL\_PICKUP\_DIRECTED = ;**)
- Enter all tag values between the equal sign (=) and the semi-colon (;) (for example, **CALL\_PICKUP\_GROUP\_EXTENDED = 5512;**)

**Note:** *The example settings file usually include the “+” character in front of the prefixes. In some cases a mobile device does not recognize the “+” and the call will not complete. It is recommended that the “+” is not in the prefixes as shown in the example settings file.*

## **Installing and Configuring the one-X Mobile Client on Windows Mobile**

**Note:** *one-X Mobile client application will require up to 20 megabytes of free memory.*

**Note:** *The application must be installed on the phone main memory. It must not be installed on the memory card (Flash) drives.*

- 1) Download the Avaya one-X Mobile installation package and the configuration (.ini) file to the phone and note the location of these files.
- 2) Before installing the application, stop all programs, such as Push Email applications, that are actively running on your mobile phone.
- 3) Run the Avaya one-X Mobile installer and follow the prompts provided by Microsoft
- 4) After the software is installed, reboot your mobile phone.
- 5) Access the Avaya one-X Mobile client on your mobile phone. If it is not in the foreground, press the **Send** button.
- 6) Select **Menu > Settings > Options**.
- 7) Select the **Admin** tab.
- 8) If prompted, enter your PIN and select the **Enter** soft key.
- 9) Select **Install Configuration File**.
- 10) Select the **Select** soft key.
- 11) Select the configuration (.ini) file. The file installs and configures the Avaya one-X Mobile client.
- 12) Select the **Done** soft key.
- 13) If this device is to support multiple locations, repeat this procedure for the settings file for each location.

### **Installing and Configuring the one-X Mobile Client on Symbian Phones**

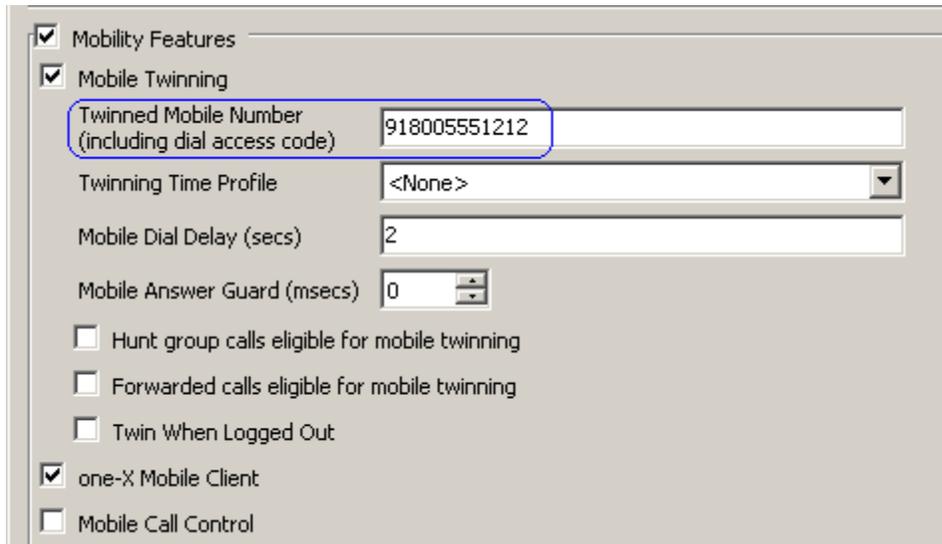
Please refer to the user documentation that came with your device for instructions on using desktop software, USB, infra-red, or Bluetooth connectivity to install Avaya one-X Mobile.

To install the Avaya one-X Mobile software using the Nokia PC Suite application, perform the following steps:

- 1) Install the Nokia PC Suite software on your computer. This software is packaged with your mobile device.
- 2) Install the Avaya one-X Mobile software using the Install Applications menu in the Nokia PC Suite software.
- 3) During the installation, you can select the language that you want to use for the Avaya one-X Mobile software.
- 4) Complete the installation by installing the software on the phone memory.  
**Note:** *Do not install the Avaya one-X Mobile software on the Memory Card/Flash.*
- 5) Copy your “.1xme” configuration file to the phone and note the location of the file.
- 6) Open the Avaya one-X Mobile application on the mobile phone.
- 7) Select **Menu > Settings**.
- 8) Select the **Download Config File** option.
- 9) Select **Menu** and the **Select file** option.
- 10) Choose Phone Memory or Memory Card (wherever you put the .1xme configuration file from step 5).
- 11) Select your “.1xme” configuration file and it will be loaded into the Avaya one-X Mobile client.

## Configuring the IP Office

one-X Mobile relies on the Twinned Mobile Number of the user device (circled below) to be present in the IP Office configuration to identify the one-X user.



The screenshot shows a configuration window for IP Office. Under the 'Mobility Features' section, the 'Mobile Twinning' checkbox is checked. The 'Twinned Mobile Number (including dial access code)' field is highlighted with a blue circle and contains the value '918005551212'. Other settings include 'Twinning Time Profile' set to '<None>', 'Mobile Dial Delay (secs)' set to '2', and 'Mobile Answer Guard (msecs)' set to '0'. There are three unchecked checkboxes: 'Hunt group calls eligible for mobile twinning', 'Forwarded calls eligible for mobile twinning', and 'Twin When Logged Out'. At the bottom, the 'one-X Mobile Client' checkbox is checked, and 'Mobile Call Control' is unchecked.

When a one-X client calls into the IP Office to use the FNE services, the mobile Caller ID is matched to the Twinned Mobile Number to identify the IP Office user. Therefore, it is important that a one-X user does not turn off mobile twinning using existing methods (e.g. Twinning button desk phone or Phone Manage Pro), because doing so will remove the Twinned Mobile Number from the IP Office configuration and one-X calls will not function.

If one-X users want to enable or disable mobile twinning functionality, they must use the **ExtToCellular Enable/Disable** feature in their one-X client application. **ExtToCellular Disable** will turn mobile twinning functionality off while retaining the Twinned Mobile Number in the IP Office configuration. This allows one-X mobile to continue to work even when the user chooses to turn mobile twinning functionality off.

It is also important to note that turning the mobile twinning functionality off using **ExtToCellular Disable** is independent of turning mobile twinning off via the Twinning button on the desk phone or through Phone Manage Pro. If a user invokes **ExtToCellular Disable** on the mobile client application, the user's desk phone Twinning button will still be illuminated.

## Configuring the User

Once the Mobility license has been installed, users can be configured for one-X Mobile. In IP Office release 4.2 the "Twinning" tab has been renamed to "Mobility". To set up a user for one-X Mobile

- 1) Navigate to the user's Mobility tab
- 2) Check the "Mobility Features" checkbox
- 3) Check the "Mobile Twinning" checkbox
- 4) Fill in the "Twinned Mobile Number"
- 5) Check the "one-X Mobile Client" checkbox

Mobility Features  
 Mobile Twinning  
 Twinned Mobile Number (including dial access code)   
 Twinning Time Profile   
 Mobile Dial Delay (secs)   
 Mobile Answer Guard (msecs)   
 Hunt group calls eligible for mobile twinning  
 Forwarded calls eligible for mobile twinning  
 Twin When Logged Out  
 one-X Mobile Client  
 Mobile Call Control

### Creating FNE Short Codes

A short code feature called “FNE Service” is used to implement the FNE behavior required for one-X Mobile client support. The Telephone Number field will be the FNE feature number. One way to program the short code is shown below.

#### Code – 777XX

The short code can be any number. In this example, 777 is an arbitrary prefix used.

#### Feature - FNE Service

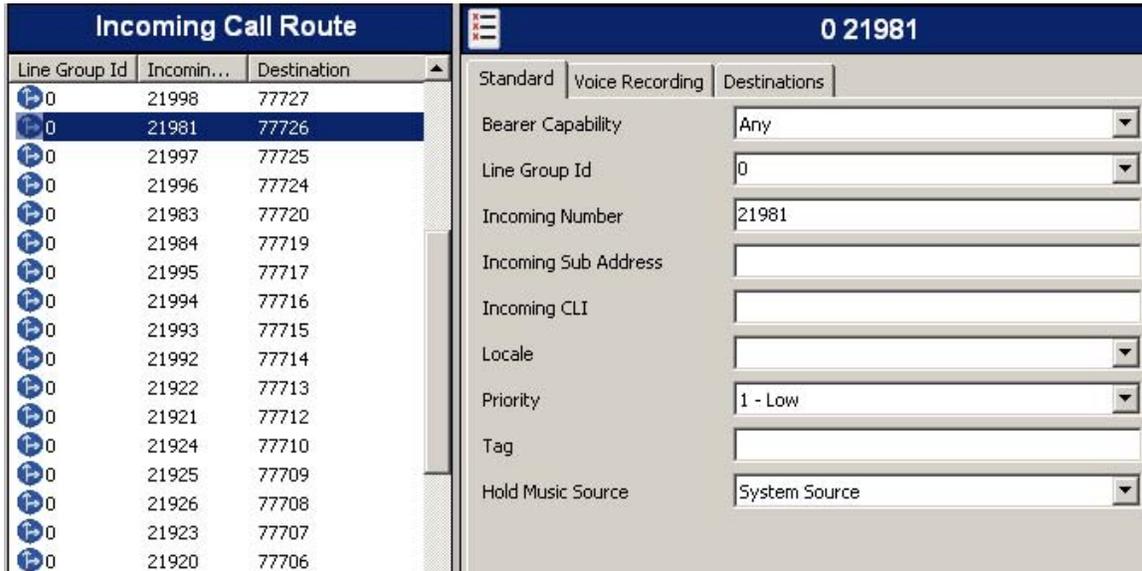
Must have FNE Service selected as a short code feature.

#### Telephone Number – N

Short Code				777XX: FNE Service	
Code	Telepho...	Feature	Line G	Short Code	
#21928	21928*...	Extn Login	0	Code	777XX
#21757	21757*...	Extn Login	0	Feature	FNE Service
*36		Extn Logout	0	Telephone Number	N
*777XX	N	FNE Service	0	Line Group Id	0
*12*N#	N	Follow Me ...	0	Locale	
*13*N#	N	Follow Me ...	0	Force Account Code	<input type="checkbox"/>
*14*N#	N	Follow Me To	0		
*07*N#	N	Forward N...	0		
*04		Forward ...	0		
*03		Forward ...	0		
*06		Forward ...	0		
*05		Forward ...	0		
*02		Forward U...	0		
*01		Forward U...	0		

## Setting the Incoming Call Route

The incoming call route (ICR) is used to tie the DID/DDI number to a particular FNE feature. If the Blind Transfer feature (FNE 26) DID/DDI was set to 7175521981 in the client configuration file, then the ICR destination must be set to the 77726. This will activate the Blind Transfer FNE feature by setting the Telephone Number field to 26 when the 777XX short code is invoked.



Line Group Id	Incomin...	Destination
0	21998	77727
0	21981	77726
0	21997	77725
0	21996	77724
0	21983	77720
0	21984	77719
0	21995	77717
0	21994	77716
0	21993	77715
0	21992	77714
0	21922	77713
0	21921	77712
0	21924	77710
0	21925	77709
0	21926	77708
0	21923	77707
0	21920	77706

Standard	Voice Recording	Destinations
Bearer Capability		Any
Line Group Id		0
Incoming Number		21981
Incoming Sub Address		
Incoming CLI		
Locale		
Priority		1 - Low
Tag		
Hold Music Source		System Source

## Mobile Call Control

Mobile Call Control (MCC) is a mobility feature similar to but independent of one-X Mobile. MCC allows any mobile phone user to access IP Office features without using the one-X Mobile client application. It uses FNE 31 (Star Star Service) to provide dial tone to the mobile phone user. "Star Star Service" is implemented using the same underlying methods as the one-X mobile FNE service but has no relationship to it.

A Mobility Feature license is required for an MCC user. One instance of the Mobility license provides a user with all the mobility features including MCC, one-X Mobile and Mobile Twinning.

MCC users can gain access to the "Star Star Service" dial tone when they receive a twinned call. After receiving a twinned call, the mobile user can dial \*\* to place that call on hold and get dial tone from the IP Office. Once the mobile user receives IP Office dial tone, any subsequent dialing done is interpreted as if the user is logged into an analog extension on the IP Office.

To gain access to the "Star Star Service" dial tone, the mobile user can dial the FNE 31 DID/DDI that has been programmed in the IP Office. Similarly, once dial tone is heard, the user can dial numbers and short codes as if the user is logged into an analog extension on the IP Office.

The trunk requirements for the “Star Star Service” FNE are the same as for the one-X Mobile. That is, trunks that support clearing supervision are required. Supported trunk types are:

- a) IP500 Universal PRI (Not supported on legacy PRI on a carrier card)
- b) IP500 BRI
- c) SIP (RFC2833)

### Configuring a Mobile Call Control User

Like one-X Mobile, IP Office identifies the MCC user by matching the mobile Caller ID to the Twinned Mobile Number setting. “Star Star Service” FNE is programmed in IP Office the same way as other one-X Mobile FNEs.

To set up a Mobile Call Control user,

- 1) Navigate to the user’s Mobility tab
- 2) Check the “Mobility Features” checkbox
- 3) Check the “Mobile Twinning” checkbox
- 4) Fill in the “Twinned Mobile Number”
- 5) Check the “Mobile Call Control” checkbox

The screenshot shows the configuration page for a user's mobility settings. The following fields and options are visible:

- Mobility Features
- Mobile Twinning
- Twinned Mobile Number (including dial access code): 918005551212
- Twinning Time Profile: <None>
- Mobile Dial Delay (secs): 2
- Mobile Answer Guard (msecs): 0
- Hunt group calls eligible for mobile twinning
- Forwarded calls eligible for mobile twinning
- Twin When Logged Out
- one-X Mobile Client
- Mobile Call Control

Issued by:  
Avaya SMBD Tier 4 Support  
Contact details:-  
EMEA/APAC  
Tel: +44 1707 392200  
Fax: +44 (0) 1707 376933  
Email: [gsstier4@avaya.com](mailto:gsstier4@avaya.com)

NA/CALA  
Tel: +1 732 852 1955  
Fax: +1 732 852 1943  
Email: [IPONACALAT4@Avaya.com](mailto:IPONACALAT4@Avaya.com)

Internet: <http://www.avaya.com>  
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