Terminals Aastra 34xw – Guide for deployment in MX-ONE environment

Implementation manual

01/2014

CONTENTS

1. ABOUT THIS DOCUMENT

1.1 PURPOSE OF THIS DOCUMENT

This document describes Aastra 34xw handsets in an MX-ONE environment.

1.2 ABBREVIATIONS

AP: WIFI Access point.

CAC: Call Admission Control

FTP File Transfer Protocol

IP: Internet Protocol

LAN: Local Area Network

iPBX: IP Private Branch eXchange

RTP Real Time Protocol

SIP Session Internet Protocol

SSID: Service Set Identifier - an identifier specifying a wireless network 802.11 (32 characters max.)

WAN: Wide Area Network

WMM-AC: Wi-Fi Multimedia Admission Control.: when a base station is saturated, this control redirects the handsets to another base station with a sufficient bandwidth.

1.3 REMINDER CONCERNING THE LAW ON INFORMATION TECHNOLOGY

The user is reminded that the use of PBXs in the workplace must comply with the recommendations of the IT law in force.

The user's attention is also drawn to any clauses applicable in laws relating to the confidentiality of calls transmitted by means of telecommunications.

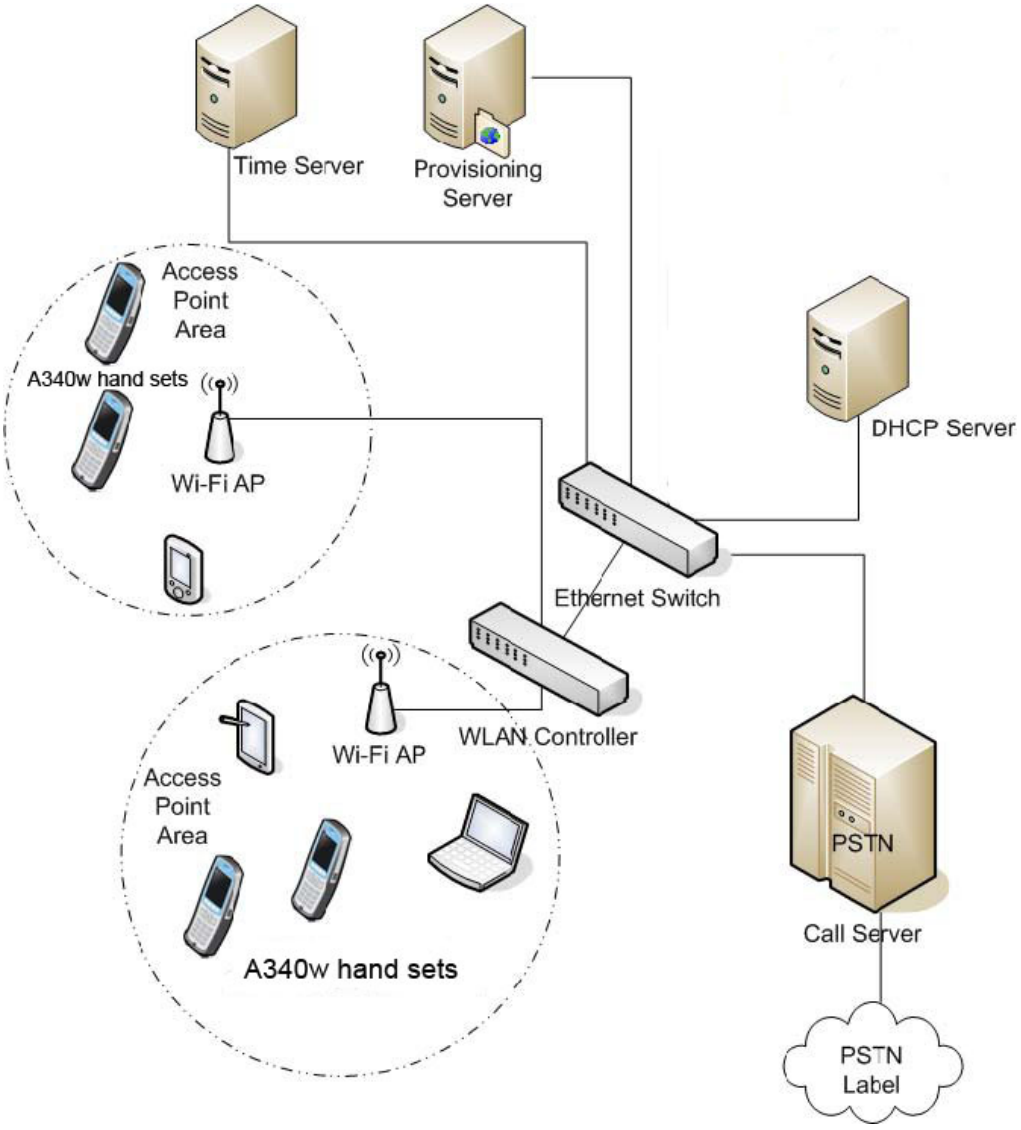
2. GENERAL INFORMATION

The list of validated and supported Wi-Fi infrastructures is available on the site: *http://support.spectralink.com/resources/view-certified-products-guide*

Aastra cannot make any commitment concerning the media and working of the solution on infrastructures not listed on this document.

Note : *It should be noted that correspondence should be made between terminals 84xx and terminals Aastra 34xw.*

In general, the deployment environment of Aastra 34xw handsets is as follows:



3. DEPLOYING AASTRA 34XW HANDSETS

3.1 DEPLOYMENT PRINCIPLE

There are several possibilities of configuring and deploying terminals Aastra 34xw; below is the method recommended by Aastra which consists of several phases:

- A first configuration phase on a preparation terminal enabling the terminal to recognise the future network and load its connection and configuration parameters. This phase must be implemented for each handset.

Note : *This phase may be implemented before (offline) or during the intervention on the Client's Wi-Fi site.*

- A second phase which consists in creating files meant for the provisioning FTP server of the Client's Wi-Fi site.
- A third phase which consists, on the Client's Wi-Fi network, in deploying the handsets from previously prepared configuration files which will be stored on a provisioning FTP server.

3.2 MAIN PHASES

For details of each phase, refer to Section 3.4.

On the preparation terminal

> **Note :** *This preparatory phase may be implemented before (offline) or during the intervention on the Client's Wi-Fi site.*

- Install an FTP server.
- Create a dedicated Aastra 34xw directory with an associated account/password. The connection parameters must be the same as those defined in the handset. By default:

  Login: **administrator**

  Password: **admin123**
- Decompress the A34xw package into this directory.
- Check that the file **000000000000.cfg** contains the **wireless.cfg** line.
- Enter the file **wireless.cfg** with the Client's Wi-Fi network identification and characteristics parameters.
- Connect the handset to the preparation terminal via a USB cable.
- The handset automatically searches for the file **000000000000.cfg** and retrieves the file **wireless.cfg** (from the FTP directory).

Note:

In case the laptop is unable to retrieve the configuration file, it is advisable to try another USB port on your PC or perform the initial configuration using the special USB configuration tool (available from Aastra with product number: 2200-37296-001).

> **Note :** *The following operations may be carried out on a terminal other than the preparation terminal.*

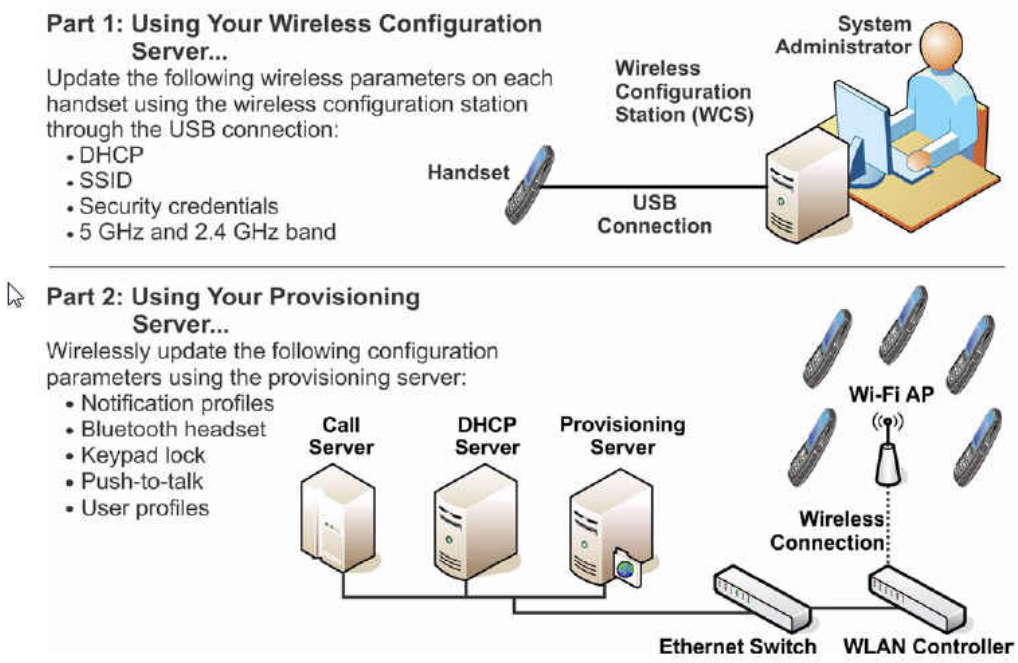
- Creating some files intended for the provisioning FTP server of the Client's Wi-Fi site:
  - MACaddress.cfg
  - user.cfg
  - site.cfg.

The file preparation phase is completed.

On the Client's Wi-Fi site

- Declare the Aastra 34xw subscribers on the iPBX.
- Install an FTP server if there is none on the site.
- Create a provisioning directory with a dedicated account (the same login and password as for the handset).
- Load the files **MACaddress.cfg**, **user.cfg**, **site.cfg** and the Aastra 34xw software to this directory.
- Start the handsets which connect to the Wi-Fi network and retrieve the different files.
- Check that the loading operation has been successfully completed in Menu **Setting>Status>Equipment>Setting**.
- Conduct the basic operation tests.

Diagram summarising the operations to be performed



3.3 CONTENT OF THE A34XW PACKAGE

The Aastra 34xw package is delivered in form of a compressed file **A34xw.7z** containing the following files and templates:

000000000000.cfg: default master SIP configuration file the name of which is equivalent to a zero MAC address. This file contains only the name of the file **wireless.cfg** to be downloaded in the next phase. The principle is that during start-up, the handset automatically searches for and downloads the file **000000000000.cfg** from the FTP server via the USB link.

Wireless.cfg: file containing the identification information and characteristics of the wireless network to which it must be connected (DHCP, SSID, Login/pwd, security, radio characteristics, etc.). This file is the same for all the handsets on the same network and must be configured from a template provided with the Aastra 34xw package. Once this file is loaded, the handset can connect to the Wi-Fi network and access the (central) provisioning server via the Access Points (AP).

MACaddress.cfg: file the name of which is based on the MAC address of each Aastra 34xw making it possible to authenticate to the provisioning FTP server of the Client's Wi-Fi site.

user.cfg: file the name of which is subscriber number based.

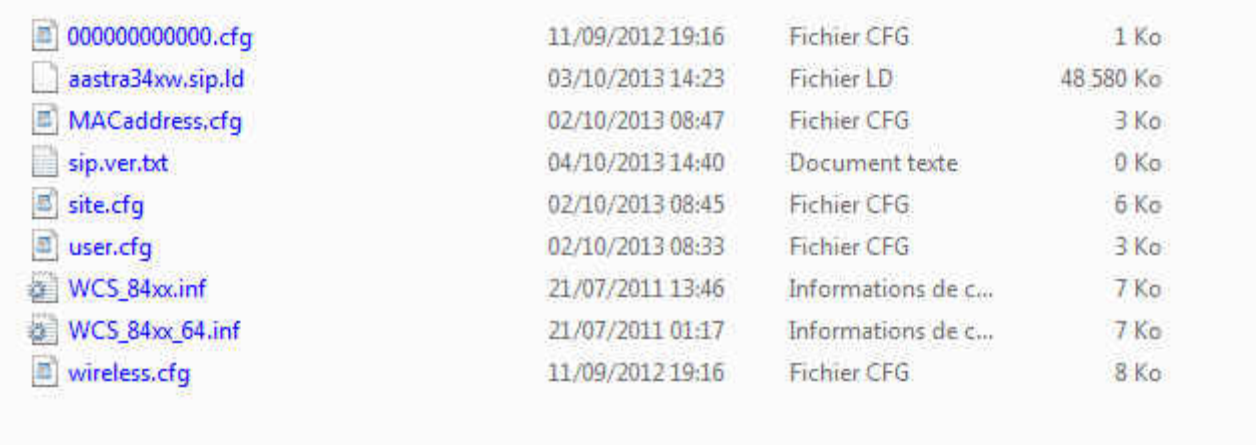
site.cfg: file the name of which is based on the Aastra 34xw subscription site concerned

aastra34xw.sip.ld: Aastra Aastra 34xw terminal software

sip.ver.txt: **aastra34xw.sip.ld** software version

WCS_84xx.inf and **WCS_84xx_64.inf**: drivers required for 32 and 64 bits operating systems other than Windows 7 and Linux.

Example of Aastra 34xw package:



3.4 DETAILED PROCEDURE

3.4.1 BEFORE STARTING

3.4.1.1 CHECKLIST

It is advisable to gather the information needed to configure the files during the two phases;

A checklist of the necessary items is given in the **Appendix** for each phase.

3.4.1.2 HARDWARE REQUIREMENT

It is necessary to have a micro USB cable (USB to mini-USB) for connecting the Aastra 34xw handset to the preparation terminal. This cable is not provided.

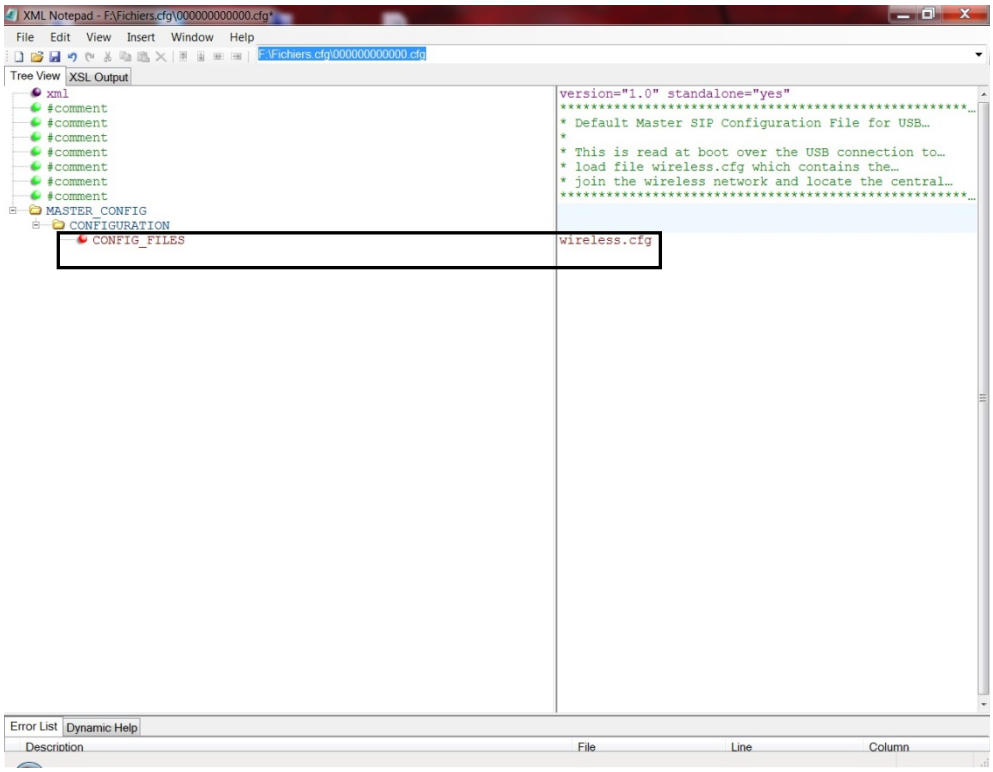
3.4.2 CONFIGURING THE NETWORK PARAMETERS FOR THE HANDSETS ON THE PREPARATION TERMINAL

> **Note :** *This phase may be implemented before (offline) or during the intervention on the Client's Wi-Fi site.*

- Install a local FTP server on the preparation terminal (FileZilla server and client, for instance).
- Create a dedicated directory where the Aastra 34xw software and configuration files will be placed:

Example: C:\FTP\A340xw

- Download the latest release of the Aastra 34xw package (compressed file).
- Decompress the files into the dedicated directory.
- Check that the file **000000000000.cfg** contains the line **wireless.cfg**.

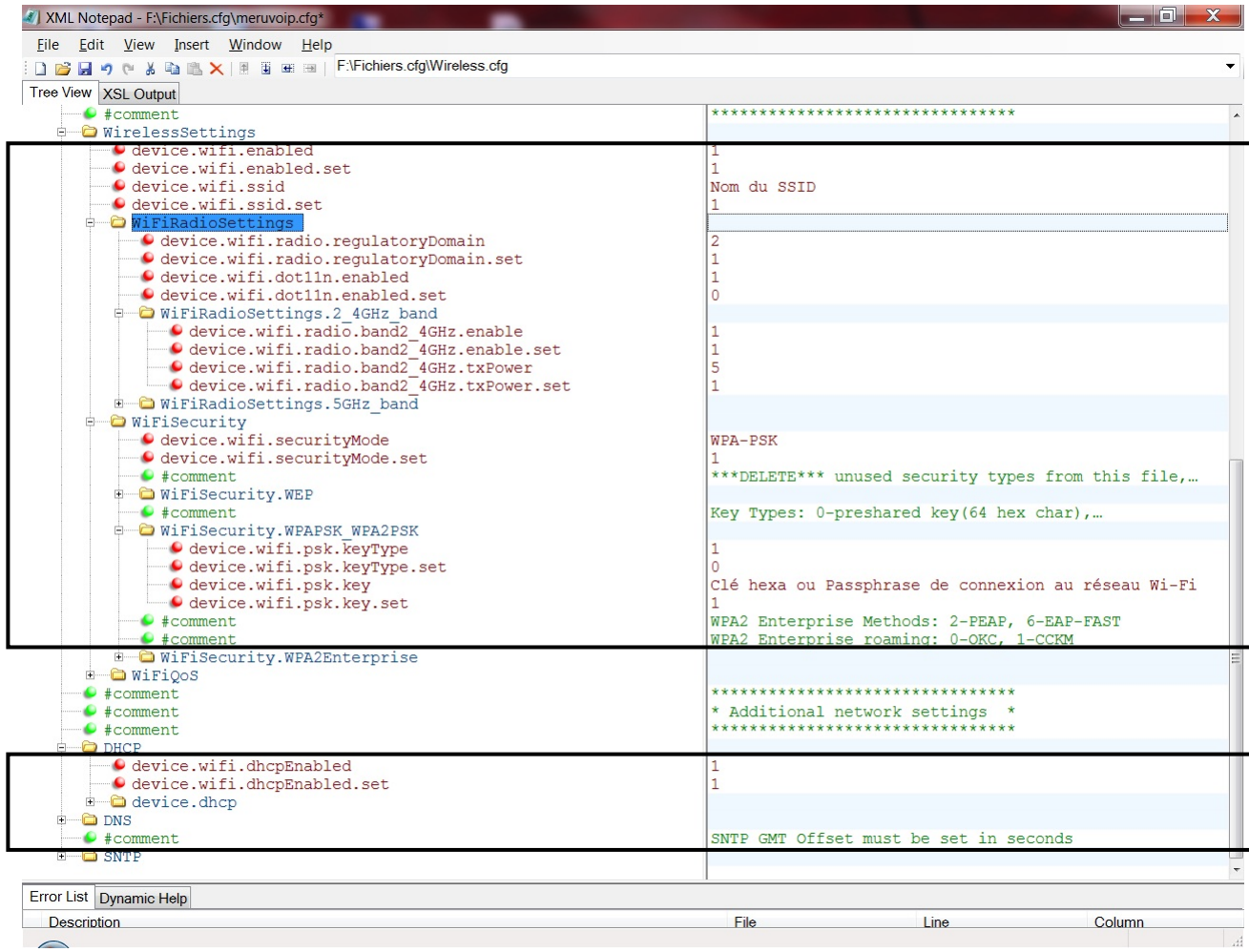


- Configure the file **wireless.cfg** (from the initial template provided with the A34xw package) according to the Wi-Fi infrastructure.

A description of the available parameters is given in the document **SpectraLink 8400 Series Deployment Guide**, available under Cordless in the MX-ONE CPI library or on:

http://support.spectralink.com/products/wi-fi/spectralink-84-series-wireless-telephone

The Wi-Fi network system and radio parameters, security type and the use of a DHCP server must be configured as indicated in the example below:



- Close and save the file **wireless.cfg**.
- Start the local FTP server and configure it to accept requests from the handset.
- Create a user with the same name and password as the default name and password defined for this handset.

  User name: **administrator**

  Password: **admin123**

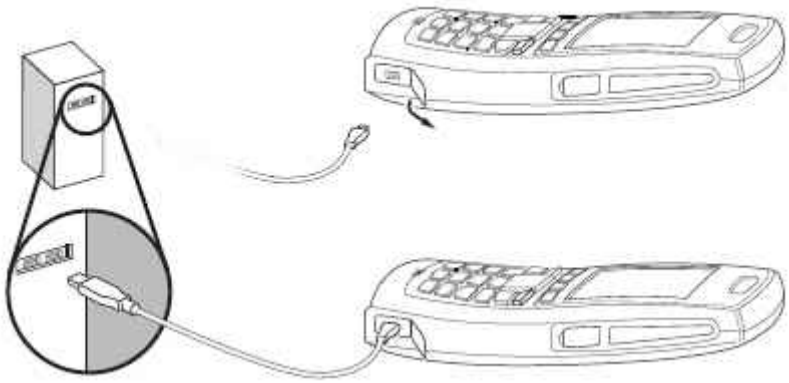
- Install the drivers used to detect the USB hardware component of the handset (needed if the PC is not running with Windows 7).

The drivers are included in the Aastra 34xw package:

Note : *The file 84xx.inf applies to 32 bits PCs running with Microsoft Windows ® XP SP3 and Microsoft Vista ® SP1. If you are using a 64 bits PC running with Microsoft Windows Vista, you must use the file 84xx-64.inf. PCs running with Linux do not need these drivers.*

- Connect the handset to the preparation terminal via the micro USB cable (USB to mini-USB). This cable is not provided (not included with the phones delivery).

New hardware is detected.



- Follow the instructions for installing the previously downloaded driver.

> **Note :** *Depending on the USB port, a Windows alert may be displayed indicating a faster connection available on another USB port. If possible, reconnect the handset to this faster port; however, the message may be ignored.*

The handset then first connects to the local FTP server to search for the file **000000000000.cfg** (which prompts the handset to load the file **wireless.cfg**).

Once found, it automatically loads the previously configured file **wireless.cfg**.

The handset is thus ready to be installed and deployed on the Wi-Fi network.

On the handset screen:

If the preparation is not made on the Client's Wi-Fi site (offline),

- The  icon is not displayed (no network).
- The  icon indicates that the service is not available.

If the preparation is made on the Client's Wi-Fi site (Wi-Fi network working),

- The  icon is displayed (Wi-Fi network recognised).
- The  icon indicates that the service is not available.

The next phase consists in preparing the files **MACaddress.cfg**, **user.cfg** and **site.cfg** from the templates. This phase may be implemented offline before intervention on the Client's Wi-Fi site.

These files will then be placed on the deployment FTP server of the Client's Wi-Fi site.

3.4.3 CREATING SOME FILES INTENDED FOR THE PROVISIONING SERVER OF THE CLIENT'S WI-FI SITE

> **Note :** *This phase may be implemented before (offline) or during the intervention on the Client's Wi-Fi site and on any terminal other than the preparation terminal.*

From the Aastra 34xw package, retrieve the following three templates:

- **MACaddress.cfg**
- **user.cfg**
- **site.cfg**.

These three templates must be configured and then placed on the provisioning FTP server of the Client's Wi-Fi site before starting the handset:

The configuration may be made offline before intervention on the Client's Wi-Fi site.

> **Note :** *It is advisable to use XML type editors to personalise the available template files. Example: XML Notepad.*

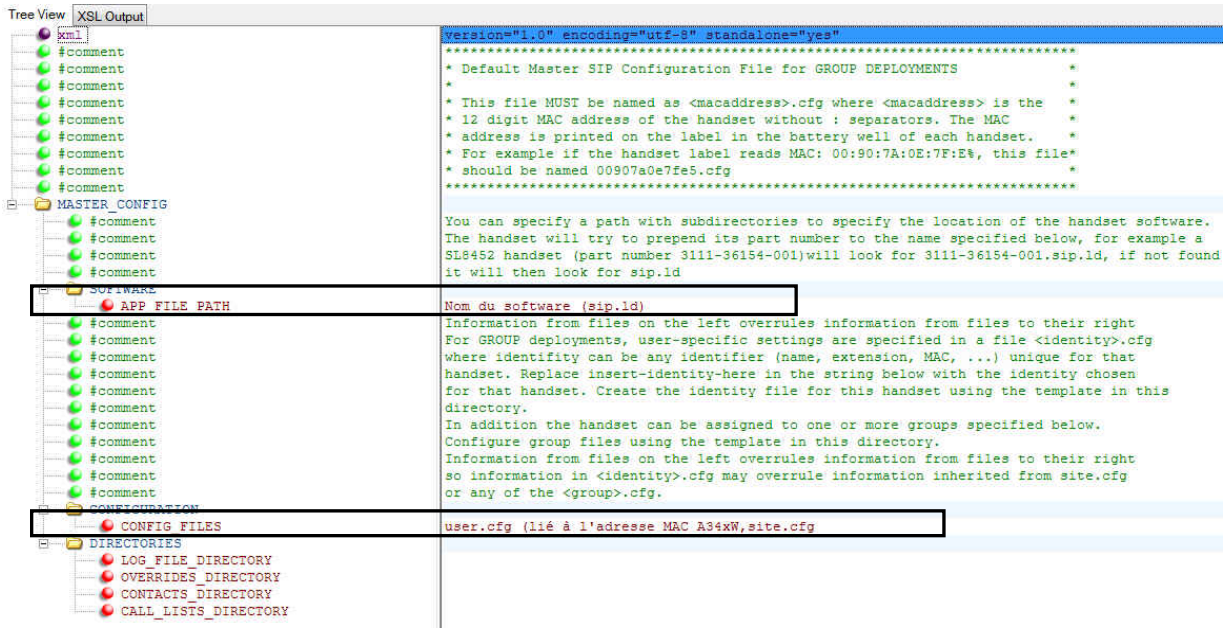
3.4.3.1 CONFIGURING THE FILE MACADDRESS.CFG

A file **MACaddress.cfg** must be created for each handset.

A description of the available parameters is given in the document **SpectraLink 8400 Series Deployment Guide**, available under Cordless in the MX-ONE CPI library or on:

http://support.spectralink.com/products/wi-fi/spectralink-84-series-wireless-telephone

In particular, the Aastra 34xw software extension name (**sip.ld**) and the name of the configuration files (**user.cfg** and **site.cfg**) must be configured as indicated in the example below:



3.4.3.2 CONFIGURING THE FILE USER.CFG

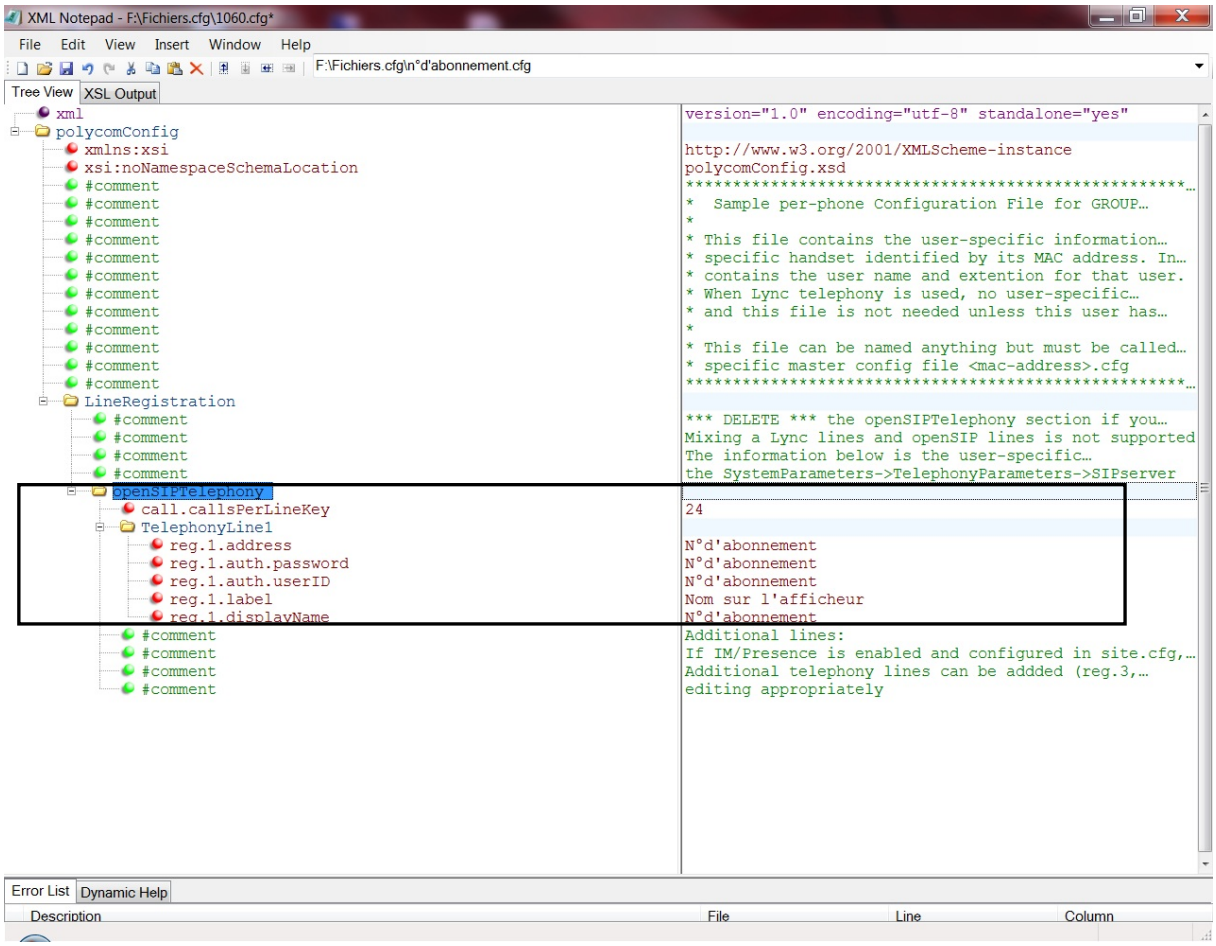
A file **user.cfg** must be created for each handset.

A description of the available parameters is given in the document **SpectraLink 8400 Series Deployment Guide**, available under Cordless in the MX-ONE CPI library or on:

http://support.spectralink.com/products/wi-fi/spectralink-84-series-wireless-telephone

User-specific information and, in particular, display and authentication information must be configured on the handset:

Example:



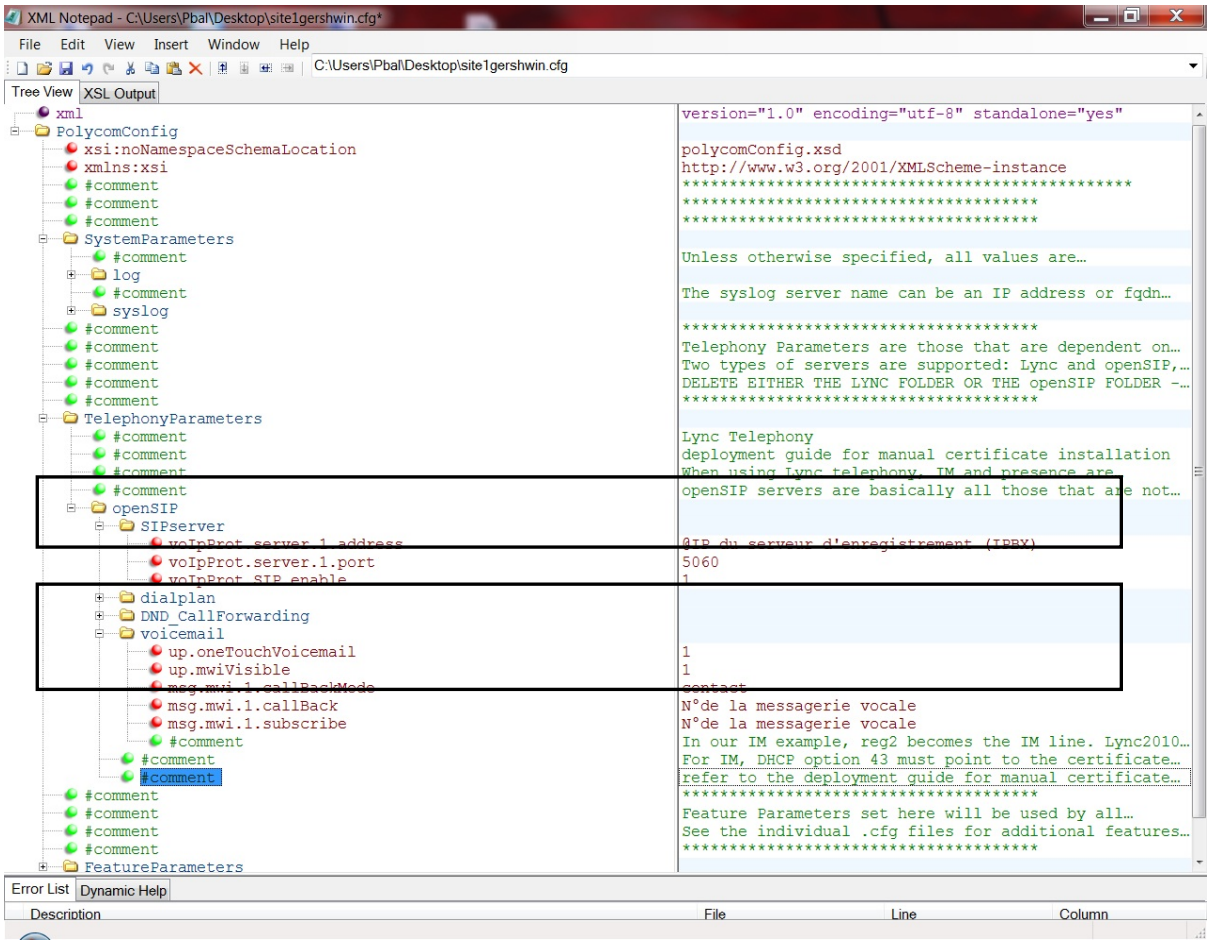
3.4.3.3 CONFIGURING THE FILE SITE.CFG

This file is common to all the handsets.

A description of the available parameters is given in the document **SpectraLink 8400 Series Deployment Guide**, available under Cordless in the MX-ONE CPI library or on:

http://support.spectralink.com/products/wi-fi/spectralink-84-series-wireless-telephone

In particular, the registration SIP proxy information (iPBX IP address) and voicemail information must be configured as shown in the example:



3.4.4 USING THE HANDSETS ON THE CLIENT'S WI-FI NETWORK

3.4.4.1 PREREQUISITES

The Wi-Fi network must be working.

An FTP server must be available and working. If it is necessary to install this server, see the document **SpectraLink 8400 Series Deployment Guide**, available under Cordless on the MX-ONE CPI library or on the site:

http://support.spectralink.com/products/wi-fi/spectralink-84-series-wireless-telephone

3.4.4.2 DECLARING THE WI-FI SUBSCRIBER ON THE MX-ONE

For each handset, create a local subscriber with an SIP terminal.

An **IP terminal** licence is required for each declared handset.

For more information, refer to the AASTRA MX-ONE CPI documents for MX-ONE installation.

3.4.4.3 CREATING A SPECIFIC DIRECTORY/ACCOUNT ON THE PROVISIONING FTP SERVER

On the provisioning server of the Client's Wi-Fi site:

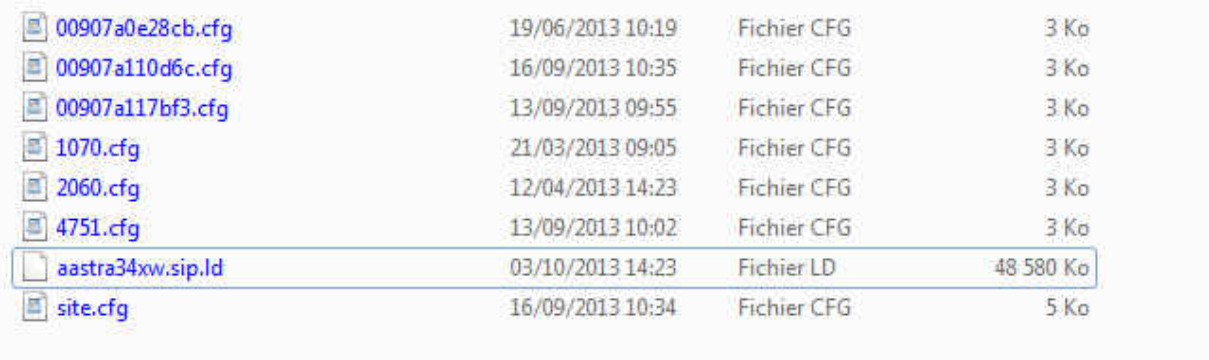
- ♦ Create a dedicated directory with a dedicated account.

The access login and password must be the same as those defined for the handsets.

3.4.4.4 LOADING FILES ON THE PROVISIONING FTP SERVER

Load all the files **MACaddress.cfg, user.cfg** and **site.cfg** as well as the latest Aastra 34xw software release (file aastra34xw.sip.ld) on the FTP server, in the previously created directory.

Example:



3.4.4.5 USING THE HANDSET ON THE WI-FI NETWORK

- Restart the handset(s).

Each handset first searches for the file **MACaddress.cfg**.

Once retrieved, a link is created to the server containing the latest software release.

An update is made if the handset is not using this latest release.

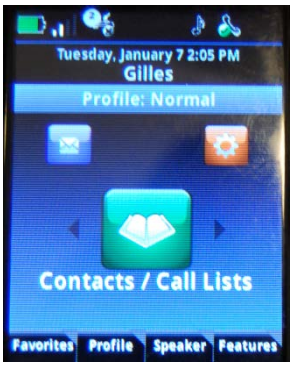
The handset then retrieves the downloaded files:

These parameters can be viewed in the Aastra 34xw menu **Setting>Status>Equipment** columns **Telephone, Application and Setting**.

The handset starts and logs on to the Wi-Fi network.

On the display:

- The  icon is displayed (Wi-Fi network recognised).
- The  icon indicates that the service is available.



3.4.4.6 CHECKING ON THE HANDSET THAT THE CONFIGURATION FILES ARE PROPERLY LOADED

From the handset:

Select Menu **Setting>Status>Equipment>Setting**.

The following are displayed:

- The provisioning server IP address
- The protocol used
- The loaded .cfg files
- Detailed information about the number of parameters accepted from each configuration file
- All duplicated parameters, and possible errors
- Check that all errors or duplicated parameters are corrected before leaving the site.
- Also check that the number of parameters accepted from each file is consistent with the number of expected parameters.

3.4.4.7 BASIC FUNCTIONAL TESTS

Perform the following basic tests (list not exhaustive):

- Call to another terminal
- Call transfer to another terminal
- Call to a public number that requires the use of DTMF tones.

4. ADDITIONAL AND MAINTENANCE OPERATIONS

4.1 MODIFYING THE AASTRA 34XW CONFIGURATION FROM THE MENUS OR WEB INTERFACE

It is possible to access the handset configuration via the Aastra 34xw menus, or a web interface.

These utilities are also used to modify a lot of parameters, such as the server IP address, ringer type, or regional parameters such as date / time, format and language.

Some items in the Parameters menu are locked to prevent any accidental modification in basic user mode.

The default user password is **123**, and the default administrator password **456**.

It is advisable to change the default value of this administrator password.

The modifications made via the web configuration utility or user interface of the telephone are stored and take precedence over the parameters contained in the provisioning server.

If the provisioning server accepts them, these parameters are saved in a file called **MAC>-web.cfg**, on this server as well as in the Aastra 34xw flash memory.

For more information about these utilities, see the document:

- SpectraLink 8400 Series Deployment Guide

Available under Cordless in the MX-ONE CPI library or on the site:

http://support.spectralink.com/products/wi-fi/spectralink-84-series-wireless-telephone

5. APPENDICES

5.1 BIBLIOGRAPHY AND REFERENCE DOCUMENTS

Deployment can be made using the documents available in the MX-ONE CPI library:

- Product Description Aastra 340w
- Aastra 340w and 342w Handsets, Quick Start Guide
- Spectralink 84-Series Wireless Telephone, User Guide
- Spectralink 84-Series Wireless Telephone, Deployment Guide
- Spectralink 84-Series Wireless Telephone, Administration Guide
- Best Practice, Deploying Spectralink 84-Series...
- Best Practice, Understanding Wireless Security...

Or on:

http://support.spectralink.com/products/wi-fi/spectralink-84-series-wireless-telephone

On the Spectralink Extranet additional documentation and complementary Software for application integration is available.

Note : *Note that for these documents, a correspondence must be made between terminals 84xx and terminals Aastra 34xw.*

5.2 CHECKLIST OF THE INFORMATION REQUIRED BEFORE STARTING THE DEPLOYMENT

5.2.1 INFORMATION NECESSARY FOR THE FTP SERVER OF THE PREPARATION TERMINAL

Location of the latest software release	Software release available on the Aastra Extranet – Knowledge Base
Preparation terminal: Directory name	
Repair terminal: User name	
Repair terminal: Password	
Factory IP address of A340xw handsets	169.254.1.2
Factory IP address of the preparation terminal	169.254.1.1
Wireless interface network address	
Wireless interface network mask	
Wireless interface IP gateway	
DNS domain name	
DNS server name	
DNS alternate server name	
Wi-Fi security mode	
Authentication method (if WEP is selected)	
Default key (if WEP is selected)	
WEP encryption (if WEP is selected)	
WEP keys (if WEP is selected)	
WEP key length (if WEP is selected)	
Pre-share key type (if WPA-Personal or WPA2-Personal is selected)	
Hexadecimal key (if WPA-Personal or WPA2-Personal is selected)	
Passphrase (if WPA-Personal or WPA2-Personal is selected)	
Fast roaming method (if WPA2- Enterprise is selected)	
Security name (if WPA2- Enterprise is selected)	
EAP type (if WPA2- Enterprise is selected)	
Security profile (if WPA Enterprise and PEAPv0/ are selected)	

CA profile (if WPA2- Enterprise and PEAPv0/ are selected)	
CA certificate (if WPA2- Enterprise and PEAPv0 are selected)	
In-band provisioning (if WPA2- Enterprise and EAP-FAST are selected)	
PAC file password (if WPA2- Enterprise and EAP-FAST are selected)	
PAC file (if WPA2- Enterprise and EAP-FAST are selected)	
SSID	
WMM-AC	
Regulatory Domain	
5 GHz band	
5 GHz sub-band 1	
5 GHz sub-band 1 transmit power	
5 GHz sub-band 2	
5 GHz sub-band 2 transmit power	
5 GHz sub-band 3	
5 GHz sub-band 3 transmit power	
5 GHz sub-band 4	
5 GHz sub-band 4 transmit power	
2.4 GHz band	
2.4 GHz band transmit power	
Syslog server name	
Syslog server transport	
Syslog server facility	
Syslog server render level	
Syslog server prepend MAC address	
Preparation terminal server type	FTP
Preparation terminal server name	
Preparation terminal server user name	Administrator
Preparation terminal server password	admin123
Preparation terminal master configuration filename	000000000000.cfg
Preparation terminal network configuration filename	Wireless.cfg

5.2.2 INFORMATION NECESSARY FOR THE PROVISIONING SERVER OF THE CLIENT'S WI-FI SITE

Location of the latest software release	Software release available on the Aastra Extranet – Knowledge Base
Provisioning server folder name	
Provisioning server type	FTP
Provisioning server name	
Provisioning server user name	Administrator
Provisioning server password	admin123
UC Software filename	
File names for each A340xw subscriber	user.cfg
Provisioning server master configuration filename	000000000000.cfg