

# Application Note



**Product:** Ascom FreeNET VoWiFi

**Purpose:** Configuration Guide for Trapeze Networks

**Date:** November 10<sup>th</sup>, 2007

## Introduction

This document outlines the necessary steps and guidelines to optimally configure Trapeze Networks WLAN controllers and Access Points with software version 6.0.3.2 with the Ascom FreeNET VoWiFi system.

This guide should be used in conjunction with the appropriate WLAN vendor configuration guide(s) and is intended for someone knowledgeable on the configuration of the WLAN vendor's system and Ascom FreeNET VoWiFi systems.

The steps, screen shots, and command line syntax depicted throughout this document are based upon Trapeze WLAN controller model MX-8 with software version 6.0.3.2 and RingMaster 6.0.

## Product Summary and Network Topology

Manufacturer	Trapeze Networks, Inc. <a href="http://www.trapezenetworks.com">www.trapezenetworks.com</a>
WLAN Controller Products	MXR-2, MX-8, MX-216, MX-200, MX-400
Access Point Products	MP-372, MP-422
MX sw version	6.0.3.2
i75 Handset sw version	1.4.21
Radio	802.11b/g
Encryption	WEP, TKIP, AES-CCMP <sup>1</sup>
Authentication	PSK, 802.1X
Quality of Service	WMM, U-APSD, DSCP, CoS (802.1p/q)
Other	802.11d, Opp. Key Caching

<sup>1</sup>Shall not be utilized in conjunction with U-APSD

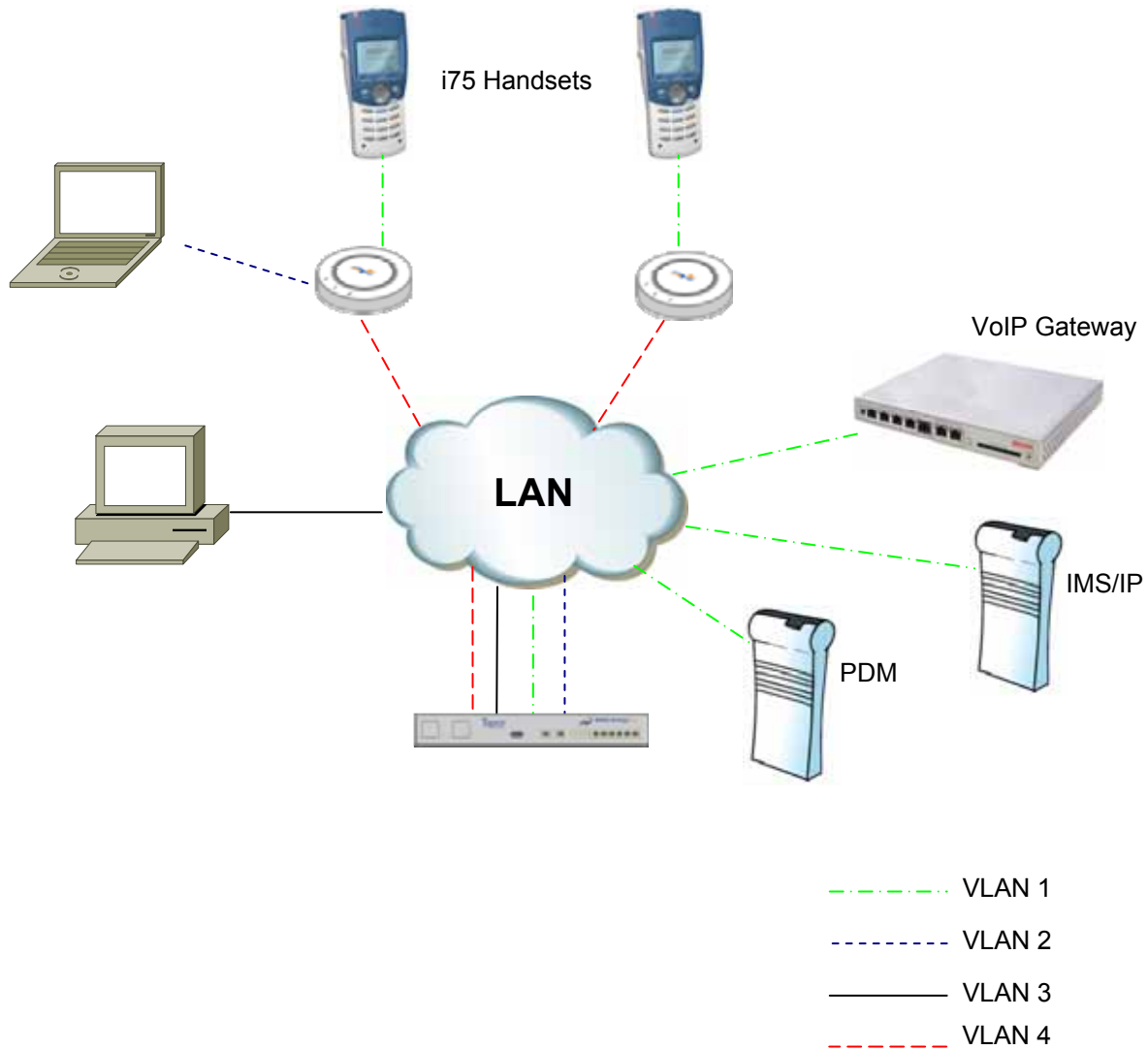
Please visit [www.ascomwireless.com/pd](http://www.ascomwireless.com/pd) to obtain the latest software or contact Ascom Technical Support at 1-877-71ASC0M and follow the software upgrade procedure outlined in the appropriate product manual.

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## WLAN/LAN Preparations

1. The APs and WLAN Controllers should be operational and accessible on the network.
2. The appropriate edge and core switches and routers should be operational and configured appropriately based upon the configuration dependencies outlined in this document.
3. The routing and VLAN configurations should be operational and configured appropriately based upon the configuration dependencies outlined in this document.
4. The requirements for VoIP and VoWiFi outlined by the LAN/WLAN vendor and Ascom should be according to specification. See the FreeNET VoWiFi System Planning Guide for additional details.

## WLAN Controller Configuration

1. Navigate to the WLAN Controller for administration (i.e. RingMaster).

## System – QoS Configuration

1. Navigate to System → QoS
2. In the “DSCP to CoS” table, set DSCP value 46 mapping to CoS 6
3. In the “CoS to DSCP” table, set CoS value 6 mapping to DSCP 46

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The screenshot shows a configuration interface for QoS. It features two tables: 'DSCP to CoS' and 'CoS to DSCP'. The 'DSCP to CoS' table has columns for DSCP and CoS, with rows numbered 39 to 51. The 'CoS to DSCP' table has columns for CoS and DSCP, with rows numbered 1 to 7. The row for DSCP 46 is highlighted in blue in the 'DSCP to CoS' table, and the row for CoS 6 is highlighted in blue in the 'CoS to DSCP' table.

DSCP to CoS	
DSCP	CoS
39	4
40	5
41	5
42	5
43	5
44	5
45	5
46	6
47	5
48	6
49	6
50	6
51	6

CoS to DSCP	
CoS	DSCP
1	8
2	16
3	24
4	32
5	40
6	46
7	56

Figure 1

## Wireless Configuration

### Radio Profile

1. Navigate to Wireless → Radio Profiles
2. Configure an Ascom Radio Profile with the following settings:
  - a. If U-APSD is desired, check the “enable U-APSD” checkbox on the Radio Profile tab. Make sure your QoS downlink and uplink settings are both mapped to the voice queue and make sure the handset voice power save mode parameter is set for U-APSD.

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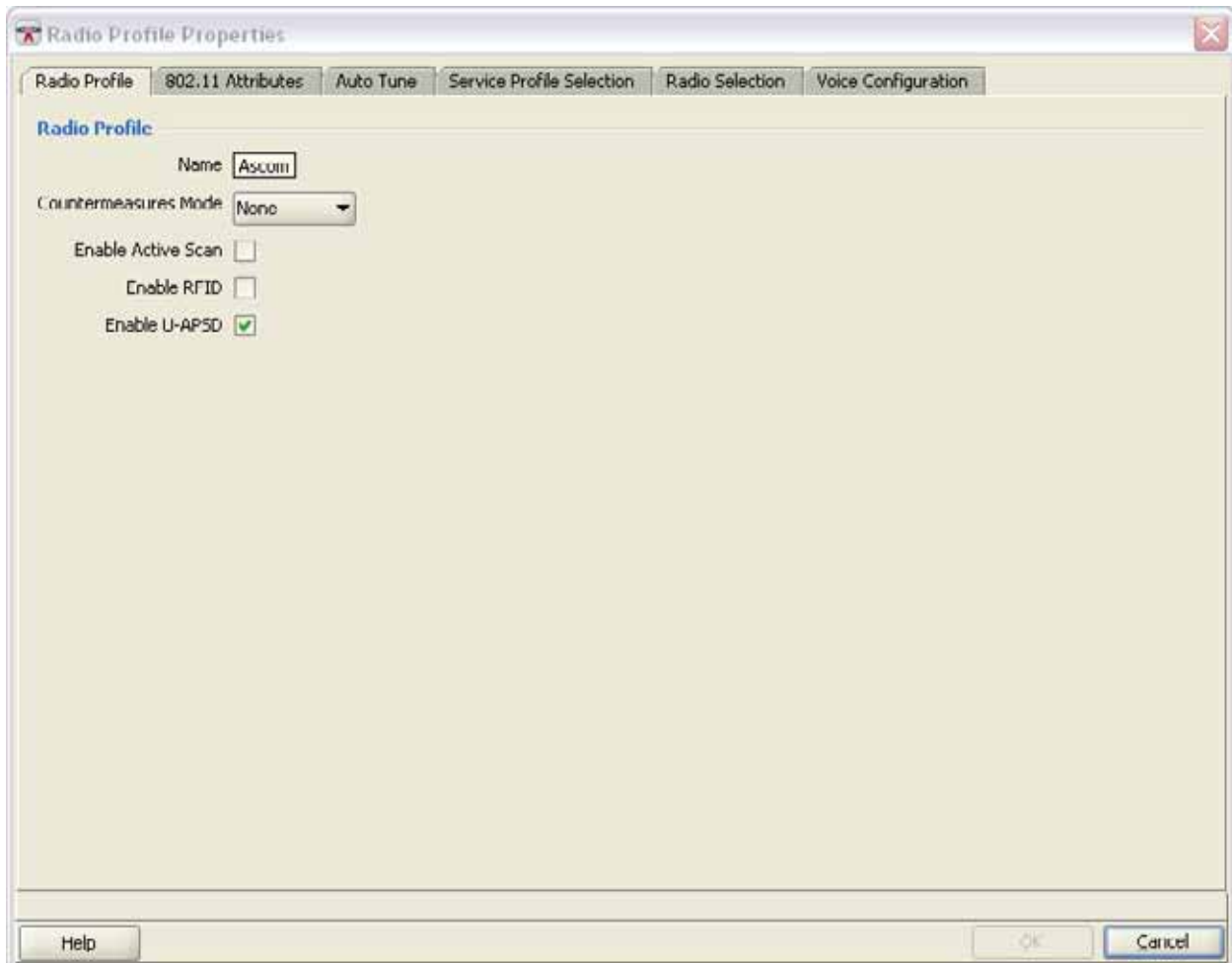


Figure 2

- b. On the 802.11 Attributes tab, set the beacon interval to 100 and the DTIM interval to 5.

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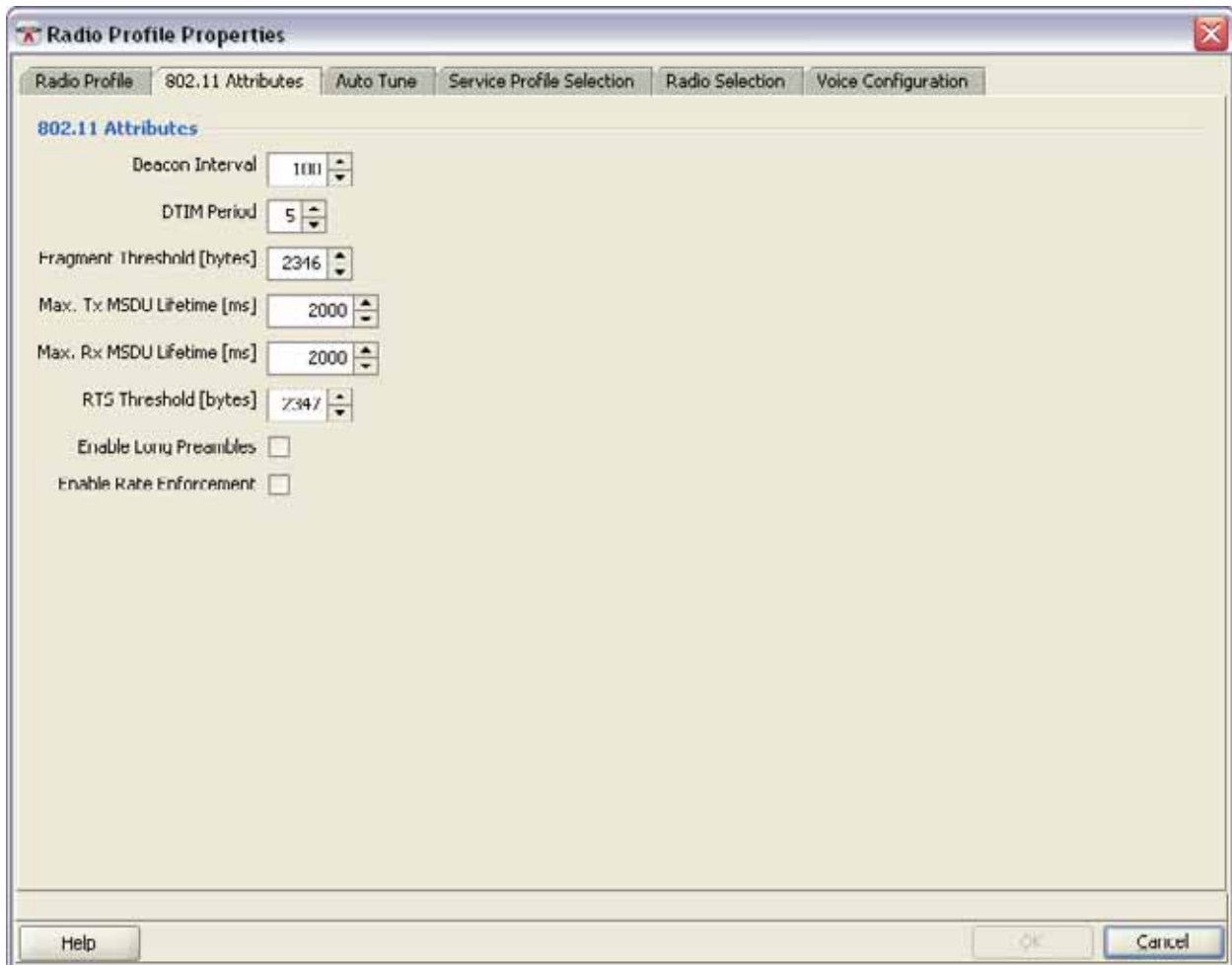


Figure 3

- c. On the Auto Tune tab, disable the auto tune feature.

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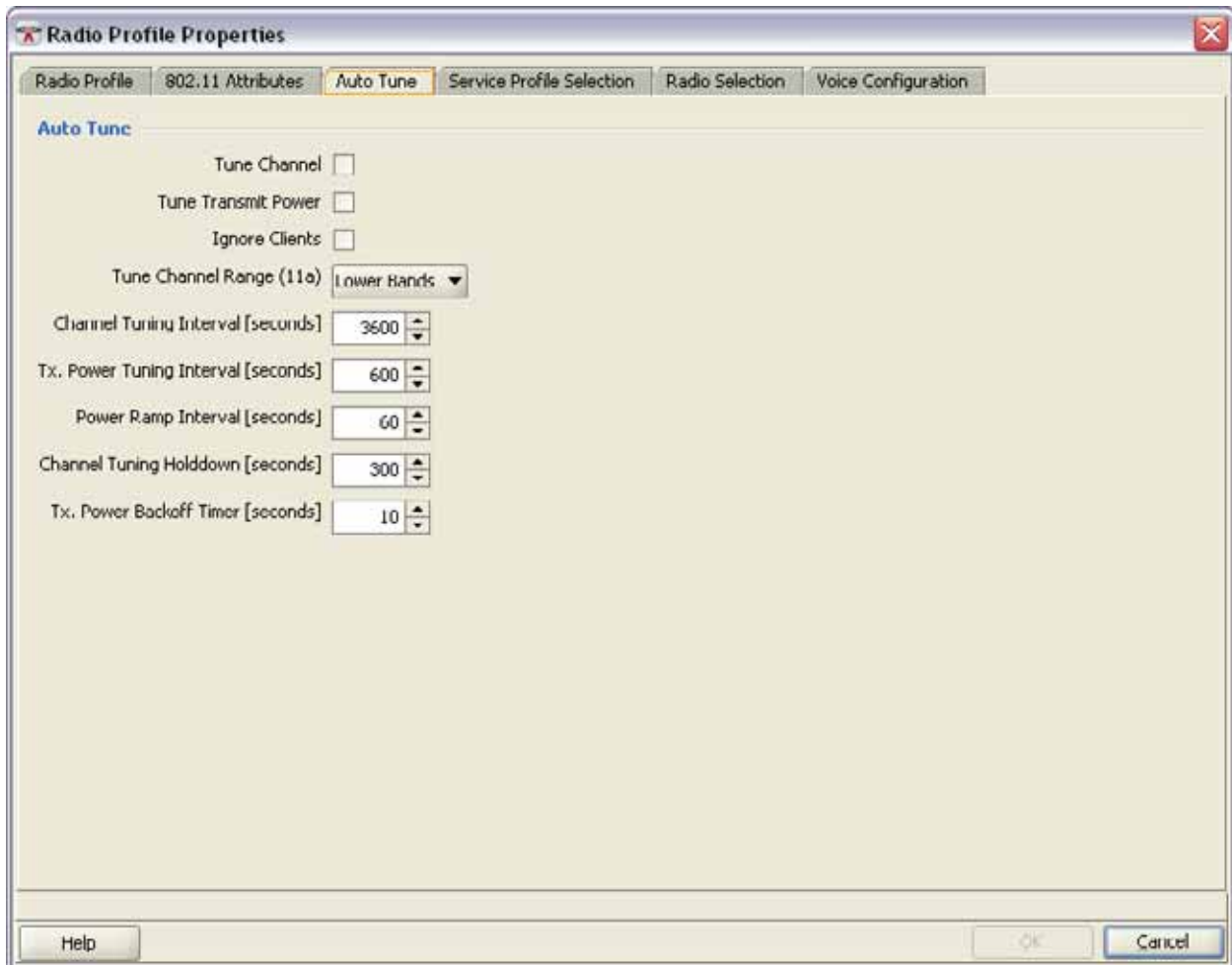


Figure 4

- d. On the Voice Configuration tab, enable WMM.

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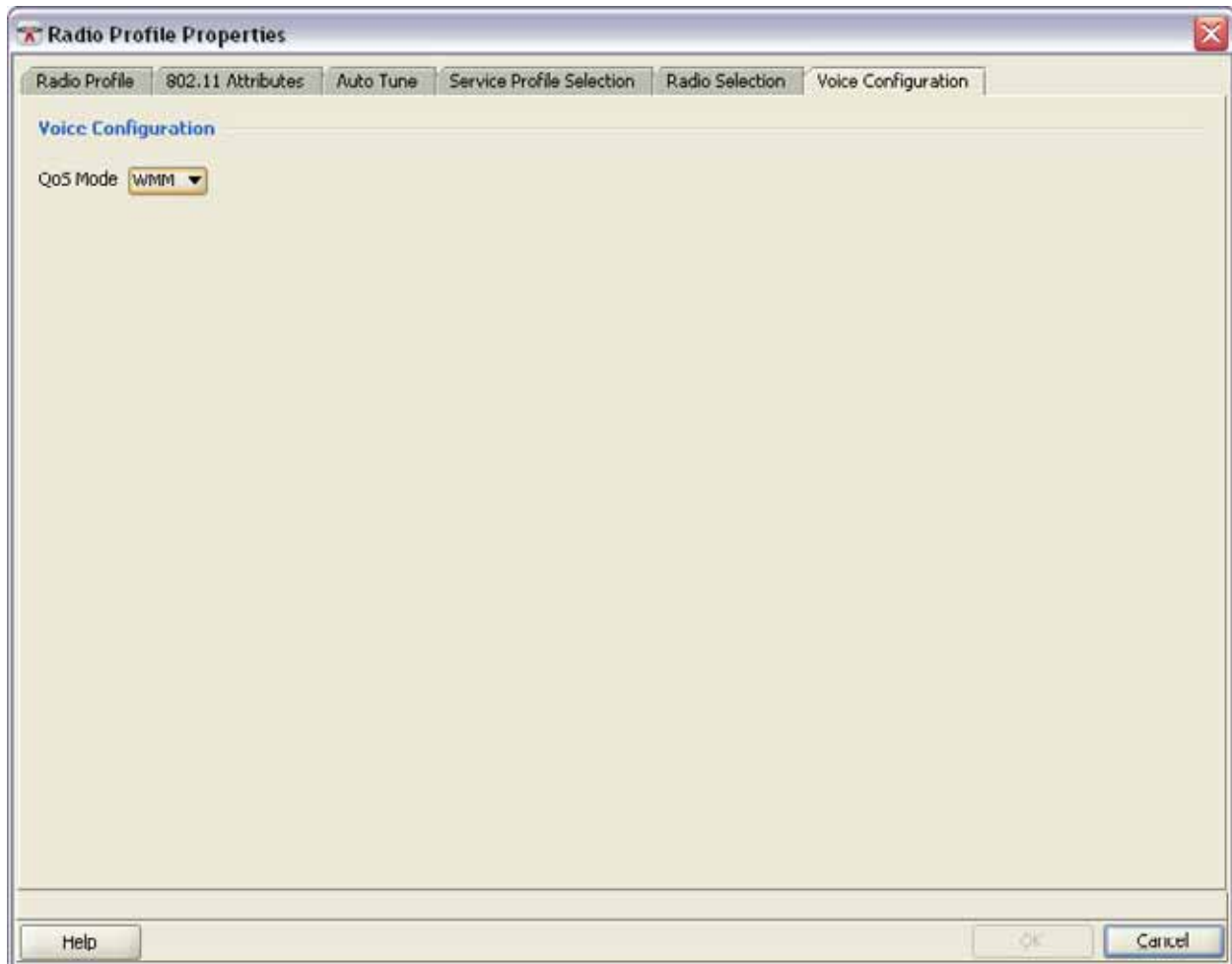


Figure 5

## Wireless Services

1. Navigate to Wireless → Wireless Services
2. Configure an Ascom Wireless Service with the following settings:
  - a. On the Service Profile tab, enable the Beacon checkbox.

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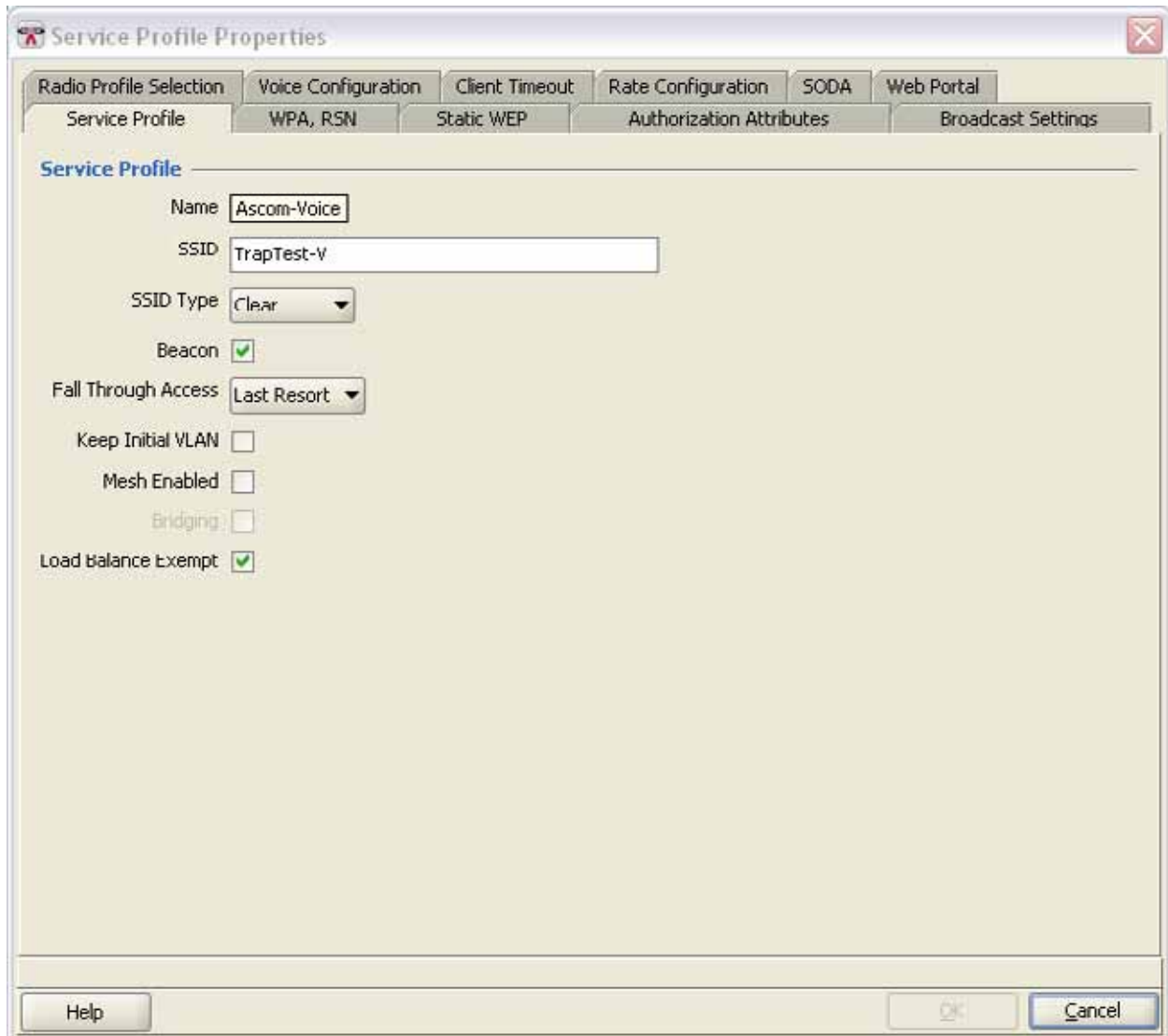


Figure 6

- b. Configure the desired encryption and authentication.
- c. On the Authorization Attributes tab, select the defined voice VLAN.

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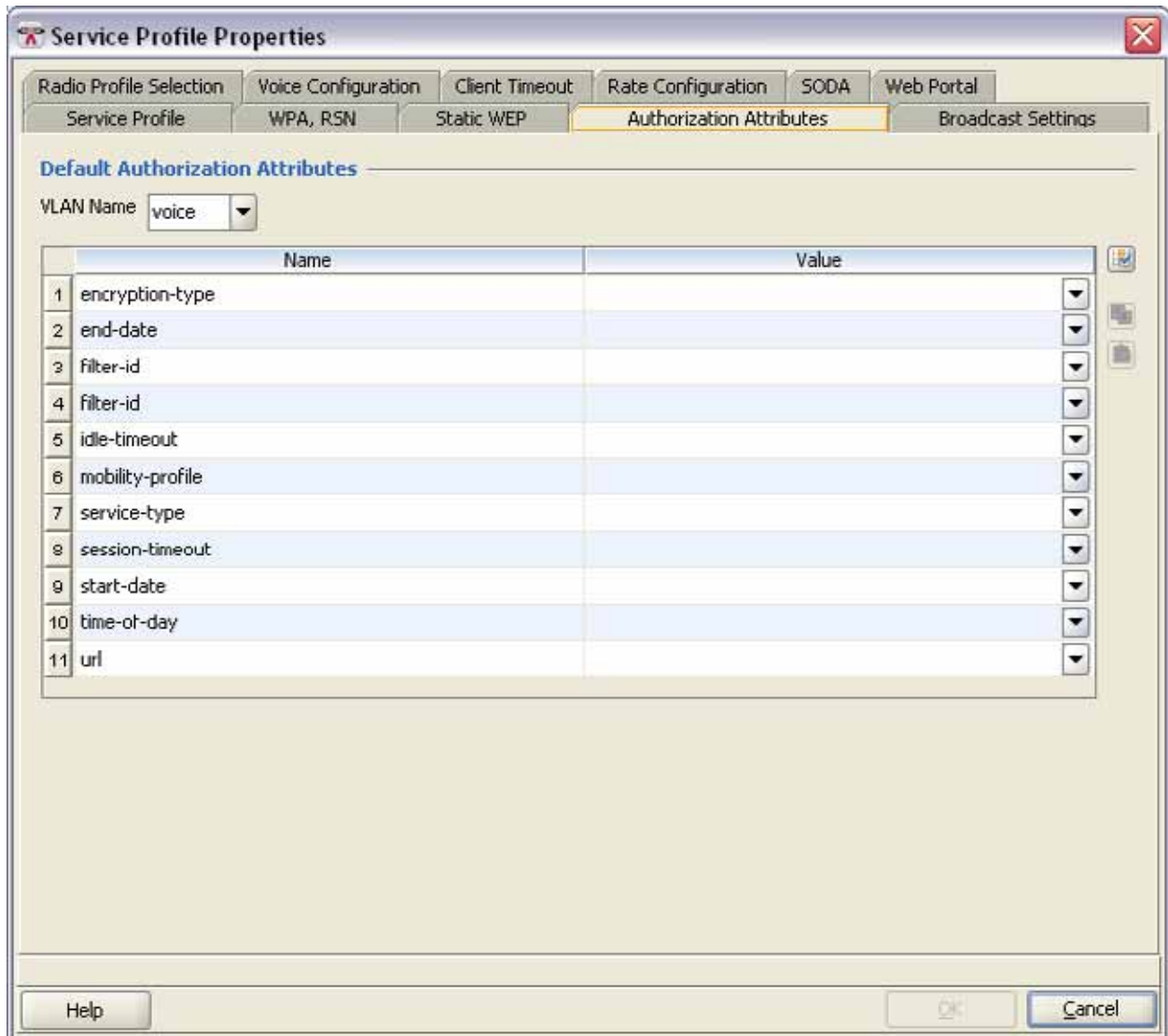


Figure 7

- d. On the Client Timeout tab, disable idle client probing.

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ascom

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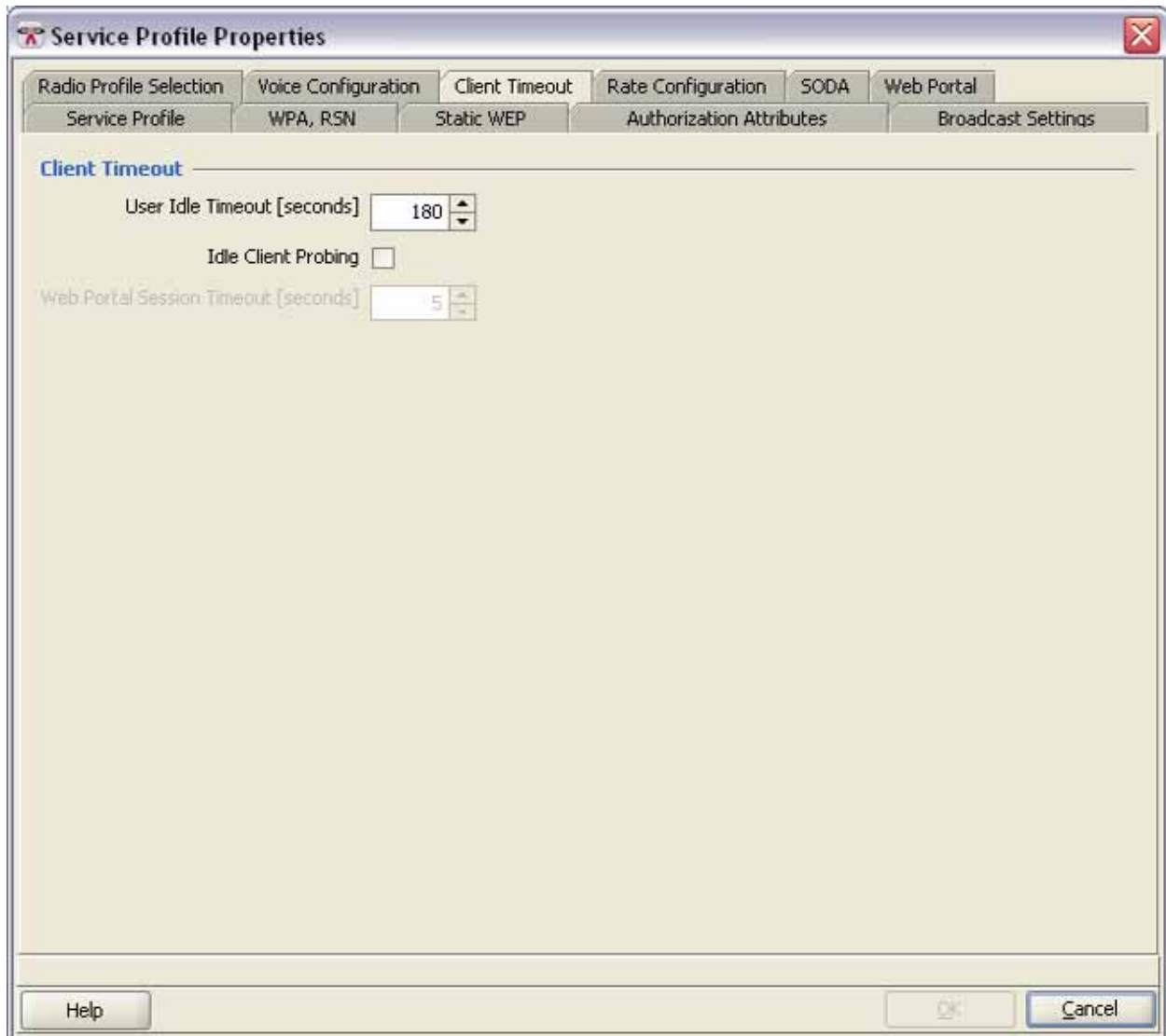


Figure 8

- e. Assign the Radio Profile configured for Ascom to this Wireless Service.

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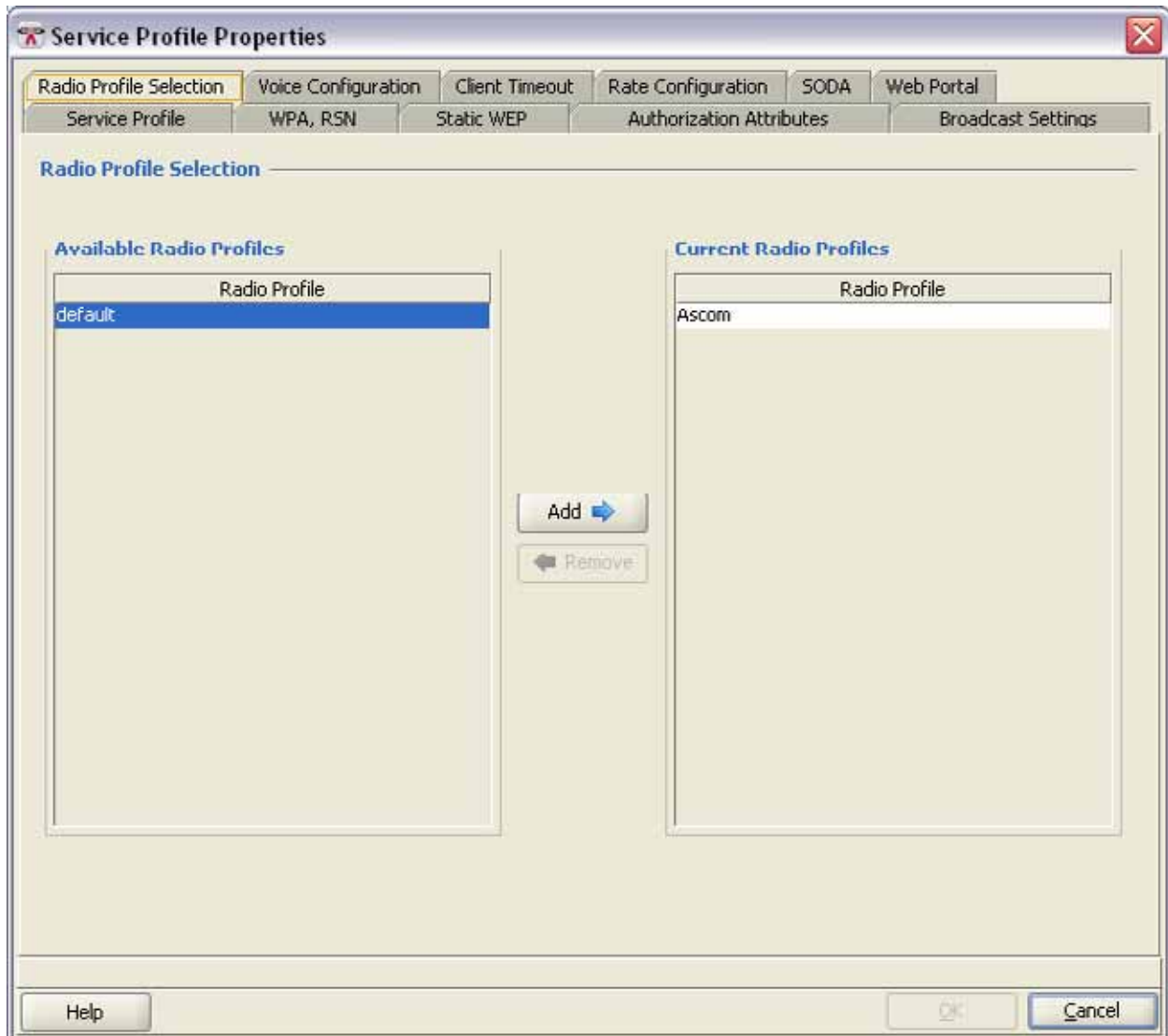


Figure 9

## Access Points

1. Navigate to Wireless → Access Points
2. For each AP, configure the following settings:
  - a. On the 802.11g Radio tab, select the Radio Profile defined above (i.e. Ascom).
  - b. Ensure that the transmit power is symmetrical with the VoWiFi handsets.

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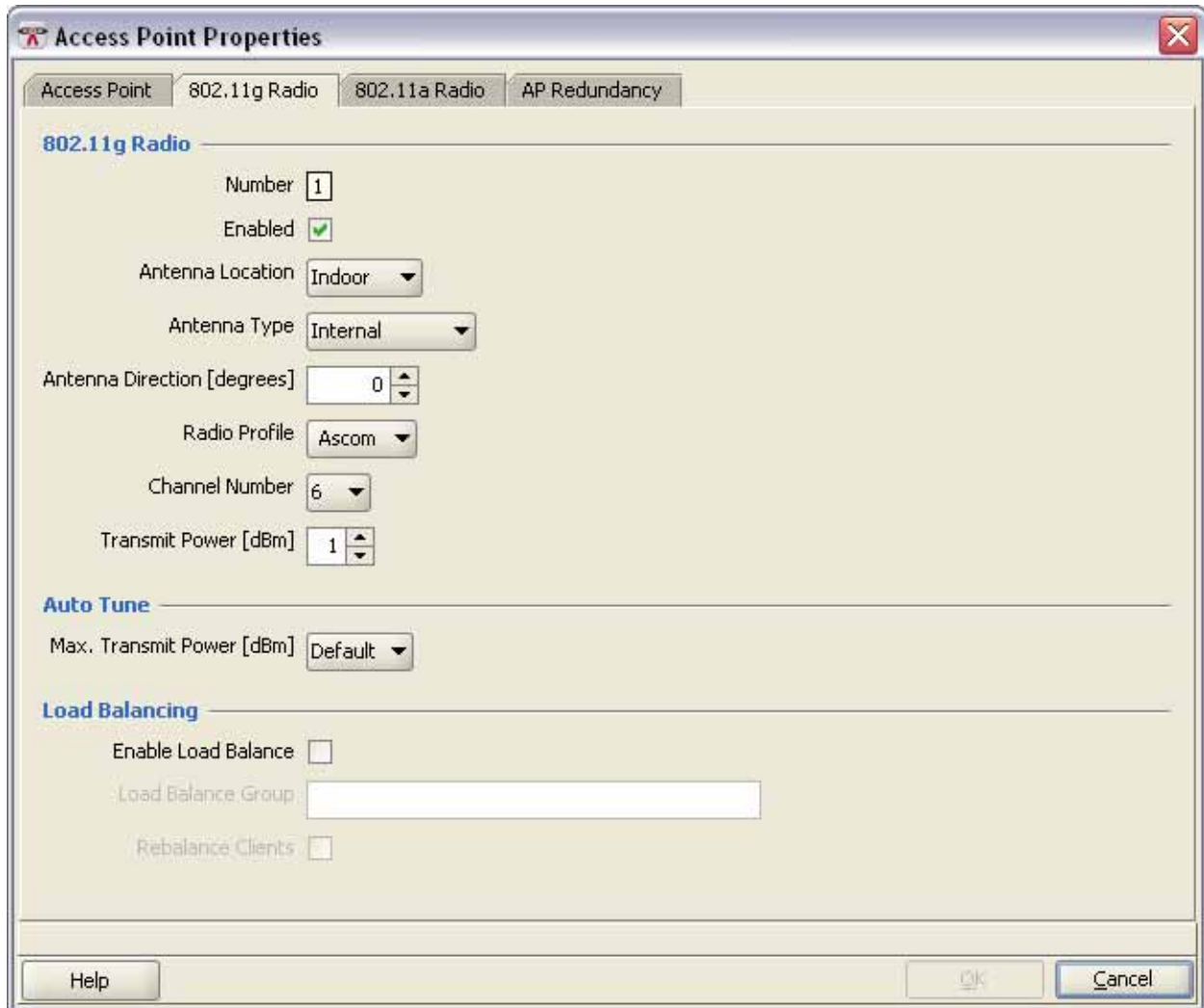


Figure 10

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## Related Documents

System Description VoWiFi System	TD 92313GB
Function Description VoWiFi System	TD 92314GB
Considerations for Ascom VoWiFi System Planning	TD 92408GB
Configuration Manual i75 VoWiFi Handset	TD 92431GB
Installation & Operation Manual Portable Device Manager, Windows	TD 92325GB
Installation & Operation Manual Portable Device Manager, System	TD 92378GB

## Contact information

For any additional questions, please contact Ascom Technical Assistance Center at 1-877-71-ASCOM.