Ruckus Wi-Fi calling

Deployment Guide

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Intended Audience

This document provides an overview of how to configure Ruckus products to support Wi-Fi calling. Step-by-step procedures for configuration and testing are demonstrated. Some knowledge of the Ruckus SmartZone and access points is recommended. This document is written for and intended for use by technical engineers with background in Wi-Fi design and 802.11/wireless engineering principles.

For more information on how to configure Ruckus products, please refer to the appropriate Ruckus user guide available on the Ruckus support site, http://support.ruckuswireless.com.

Overview

This document describes how to configure the Ruckus products to support our Wi-Fi calling solution. The document is broken into the following main categories

- Ruckus Wi-Fi calling feature
- How it works.
- Configuration

Wi-Fi Calling

Wi-Fi calling is a feature especially helpful in many environments. Depending on the location or construction material of a property there is often little or no cellular coverage inside the tenant units. In the past, this was a best effort with Wi-Fi calling enabled on the client's device. Problems arise when the client device switches from Wi-Fi to LTE or back because the gateway settings can be different, which can cause the call to drop. Ruckus Networks has developed a feature called Wi-Fi calling that allows a set of calling profiles to be loaded onto a WLAN. These features create a carrier grade Wi-Fi calling experience.

How it works

When a Ruckus Wi-Fi network is deployed and a Wi-Fi calling profile has been created and deployed, that profile contains the FQDN of the carrier or carriers ePDG (evolved Packet Data Gateway) the ePDG is where things like SIM authentication and IP conversion take place for LTE calls.

1. A client associated to the WLAN with the Wi-fi calling profile is enabled initiates a Wi-Fi call.

2. Ruckus SmartZone QOS features identify this as a Wi-FI call and can sense the carrier requested.

3. An IPSec tunnel to the ePDG is established.

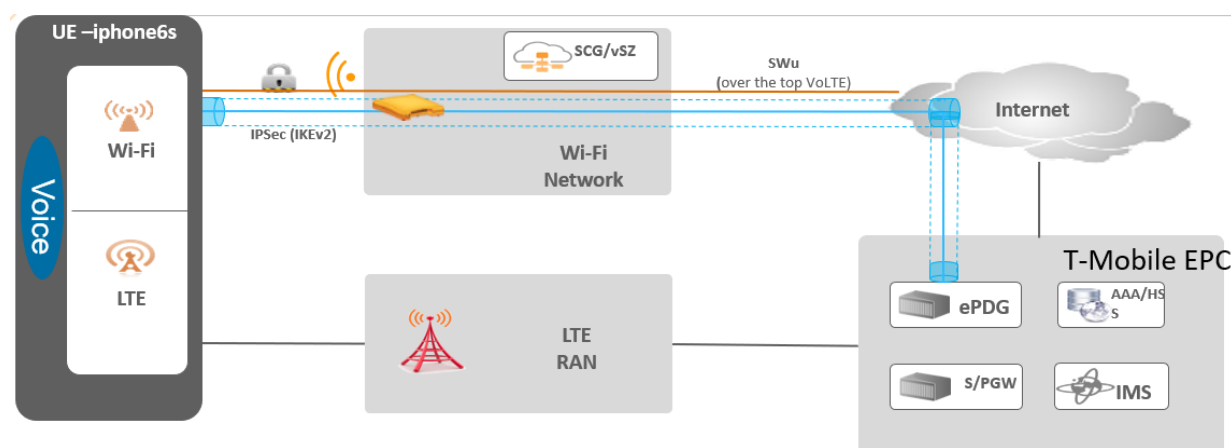4. Carrier grade voice connection is established just as an LTE call would be.


Figure 1: Wi-Fi calling flow

Wi-Fi calling Workflow

1. Obtain the carriers FQDN and address from the list listed.

vtc.epdg.att.ericsson.net	129.192.165.10	ATT East Coast
cnc.epdg.att.erricson.net	129.192.166.10	ATT West Coast
233.sub-141-207-229.myvzw.com	141.207.229.233	Verizon
ss.epdg.epc.geo.mnc260.mcc310.pub.3gppnetwork.org	208.54.37.80	TMobile
primgw.vowifi2.spcsdns.net	68.31.26.2	Sprint
epdg.epc.mnc006.mcc454.pub.3gppnetwork.org	180.219.134.17	SmarTone
epdg.epc.mnc001.mcc505.pub.3gppnetwork.org	149.135.136.48	Telestra Mobile
epdg.epc.mnc002.mcc505.pub.3gppnetwork.org	210.49.47.193	SingTel Optus
epdg.epc.mnc720.mcc302.pub.3gppnetwork.org	209.148.157.48	Rogers

Carrier ePDG List

2. Create a Wi-Fi calling profile on the SmartZone
   - Navigate to services and profiles.
   - Select Wi-Fi Calling
   - Select Profiles + Create
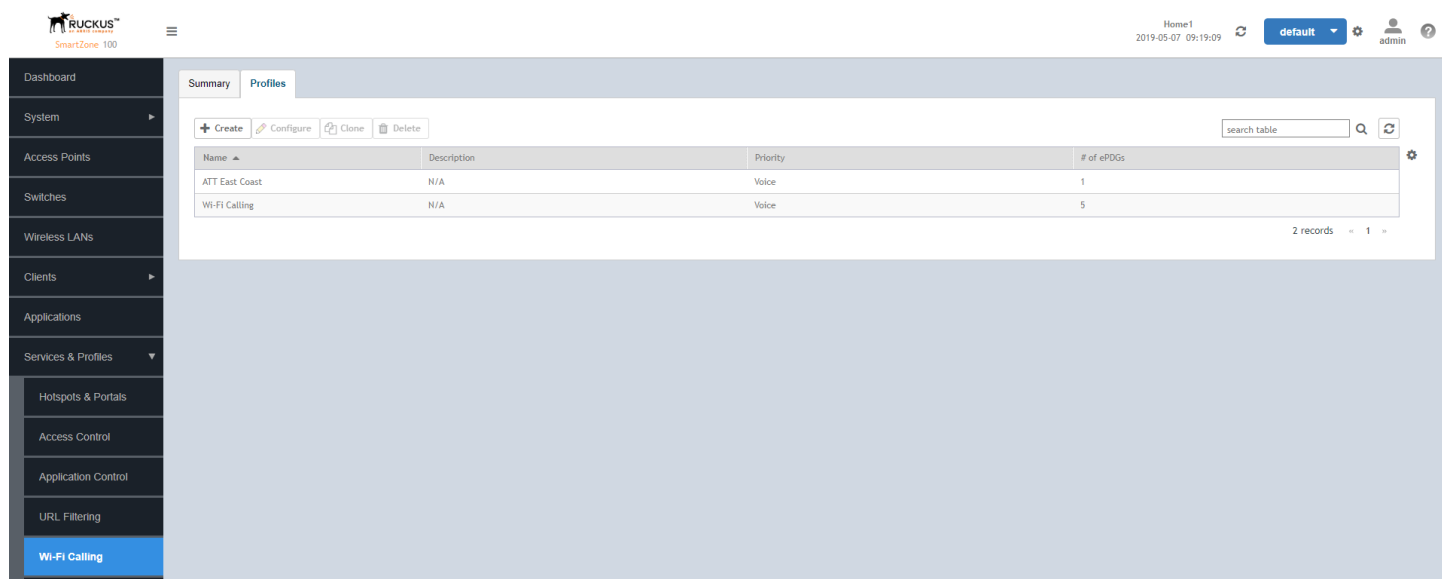
- Enter the description of the Carrier, Domain name, and ip address from the carrier list. (Multiple carriers can be added to a single profile)

- Save the profile-OK

- .

Create Wi-Fi Calling Policy ✕

General Options ▼

* Carrier Name: ATT East Coast
Description:
* QoS Priority: Voice ▼

Evolved Packet Data Gateway (ePDG) ▼

* Domain Name   IP Address
vtc.epdg.att.ericsson.net   129.192.165.10   ✚ Add ✖ Cancel 🗑 Delete
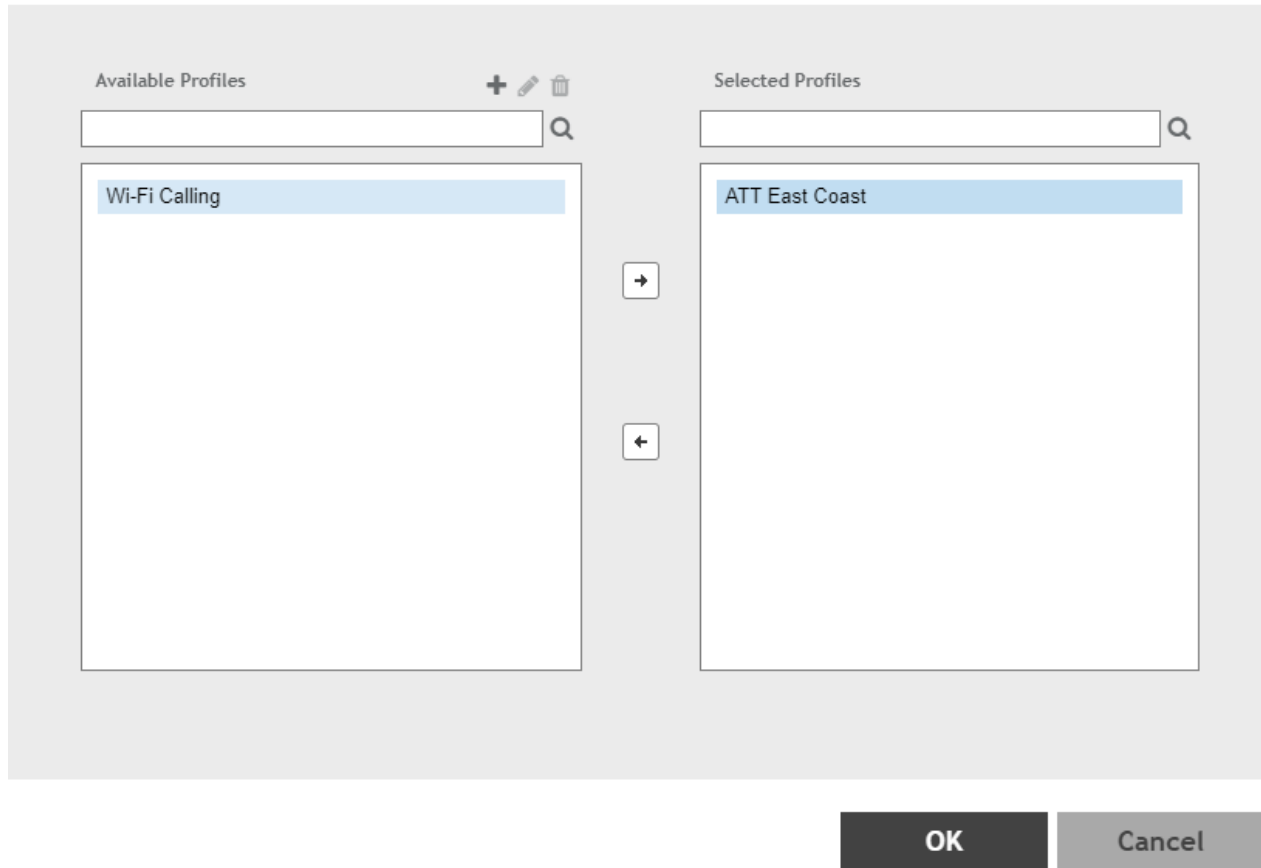
Domain Name   IP Address ▲

OK   Cancel

- Enable the WLAN desired with Wi-Fi calling and choose the correct profile, click ok.

Wi-Fi Calling: ON

☑ Select

* Wi-Fi Calling profile: Name

Select Wi-Fi Calling Policies

Available Profiles   + ✏ 🗑

Wi-Fi Calling

Selected Profiles

ATT East Coast

→

←

OK   Cancel

- Wi-Fi calling sessions can be observed in the same tab under Summary.

Summary | Profiles

Wi-Fi Calling Traffic

Last 14 days ▼   System ▼

Top 10 SSIDs by Traffic

AAHINESVILLE , 6.5MB

Top 10 ePDGs by Traffic

233.sub-141-207-229.my... , 6.5MB

Wi-Fi Calling Clients

Hostname	MAC Address	Carrier Name	Priority	Traffic (Session)	Traffic (uplink)	Traffic (downlink)	⚙
N/A	3C:28:6D:F3:90:71	wi-fi calling	Voice	6.5MB	3.3MB	3.3MB	

Summary

Ruckus Wi-Fi and wired networks provide a best in class grade of network connectivity. Combining superior Wi-Fi and switching along with the Ruckus Wi-Fi calling feature creates an ecosystem that greatly enhances the end user experience. In the world of Hospitality and MDU/MXU deployments the ability to simply get online is not enough to keep current guest/tenants or attract new ones, operators are continuously pressured to provide networks that are as good or better than a home of home office network. The ability to have not only reliable data but also carrier grade voice communication on the same platform is becoming more and more of a challenge and a superior connectivity experience can be the differentiator between someone returning to a hotel or remaining in or signing a new tenant contract in an apartment. With emerging LTE voice technologies some legacy phones may be incompatible with newer standards, Ruckus Wi-Fi calling will ensure the quality and legacy support needed by our partners for years to come.

For additional information and documentation follow the link to our support website below.

http://support.ruckuswireless.com.

About Ruckus Networks

Ruckus Networks enables organizations of all sizes to deliver great connectivity experiences. Ruckus delivers secure access networks to delight users while easing the IT burden, affordably. Organizations turn to Ruckus to make their networks simpler to manage and to better meet their users' expectations. For more information, visit www.ruckuswireless.com.

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