Dell Networking W-Series Wireless LAN Mobility Controller Optimizations for Microsoft Lync

Dell Networking Solutions Engineering
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Revisions

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Introduction

This guide focuses on system configurations required to ensure Quality of Service (QoS) for Microsoft Lync in a Dell W-Series Mobility controller-based deployment.

Media collaborative applications like Microsoft Lync providing voice, video, and instant messaging (IM) are expected to reliably run across wireless LAN networks (WLANs) and provide the high quality of service required by these applications. This guide outlines the steps needed to set up the Dell W-Series controllers.
1 Configuration Settings

1.1 AOS Version

Dell W-series controllers must be running AOS 6.1.3.2 or higher.

![AOS Version Image]

**Figure 1**  AOS Version

1.2 Licenses

Verify that the Access Point license and the Policy Enforcement Firewall Next Generation (PEFNG) license are installed on the controller. To verify, navigate to Configuration -> Network -> Controller -> Licenses.

![Licenses Image]

**Figure 2**  Licenses

1.3 Virtual AP Profile

1.3.1 Dynamic Multicast Optimization (DMO)

Navigate to Configuration -> All Profiles -> Wireless LAN -> Virtual AP Profile -> <profile name> -> Virtual AP Profile Details. Select Dynamic Multicast Optimization (DMO).
1.3.2 Band Steering

See Figure 3. Click the Band Steering checkbox to enable the feature. Steering Mode defaults to “Prefer 5ghz”. Verify that it is selected. Click Apply to carry out the changes. It is good practice to save the configuration.

With the Band Steering feature enabled, Dell access points will ignore 802.11 management Probe Requests from 2.5GHz RADIO client stations, responding only to Probe Requests from client stations in the 5GHz frequency band, effectively steering stations to the preferred spectrum.

1.4 SSID Profile

1.4.1 Delivery Traffic Indication Message (DTIM)

See Figure 4. Navigate to Configuration ->All Profiles -> Wireless LAN -> SSID Profile -> <profile name>. In SSID Profile Details, click the Advanced tab, and enter 3 into the DTIM Interval field.
When setting DTIM to a value of 3, it means that every third Management Beacon frame is a DTIM beacon for client stations to wake from a power management state to retrieve multicast traffic from Dell access points.

### 1.4.2 Wireless Multimedia (WMM)

See Figure 4. Select **Wireless Multimedia (WMM)** checkbox to enable the feature.

The Wi-Fi Alliance includes Wi-Fi Multimedia (WMM) as part of its Certification Program. Wi-Fi Multimedia defines layer 2 MAC methods needed to meet the Quality of Service (QoS) requirements for time-sensitive applications like Microsoft Lync.

### 1.4.3 Differential Services Code Point (DSCP)

### 1.4.4 Wireless Multimedia (WMM)

See Figure 4. Set **DSCP mapping for WMM voice AC** field to value of 46.

1.4.5 **Local Probe Request Threshold (dB)**

See Figure 5. Set the **Local Probe Request Threshold (dB)** field to value of **25**.

1.4.6 **Broadcast/Multicast Rate Optimization (BC/MC)**

See Figure 5. Select the **BC/MC Rate Optimization** checkbox to enable the feature.

This feature suppresses broadcast and multicast traffic on both wired and wireless networks.

1.5 **Adaptive RADIO Management (ARM) Profile**

1.5.1 **VOIP Aware Scan**

Navigate to **Configuration -> All Profiles -> RF Management -> Adaptive RADIO Management ARM Profile -> <profile name>-> ARM Profile Details -> VOIP Aware Scan.**
Adaptive RADIO Management (ARM) Profile

This feature prevents any single access point from becoming congested with voice calls. Dell access points will not attempt to scan different channels if one client has an active VOIP call.

1.5.2 Power Save Aware Scan

See Figure 6. Select the **Power Save Aware Scan** checkbox to enable the feature.

With this feature enabled, if Dell access points detect one or more clients in power save mode, the access point will not scan across other channels.

1.6 Quality of Service (QoS) Profile

1.6.1 Airtime Fairness

Navigate to **Configuration -> All Profiles -> QOS -> Traffic Management Profile -> Profile Details.** Add Lync, then select it. In the **Station Shaping Policy** field, select **fair-access.**

This feature allows each wireless client station equal access to the wireless medium.
1.7 Lync Access Control List (ACL) with Classify Media

1.7.1 Employee Lync User Role

See Figure 8. Navigate to Configuration -> Security -> Access Control -> Policies -> Firewall Policies.

Create six new rules. Add an IP access-list session named employee_Lync.

Figure 8  Employee_Lync User Role

Figure 9  Employee_Lync Policy Rules
The Dell W-Series Mobility controller optimization is complete.
A References

