Welch Allyn Connex®
Network installation

Aruba best practices addendum

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1 Introduction

About this document

This document lists required, recommended, and basic settings and configurations for Aruba Networks using Welch Allyn medical devices and systems. The best practices described in this document extend or amend the general best practices described in *Welch Allyn Connex®, VitalsLink by Cerner, and Connex CSK Network installation*. To view that document, go to http://www.welchallyn.com/promotions/Network_Installation_Best_Practices.htm, and click on the "Welch Allyn Connex Network Installation Best Practices Overview" link.

2 Best practices

Required network settings and configurations

These configurations and settings are required to establish a durable connection between Welch Allyn devices and the wireless network. Failure to comply with these requirements will result in a failure to connect to the network, repeated disconnects or extended loss of telemetry data.

Best practice	Affected types	Without best practice
RADIUS server When using EAP authentication, the controller must be configured to communicate with low-latency RADIUS servers. Unreliable communication with a RADIUS server, even in the presence of a secondary RADIUS server, seriously impedes performance.	Wired, Wireless	Dropped packets, data loss and dropped connections.
SSID/Radio settings • Interval between Identity Requests = 3 • Quiet period after Failure Authentication = 3 • WPA-key-period 2000	Wireless	Loss of connection and data, patient monitor will not connect.
User role Assign user role based on one or more derivation rules that you devise based on your specific configuration.	Wireless	By default, Aruba places wireless devices in the logon role, where they are subject to being disconnected from the network at frequent intervals. Assigning a user role avoids this problem.

Recommended network best practices

The best practices and configuration settings listed in the following table are specific to this vendor, and are recommended for the best performance. Increased data packet loss or occasional disconnects are likely if these recommendations are not followed.

Best practice	Affected types	Without best practice
Advanced Radio Management (ARM) Settings: ≤5x AOS software versions • Power save aware scan = enabled. • ARM scanning for source = Welch Allyn VLAN = disabled destination = Welch Allyn network, protocol = UDP. ≥6x AOS software versions • Power save polling (PSP) aware = enabled. • VOIP aware = enabled • Scan interval = 180 seconds[1]	Wireless	APs perform ARM scanning at the time when PSP clients are scheduled to send data, resulting in lost data.
Bandwidth[2] 7 percent proportional bandwidth allocation for APs and Welch Allyn virtual APs/Packet-Shaping	Wireless	Increased probability of dropped patient data packets on busy wireless networks.
Client Match Disabled	Wireless	Increased probability of disconnects and roams in busy regions of networks.
Firmware version Use Welch Allyn-validated versions of the Aruba Operating System: • 3.2.0.1-WA1 • 3.3.1.19 • 3.3.2.10 • 3.3.2.18 • 5.0.3.3 • 6.1.2.7 • 6.2.1.2 • 6.3.1.6	Wireless	Using a non-validated version of firmware may induce data loss.
Supported hardware versions Controllers • 200 • 800 • 2400 • 5000 • 6000 • SC1 • SC2 • 650 • 3200 • 3400 • 3600 • 7200 • MK3(5000) • MK3(6000) APs • AP60 • AP61 • AP65 • AP70* • AP92 • AP105 • AP125 • AP135	Wireless	Using non-validated hardware may cause data loss. *AP70 only validated for versions prior to 5.0.3.3
SSID/Radio settings • Radio High throughput enabled (disabled)	Wireless	Loss of connection and data, patient monitor will not connect.

1. Aruba 6.2 and later: adjustable via CLI only, see rf arm-profile command.
2. The 7 percent proportional bandwidth allocation will support up to 20 connected Welch Allyn devices per AP. If no Welch Allyn devices are associated with the AP, the bandwidth is available to other devices.