Wireless Refresh for RHAM Schools

Version 1.1
November, 2026
Atlantic Computing Technology Corporation
11 Freedom Way, B1
Niantic, CT 06357

www.atlantic.com
Contact: Kevin Dowd
dowd@atlantic.com
860 313 0727 x111

Deliver to:

Attn: Denis Recchia
RHAM HS, 85 Wall St., Hebron, CT 06248

This page blank

Introduction 5
Project 6
Interior Wi-Fi 6
Interior Access Points for RHAM Schools 6
Exterior Access Points for RHAM Schools 9
Programming 10
Aruba Central 10
AP Switches 10
Wiring and AP installation 11
Summary of Deliverables for Wi-Fi at RHAM 11
Cost Proposal 13

This page blank

Introduction

This document describes an HPE Aruba Networks-based infrastructure for RHAM High School and Middle School. The proposed equipment is based on the latest shipping wireless protocol, Wi-Fi 7, in a cloud-managed configuration. In addition to interior APs (196), we also describe exterior access points for general outdoor coverage around the schools, plus a wireless bridge to a shed at the edge of the football field/track. From there, we provide wireless service to the field with sufficient bandwidth to support streaming video.

The scoped effort includes elements needed to bring up a fully functional deployment—equipment, engineering, installation, testing and project management. Net-new APs may also require new network drops. These may be fresh installations or re-used drop within the classrooms. Wiring is not quoted, but a walk-through and a quote can be obtained.

The proposed new APs will function in conjunction with the existing switches. Note that additional switch ports may be required to support net-new APs. Newer technology switches that specifically support the multi-gigabit interfaces available on the APs might also be considered, but are not required.

Atlantic brings to bear many years of skill in difficult WiFi deployments. Within Connecticut public schools, Atlantic has deployed and supports WiFi in Newington, Mansfield, Region 19, Region 15, Region 16, Farmington, Ansonia, Bolton, Cromwell, Wallingford, Darien, Greenwich, Derby, Ellington, Simsbury, Windsor, Middletown, Glastonbury, Meriden, Region 17, Region 13, Marlborough, North Haven, Canton, Plainville and many others. Atlantic's deployment into the 100 year-old dormitories at Connecticut College is an Aruba Networks case study, as is a high-density wireless iPad deployment into Glastonbury High. We have deployed 10,000+ access points and hundreds of controllers. More than one-in-five of Connecticut school districts rely on Atlantic for WiFi expertise. Atlantic is the 2nd largest Category 2 E-Rate provider in the state.

Project

Interior Wi-Fi

Atlantic proposes cloud-based Aruba Central for deployment. Use of Central enables the configuration and management of Wi-Fi 7 APs, and provides insight and manageability that exceeds controller-based networks.

Interior Access Points for RHAM Schools

Each WiFi connection has a negotiated speed. The stronger the signal and the better the signal-to-noise ratio, the higher the throughput. When a user is in the same room as an AP, the very best rates will be attained. On the contrary, when a client negotiates a connection through a wall, a lower rate is likely.

Lower data rates require more time to transmit the same amount of data. Thus, a connection from across the hall or through a wall will reduce available bandwidth, overall—including for the users collocated in the room with the AP. Accordingly, we typically place APs inside rooms—not in hallways. This further works to separate the APs and improve radio management, and reduces same-channel interference.

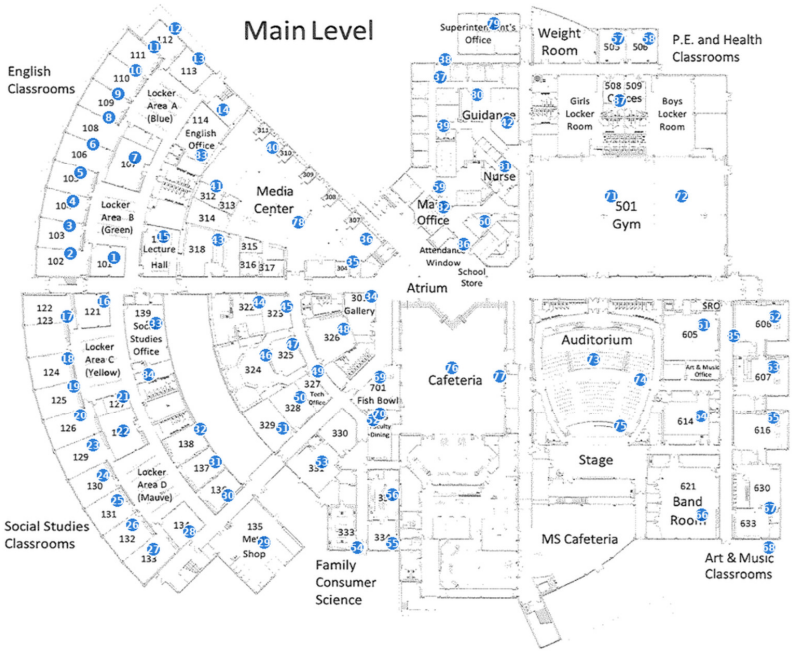


The access point we propose is the AP-725. It is a 2x2:2 tri-band Wi-Fi 7, 2.5 Gbit/S 802.3bz-capable AP for use in both classrooms and in open areas. In the past we have proposed larger APs for cafeterias and gymnasiums. However, as the performance of APs has increased, so has their client-handling ability. With the proliferation of personal Wi-Fi devices, the limiting factor has become same-channel interference of clients with each other. It is better to use more small APs than fewer large APs in situations where large APs were previously prescribed.

The following floor plans are approximate and subject to revision:

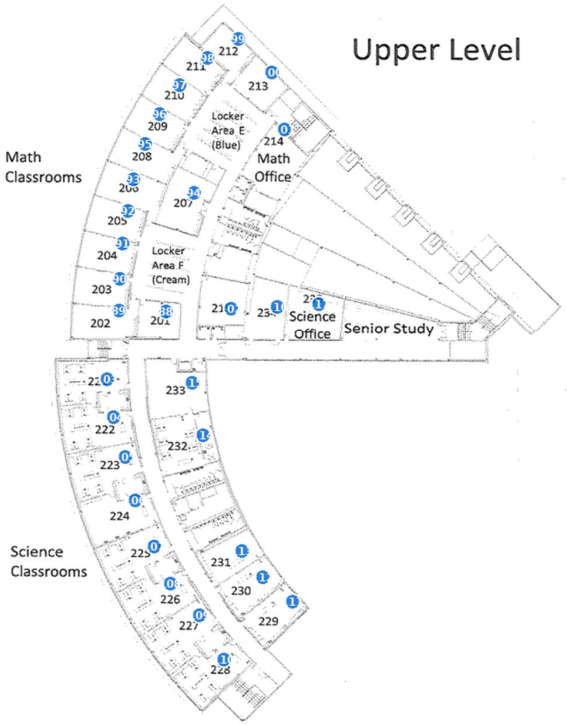
RHAM / HS / First

Aruba AP-725 | 87 placements | blue numbered circles = AP IDs; see schedule for relocations



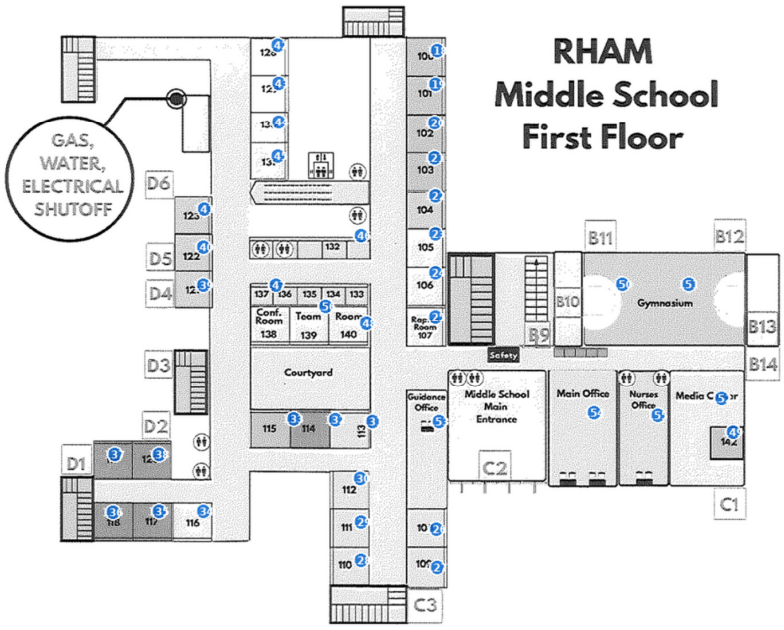
RHAM / HS / Second

Aruba AP-725 | 30 placements | blue numbered circles = AP IDs; see schedule for relocations



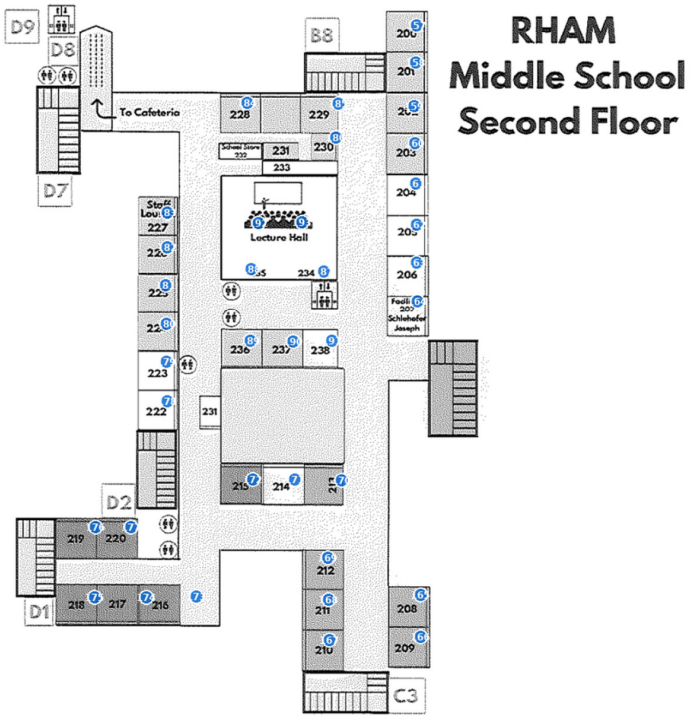
RHAM / MS / First

Aruba AP-725 | 39 placements | blue numbered circles = AP IDs; see schedule for relocations



RHAM / MS / Second

Aruba AP-725 | 37 placements | blue numbered circles = AP IDs; see schedule for relocations



Exterior Access Points for RHAM Schools

Exterior, purpose-built outdoor access points light up areas around the school and extend access to ball fields. The round radiation patterns depict omni-directional access points that are providing Wi-Fi immediately adjacent to the school building for assembly during emergencies or for general client use.



The triangular patterns depict access points with high-gain antennas. These concentrate power into a sector radiation pattern intended to extend Wi-Fi for a distance.



Four APs with high-gain antenna patterns are depicted: one provides coverage to the baseball field at the upper left.

Two cyan-colored triangles represent very high-gain antennas that extend the network from the middle school to a shed at the football field. The sector antenna pattern near the bottom is associated with access coverage for the football and track field.

Programming

In conjunction with RHAM's network staff, Atlantic will integrate the HPR Aruba APs into the wired network and bring up the wireless network. Atlantic will duplicate existing SSIDs or create new, as directed. We will integrate the wireless network with RHAM's directory services for 802.1X WPA-Enterprise authentication and encryption. In conjunction with RHAM's staff, Atlantic will configure guest access, including captive portal, as desired.

Management of the wireless network will be affected through Aruba Central, provided in this proposal. Central will give RHAM the ability to monitor wireless network use down to the user, location and application. Wireless security, policies and configuration are contained within a single, rich user interface.

Aruba Central

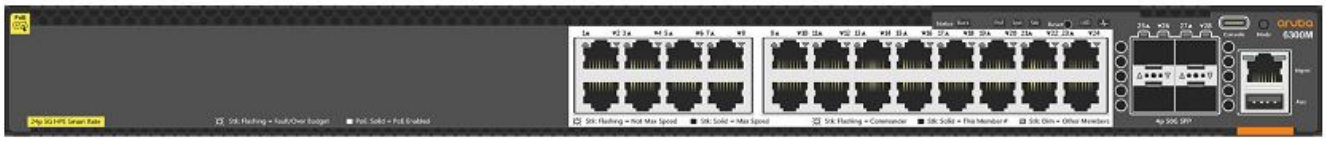
Atlantic will provide Aruba Central subscriptions for the new access points at RHAM Schools. The quote includes three years of Central for all of the APs in this proposal.



AP Switches

The existing switches will be sufficient in function to support the replacement APs. However, there may be a need for additional ports for net-new access points.

The proposed APs can negotiate connections at up to 2.5 GBit/S with an 802.3bz-capable (SmartRate) switch. If new switches were to be procured, devices with SmartRate ports might be desirable for future-proofing the network. These would be paired with access points.



The new switches would cascade off each closet's top-of-rack switches at 10 Gbit/S, if possible, or at any other sensible location in the switch fabric.

In all cases—new or old switches--wireless VLANs must be extended to these switches, so there will likely be some configuration of the existing network in each closet.

Wiring and AP installation

We don't show wiring costs because we have not surveyed the wiring. However, if new drops were needed or old drops were to be repurposed, we would subcontract to Northeastern Communications of Middletown. We have worked with Northeastern on many projects over many years and know them to be the best value and of the highest integrity.

Each AP deployment is a combination of a network drop, a PoE switch port and mounting hardware. Atlantic/Northeastern will install and provision the access points. Where necessary, Atlantic will secure access points with a radio-transparent access point cover. These will be useful in gymnasiums and cafeterias. Otherwise, access points will be installed below suspended ceilings or on wall surfaces.

The installer will patch the new APs into designated switch ports. Atlantic will provide any necessary patch cables. Atlantic will provide summary sheets correlating AP MAC, serial number, location and wired drop name. APs will be labeled per RHAM's requirements. Existing APs will be removed and collected.

Summary of Deliverables for Wi-Fi at RHAM

Atlantic will provide all of the components and effort detailed above to create a functioning wireless network for RHAM schools. Atlantic will provide as-built summary information for the Wi-Fi installation at RHAM. The project is turnkey except for the provisioning of new data drops or switches, which we can incorporate

after review. Project success will require assistance of the RHAM staff when making configuration choices or integrating with existing equipment.

Cost Proposal

CUSTOMER QUOTATION
Valid until 1/02/2027

Quote# 1102261243KD
Date: 11/3/2026

Customer Name RHAM Schools
Contact Denis Recchia
Phone
Fax
Email

Box 939
Niantic, CT 06357
Phone 860 313 0727
Fax: 860 760 6705

Aruba Central + AP-725s

ITEM	PART #	DESCRIPTION	QTY	PRICE	TOTAL
Interior APs					
1.0	S4A25A	HPE Aruba Networking AP-725 (US) Tri Radio 2x2 Wi-Fi 7 Internal Antennas Campus Access Point	196	739.35	144,912.60
1.1	S4K79A	HPE Aruba Networking AP-MNT-U Campus Access Point Type U Universal Mount Bracket Kit	196	30.15	5,909.40
Exterior APs					
2.0	R4W44A	HPE Aruba Networking AP-565 (US) 802.11ax Dual 2x2 Radio Integrated Omni Antennas Outdoor AP	4	936.90	3,747.60
2.1	JW053A	HPE Aruba Networking AP-270-MNT-V2 Outdoor AP Short Arm Pole/Wall Mounting Bracket	4	71.55	286.20
3.0	R4W49A	HPE Aruba Networking AP-567 (US) 802.11ax Dual 2x2 Radio Integrated Directional Antennas Outdoor AP	2	936.90	1,873.80
3.1	R6W11A	HPE Aruba Networking AP-270-MNT-H3 Outdoor AP Hanging Dual-Tilt Pole/Wall Mounting Bracket	2	88.65	177.30
4.0	R4H03A	HPE Aruba Networking AP-518 (US) Dual Radio 4x4/2x2 Wi-Fi 6 6xRPSMA Connectors Hardened AP	2	1,152.90	2,305.80
4.1	R3J18A	HPE Aruba Networking AP-MNT-D Campus AP mount bracket kit (individual) type D: solid surface	2	18.90	37.80
4.2	JX988A	HPE Aruba Networking ANT-4x4-5314 5.15-5.9GHz 14dBi Dual Pol MIMO Hi Gain Dir N-Type Outdoor Antenna	2	436.95	873.90
4.3	JW067A	HPE Aruba Networking AFCSJMTM-00 Indoor AP RPSMAm to Nm 60cm Flexible Indoor Rated RF Cable	8	13.05	104.40
Aruba Central					
5.0	Q9Y59AAE	HPE Aruba Networking Central AP Foundation 3-year Subscription E-STU	206	175.95	36,245.70
Exterior APs					
6.0	ATL-INSTALL	Installation, programming	206	60.00	12,360.00

Shipping & Handling	
Sub Total	$208,834.50
Taxes	
	$208,834.50

Federal Tax ID: 04-3814908

Atlantic is a Connecticut Small Business