



Louisiana Department of Education Network Proposal

About us



Amalgam n. *A mixture or blend. A combination or mixture of different elements.*



Diverse background- Sales, Networking, Security, Installation, Troubleshooting, Intelligence, Communication and more.....
Proven success in Retail, Medical, Industrial industries



We see your mission, your goals, and passions as people and educators and are excited to see how strong we can be together.

Customer Requirement Analysis

 Fast, secure network connectivity to internet and between the school locations (WAN/VPN)

 Secure solution to host its servers **on-prem**

 District owned and personally owned (BYOD) devices

 QoS solution designed to give priority to critical traffic.

 Security solutions should be designed while considering the impact on network bandwidth.

 Network performance monitoring with a priority placed on school operational hours

Logical Network Design

IPV4/6 Plan

Each location will have its own IPv4 and IPv6 subnet. A dual-stack topology will be implemented, which means that devices that are capable will work with both addresses until a full transition to IPv6 occurs.

Network Address	Location
10.1.0.0/16	Benjamin Franklin High School
10.2.0.0/16	Acadia Parish Alternative School
10.3.0.0/16	Baton Rouge High School
10.4.0.0/16	Mamou High School
10.5.0.0/16	Church Point High School
10.6.0.0/16	Lafayette High School
10.7.0.0/16	Ross Elementary School
Assigned Public Block: 2001:db8:abcd:ef12::/48	
Network Address	Location
2001:db8:abcd:ef12:1000::/52	Benjamin Franklin High School
2001:db8:abcd:ef12:2000::/52	Acadia Parish Alternative School
2001:db8:abcd:ef12:3000::/52	Baton Rouge High School
2001:db8:abcd:ef12:4000::/52	Mamou High School
2001:db8:abcd:ef12:5000::/52	Church Point High School
2001:db8:abcd:ef12:6000::/52	Lafayette High School
2001:db8:abcd:ef12:7000::/52	Ross Elementary School

Logical Network Design

IPV4/6 Plan

The following shows the IP implementation plan for Benjamin Franklin High School for illustration purposes.

Benjamin Franklin High School

10.1.0.0/16

VLANs	VLAN #	Subnet	Reserved
Network Mangement/Servers	101	10.1.1.0/24	10.1.1.1-10
District Owned Endpoint	102	10.1.2.0/23	10.1.2.1-10
BYOD-Staff	104	10.1.4.0/22	10.1.4.1-10
BYOD-Student	116	10.1.16.0/20	10.1.16.1-10
BYOD-Guest	132	10.1.32.0/19	10.1.32.1-10
Printers	133	10.1.33.0/26	10.1.33.1-10
Cameras	135	10.1.35.0/26	10.1.35.1-10

Benjamin Franklin High School

2001:db8:abcd:ef12:1000::/52

VLANs	VLAN #	Subnet	Reserved
Network Mangement/Servers	101	2001:db8:abcd:ef12:1001::/64	2001:0db8:abcd:ef12:1001::1/128 to 2001:0db8:abcd:ef12:1001::20/128
District Owned Endpoint	102	2001:db8:abcd:ef12:1002::/64	2001:0db8:abcd:ef12:1002::1/128 to 2001:0db8:abcd:ef12:1002::20/128
BYOD-Staff	104	2001:db8:abcd:ef12:1004::/64	2001:0db8:abcd:ef12:1004::1/128 to 2001:0db8:abcd:ef12:1004::20/128
BYOD-Student	116	2001:db8:abcd:ef12:1016::/64	2001:0db8:abcd:ef12:1016::1/128 to 2001:0db8:abcd:ef12:1016::20/128
BYOD-Guest	132	2001:db8:abcd:ef12:1032::/64	2001:0db8:abcd:ef12:1032::1/128 to 2001:0db8:abcd:ef12:1032::20/128
Printers	133	2001:db8:abcd:ef12:1033::/64	2001:0db8:abcd:ef12:1033::1/128 to 2001:0db8:abcd:ef12:1033::20/128
Cameras	135	2001:db8:abcd:ef12:1035::/64	2001:0db8:abcd:ef12:1035::1/128 to 2001:0db8:abcd:ef12:1035::20/128

Mobile Device Management (MDM)



- ExtremeControl App
- Remotely control devices on-premise and remote
- Centralized Management
- Policy Audit
- Third Party Integration

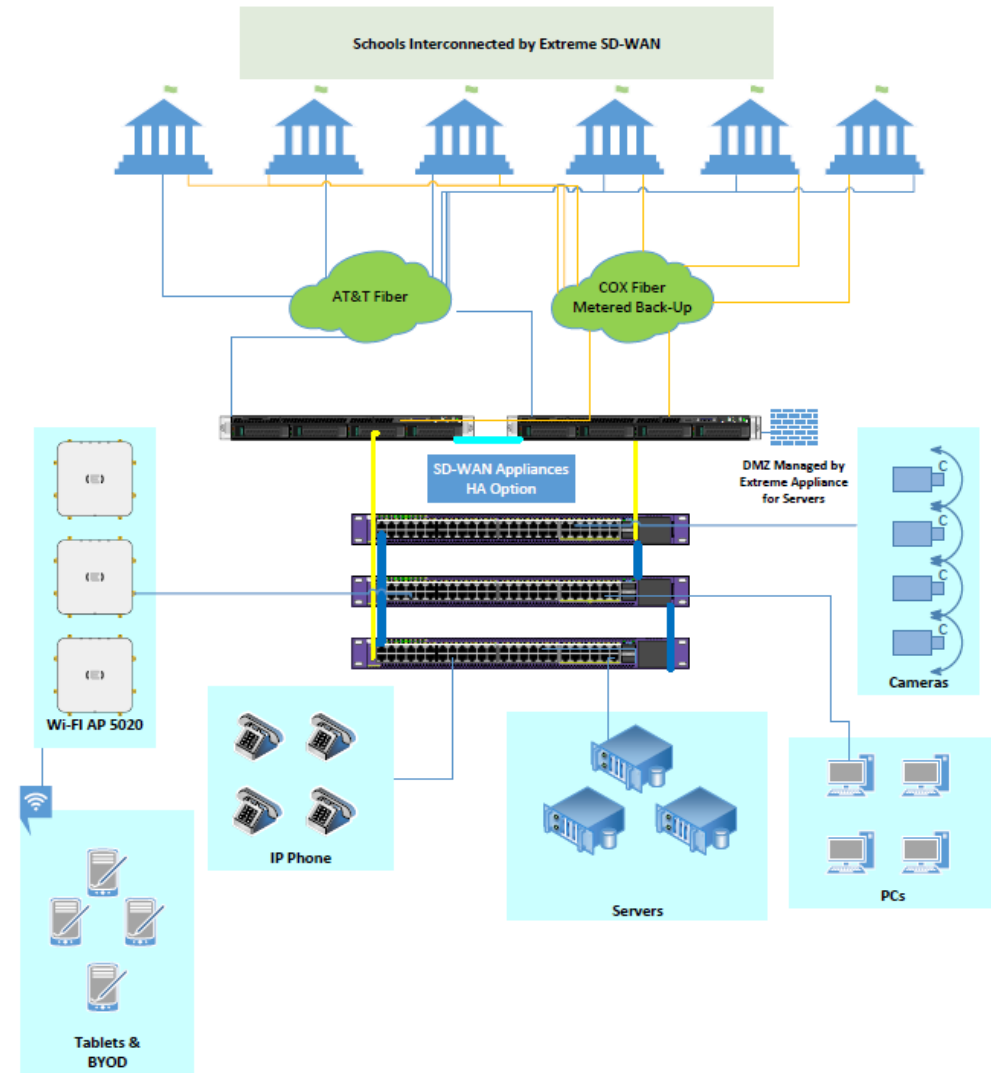
Bring your own device (BYOD)



- Uses ExtremeControl App
- Secure Onboarding
- Granular Device Control

Physical Network Design

- Extreme SD-WAN Appliances in HA mode
- Dual ISP Connectivity
- Extreme Access Switches
- Extreme Wi-Fi
- Security Cameras
- Servers
- End Devices



Security

- Extreme Networks Cloud IQ
 - Layered Security
 - Fabric-based hyper segmentation
 - Machine learning

ZTNA

Simplified Management

Unified Experience

WIFI protection

Budget and Cost Analysis

Item	Model	Links	MSRP	Discount Price	Quantity	Cost
Networking						
SD-WAN Edge Devices (Included in SD-WAN License)						
Access Switches (High Schools)	5520-12MGig/36gig 5520 Datasheet Map	5520-12MW-36W	\$13,569.00	\$8,129.00	27	\$219,483.00
Access Switches (Elementary/Alternative Schools)	5520-48W 5520 Datasheet Map	5520-48W	\$11,096.00	\$6,648.00	7	\$46,536.00
Wireless Access Points	AP5020 Datasheet Map	AP5020	\$2,399.00	\$1,357.00	350	\$474,950.00
Licencing						
Extreme IQ One Network	3-Year per site		\$80,000.00	\$55,000.00	7	\$385,000.00
Installation services						
Hardware and software installation	Hours (cable)		\$75.00		560	\$42,000.00
Cabling	Cat6 (price per 1k ft)		\$250.00		9	\$2,250.00
Hardware and software installation	Hours (hardware installation)		\$75.00		175	\$13,125.00
Software installaion	Hours (Software Installation)		\$75.00		175	\$13,125.00
						\$1,125,969.00

- Dependent upon an onsite survey
- Cabling and access points may be setup during school year (after hours)
- All networking configuration and final device setup will be done during off season(winter/summer breaks)
- Includes all schools
- Hours and cost may change

Federal E Rate Program

- Federal E Rate Program
- Directed by FCC
- Admin USAC
- Based on poverty level

School Name	Location	Poverty Level (%)
Benjamin Franklin High School	New Orleans, LA	28.2%
Acadia Parish Alternative School	Crowley, LA	50%
Baton Rouge High School	Baton Rouge, LA	26.9%
Mamou High School	Mamou, LA	64.8%
Church Point High School	Church Point, LA	64.5%
Lafayette High School	Lafayette, LA	37.3%
Ross Elementary School	Crowley, LA	90%

Federal E Rate Program



Internet access



Telecommunications services



Internal connections



Managed internal broadband services



Basic maintenance of internal connections



Deployment

- Year and a Half deployment
- 7 Schools to visit and upgrade
- Need a site survey per school
- Every school would have the same schedule

	Start	End
Project Timeline	01/06/25	09/04/26
Phase 1 - Assessment & Planning	01/06/25	01/17/25
Site Survey - Benjamin Frankling School	01/06/25	01/06/25
Site Survey - Acadia Parish	01/07/25	01/07/25
Site Survey - Baton Rouge	01/08/25	01/08/25
Site Survey - Mamou	01/09/25	01/09/25
Site Survey - Church Point	01/10/25	01/10/25
Site Survey - Lafayette	01/13/25	01/13/25
Site Survey - Ross Elementary	01/14/25	01/14/25
Network Design	01/15/25	01/16/25
Equipment Research	01/15/25	01/16/25
Submit Plan for Review	01/17/25	01/17/25
Finalize plan	01/17/25	01/17/25
Phase 2 - Implementation	01/20/25	07/10/26
Site - Benjamin Franklin High School	01/20/25	04/04/25
Acquire Hardware	01/20/25	04/04/25
Run New Cable	01/20/25	01/31/25
Ip Addressing & Routing	02/03/25	02/07/25
Implement Routing Protocols	02/10/25	02/12/25
WAN Set Up	02/13/25	02/19/25
Configure Firewalls	02/20/25	02/26/25
Configure QoS	02/27/25	03/03/25
BYOD Integration	03/04/25	03/06/25
Set up Software	03/07/25	03/21/25
Network Testing	03/24/25	04/04/25
Phase 3 - Testing & Monitoring	07/20/26	08/07/26
Verify WAN Connectivity	07/20/26	07/23/26
In Depth Network testing	07/24/26	07/29/26
UAT Testing to validate performance	07/30/26	08/07/26
Phase 4 - Post Migration Optimization	08/10/26	09/04/26
Performance Monitoring	08/10/26	08/12/26
Review network usage	08/13/26	08/19/26
Document Architecture	08/20/26	08/28/26
Create training documents	08/20/26	08/28/26
IT Handover	08/31/26	09/04/26

Thank you



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