

Bogalusa City Schools

E-Rate Category 2 Products & Services

Prepared For:
City of Bogalusa
Attention: Deloris Walker, Finance Director
1705 Sullivan Drive
Bogalusa, LA 70427

Due Date:
Thursday, January 30, 2020 at 2:00 PM (CST)

Prepared By:

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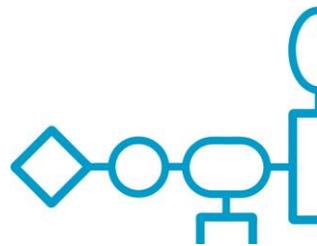
SPIN#: 143015315

PRESIDIO™



TAB 1

Original Bid



E-RATE CATEGORY 2

REQUEST FOR PROPOSALS CITY OF BOGALUSA SCHOOLS



E-RATE CATEGORY 2 PRODUCTS AND SERVICES

EVENT	DATE	TIME	LOCATION
RELEASE RFP	DECEMBER 20, 2019	4:00 P.M. (CST)	EPC, CENTRAL AUCTION HOUSE AND ADVERTISEMENTS
INQUIRY OPENS	JANUARY 6, 2020	9:00 P.M. (CST)	Mia@bogschools.org
INQUIRY CLOSES	JANUARY 24, 2020	4:00 P.M. (CST)	Mia@bogschools.org
SUBMISSION DEADLINE	THURSDAY, JANUARY 30, 2020	2:00 P.M. (CST)	CITY OF BOGALUSA SCHOOLS 1705 SULLIVAN DR. BOGALUSA, LA. 70427
PUBLIC BID OPENING	THURSDAY, JANUARY 30, 2020	2:00 P.M. (CST)	CITY OF BOGALUSA SCHOOLS 1705 SULLIVAN DR. BOGALUSA, LA. 70427

This project is entirely contingent on E-Rate funding from the federal E-Rate program and may or may not be undertaken at the sole discretion of the CITY OF BOGALUSA SCHOOLS.

**E-Rate Proposal for
E-Rate Category 2 Products and Services
NOTICE TO BIDDERS**

The CITY OF BOGALUSA SCHOOLS, aka "DISTRICT," is seeking proposals for Category 2 Products and Services. The DISTRICT operates three traditional schools and two annexes that are eligible for Category 2 funding. As of October 1, 2019, the DISTRICT reported an enrollment of 1,470 PK-12 students.

The DISTRICT is seeking bids for E-rate eligible equipment, licenses, support warranties for new equipment, renewal licenses, cabling, Managed Internal Broadband Services (MIBS), and Basic Maintenance for renewal of support warranties and Basic Maintenance hourly rate proposals.

Sealed proposals must be sent certified mail, UPS, Fed Ex, or hand-delivered to CITY OF BOGALUSA SCHOOL BOARD OFFICE or proposals may be uploaded at <https://www.centrauctionhouse.com>.

(Please check the Central Auction House website in ADVANCE for rules and fees for uploading to the bidding site(s). The CITY OF BOGALUSA is not responsible for delays in uploading documents, website errors, and incorrect timestamps. All proposals must be submitted by 2:00 P. M. (CST) on January 30, 2020.

Please send all proposals by US Postal mail or sealed hand-delivered to:

CITY OF BOGALUSA SCHOOLS-E-RATE CATEGORY 2

Attention: DELORIS WALKER

FINANCE DIRECTOR

CITY OF BOGALUSA SCHOOLS
1705 SULLIVAN DR.
BOGALUSA, LA. 70427

DEADLINE Thursday, January 30, 2020

If further information is needed, please email:

***Note: All correspondence must be in writing due to USAC selective review requirements**

Proposals must be received no later than:

Thursday, January 30, 2020, at 2:00 PM (CST)

This project is entirely contingent on E-Rate funding from the federal E-Rate program and may or may not be undertaken at the sole discretion of the CITY OF BOGALUSA SCHOOLS.

CITY OF BOGALUSA SCHOOLS E-RATE CATEGORY 2

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1 GENERAL TERMS AND DEFINITIONS

TERMS	DEFINITION
ADDENDUM	A Document or information attached or added to clarify, modify, or support the information in the REQUEST FOR PROPOSAL. All Addendums will be uploaded to the E-Rate Portal (EPC) and the DISTRICT’s electronic bidding website if required.
ADMINISTRATIVE BID APPROVAL	The DISTRICT’s final review by the administrative authority to accept or reject a bid that complies or does not comply fully with the Request for Proposal (RFP). Submissions may be disqualified for reasons outlined in the Request for Proposal.
AGREEMENT	A contract that has been agreed upon and signed by the DISTRICT. In some cases, the agreement will be a letter of award, purchase order, or another legally binding contract.
ASSIGNMENT OF CONTRACT OR PURCHASE ORDER	The bidder(s) shall not assign or transfer by operation of law or otherwise any rights, burdens, duties, or obligations without the prior written consent of the DISTRICT. Notification of corporate take-overs or mergers must be reported to the DISTRICT.
BEST AND FINAL OFFER (BAFO)	The DISTRICT reserves the right to conduct a BAFO with one or more Proposers determined by the evaluation committee to be reasonably susceptible of being selected for an award. The Vendor(s) chosen will receive written notification of their selection, with a list of specific items to be addressed in the BAFO along with instructions for submittal. The BAFO negotiation may be used to assist the DISTRICT in clarifying the scope of work. The evaluation criteria for a BAFO will be the same as the evaluation used in Round 1.
BID	The Vendor’s response to the Request for Proposals.
CONFLICT OF INTEREST	A Conflict of Interest shall exist when a Vendor or any affiliated person or business entity provides goods or services under a Contract Award whereby one or more personal, business, or financial interests or relationships exist which would cause a reasonable individual with knowledge of the relevant facts to question the integrity or impartiality of those who are or will be acting on behalf of the DISTRICT.
CONTRACT AWARD	The acceptance of a Quote, Bid, Proposal or Offer; a Purchase Order, Contract Agreement, or other formal notification of award issued by an authorized official of the DISTRICT. The term 'contract award' refers to

	the process of formally notifying the vendor they have been selected as the supplier for a particular contract.
CONTRACT TERM	The length of a Contract or Agreement will be available for use by the DISTRICT. Optional extensions may be available as an option to extend the contract term.
DEFAULT BY CONTRACTOR	The DISTRICT shall hold the bidder(s) responsible for any damage, which may be sustained due to failure to comply with any terms or conditions listed herein. It is expressly provided and agreed that time shall be of the essence in meeting the contract delivery requirements. If the successful bidder(s) fails to deliver services listed herein at the prices named and at the time and place herein stated or otherwise fails or neglects to comply with the terms of the bid, the DISTRICT may, upon written notice to the bidder, cancel the contract in its entirety or cancel or rescind any or all items affected by such default, and may, whether or not the contract is canceled in whole or in part. The DISTRICT may consider the second winner or re-advertise all services in their entirety.
EQUIVALENT	A replacement for a good or service that achieves the same result and has the same functionality as the product or service requested in the RFP. All equivalent goods and services will be considered that meet the definition and specifications in the RFP.
INVOICES AND PAYMENTS	All vendors submitting proposals must agree to invoice the DISTRICT their monthly discount obligation portion and then send a Service Provider Invoice (SPI) to USAC for the eligible share. Invoices must show both the Funding Request Number (FRN) for each service, site location, the total monthly cost, the discount portion owed by DISTRICT, and the amount billed to USAC.
NOTICE OF INTENT AWARD	A formal, written document issued by an authorized official of the DISTRICT informing a Vendor that a Contract has been awarded to the vendor based on its Solicitation Response. In some cases, approval of the finance committee, school board, and other authorizing bodies must approve the final agreement.
PRICE	Prices should be typed and shown as instructed on the sample price form for each item, in the amount of quantity specified in the RFP. The DISTRICT is exempt from all state taxes; therefore, taxes should not be included. All additional fees must be fully explained and listed on the sample pricing forms.

	<p>Additionally, the DISTRICT requires ALL E-Rate ineligible items to be listed separately (e.g., Antivirus software, content filtering). Errors may be crossed out and corrections made before bid opening only and must be initialed in ink by the person signing the bid or bidder's authorized representative. If, during the contract period, there should be a decrease in prices of the items bid (LCP), a corresponding reduction in costs on the balance of the services shall be made to the DISTRICT for as long as the lower prices are in effect.</p>
<p>PROTEST OF A SOLICITATION OR AWARD</p>	<p>Any person who is aggrieved in connection with the solicitation or award of a contract shall have an opportunity to protest to the DISTRICT. Protest concerning a solicitation shall be submitted in writing at least two (2) days before the opening of bids. Protest concerning the award of a contract shall be submitted in writing within fourteen (14) days after the contract award.</p>
<p>QUANTITY AND QUALITY OF MATERIALS OR SERVICES</p>	<p>The successful bidder(s) shall furnish and deliver the services or products designated in the bid. All services or products provided under the contract shall be by the bid specifications. There are no understandings, agreements, representations, or warranties, expressed or implied, not specified in the Agreement. The DISTRICT may adjust quantities as needed. The amounts are based on the best estimate of the quantities at the time of posting Form 470.</p>
<p>TERMINATION OF AGREEMENT</p>	<p>The DISTRICT may terminate agreements upon giving thirty days advance written notice of intent to terminate the contract for a good cause. (e. g. failure to delivery services, failure to comply with the conditions and specifications within the RFP).</p>
<p>MANUFACTURE SUGGESTED RETAIL PRICE (MSRP)</p>	<p>The Manufacturer Suggested Retail Price (MSRP) is the price a Manufacturer recommends selling its product by resellers.</p>
<p>PENDING TARIFFS</p>	<p>Pending Tariffs is a series of United States tariffs imposed and pending from the current President as part of his <i>America First</i> economic policy to reduce the United States trade deficit by shifting American trade policy from multilateral free trade agreements to bilateral trade deals.</p>

2 STANDARD TERMS AND CONDITIONS

2.1 Request for Proposal Form.

All written proposals, unless otherwise provided for, must be submitted in the RFP package with required forms provided and must be adequately signed. Bids submitted in the following manner will not be accepted:

- a) RFP required forms contain no signature
- b) Proposal filled out in pencil
- c) Proposal not submitted in compliance with School Board's standard Proposal package and RFP form
- d) Proposal sent by Email or Fax

2.2 Proposal Response Format and Details.

2.3 Executive Summary.

The one- or two-page executive summary is to describe the Vendor's proposal briefly. This summary should highlight the significant features of the plan. It must indicate any requirements that cannot be met by the Vendor. The Evaluation Committee reviewers should be able to determine the essence of the proposal by reading the executive summary. All pages must be numbered consecutively, and the name of the vendor should appear in the header or footer.

2.4 Detailed Proposal.

This section should constitute a significant portion of the proposal and must contain the following:

- a) The proposal must include a complete narrative of the Vendor's assessment of the work to be performed, the Vendor's ability and approach, and the resources necessary to fulfill the requirements. It should demonstrate an understanding of the desired overall performance expectations. Indicate any options or alternatives proposed.
- b) The vendor must respond to each specification. Proposals lacking responses may be rejected. For ease in evaluation, the vendor's response must immediately follow each item/specification (paragraph, sub-paragraph, etc.).
- c) Accept and comply - Follow this response with a brief, concise explanation that adequately details vendor's ability to meet the specified requirement unless the specification/requirement is clearly (unequivocally) a "yes or no," "can do or can't do," "will or will not comply" type of specification, in which case "Accept and comply," without an accompanying explanation, will suffice.

- d) Accept and comply with an exception - Vendor must clearly state the difference between the specification and vendor's ability to meet the requirement(s) of the specification.
- e) Cannot comply - Follow this response with sufficient detail that explains why the specification cannot be met.
- f) Exceptions and additions to the Standard Terms and Conditions must be submitted with the proposal response. Exceptions, additions, service level agreements, etc. submitted after the date and time for receipt of proposals will not be considered. The vendor must submit a redline document identifying the proposed exceptions to the RFP terms and conditions with the proposal submission for review and evaluation purposes. The vendor must provide the name, contact information, and access to the person(s) that will be directly involved in legal negotiations of the terms and conditions in the proposal response.

2.5 Proposal Copies.

One original and five duplicate copies of each proposal, plus one separate electronic copy in PDF format, must be included in the proposal package. Electronic copies should be submitted on a clearly labeled flash drive. It is the responsibility of the vendor to make sure all documents are uploaded to the drive, and all are readable. All materials submitted in the proposal MUST be included in the electronic copy.

2.6 Receipt of Proposals.

The entire RFP must be received at the address specified in this RFP before the Public Bid Opening on January 30, 2020, at 2:00 P.M., Central Standard Time, to be considered. Any proposals received after proposal opening time will be returned unopened.

2.7 Standards of Quality.

Any product or services proposal shall conform to all applicable federal and state laws and regulations and the specifications contained in the solicitation. Unless otherwise specified in the solicitation, any manufacturer's name, trademark, brand name, or catalog number used in the specifications is to describe the standard of quality, performance, and characteristics desired and are not intended to limit or restrict competition. Similar products will be accepted. Vendors submitting a proposal must specify the brand and model number of the product offered in their plans. Proposals not specifying brand and model number will not be considered as providing the exact products specified in the solicitation. Objections to the specifications or RFP conditions must be filed in writing and received by the Purchasing Department at least five (5) days before the date of the RFP opening.

2.8 Descriptive Information.

Vendors submitting a proposal that offers an equivalent brand or model should provide, with the RFP information, such illustrations, descriptive literature, and technical data sufficient for the School Board's Evaluation Committee to determine quality, suitability, and compliance with the specifications in the RFP. Failure to submit descriptive information may cause the proposal to be rejected. The manufacturer shall validate any change made to the manufacturer's public specifications provided for a product. If an item or items offered do not fully comply with specifications (including brand and product number), Vendors submitting a proposal must state in which respect item(s) deviate. Failure to note exceptions on the RFP form will not relieve the successful Vendor(s) from supplying the actual products requested or an equivalent.

Vendors are required to identify products that are manufactured by Huawei Technologies. These products, whether under a white label, or the Huawei brand, must be identified in the proposal.

2.9 Public Bid Opening.

Vendors submitting a proposal may attend the RFP opening. Still, no information or opinions concerning the ultimate contract award will be given at the RFP opening or during the evaluation process. Upon request, Vendors submitting a response to the solicitation, whether successful or unsuccessful, will be provided a copy of the tabulated results.

2.10 Withdrawal of Proposals.

A Vendor submitting a proposal may only withdraw their bid within forty-eight (48) hours after the RFP opening, excluding Saturdays, Sundays, and legal holidays, for good cause as provided in La. R.S. 38:2214 C for obvious, unintentional, and substantial mechanical, clerical, or mathematical errors, or errors of accidental omission of a considerable quantity of work, labor, material or services made directly in the compilation of the proposal.

2.11 Awards.

The DISTRICT reserves the right to award items separately, grouped or on an all-or-none basis, and to reject any or all proposals and waive any informalities. The purchase order and contract mailed or delivered to the successful Vendor is the official authorization to provide the materials, supplies, or equipment.

2.12 Deliveries.

Proposals may be rejected if the delivery time indicated is longer than that specified in the RFP. Platform Delivery FOB Destination means the successful Vendor shall deliver and unload purchased items to the dock of the designated point of receipt. All cartage, drayage, packaging, handling, palletizing, etc. shall be included in the proposal price. Include a copy of the invoice as a packaging list with each shipment.

2.13 Taxes.

The vendor is responsible for including all applicable taxes in the proposal price. The DISTRICT is exempt from all state and local sales and use taxes.

2.14 New Products.

Unless specifically called for in the RFP, all products for purchase must be new, never previously used, and in the current model's packaging. No remanufactured, demonstrated, used, end-of-life or irregular product will be considered for purchase unless otherwise specified in the solicitation. The manufacturer's standard support warranty of 3-years and license agreements up to 5-years should be listed separately on the price form and included in the proposal.

2.15 Contract Renewals.

Upon agreement of the DISTRICT and the contractor, a term contract may be extended for two additional twelve-month periods at a price in the contract or the annual validated price and the same terms and conditions in the RFP. In such cases, the total commitment cannot exceed sixty (60) months.

2.16 Contract Cancellation.

The DISTRICT has the right to cancel any contract, by its purchasing rules and regulations, for a good cause, including but not limited to, the following:

- 2.16.1 Failure to deliver within the time specified in the contract;
- 2.16.2 Failure of the product or service to meet specifications, conform to sample quality or to be delivered in good condition;
- 2.16.3 Misrepresentation by the contractor;
- 2.16.4 Fraud, collusion, conspiracy or other unlawful means of obtaining any contract with the DISTRICT;
- 2.16.5 Conflict of contract provisions with constitutional or statutory requirements of Louisiana State or federal law; or any other breach of contract.
- 2.16.6 Quality of work does not meet the conditions and specifications in the RFP
- 2.16.7 DISTRICT's lack of funding resources

2.17 The Default of the Contractor.

CITY OF BOGALUSA SCHOOLS E-RATE CATEGORY 2

Failure to deliver within the time specified in the RFP will constitute a default and may cause cancellation of the contract. Where the DISTRICT has determined that the contractor is in default, the School Board reserves the right to purchase any products or services covered by the agreement from the next highest scorer, according to the evaluation matrix.

2.18 Order of Priority.

In the event, there is a conflict between the Instructions for Vendors Submitting a Proposal or Standard Terms and Conditions or Special Terms and Conditions, the Special Term and Conditions shall govern.

2.19 Applicable Law.

All contracts shall be construed by and governed by the laws of the State of Louisiana.

2.20 Equal Opportunity.

By submitting and signing the proposal, Vendors offering a proposal must agree that the company will not discriminate in the rendering of services to or employment of individuals because of race, religion, sex, age, national origin, handicap, or disability. Vendors submitting a Proposal shall keep informed of and comply with all E-Rate, federal, state, and local laws, ordinances, and regulations which affect Vendor's employees or prospective employees.

2.21 Indemnity.

The Contractor agrees, upon receipt of written notice of a claim or action, to defend the complaint and to take other appropriate measures to indemnify, and hold harmless, the DISTRICT, and its members, its officers, its agents and its employees from and against all claims and actions for bodily injury, death or property damages caused by the fault of a contractor, its officers, its agents, or its employees. The contractor is obligated to repay only to the extent of the responsibility of the contractor, its officers, its agents, or its employees. However, the contractor shall have no obligation as set forth above concerning any claim or action from bodily injury, death, or property damages arising out of the fault of the DISTRICT, its members, its officers, its agents, or its employees.

3 SPECIAL TERMS AND CONDITIONS (EQUIPMENT, MATERIALS OR SUPPLIES)

3.1 The contractor will submit invoices to the Information Technology Department, CITY OF BOGALUSA SCHOOLS 1705 Sullivan Drive Bogalusa, La. 70427. The invoice shall refer to the delivery ticket number, delivery date, purchase/release order number, quantity, unit price, and delivery point. A separate invoice for each order delivered and accepted shall be submitted by the contractor in duplicate, directly to the Purchasing Department. Invoices shall show the amount of any cash discount and shall be provided on the contractor's invoice form. No invoice shall be submitted without prior approval of E-Rate funding and by the

CITY OF BOGALUSA SCHOOLS E-RATE CATEGORY 2

Information Technology Director or his designee. Invoices MUST show the Funding Request Number, the E-Rate Discount, and the amount billed to the E-Rate Program. All ineligible items must be charged separately.

3.2 Payment.

Payment will be made based on the unit price as listed in the contract or the annual validated cost. Unless otherwise specified, the DISTRICT's discount share payment will be made within thirty (30) days after receipt of invoice, delivery, and authorized inspection and acceptance, whichever occurs last. If a billing dispute is documented, the DISTRICT RESERVES the right to hold payments until the dispute is resolved.

CITY OF BOGALUSA SCHOOL System shall be billed for the DISTRICT's E-Rate discount share using the Service Provider Invoice (SPI) method of billing. The vendor is responsible for charging Universal Service Administrative Company (USAC) directly, and the CITY OF BOGALUSA SCHOOLS is not responsible for the vendor missing invoice deadlines, vendor billing errors, or related issues, that would result in a loss of E-rate funding due to billing.

3.3 Suspensions and Debarments.

Persons and companies that have been convicted of criminal violations or held civilly liable for individual acts arising from their participation in the Schools and Libraries (E-rate) Program and other federal programs are subject to suspension and debarment from the program. The Federal Communications Commission (FCC) Suspension and Debarment regulations were announced in the Second Report and Order and Further Notice of Proposed Rulemaking ([FCC 03-101](#)  released April 30, 2003).

FCC rules provide that there are two stages to this process.

- a) First, when the FCC becomes aware that a person or company has been convicted of a crime or judged civilly liable for individual acts arising out of that person's participation in the program, the FCC suspends that person or company from activities related to the program. The FCC issues a Public Notice of Suspension and Proposed Debarment. USAC maintains a list of persons and companies (see below), who has been suspended, along with a link to the notice on the FCC's website. The announcement of suspension informs the suspended person or other interested parties that they have 30 days to oppose the proposed debarment.
- b) The second stage of this process is the actual debarment. The FCC will, absent extraordinary circumstances, provide notice of a decision to debar within 90 days of receiving any information from the person proposed for debarment. The notice will specify the duration of the debarment. USAC will maintain a list of persons and companies that have been debarred, along with a link to the announcement on the FCC's website.

3.4 Contractual Period.

The DISTRICT intends to award all items for an initial period, not to exceed thirty-six (36) months with two 12-month optional extensions. Delays in awarding, beyond the anticipated starting date, may result in a change in the contract period. If such a situation occurs, an award may be made for less than thirty-six (36) months.

3.5 Quantities.

The DISTRICT has provided an estimate of quantities that will be needed over a five (5) year time span. These estimates are based on changing out products during the life of the contract, the opening of new sites, shifts in enrollments, and the addition of more end-user devices on the network. These estimates may increase or decrease as more educational technologies emerge.

3.6 Non-Exclusivity Clause.

This agreement is non-exclusive. It shall not in any way preclude the DISTRICT from entering into similar agreements or arrangements with other Vendors or from acquiring the same, equal, or like goods or services from other entities or sources, including state contracts.

4 EVALUATION PROCESS

4.1 All responses received as a result of this RFP are subject to evaluation by the DISTRICT Evaluation Committee to select a Vendor(s) to provide services and products as described in this RFP.

4.2 A committee whose members have expertise in various areas will evaluate proposals that meet the qualifications as described in this RFP. If required, written or oral discussions may be conducted with any or all the Vendors to decide the most cost-effective solution.

4.3 Mandatory Administrative Evaluation

All proposals will be reviewed by an Administrative Evaluation Team to determine compliance with compulsory administrative requirements as specified in the RFP. Bids found not to be compliant may be rejected from further consideration.

4.4 Discussions/Presentations

Written or oral discussions will be conducted with Vendors determined to be qualified for the selection of the award. Written or oral discussions/presentations for clarifications may be conducted to enhance the DISTRICT's understanding of any or all components of the proposal submitted. The DISTRICT reserves

CITY OF BOGALUSA SCHOOLS E-RATE CATEGORY 2

the right to conduct a Round 1 and Round 2 Evaluation. The same evaluation criteria will be used in both rounds.

4.5 Cancellation.

The DISTRICT reserves the right to cancel any contract within thirty (30) days for a good cause.

4.6 Evaluation Criteria

Proposals that pass the preliminary screening and mandatory requirements will be evaluated on the information provided in the plan. The evaluation of each response will be based on its competence, compliance, format, and organization as it relates to the evaluation criteria below:

	Criteria	Maximum Score
1	Qualifications and Experience	20
2	Approach and Methodology	15
3	Proposed Technology/Solution and Perceived Value	15
4	Management Team Capabilities and Qualifications	20
5	Pricing	30
	Total	100

5 PRICING

5.1 Lowest Corresponding Price.

Service providers must comply with the FCC rules for Lowest Corresponding Price (LCP). For this RFP, Lowest Corresponding Price (LCP) is defined as the lowest price that a service provider charges to nonresidential customers who are similarly situated to a particular applicant (school, library, or consortium) for similar services. See 47 C.F.R. § 54.500.

A similarly situated applicant is one that is located in the service provider's geographic service area (i.e., the area in which the service provider is seeking to serve customers with any of its Schools and Libraries (E-rate) Program services). See [First Report and Order](#), 12 FCC Rcd 8776, 9032, para. 486.

Similar services include those provided under a contract, as well as those provided under Trump Tariff. First Report and Order, 12 FCC Rcd 8776, 9032, para. 485. See also [Fourth Order on Reconsideration](#), Report, and Order 13 FCC Rcd 5318, 5398, para. 133.

Service providers cannot charge applicants a price above the LCP for E-rate Program services. See 47 C.F.R. § 54.511(b).

Further details on LCP may be obtained at USAC's website:

<http://www.usac.org/sl/service-providers/step02/lowest-corresponding-price.aspx>

5.2 Best and Final Offer.

The DISTRICT reserves the right to conduct a BAFO with one or more Proposers determined by the evaluation committee to be reasonably susceptible of being selected for an award. If a BAFO is undertaken, the Vendor(s) selected will receive written notification of their selection, with a list of specific items to be addressed in the BAFO along with instructions for submittal. The BAFO negotiation may be used to assist in clarifying the scope of work or to obtain the most cost-effective pricing available from the Proposers. The evaluation criteria for a BAFO will be the same as the evaluation used in the first assessment.

5.3 Tariffs and Manufacturer Suggested Retail Pricing (MSRP).

The DISTRICT is seeking unit pricing proposals for Category 2 E-rate eligible products and services during an uncertain economic climate due to pending Tariffs. At the same time, the DISTRICT desires a 36-month contract with two optional extensions.

5.4 The DISTRICT realizes future increases in tariffs may lead to increased pricing by manufacturers, and vendors (resellers) may be hesitant to submit quotes for longer than 12-months or, in some cases, may not be able to honor the pricing for the length of the agreement.

5.5 It is for these reasons the DISTRICT is requiring all pricing to include the MSRP. The baseline price will be set by the initial MSRP in the first year and will be used to evaluate the impact of any future tariffs. In the event a manufacturer increases its MSRP during the life of any resulting contract, the Vendor may request an annual review of the unit pricing for the original item approved. The request must be sent in writing to the Director of Information Technology.

5.6 The annual review may only be requested if the proposal INCLUDES the original equipment manufacturer verification of the MSRP in the proposal being submitted in response to this RFP. If the proposal does not include the MSRP, consideration for the review will be denied by the DISTRICT, and the original contract pricing will be used to apply for E-rate funding annually.

5.7 The request MUST be made in writing before December of the upcoming E-Rate funding year. If a price increase is validated in writing by the manufacturer, and an increase in the MSRP is proven, the percentage of inflation between the baseline price established for E-Rate funding

year 2020 can be adjusted. The rate of growth will be used to determine the unit price for the upcoming E-Rate funding year.

5.8 In the event, the vendor is “white labeling” a product listed in a proposal, the MSRP procedure above will apply.

5.9 Federal Funding.

For RFPs issued by DISTRICT representing items to be purchased using Federal funding, accepting and signing this RFP form certifies that the Vendor submitting a proposal and the names of officers, directors, and any employees of the Vendor do not appear on the EPLS. EPLS is the electronic version of the Lists of Parties Excluded from Federal Procurement and Non-procurement Programs (Lists), which identifies those parties excluded throughout the U.S. Government (unless otherwise noted) from receiving federal contracts or certain subcontracts and from certain types of federal financial and nonfinancial assistance and benefits.

Unless otherwise specified by the DISTRICT in the RFP, prices must be full, including transportation prepaid by Vendor submitting the offer to destination and firm for acceptance for a minimum of 45 days. If accepted, costs must be firm for the contractual period unless an annual review validates an increase. Proposals other than Platform Delivery F.O.B. destination may be rejected. Prices are to be proposed on a unit of measure requested, per item, per hour, per drop, etc., as specified in the RFP.

6 OVERVIEW OF SERVICES.

6.1 The DISTRICT, aka the “DISTRICT,” would like to receive information and proposals for:

6.2 Category 2-Internal connections to continue upgrading the Wi-Fi networking infrastructure in all school sites over the next 36 to 60 months and to purchase 5-year new and renewal licenses. The DISTRICT is also seeking 36-month manufacture support warranties for new and existing equipment; therefore, the DISTRICT is applying for Basic Maintenance. The DISTRICT is ALSO seeking bids for MANAGED INTERNAL BROADBAND SERVICES (MIBS) and Basic Maintenance (BM) (break/fix). This DISTRICT would compare the cost of MIBS and BM to determine the most cost-effective solution.

6.3 This Request for Proposal (RFP) is issued to invite Vendors to submit information and proposal(s). Issuance of this RFP in no way constitutes a commitment by the DISTRICT to select a Vendor and award a contract. The DISTRICT reserves the right to accept or reject any or all proposals submitted. Acceptance of any proposal with contractual terms is dependent on the DISTRICT School Board approval, E-Rate funding, and appropriation of funds by the DISTRICT.

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- 6.4 The DISTRICT's technology goals specify that all of the schools will provide campus-wide wireless and wired local area network and high-speed Internet access to all students, faculty, and stakeholders. As a strategy to this goal, the DISTRICT will continue to maintain and upgrade internal connections (connections include, but are not limited to, caching servers, routers, switches, access points, wiring, and related components, and uninterruptible power supplies) to facilitate data transport to all schools and administrative offices.
- 6.5 It is essential to the DISTRICT that Vendors meet the expectations as outlined in this RFP, especially the requirements for saturated wireless access.
- 6.6 The primary objective of any design should ensure that bottlenecks do not occur at the wireless access point under the specified conditions. The Network should be able to support up to 500 or more simultaneously connected devices in classrooms, auditoriums, libraries, gyms, cafeterias, and common areas. Clients must be able to roam across individual campuses without needing to refresh DHCP. Should any Vendor propose a solution that does not meet the specifications listed below, the Vendor must provide sufficient documentation that the DISTRICT's objective will be met with its solution.
- 6.7 Proposals should include a centralized method of managing and controlling wireless access to all wireless access points.
- 6.8 Proposals should include a realistic assessment of actual access points as well as cabling and other equipment necessary to support the wireless needs outlined above. Technical specifications of equipment should be provided with the proposal.
- 6.9 The proposal must guarantee performance sufficient to fulfill the needs of the DISTRICT as requested within the RFP. After the implementation of the successful Vendor's proposal, if additional equipment, cabling, or labor is needed, the Vendor will bear all costs necessary to satisfy the requirements of this RFP.
- 6.10 It is the Vendor's responsibility to ensure that the equipment proposed meets the performance specifications of the manufacturer and the previously stated requirements. The DISTRICT will not release the Vendor from the performance guarantee required above, because of malfunctions or defects in equipment due to manufacturer error or flaws in the material or design.
- 6.11 Because of the diversity of possible solutions, the DISTRICT is asking for detailed proposals to accomplish the task. Specifications in this RFP are general and minimal to allow proposals to be as innovative as possible.
- 6.12 CITY OF BOGALUSA SCHOOLS prefers a turn-key solution for the purchase of equipment and installation. A turn-key solution includes PROJECT MANAGEMENT, all applicable taxes, shipping costs, installation of equipment, the configuration of hardware, any support

warranties, licenses, and technical support, complete installation and integration with the existing network where necessary. The DISTRICT may opt to install some products from time to time. Installation charges must be listed separately on the Sample Pricing Forms provided in the RFP.

The name of the contract or subcontractor performing the cabling work must be included in the proposal, and the bid must consist of the cabling company's reference, including direct contact information. Proposals not including this information will be disqualified from bidding on the cabling.

All technology equipment included in any Vendor's proposal must be new equipment and purchased from the manufacturer or its authorized reseller. No grey market, third party, or used equipment will be considered.

Proposals must include proof of authorization to resell and install the products being proposed. Plans which do not include installation and configuration of the equipment offered, will not be disqualified from bidding.

7 REQUIREMENTS.

- 7.1 Proposers are required to submit a proposal detailing their project plan based on the specifications and information addressed in this RFP.
- 7.2 All questions must be emailed to the contact listed, and the email must contain an attachment on the company letterhead stating the issue(s). Vendors emailing questions in the body of an email will not receive a response. NO PHONE CALLS WILL BE ACCEPTED. ALL CORRESPONDENCE MUST BE IN WRITING. The inquiry period for this RFP will open on January 6, 2020, and will close on January 24, 2020. Please refer to the Event Calendar for more information.

8 MINIMUM CONTRACTOR QUALIFICATIONS.

- 8.1 The following skill set and qualifications must be provided. As a person may possess multiple areas of expertise, a Contractor must indicate in a separate spreadsheet, the proposed resource, and the work each will perform.
- 8.2 Each network staff assigned must be able to pass the State Police Background check to gain access to our servers located in the secured computer room at the DISTRICT Operation Center.
- 8.3 Fully qualified to participate in the E-Rate Program
- 8.4 Registered to do business in Louisiana and are in good standing with the Louisiana Secretary of State's Office

8.5 Technical support technical resources located in Louisiana

9 SPECIFICATIONS OF WIRELESS INFRASTRUCTURE.

9.1 Access Points (APs) – The DISTRICT is seeking bids for ARUBA IAP-305 (US) 802.11 N/AC, or Equivalent. Equivalent models must meet or exceed the specifications for each Model. Vendors quoting ARUBA should include pricing for the following accessories:

10 MINIMUM SPECIFICATIONS FOR WIRELESS ACCESS POINTS:

10.1 QoS features, Cloud Management

10.2 3x3 11ac 1.3 GBPS

10.3 Bandwidth up to 5.2 GBPS

10.4 Dedicated Wi-Fi Threat Sensor

10.5 12 (internal) Antenna

10.6 Up to 780 Maximum Associated Users

10.7 A seating-to-AP ratio of 15:1 shall be applied to all classrooms.

10.8 Office areas, large rooms, conference rooms, common areas, cafeterias, gyms, etc. shall have a seating-to-AP ratio of 15:1 to accommodate large-group testing. The exact AP count requirement shall be determined by the DISTRICT AFTER all proposals and pricing is reviewed. The DISTRICT has limited resources to pay the non-discount share.

10.9 Access Points shall be installed in hallways and other areas where needed to provide the ability to roam anywhere within locations without losing connection.

10.10 Access points shall have a minimum of three transmitters, three receivers, and three 802.11ac spatial streams (4x4:3 MU/SU-MIMO).

10.11 All-access points shall support dual-band, a two-radio operation such that 2.4 GHz and 5 GHz operations are supported concurrently.

10.12 The installed wireless access points shall support advertising a minimum of seven SSIDs simultaneously.

10.13 The installed solution shall support auto-channel selection for all access point radios and comply with US government Dynamic Frequency Selection (DFS) requirements.

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- 10.14 The installed solution shall allow administratively defining the set of channels used for auto-assignment of both 2.4 GHz and 5 GHz operations.
- 10.15 The solution must support 40MHz-wide channels in 5GHz for 802.11n and 80MHz-wide channels for 802.11ac.
- 10.16 The installed system shall allow restricting the channels used for auto-channel assignment at both global and user-defined group levels.
- 10.17 The installed solution shall support auto-power and customized selection for access point radios.
- 10.18 The installed solution shall support load balancing wireless clients across multiple radios.
- 10.19 The installed solution must support AP enforced band steering between 2.4Ghz and 5Ghz band.
- 10.20 The system shall be able to control IP multicast.
- 10.21 APS shall handoff IP traffic to the local switch and not routed through the controller.
- 10.22 Wireless access points shall connect to the wired network with a minimum of a 1000BASE-TX full-duplex Ethernet.
- 10.23 Wireless access points shall support auto-provisioning via DHCP attributes or DNS queries, such that wireless controllers adopt access points, and fully functional without manual configuration.
- 10.24 All-access points shall comply with 802.3at Power-over-Ethernet standards.
- 10.25 System design shall prevent user loss of connectivity in the event of controller failure.
- 10.26 Access points shall support over-the-air packet captures without impairment or degradation of client services.
- 10.27 Access points shall support rogue access point detection without impacting client services.
- 10.28 Access Points in all recreational areas shall be installed within an enclosure capable of withstanding a direct hit from a hard or large ball. The cabinet shall not interfere with APs radio transmissions and must have an industrial design for durability, industrial-grade antenna connectors, and locking options.
- 10.29 Access Points shall have internal antennas unless otherwise approved by the DISTRICT.

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- 10.30 Access Points shall minimally support 802.11n simultaneously on both the 2.4 GHz and 5 GHz radios.
- 10.31 Access Points shall minimally Support 802.11ac Wave 1 on 5 GHz Radio.
- 10.32 Must include beam-forming functionality for at least 802.11 a/g/n/ac clients.
- 10.33 Must support minimally UNII-2 and UNII-2 Extended bands of 5 GHz.
- 10.34 Must incorporate radio resource management for power, channel, coverage hole detection, and performance optimization.
- 10.35 Must support Proactive Key Caching and other methods for fast, secure roaming.
- 10.36 Must support 802.11w Management Frame Protection.
- 10.37 Shall support locally significant certificates on the APs using a Public Key Infrastructure (PKI).
- 10.38 Must support the ability to serve clients and monitor the RF environment concurrently.
- 10.39 Based on the on-site requirements, all sites that require plenum-rated shall meet the UL2043 standard.
- 10.40 The wireless system must be capable of client tracking rogue location and interference reporting.
- 10.41 The proposer shall provide the appropriate access point mounting (bracket and clip), as needed, for a ceiling grid or wall installation.

11 ACCESS POINT OPTIONS.

- 11.1 The selected Vendor shall make available all-new access point technologies when ratified and available to meet the needs of the DISTRICT for the term of the contract. Unit pricing bids for Generation 6 wireless access points will be considered.
- 11.2 The selected Vendor shall make available additional access points used explicitly for large areas and outdoor access points to meet the needs of the DISTRICT for the term of the contract.
- 11.3 Anyone or a combination of access points may be selected for implementation.
- 11.4 The DISTRICT may award a contract for 36-months with two optional extensions; therefore, Vendors are encouraged to provide pricing for the 6th Generation.

12 WIRELESS CONTROLLER.

12.1 The DISTRICT desires a wireless controller if the access points quote requires the interface. VENDOR should quote all licenses and support warranties that apply to all new products quoted.

13 ACCESS POINT EDGE SWITCH OPTION.

13.1 New edge IEEE 802.3at PoE+ switches for all Access Points shall be provided in the site's IDF and MDF cabinets as required.

13.2 Access Point connections shall be relocated from the existing edge switches to the newly installed edge IEEE 802.3at PoE+ switches. All IDF cabinets may or may not require a new edge switch depending on the location.

13.3 Additional new IDF cabinets shall be provided if an existing IDF cabinet in an area lacks sufficient space for the new IEEE 802.3at PoE+ switch.

13.4 The actual IEEE 802.3at PoE+ switch model shall be selected by DISTRICT as a switch option listed above.

14 SYSTEM MANAGEMENT.

14.1 All proposed solutions shall provide comparable system management solutions.

14.2 The installed system shall provide a management application that allows a single point of configuration for the entire solution, and the ability for a single point of configuration per site.

14.3 The wireless management application shall support administrative access by multiple users simultaneously.

14.4 The wireless controller and management application shall support finding wireless host information by MAC address and IP address.

14.5 The installed solution shall have the ability to classify types of interference observed during any radio frequency monitoring.

14.6 The wireless management application shall allow role-based access to user-defined groups.

15 SWITCH OPTIONS

15.1 All switches listed below shall be made available as a part of this RFP for the term of the contract. The selected Vendor shall make available additional switches, modules, cables, products, and services not specified that may be required to meet the needs of the DISTRICT

for the term of the contract. Any solution offered must be interoperable with existing networking equipment and other IP standards-based solutions.

15.2 The DISTRICT is seeking bids for 2930 JL255A POE, as well as, ARUBA 2930 48G POE switches or equivalent switches.

15.3 Must include a minimum of:

15.3.1 POE

15.3.2 RJ-45

15.3.3 Support for static and RIP routing

15.3.4 IPv6, ACLs, built-in 1/10GbE uplinks and PoE+

15.3.5 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+);

15.3.6 Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only

15.3.7 4 SFP+ 1/10GbE ports; PHY-less

16 UNINTERRUPTIBLE POWER SUPPLY (UPS).

16.1 Currently, the DISTRICT has 25 APC 1500 and 25 APC 2000 UPS 110viExisting UPS units. The DISTRICT is seeking replacement batteries for these existing units. IN additional, the DISTRICT is seeking pricing for APC UPS, or equivalent with Smart Card Management card included and APC Smart-UPS SMT 1500RM2UCVA rack-mountable or equivalent during the life of the contract.

16.2 The life of most UPS batteries is 3 to 5 years, according to most manufacturers. Provide quotes for replacement batteries for any UPSs quoted. Depending on the circumstances, these replacement batteries may be E-Rate eligible. The DISTRICT desires a unit pricing quote for replacement batteries for APC SMT1500RM2UC 1440VA.

17 FIBER SWITCH MODULE OR CABLE REPLACEMENT OPTION.

17.1 All uplinks from the edge switches shall be 10G. Should a fiber run to an IDF exceed the industry standard acceptable length for 10G throughput on the currently installed OM3 fiber, the following options shall be provided:

17.2 Provide an opportunity to aggregate a fiber run to a remote location and add a 10G 4-Port switch module as needed to ensure 10G throughput on the uplink from the new IEEE 802.3at PoE+ switches to the Switch. This process may include rerouting or adding additional fiber as

needed. See the DISTRICT Technology Infrastructure Standards - Version 2 for details on Fiber Cable and Fiber installation requirements.

17.3 A single 10G uplink shall not exceed 48 total copper ports. If multiple switches or IDF cabinets are connected, the entire port count shall not exceed the 48 total copper port maximum.

17.4 Provide an option to replace the fiber to a remote location if this option is more financially beneficial for the DISTRICT.

18 WIRING AND INSTALLATION.

18.1 The DISTRICT sites were built throughout several decades and had varied construction materials. Some materials shall not be disturbed, and wiring installations must be performed around these areas.

18.2 All wiring and installations shall adhere to the DISTRICT 's specifications

18.3 Cat6 using ICC cable and ICC RJ-45 jacks

18.4 All new access points shall be installed with data wiring, per the DISTRICT's specifications

18.5 The DISTRICT specifications shall approve all installations and installation processes.

18.6 All existing access point wiring shall be removed to the point of non-visibility. The existing wire may be placed above the drop ceiling tiles.

18.7 Existing access point wiring shall be removed from the patch panel and removed from the Intermediate Distribution Frame (IDF) and Main Distribution Frame (MDF) cabinets.

18.8 Existing patch cords shall be removed from the existing switch and patch panels.

18.9 All cables, fiber jumpers, patch cords, patch panels, cabinets, connectors, etc. shall be provided as required to connect all installed equipment.

18.10 The selected Vendor shall make available additional/new wiring, wiring installation, and wiring repairs and maintenance, specified or not, that may be required to meet the needs of the DISTRICT for the term of the contract.

18.11 Vendors must supply and install a 3-meter factory patch cable to a patch panel and supply and install patch panels specific to the certified structured connectivity solution. All wires must terminate directly back to a single distribution closet, if possible.

18.12 Equipment Installation, Configuration, and Testing.

18.13 All installations include all project equipment and cables, but not limited to, mounting racks, UPSs, switches, fiber extenders, power cords, fiber panels, jumpers, copper patch panels, patch cords, power cords, etc.

18.14 The Vendor shall:

1. Mount and install power cables
2. Install/upgrade software
3. Install all switch software licenses
4. Configure switches
5. Provide, install and label all fiber and copper cables related to the installation
6. Describe all uplink connections in software configurations
7. Verify routing
8. Use a test plan to validate the functionality
9. Use a migration plan and migrate to new hardware
10. Review and correct latency or connectivity issues
11. Provide a testing plan
12. Provide all license and support documentation information
13. Integration with the existing system as required
14. The Vendor shall be responsible for the configuration of all newly installed equipment
15. The Vendor may be responsible for the configuration of existing equipment as needed to implement the new wireless solution

18.15 The DISTRICT will work closely with the Vendor to ensure all configurations meet the needs of the DISTRICT.

18.16 All configurations shall be adjusted as needed to function properly within the existing DISTRICT network and as specified by the DISTRICT.

18.17 The DISTRICT shall have the final approval for all configurations.

18.18 All equipment shall be fully installed and tested.

18.19 The proposer will work closely with the DISTRICT staff to develop all configuration requirements, and The DISTRICT shall approve all configurations.

19 RACKS

19.1 The DISTRICT is seeking bids for both MDF AND IDF closed and open racks, as well as, optional locking cages. Please offer optional sizes, and VENDORS may insert a pricing catalog.

20 SERVICES (MIBS AND BASIC MAINTENANCE)

- 20.1 The DISTRICT plans to compare the cost-effectiveness of MIBS (monthly cost) to Basic Maintenance (hour break/fix) rate. The DISTRICT is seeking bids for both E-Rate eligible services. Therefore, Vendors are urged to explain the benefits of each solution proposed clearly.

21 MANAGED INTERNAL BROADBAND SERVICES

- 21.1 The DISTRICT is seeking Managed Internal Broadband Services (MIBS) to be provided by a third party to operate, manage, and monitor E-Rate eligible equipment owned by the DISTRICT. Please review the [E-Rate Eligible Services](#) list.
- 21.2 Vendors are required to explain how MIBS Services will benefit the DISTRICT fully, and to include a list of items they are proposing to operate, manage and monitor (e.g., access points, switches, routers).
- 21.3 Vendors are encouraged to propose a solution that includes an assessment of the configurations of E-rate eligible equipment. For example, it is the vendor's responsibility to ensure access points roam throughout the wireless network, and switches are performing to an optimal level.
- 21.4 One-time fees for [design and engineering](#) and configuration changes are E-Rate eligible as a necessary component of the MIBS Service.
- 21.5 The DISTRICT desires a monthly cost model with an easy to understand the formula, which can be increased or decreased based on adding or removing equipment, student enrollment, school facilities, or other cost-related factors. Proposers are required to explain in detail the cost model being proposed. Under no circumstance will the DISTRICT or the E-Rate program pay for work not performed.
- 21.6 The DISTRICT requires all Proposers to describe in detail the monitoring software that will be used and all equipment that will be visible.
- 21.7 Vendors must agree to provide login access and training to the DISTRICT staff.
- 21.8 MIBS is not a “break/Fix” service (hourly rate service), and the DISTRICT will rely on the Proposer to present a plan to assure all E-Rate eligible items under the MIBS agreement is operating efficiently at all times.
- 21.9 In most cases, MIBS is a “proactive service” to help prevent failure, and monitoring is an essential component of a MIBS service. From time to time, unexpected failures will happen. The DISTRICT requires all Proposers to have a notification system that allows the Proposer to provide repair status updates for outages and other alerts. Vendors must describe the alert system in their proposal.

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- 21.10 If a District-owned piece of equipment is under warranty, the winning Vendor will be expected to work with the District to ensure the Merchandise Return Authorization (RMA) is expedited.
- 21.11 In the event District-owned equipment is beyond repair, the District must be notified by the Vendor immediately. Replacement of the equipment is the responsibility of the DISTRICT.
- 21.12 The **winning** Proposer will be required to submit a detailed network diagram showing all E-Rate eligible wireless equipment that will be supported. The list must consist of the make, model, serial number, location, and SKU#, if available. Any one-time fees for [design and engineering](#) are eligible as a necessary component of the MIBS Service.
- 21.13 The DISTRICT desires a configuration assessment of the current Access Points and Switches to make sure all access points are roaming properly without any outages, and all switch configurations are set to the optimal performance. One-time fees for [design and engineering](#) are eligible as a necessary component of the MIBS Service.
- 21.14 It is understood that not all cabling drops supporting E-Rate eligible components can be monitored. If cabling is to be included in the MIBS proposal, the unit pricing per drop and the winning vendor will be required to include in the detailed map all drops. Any one-time fees for [design and engineering](#) are eligible as a necessary component of the MIBS Service.
- 21.15 Vendors are encouraged to include “in-line cabling” in the MIBS proposal. In-line cabling is the cabling attached to a piece of E-Rate eligible equipment and is causing the equipment to experience a malfunction alert. Whether the cable is traced back to fiber or Cat. 5-6, Vendors are encouraged to include in-line cabling in the MIBS proposal.
- 21.16 The winning Proposer will be required to meet with the DISTRICT’s technical staff monthly to discuss the work performed during the previous month and the performance of the network. Weekly monitoring reports will be submitted to the DISTRICT.
- 21.17 According to E-Rate rules, proposals may include a one-time fee which may cover the purchase of various types of monitoring software (e.g., Airwave). Installation, configuration, and on-site training of staff are also eligible. All proposals must provide a detailed description of all components that make up any one-time charge. If monitoring software is included, the software can only be used to monitor eligible equipment on the DISTRICT’s network, and a specification sheet of the software must be provided.
- 21.18. It is understood all documents (maps, diagrams, and other documents) created under the MIBS agreement are the property of the DISTRICT. Original maps and updated documents are to be sent to the DISTRICT upon completion.
- 21.19 Each year, the list of current equipment must be updated before the filing of Form 471. A contract Amendment will be submitted to the E-Rate program if any changes are made.

21.20 It will be the Vendor's responsibility to ensure all devices are working correctly, and any outages or alerts MUST be addressed within 24-hours during workdays. If a critical outage occurs during the weekend or holiday (e.g., network is down at a site), the Vendor is expected to notify the DISTRICT immediately. Otherwise, non-critical issues that occur on a weekend or holiday MUST be addressed within 24-hours from the first workday after the DISTRICT reopens.

22 BASIC MAINTENANCE

22.1 The DISTRICT desires proposals which include a "break/fix" hourly rate to repair E-rate eligible equipment. Proposals MUST include various Levels of pricing, which generally depend on the technical expertise of the employee dispatched. Resumes and a description of technical certifications and other training of the technical staff MUST be included in the proposal.

22.2 The winning Vendor will be required to offer a "help desk ticket" system or another electronic method for the DISTRICT to report an issue.

22.3 The Vendor is required to notify the IT Director or his/her designee of an estimated time of arrival of the technician. All technicians will be required to sign in and out at the eligible location. Additionally, the technician MUST record the make, model, and location of the E-Rate eligible item repaired. All invoices sent to the DISTRICT MUST reference the "help desk ticket," number, the date of dispatch, arrival time and departure time of the technician. Invoices without this information will not be paid.

22.4 The Vendor must explain the billing procedures for this service (e.g., the hourly rate begins and ends time, safeguards to prevent over-billing of time, minimum prices).

23 SOFTWARE, SUPPORT, LICENSES, WARRANTY.

23.1 The vendor shall offer software that provides ease of management of networking devices. The software should be requested under the same category as the associated equipment being installed or obtained (e.g., Licenses, Operating).

23.2 For any proposed software, provide a detailed functional description of the software modules and quantity of each of the software modules, the unit price of the software modules, the unit price of any annual maintenance and support, or any other reoccurring cost and a total price of the software.

23.3 For the proposed solution, indicate which components (hardware, software, and services) are mandatory. If optional, clearly state what if any functionality of the proposed solution would be omitted unless the component is included in the proposed solution.

24 CONNECTORS AND COMPONENTS

The DISTRICT is seeking unit pricing bids for the following products:

10G-SFP-LR 1310nm 10km LC Transceiver Module compatible, HP, Switches or equivalent

1m LC to LC Duplex Single-mode fiber patch cable

2m LC to LC Duplex Single-mode fiber patch cable

3m LC to LC Duplex Single-mode fiber patch cable

ICC CAT6 48 port 2U patch panel

25 PROJECT PLAN MANAGEMENT.

25.1 Contractor shall provide, at a minimum, the following project management functions:

25.2 Provide Project Management

25.3 The contractor will provide day-to-day project management using best management practices for all tasks and activities necessary to complete the Statement of Work.

25.4 Provide a Project Work Plan

25.5 The contractor shall develop and maintain a Project Work Plan, which breaks down the work to be performed into manageable phases, activities, and tasks as appropriate. The work plan will identify activities/tasks to be performed, project personnel requirements (both the DISTRICT and Contractor), estimated workdays/personnel hours to complete, expected start and completion dates. Scheduled completion dates for each deliverable shall specifically be included. Written concurrence of both parties will be required to amend the Work Plan. The Project Work Plan shall be approved by the DISTRICT before project payments are made.

25.6 Provide Project Progress Reports

The contractor shall submit monthly progress reports signed by the Contractor's Project Manager to the DISTRICT, no later than ten days after the close of each calendar month. Each progress report shall describe the status of the Contractor's performance since the preceding statement, including the products delivered, descriptions of problems encountered with a plan for resolving them, the work to be accomplished in the coming reporting period, and identifying issues requiring management attention, particularly those which may affect the scope of services, the project budget, or the deliverables to be provided by the Contractor. Each report shall identify activities by reference to the Project Workplan.

25.7 Provide Time Sheets

Accompanying each Progress Report, the Contractor shall submit to the DISTRICT documents such as timesheets identifying the name of the individual performing the work.

25.8 The vendor shall submit asset ledgers to the DISTRICT upon completion of work at each site. Asset ledgers must comply with all E-Rate rules. (e.g., make, model, serial number, the reference number of invoice and physical location of each piece of equipment sold and installed.)

25.9 Asset Tagging and labeling of the equipment is critical during an E-Rate audit. The Vendor will apply the labels and work with the DISTRICT to create the correct labeling. In some cases, the DISTRICT will supply the asset tags.

26 ORDER OF INSTALLATIONS.

26.1 The DISTRICT shall specify and provide the installation sequence order of all sites.

26.2 The Vendor shall install sites in the order as specified by the DISTRICT.

26.3 Multiple sites shall be installed simultaneously at the same time to meet the deadlines.

26.4 The number of sites to be installed at any one time may vary during the project and shall be dependent on the acceptance of other completed sites and the Approval to Proceed by DISTRICT.

27 ON-SITE REQUIREMENTS.

27.1 All Vendors shall sign-in at the main office of the site before beginning activities. Site credentials may be issued and may be required to be displayed at all times.

27.2 All sites must be thoroughly cleaned each day and placed back in the original order. The work area shall remain clean at all times.

27.3 Shipping boxes and other trash and debris shall be removed from the site each day and disposed of off-site.

27.4 Dumpsters belonging to the site or located in the surrounding area shall not be used.

28 INTERACTION WITH STUDENTS

28.1 *** ANY INTERACTION WITH STUDENTS BY THE VENDOR and ANY REPRESENTATIVE IS STRICTLY PROHIBITED.

28.2 The Vendor is expected to supervise and exercise control over any employee or subcontractor employed and shall be held responsible for the actions and activities of both employees and Subcontractors.

28.3 While working on-site at a DISTRICT school, annex, or another student educational facility, the Vendor, its personnel, and subcontractor(s) staff must wear identification badges or a uniform with a logo identifying the company at all times when working on any DISTRICT property.

28.4 A Vendor shall not enter any DISTRICT site without a scheduled visit. The visits will be scheduled by the Director of Technology or his/her designee.

29 CUSTOMIZED PROPOSALS AND PRICING CLAUSE.

29.1 Understanding that the responses as initially submitted, may or may not completely meet the needs of the DISTRICT, the DISTRICT reserves the right to work with one or more selected proposers to customize and refine their proposal as a part of the selection process. This process includes, but is not limited to, the refinement, addition, change, and deletion of products, services, and pricing as desired by the DISTRICT. This clause allows the DISTRICT to make the most favorable proposal(s) and customize it to serve the needs of the DISTRICT best.

30 PROPOSAL PRICE FORMAT REQUIREMENTS FOR ALL OPTIONS.

30.1 Separate costs for travel and expense charges are not allowed at any time.

30.2 Any cost not specified shall not be considered or paid by the DISTRICT.

30.3 All pricing shall be provided as options that may be selected anytime during the term of the contract.

30.4 Pricing shall be listed by the following categories and shall include unit price and extended cost.

30.5 ALL Proposals Must include the pricing form. The pricing form MUST appear in the last section of the proposal and be clearly labeled "PRICING."

31 DEADLINES.

31.1 Below is the Event Calendar. Not meeting these requirements will disqualify a Vendor from bidding.

32 EVENT CALENDAR.

EVENT	DATE	TIME	LOCATION
RELEASE RFP	DECEMBER 20, 2019	4:00 P.M. (CST)	EPC, CENTRAL AUCTION HOUSE AND ADVERTISEMENTS
INQUIRY OPENS	JANUARY 6, 2020	9:00 P.M. (CST)	Mia@bogschools.org
INQUIRY CLOSES	JANUARY 24, 2020	4:00 P.M. (CST)	Mia@bogschools.org
SUBMISSION DEADLINE	THURSDAY, JANUARY 30, 2020	2:00 P.M. (CST)	CITY OF BOGALUSA SCHOOLS 1705 Sullivan Drive Bogalusa, LA 70427
PUBLIC BID OPENING	THURSDAY, JANUARY 30, 2020	2:00 P.M. (CST)	CITY OF BOGALUSA SCHOOLS 1705 Sullivan Drive Bogalusa, LA 70427

E-RATE CATEGORY 2 PRODUCTS AND SERVICES

Please send all proposals by US Postal mail or sealed hand-delivered to:

**CITY OF BOGALUSA SCHOOLS
ATTENTION: DELORIS WALKER
FINANCE DIRECTOR
1705 SULLIVAN DRIVE
BOGALUSA, LA. 70427**

DEADLINE Friday, January 30, 2020

If further information is needed, please email:

Mia@bogschools.org

***Note: All correspondence must be in writing due to USAC selective review requirements**

Proposals must be received no later than:

Thursday, January 30, 2020, at 2:00 PM (CST)

33 UNIT PRICE LIST FORM (INCLUDE ALL SHIPPING CHARGES)

PRODUCT OR SERVICE	MAKE AND MODEL	QTY	UNIT PRICE	Install Per Item	MSRP	E-RATE ELIGIBLE, INELIGIBLE, COST ALLOCATION	EXTENDED COST	REFERENCE PAGE NUMBER IN PROPOSAL OR WEBLINK WITH SPECIFICATIONS
Access Points		1						
Option 1		1						
Option 2		1						
Option 3		1						
Switches (POE)		1						
8 Port		1						
12 Port		1						
24 Port		1						
48 Port		1						
Antenna, Connectors		1						
SFP		1						
Other		1						
Cabling (Fiber)		1						
50'		1						
100'		1						
200'		1						
300'		1						
Cabling (Non-Fiber Cat. 6)		1						
50'		1						
100'		1						
300'		1						
Cabling (Conduit)		1						

CITY OF BOGALUSA SCHOOLS E-RATE CATEGORY 2

50'		1					
100'		1					
300'		1					
Racks		1					
Option 1		1					
Option 2		1					
Option 3		1					
UPS		1					
Option 1		1					
Option 2		1					
Batteries for APC UPS	1500 UPS (110V)	1					
Batteries for APC UPS	2000 UPS (110V)						
Software		1					
Operating Software		1					
Manufacture Licenses(60-Mths)		1					
Manufacturer Support Warranty (36-Mths) Basic Maintenance		1					
Specify Make and Model Of Equipment		1					

36 BASIC MAINTENANCE "BREAK/FIX"

SERVICE	HOURLY RATE
Level 1	\$
Level 2	\$
Level 3	\$
Level 3	\$

38 BID FORM (REQUIRED)

**BIDDERS QUALIFICATIONS
(FORM OF BUSINESS ORGANIZATION)**

The form of business organization under which this bid is submitted is as follows:

A CORPORATION incorporated under the laws of the State Presidio Networked Solutions, LLC and (is) (is not) authorized to do business in the State of Louisiana.

A PARTNERSHIP Name of Partners: _____

AN INDIVIDUAL trading and doing business under a name and style other than his own The Owner's name is:

The undersigned hereby affirms that (1) he/she is a duly authorized agent of the vendor, (2) he/she has read all terms and conditions and technical specifications which were made available in conjunction with this solicitation and fully understands and accepts them unless specific variations have been expressly listed in his/her offer, (3) that the proposal is being submitted on behalf of the vendor following any terms and conditions outlined in this document, and (4) that the vendor will accept any awards made to it as a result of the offer submitted herein for a minimum of ninety calendar days following the date of submission.

(Please Type or Print Below)

LEGAL NAME OF BIDDER Presidio Networked Solutions, LLC

MAILING ADDRESS 12120 Sunset Hills Road, Suite 150

CITY, STATE, ZIP CODE Reston, VA 20190

TELEPHONE NUMBER 318-243-9932

EMAIL ADDRESS vtemple@presidio.com

FAX NUMBER 407-455-7843

CONTACT PERSON TITLE Senior Account Manager

AUTHORIZED REPRESENTATIVE (SIGNATURE) Virginia Temple

NAME (TYPE/PRINTED) Virginia Temple

TITLE OR SIGNER Senior Account Manager

DATE BID SIGNED January 27, 2020

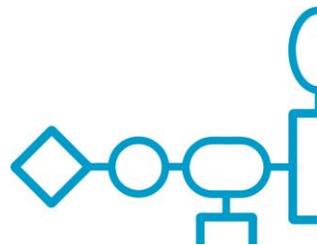
ACKNOWLEDGE OF ANY ADDENDA RECEIVED:

ADDENDUM TO: _____ DATE _____

ADDENDUM TO: _____ DATE _____

TAB 2

Presidio RFP Response



Bogalusa City Schools

E-Rate Category 2 Products & Services

Prepared For:
City of Bogalusa
Attention: Deloris Walker, Finance Director
1705 Sullivan Drive
Bogalusa, LA 70427

Due Date:
Thursday, January 30, 2020 at 2:00 PM (CST)

Prepared By:

Presidio Networked Solutions, LLC.
3300 W Esplanade Avenue
Metairie, LA 70002

Virginia Temple
Senior Account Executive
Phone: 225.341.5375
Cell: 318.243.9932
E-mail: vtemple@presidio.com

SPIN#: 143015315

PRESIDIO™



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1 Executive Summary

Presidio Networked Solutions, Inc. (Presidio) has been in business since 1986 and many people that are supporting this request have worked with you in some capacity. As one of the largest CISCO Gold Partners in the United States, we have the experience and knowledge to deliver a solution that will adhere to the needs of for now and in the future.

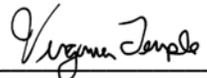
We have several Education customers both locally and nationwide that we have done business with such as LSU, Iberville Parish, Caddo Parish Schools, Jackson Parish Schools, Monroe City Schools, Tangipahoa Schools, Oxford City Schools, Atlanta Public Schools just to name a few. Here is a link to some of the PRESIDIO Success Stories (<http://www.presidio.com/government-industries/industries/education>).

E-Rate SPIN # 143015315
Louisiana State Contract Cisco 4400003810

PRESIDIO has put together a team that will support this project during the time requested in the RFP.

Per PRESIDIO's Best Practice, should City of Bogalusa Schools choose our solution, there will be a Project Manager to work closely with timely updates with the City of Bogalusa Schools staff so that we minimize any service disruption as we have done for many Public and Private Sector customers. Documentation and knowledge transfer are a key to success and will be given through technical training and implementation assistance per RFP. Knowledge Transfer is given pre-installation, during and post-installation in an effort to assist the City of Bogalusa Schools staff the opportunity to troubleshoot problems that may arise. Quarterly Business Reviews, with Key Stakeholders to make sure current and future projects have the latest knowledge with regards to available technology. All of these sessions will be at NO COST to City of Bogalusa Schools .

Agreed to by Reseller:

Signature		Date	<u>1/08/2020</u>
Print Name	Virginia Temple		
Title	Senior Account Manager		
Company Name	Presidio Networked Solutions LLC		
Corporate Address	12120 Sunset Hills Road, Suite 150 Reston, VA 20190		

Special Training Offering

Presidio and Cisco Meraki

Training for City of Bogalusa Schools Technology Staff

Presidio with Cisco Meraki are willing to offer a hands-on training lab for your IT Staff.

This hands-on lab will cover the entire Cisco Meraki portfolio and will be tailored for your Technology Staff.

In this hands-on lab you will walk step-by-step creating a branch network enabled for LAN and WLAN connectivity.

Example of Past Agendas:

- Meraki Overview / History - 15 Mins
- Live Demo (entire portfolio) - 30 Mins
- Hands-on Lab - Rest of Time
- Firewall, Switch, Wireless, Cameras



2 Provider Information

History and Current Organization of Equipment Distributor

Person/s Responsible for clarifying responses to this RFP:

Joel Murphy - Senior Solutions Architect 205-533-8495 jemurphy@presidio.com

Virginia Temple - Senior Account Manager 318-243-9932 vtemple@presidio.com

Presidio has been in business for 25 years, Cisco partner/authorized dealer for 20+ years, 2000+ IT professionals including over 1000 highly certified consulting engineers, 3500+ technical industry certifications, local delivery model with 50+ offices located across the United States, 15+ years of sustained annual double-digit growth rates, and annual sales of 2.5+ billion.

Current E-Rate SPIN # 143015315

Louisiana State Contract Cisco 4400003810

Presidio-- Practical thinking for a connected world. Everything is connected. And this connectivity is changing the way everyone does business. We see in this transformation not just complexity, but also opportunity. Not merely the risk, but also the potential for unlimited possibilities. We understand that the backbone of this unprecedented level of connection is Information Technology. At Presidio, we think, architect, implement, and support the practical reality of advanced technologies every day. By taking the time to deeply understand how your business works, we architect transparent, enduring technology solutions that meet your immediate needs – and prepare you for tomorrow. As one of the largest solutions providers in the U.S., we combine experience and stability with regional expertise and service, so you can rest assured we'll be there to help you locally with the ability to cover your global business needs. We are not just trusted partners we enable new thinking.

Discover more at www.presidio.com and follow us on Twitter @presidio.

History and Current Organization of Equipment Manufacturer

Area Sales Representative for City of Bogalusa Schools :

Grace Meinhardt – SLED AM – LA, MS & AL – gmeinhar@cisco.com 563-468-7956

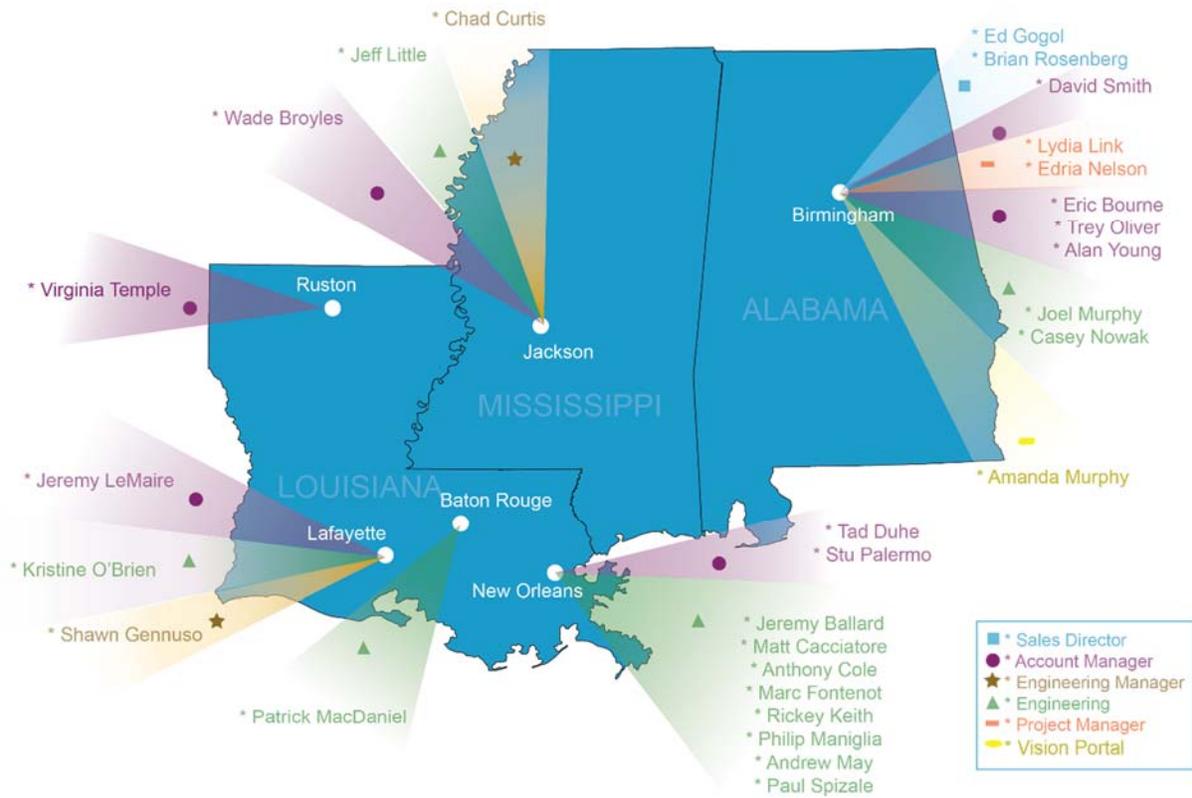
Cisco has been in business for 25+ years and was started from manufacturing network connectivity equipment and was one of the first to sell commercially successful routers supporting multiple network protocols. Then entered the Ethernet switching market in 1994. Cisco has 50,000+ employees and is a worldwide technology provider with annual sales of 47+ billion. Chuck Robbins as of July 26, 2015 has taken over as the new CEO. He is a 17 year Cisco veteran.

Qualifications of Support Personnel providing Installation Assistance

Proposed Project Personnel and Qualifications	Typical Project Responsibilities
<p>Virginia Temple Senior Account Manager 18 Years' Experience Cisco Sales Expert, Meraki Sales Champion</p>	<p>Virginia Temple is a Presidio Account Manager who has the ultimate responsibility for account transition and day-to-day operations, understanding the work flow of requirements from engineering, to purchasing, and to logistics, ensuring continuity of processes through customer operations. She will be responsible for reviewing, analyzing, and measuring cost analysis for the project and overall account success.</p>
<p>Edria Nelson Project Manager 12 Years' Experience Project Management</p>	<p>Edria Nelson is responsible for managing the Presidio resources. She will function as the point of contact for the client's facilities. The Project Manager will hold a kick-off meeting to establish project timelines, identify project dependencies and critical path tasks. The Project Manager will create a detailed project plan outlining the project tasks, milestones and resource requirements, and will hold regularly scheduled meetings to track the progress of the project. In addition, the Project Manager also functions as the first line of escalation for any issues related to the project.</p>
<p>Casey Poulos Inside Sales Representative (ISR) 6 Years' Experience Bachelor of Finance</p>	<p>As the Inside Sales Representative, Mrs. Poulos is responsible for all aspects of daily interactions with customers for quoting and order support, accounting, and other duties.</p>

Proposed Project Personnel and Qualifications	Typical Project Responsibilities
<p>Chad Curtis Director of Engineering 31 Years' Experience Bachelors of Computer Engineering Technology, CCNA,CCDA, VCP</p>	<p>As the Director of Engineering for Presidio's Gulf Region, all engineers and project managers report to him. He has been in roles from Solution Architect to VCIO over his 35 years in IT. His vast experience allows him a deep insight into the needs of clients, vendors, and engineers.</p>
<p>Kristine O'Brien Senior Consulting Principal 20 Years' Experience CCIE #5598, CCNP, CCDA, CCNA, IPCC, IPT, Unity Support</p>	<p>Kristine O'Brien is a Senior Network Engineer with comprehensive experience in presales, design, project delivery, project management, and support. She will be used as a remote technical escalation point for the on-site Presidio engineers.</p>
<p>Jeff Little Senior Solutions Architect 7 Years' Experience CCNP-RS, CCNP-DC, CCNA, CCNA-DC Certified Ethical Hacker (CEH) Technology Architect, Backup & Recovery Solution Specialist (EMC), Microsoft Certified IT Professional, CompTIA Security +</p>	<p>Jeff Little is a Senior Solutions Architect focused on Security within Presidio. Jeff has been in the IT world for over 18 years. He is currently serving in the National Guard working as a CND (Cyber Network Defense) Team member and has served as Senior Systems Administrator and Senior Network Engineer in securing, maintaining, upgrading and repairing the IT infrastructure for over 100 military remote sites, in a 10,000-person military operation locally & abroad. Jeff has extensive skills and experience that encompass working with firewalls, NAC's, SEIM's, and security & risk detection technologies. Jeff takes pride in addressing what the customer needs and exceeding expectations.</p>
<p>Joel Murphy Senior Solutions Architect 20+ Years' Experience CCIE</p>	<p>Joel Murphy is a senior solutions architect in the Gulf Territory. His areas of expertise revolve around Cisco Solutions in Collaboration and Infrastructure</p>
<p>Rickey Keith Solutions Architect 10+ Years' Experience CCNP R&S, DC, Wireless CCDP</p>	<p>Rickey Keith is a solutions Architect in the MS, AL, LA territory. His areas of expertise revolve around Cisco solutions in the Data Center, Unified Communications and Infrastructure spaces.</p>

Presidio Gulf States – Team Map



3 Equipment/Software

Presidio is proposing multiple Cisco Meraki Switches and Cisco Meraki Access Points for City of Bogalusa Schools.

Meraki MS Switches

Cisco Meraki offers a broad range of switches, built from the ground up to be easy to manage without compromising any of the power and flexibility traditionally found in traditional enterprise-class switches. Meraki access & aggregation switches are all managed through an elegant, intuitive cloud interface, freeing administrators to spend less time on configuration and more time on meeting business needs. To set up a Meraki switch, just plug it in; there's no need for repetitive, command-based configuration, and switches can be up and running within minutes of connecting them to the network. A powerful centralized management interface gives administrators deep visibility into the network and how it is used. See which switches are near capacity across hundreds of sites. Quickly provision and reconfigure switch ports with security, QoS, and more. The Meraki dashboard provides unified policies, event logs, and monitoring, making it easy to manage network deployments without sacrifice

The **Cisco Meraki MS250** series provides 10G SFP+ uplinks for medium-size enterprises and campus networks. The switch includes optional PoE/PoE+ support, Layer 3 routing, and modular power for mission-critical networks. Our switches are built from the ground up to be easy to manage without compromising any of the power and flexibility traditionally found in enterprise-class switches. All Meraki switches are managed through an elegant, intuitive cloud-based interface, rather than cryptic command line. To bring up a Meraki switch, simply plug it in. Meraki switches do not require CLI for switch configuration or port management. Meraki's centralized management gives administrators granular visibility into their network. Our dashboard helps you keep track of every configuration change in your network with our detailed event and change logs.

All Meraki switches are managed through an elegant, intuitive cloud-based interface, rather than cryptic command line. To bring up a Meraki switch, simply plug it in. Meraki switches do not require CLI for switch configuration or port management. Meraki's centralized management platform gives administrators granular visibility into their network. Our dashboard helps you keep track of every configuration change in your network with our detailed event and change logs.

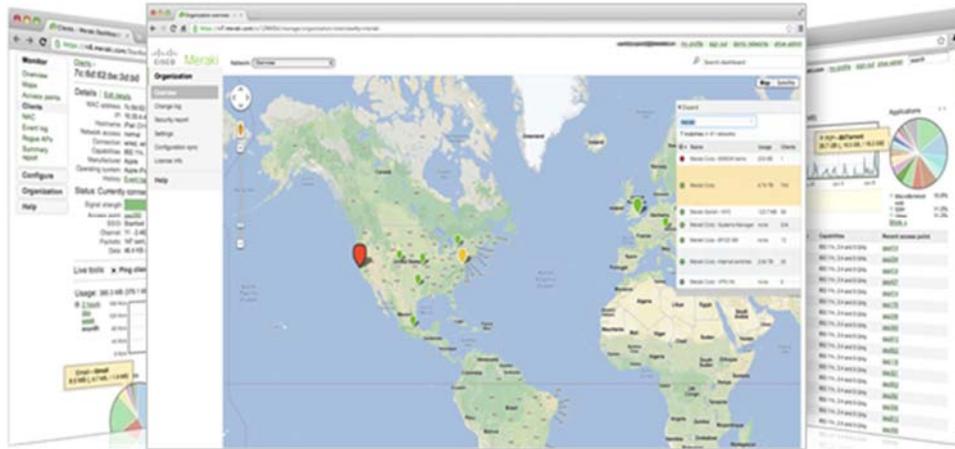
List of options will be in the pricing section.

Meraki Access Points

Meraki MR42 meet all the minimum functional requirements for the Access Points requested.

Presidio is also proposing option for MR45, MR52 and MR53 and MR55.

Image of the Cisco Meraki 100% Cloud-Managed Network Dashboard



Meraki's architecture provides feature rich network management without on-site management appliances or WiFi controllers. Every Meraki device - including wireless access points, Ethernet switches, and security appliances - connects over the Internet to Meraki's datacenters, which run Meraki's cloud management platform. These connections, secured via SSL, utilize a patented protocol that provides real time visibility and control, yet uses minimal bandwidth overhead (typically 1 kbps or less.)

In place of traditional command-line based network configuration, Meraki provides a rich web based dashboard, providing visibility and control over up to tens of thousands of Meraki devices, anywhere in the world. Tools, designed to scale to large and distributed networks, make policy changes, firmware updates, deploying new branches, etc. simple and expedient, regardless of size or location. Meraki's real time protocols combine the immediacy of on-premise management applications with the simplicity and centralized control of a cloud application.

Every Meraki device is engineered for cloud management. Specifically, this means that Meraki devices are designed with memory and CPU resources to perform packet processing, QoS, layer 3-7 security, encryption, etc. at the network edge. As a result, no network traffic passes through the cloud, with the cloud providing management functionality out of the data path. This architecture enables networks to scale horizontally, adding capacity simply by adding more endpoints, without concern for centralized bottlenecks or chokepoints. Equally important, since

all packet processing is performed on premise, end-user functionality is not compromised if the network's connection to the cloud is interrupted.

Meraki's cloud platform is designed to spread computation and storage across independent server clusters in geographically isolated datacenters. Any server or datacenter can fail without affecting customers or the rest of the system. Additionally, Meraki's datacenter design is field proven to support tens of thousands of endpoints.

The **Cisco Meraki MR42** is a four radio, cloud-managed 3x3 MU-MIMO 802.11ac Wave 2 access point. Designed for next-generation deployments in offices, schools, hospitals, shops, and hotels, the MR42 offers performance, security, and simple management.

The MR42 provides a maximum 1.9 Gbps frame rate with concurrent 802.11ac Wave 2 and 802.11n 3x3:3 MIMO radios. A dedicated third radio provides real-time WIDS/WIPS with automated RF optimization. In addition, an integrated fourth radio delivers Bluetooth Low Energy (BLE) scanning and Beaconing functionality.

With a combination of cloud management, high performance hardware, multiple radios, and advanced software features, the MR42 makes an outstanding platform for the most demanding of uses today and tomorrow. These uses include high-density deployments and support for applications like voice and high-definition video.

MR42 and Meraki cloud management: a powerful combination

Management of the MR42 is handled through the Meraki cloud, enabling rapid deployment across multiple sites without the need for time-consuming training or costly certifications. Since the MR42 is self-configuring and managed over the web, it can be deployed at a remote location in a matter of minutes, even without on-site IT staff.

24/7 monitoring via the Meraki cloud delivers real-time alerts if the network encounters problems. Remote diagnostic tools enable immediate troubleshooting over the web, meaning multi-site, distributed networks can be easily managed.

The MR42's firmware is automatically kept up to date via the cloud. New features, bug fixes, and enhancements are delivered seamlessly over the web. This means no manual software updates to download or missing security patches to worry about.

NOTE: All Meraki Access Points and Switches must be accompanied with a License. Option for 1, 3, 5, 7- and 10-year license have been included in our bid response. See Unit Pricing sheet.

4 Customer Service Support Plan

PRESIDIO is pleased to propose Cisco Meraki[®], a cloud-managed edge and branch networking solution that helps simplify enterprise-class networks. Wireless, switching, security, and mobile devices are centrally managed from the cloud to optimize ease-of-use. This comprehensive portfolio of wireless, security and mobile device management (MDM) gives administrators optimal visibility and control into the network. These networking products can scale from small branch to campus deployments and provide up-to-date features while helping to reduce OpEx.

We are proposing the CISCO MERAKI Cloud based switching technology as we have seen many districts adopting this technology that has limited staff to support this. Presidio is a MERAKI Manager Services Provider and can provide a Remote NOC option for support.

We will work with City of Bogalusa Schools to design the Project Plan to meet the deadlines of City of Bogalusa Schools per site. The equipment is all readily available and once notification of award, a specific site by site project plan will be presented to City of Bogalusa Schools for approval. Project plan will break down the work to be performed into manageable phases, activities and tasks as appropriate. The Project plan will provide expected start and completion dates. We have the ability to support (technical and training) City of Bogalusa Schools with onsite engineers, over the phone, and via WebEx with video. Our normal operating hours are Monday to Friday 8-5pm.

Meraki also offers 24 hour a day access to training along with help desk support for general questions. Meraki has a next-day replacement warranty on all equipment and has a 365 day, 24 hour help desk located in San Francisco.

There will be a Project Manager (normal business hours and planned afterhours if needed), Inside Sales Representative (normal business hours), and your account manager (normal business hours and when needed) assigned to support the staff.

Presidio is also able to offering a hands-on training lab for Bogalusa City Schools. This lab will be conducted by a Meraki engineer remotely and will teach all of the technology staff at Bogalusa City Schools how to setup the network, use the Meraki dashboard, set features, and much more.

5 References

E-Rate business has been a primary focus of Presidio's for many years, which has increased our fluency with E-Rate, and deepened our experience supporting education sector customers. We supported more than 200 different school districts' with their technology needs just this past year. Our project managers and engineering resources are experienced in managing and delivering multiple projects for districts of all sizes. Presidio's ability to design, install, manage, and support highly reliable, highly available, fault-tolerant networks is demonstrated by our vast array of Cisco deployments for multiple commercial, Federal, state and local governmental clients, including K-12 educational entities as demonstrated in the list in Exhibit 1.

Here are a few of our Meraki References:

- Arkansas Department of Information Systems
Rob Dickerson 501-682-4475
Four Capitol Mall Little Rock, AR 72201
- Central Arkansas Library System
Don Perry 501-851-2551
100 Rock Street Little Rock, AR 72201
- Southern University at Shreveport
Carolyn Miller 318-670-9900
3050 Dr Martin Luther King Dr Shreveport, LA 71107
- Claiborne Parish Schools
Janet Holland 318-927-3502
415 E Main Street, Homer, LA 71040
- Cedar Creek Schools
Kori Pardue 318-255-7707
2400 Cedar Creek Drive, Ruston, LA 71270
- Sabine Parish Schools
Ron Williams 318-256-9228 x202
695 Peterson St Many, LA 71449

Exhibit 1. Partial Listing of Presidio's K-12 Educational Clients

Presidio K-12 Clients		
Austin Independent School District	GreenVale Schools	Oklahoma City Schools
Brevard County School District	Hillsborough County	Orange County Public Schools
Caddo Parish School District	Indian River School District	Osceola County Schools
Chappaqua Central School District	Jackson Parish School District	Paterson Public Schools
Charles County Public Schools	Katy ISD	Pharr-San Juan-Alamo Independent School
Clay County School District	Leon County School District	Phoenixville Area School District
Clayton County Public Schools	Long Beach Unified School District	Savannah Chatham County Public Schools
Cobb County School District	Miami-Dade County School District	Springdale School District
Durham Public Schools	Memphis City School District	St. Lucie County School District
Duval County School District	Montgomery County School District	Tulsa Public School District
Edmond Public Schools	Nassau County School District	Volusia County Public Schools
Evesham Township School District	Norman Public Schools	Union Public Schools
Fayetteville Public Schools	North Arlington School District	Wyckoff Public Schools
Fort Bend Independent School District		

Contact information for a sampling of our K-12 clients follows.

CADDO PARISH SCHOOL DISTRICT	
Address	1961 Midway Ave, Shreveport LA 71130
Client	Rickey Jones, Director of Technology
Telephone Number	(318) 603-5604
Email Address	rdjones@caddoschools.org
Project Description: Presidio successfully completed a turnkey E-Rate solution for Caddo Parish Schools that included VLAN assignments on all new Legacy Cisco and Cisco Meraki Switching platforms. This turnkey solution also included both Legacy Cisco and Meraki wireless. This is the largest school districts in North Louisiana comprised of over 65 schools. This project included over 4000 AP's with over 900 switches. Uninterrupted power supplies from APC were also included.	

CLAIBORNE PARISH SCHOOL DISTRICT	
Address	415 E Main Street, Homer, LA 71040
Client	Janet Holland
Telephone Number	(318) 927-3502
Email Address	jholland@claibornepsb.org
Project Description: Presidio successfully completed a turnkey E-Rate solution with Cisco Meraki for the full district. This solution also included all hardware, software, cabling and installation.	

HUNTSVILLE INDEPENDENT SCHOOL DISTRICT	
Address	1220 7th Street, Huntsville, TX 77320
Contact	Tracie Simental, Technology Director
Telephone Number	(936) 293-2915
Email Address	tsimental@huntsville-isd.org
Project Description: Presidio has implemented UC at the High School, Administration office, and Technology Center. This UC expansion will roll out to all campuses pending future funding. Presidio has also installed wireless access points (APs) and switches throughout the district along with wireless controllers to support the APs.	

WEBB CONSOLIDATED INDEPENDENT SCHOOL DISTRICT (CISD)	
Address	619 Avenue F, Bruni, TX 78344
Client	Humberto Soliz, Assistant Superintendent Technology
Telephone Number	(361) 747-5415
Email Address	Humberto.soliz@webbcisd.com
Project Description: Presidio successfully completed a turnkey E-Rate solution for Webb CISD that included Cisco AVVID VoIP System, Cisco router/switch layer 3-VLAN upgrades, Cisco Remote Access Server, Cisco CDN Video IP System, APC UPS backups, APC rack enclosures, Cisco Aironet WLAN AP's and bridges, installation and project management services, Systimax structured cabling services, hardware maintenance renewals and on-site technical support services.	

TEMPLE INDEPENDENT SCHOOL DISTRICT	
Address	505 South 5 th Street, Temple, TX 76504
Client	Luann Hughes, Director of Technology
Telephone/Fax Number	254-215-6828 / 254-215-8473
Email Address	Luann.hughes@tisd.org
Project Description: Presidio successfully deployed the wireless solution consisting of 500+ access points, new and recertified cabling drops, wireless controllers, Cisco switches, and Cisco NCS Platform for management.	

In addition, we have included the following references:

<p>Livingston Parish Public Schools Rob Logan, Director of Technology Email: robert.logan@lpsb.org 13909 Florida Blvd, Livingston, LA 70754 Phone: (225)686-7044</p>	<p>Oxford School District Mike Fortenberry, Director of Technology Email: mforten@oxfordsd.org 79 Hwy. 30E, Oxford, MS 38655 Phone: (662) 234-3541</p>
<p>Louisiana State University Jeremy Sogne', Information Technology Services 200 Computing Services Center, Baton Rouge, LA 70803 Email: jsogne@lsu.edu Phone: (225) 578-5284</p>	<p>Delta State University Edwin Craft, CTO Email: ecraft@deltastate.edu Highway 8 West, Cleveland, MS 38733 Phone: (662) 846-4760</p>

6 Cabling Subcontractors

Per 6.12 on Page 19 of the RFP – Below is the information of our cabling subcontractors:

Delta AV Specialists
105 Overlook Circle
West Monroe, LA 71291

Owner: Jamie Harris
Phone: 318-376-4365

School Reference:
Jackson Parish School Board
Sabine Parish School Board
Cedar Creek School

Data-Tel of Louisiana, Inc
9164 Comar Drive
Walker, LA 70785

CEO: Bart LeBlanc
Phone: 225-445-5413

School Reference:
East Baton Rouge Parish School Board
Jefferson Parish School Board
Thomassee and Associates Engineering

7 Presidio Legal Adds/Changes

2.21 Indemnity – Page 12:

THE ENTIRE LIABILITY OF CONTRACTOR AND THE DISTRICT'S EXCLUSIVE REMEDY UNDER THIS AGREEMENT SHALL BE LIMITED TO THE TOTAL AMOUNT PAID BY THE DISTRICT UNDER THIS AGREEMENT OVER THE TWELVE MONTHS PRECEDING THE CLAIM IN QUESTION. THE LIABILITY OF CONTRACTOR SHALL BE CUMULATIVE AND NOT PER INCIDENT. THESE LIMITATIONS, EXCLUSIONS AND DISCLAIMERS SHALL APPLY TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, EVEN IF ANY REMEDY FAILS ITS ESSENTIAL PURPOSE.

IN NO EVENT SHALL CONTRACTOR BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, PUNITIVE, OR CONSEQUENTIAL DAMAGES WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, COSTS FOR PROCUREMENT OF SUBSTITUTE SERVICES OR DAMAGES FOR LOSS OF PROFITS, REVENUE, DATA, USE, OR BUSINESS INTERRUPTION INCURRED BY THE BOARD OR ANY THIRD PARTY, WHETHER OR NOT ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

8 Presidio Installation

Presidio / Cisco Meraki Wireless

Presidio will perform the following task in relation to the deployment of Cisco Meraki Wireless Access Points. Any task not mentioned within this task list should be assumed “Out-of-Scope” unless otherwise mention to be handled by a subcontractor with this RFP response.

- Perform an initial design session with the customer
- Review existing architecture
- Provision Meraki Dashboard
 - Note: Any routing/firewall rules to allow for dashboard/cloud connections are the responsibility of the customer
- Load Access Points into dashboard
 - Assign Static IP Address (provided by the school district)
 - Assign Unique name
- Build up to 4 SSID’s with one of the below connection policy methods
 - Active directory Authentication
 - Note: Will configure up to 4 separate Active Directory authentication groups
 - Note: Endpoint configuration is the customers responsibility
 - PSK (Pre-Shared Key)
 - Up to 4 login splash screens (Any customized images will be the responsibility of the school district)
- Create a test plan
- Work with the staff to perform limited location wireless connectivity testing (Complete coverage mapping & testing is not included in this scope of work)
- Perform knowledge transfer with the IT staff to ensure basic understanding of the implementation of the solution
- Create hand off documentation to include IP address, MAC Address, and a location description
 - Note: If maps of AP placements are required the customer will be required to provide the maps in advance to the cabling provider for documentation.

Presidio / Cisco Meraki Switches

Presidio will perform the following task in relation to the deployment of Cisco Meraki MS Switches. Any task not mentioned within this task list should be assumed “Out-of-Scope” unless otherwise mention to be handled by a subcontractor with this RFP response.

- Perform an initial design session with the customer
- Review existing architecture

- Provision Meraki Dashboard
 - Note: Any routing/firewall rules to allow for dashboard/cloud connections are the responsibility of the customer
- Load switches into dashboard
 - Assign Static IP
 - Assign Unique name
- Build up to 4 separate VLAN's
- Create a cutover plan
- Communicate the cutover with the cabling provider to be executed
- Work with the staff to perform limited location wired connectivity testing (Complete testing is not included in this scope of work)
- Perform knowledge transfer with the IT staff to ensure basic understanding of the implementation of the solution
- Create hand off documentation to include IP address, MAC Address, and a location description
 - Note: If maps of switch placements are required the customer will be required to provide the maps in advance to the cabling provider form documentation.

9 Presidio Managed Services Options

Presidio / Managed Internal Broadband Services (MIBS)

In the past, districts could only use Category 2 funds to purchase internal network hardware such as switches and wireless access points or basic maintenance of these components. Now, districts can outsource this to Presidio.

Presidio can offer 3 options when pertaining to Cisco Meraki Switches and Cisco Meraki Access Points: Non-Monitored, Proactively Monitored Essentials and Proactively Monitored Select.

Non-Monitored: Reactive Approach – Includes Service Desk, Client Portal, Standard Reporting and Change Management

Proactively Monitored Essential: 24x7x365 Monitoring, Service Desk, Client Portal, Standard Reporting and Change Management

Proactively Monitored Select: 24x7x365 Monitoring, Service Desk, Client Portal, Standard Reporting and Change Management. Plus – Problem Management, MACD, Patch Management, Carrier Case, Management Dispatch.

Most K12 entities have chosen Non-Monitored or Proactively Monitored Essentials. Pricing for both of these services have been added to our Unit Pricing Page within our Pricing section of our RFP response. Please note: If product RMA is completed our price does not include installation of new gear delivered from RMA – installation would be done by district staff.



Top Benefits/Outcomes using Managed Services

To improve the efficiency and dependability of their IT operations

Lacks in-house skill set for certain functions (turn over)

Free up IT staff to work on strategic projects

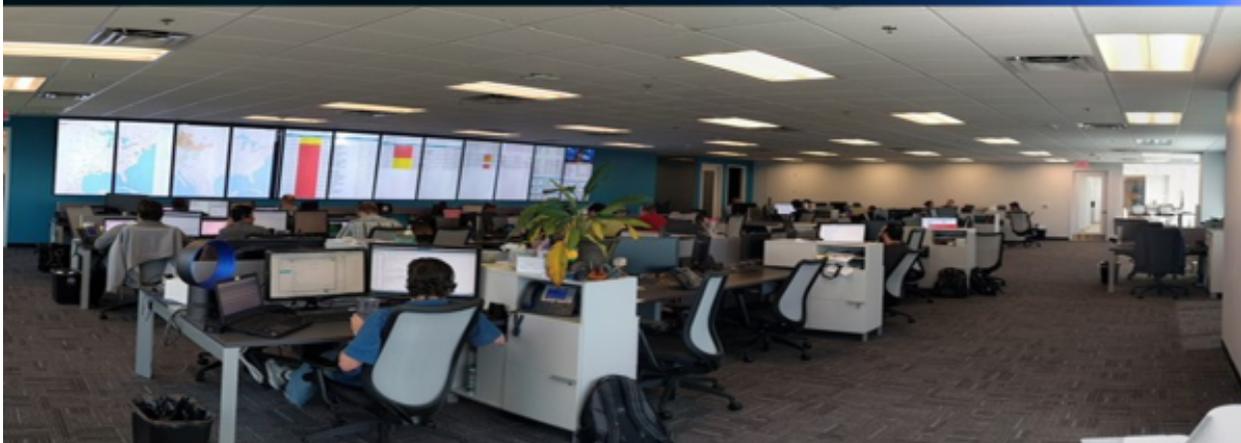
Have greater access to new technologies

Predictable pricing and manageable costs/moving to OPEX model

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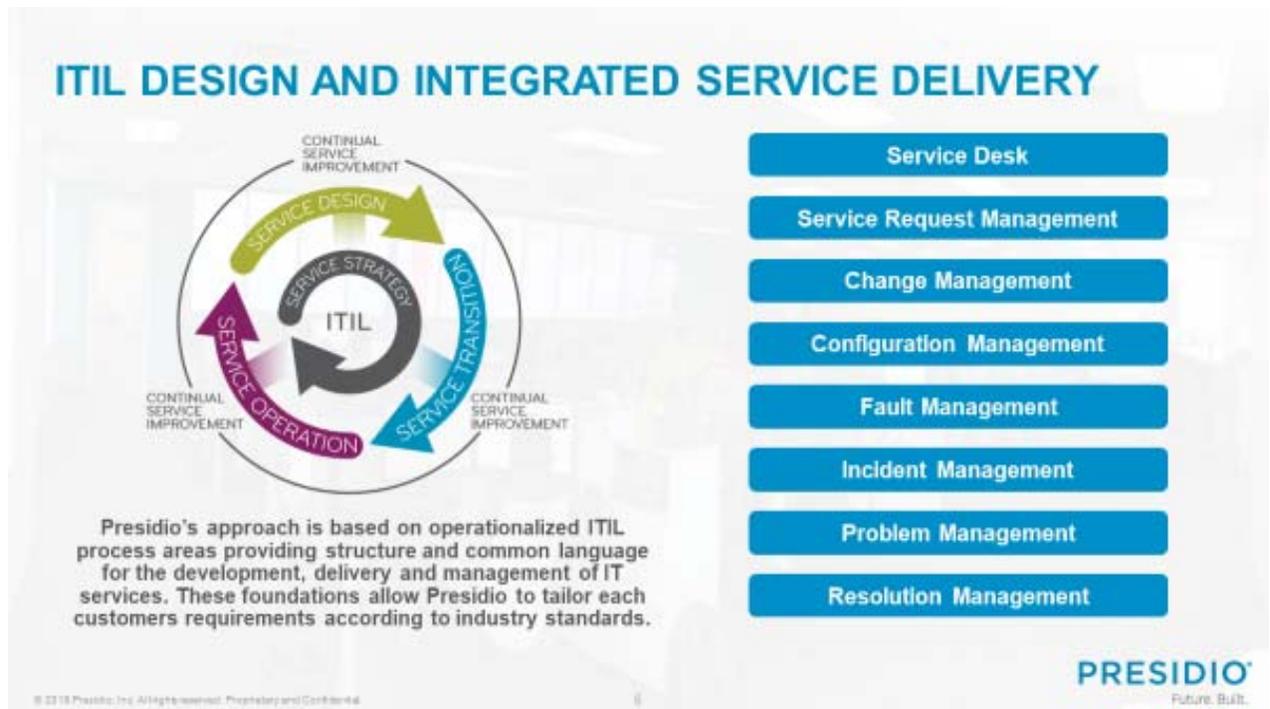
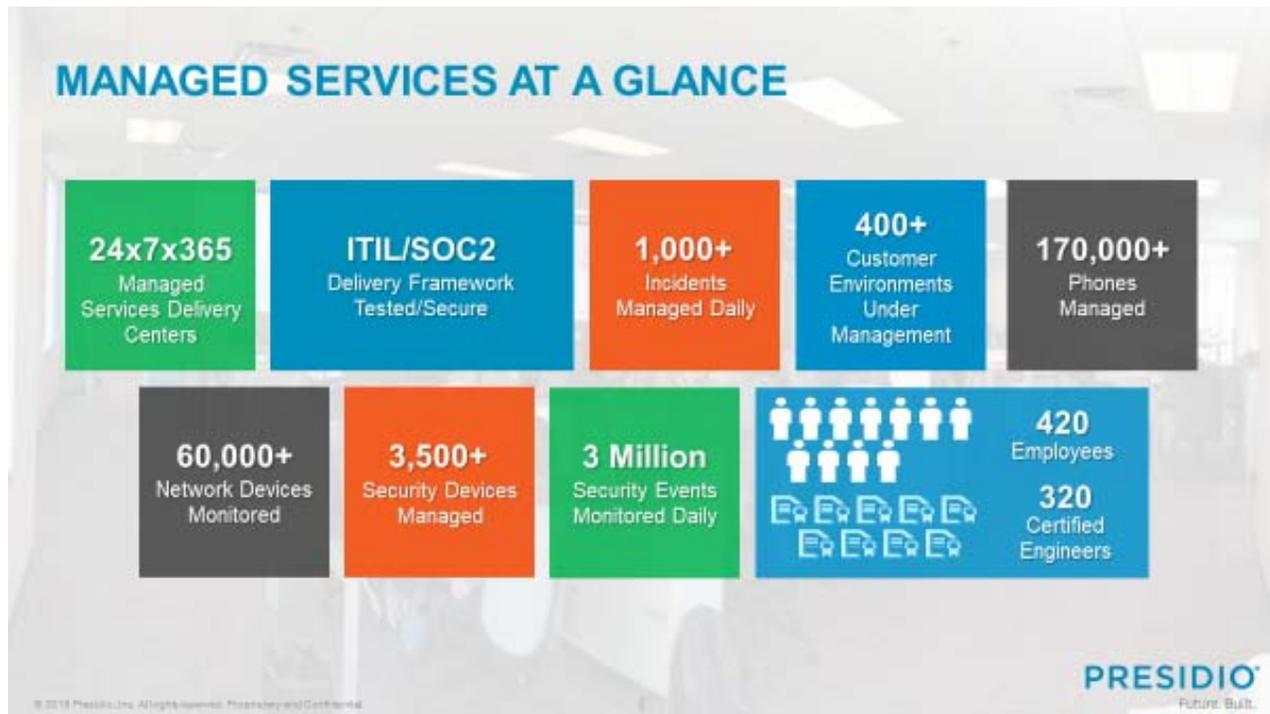
PRESIDIO[®]
Future. Built.

IT ALL STARTS HERE... WELCOME TO THE PRESIDIO NOC!



24 x 7 x 365 Operations
Multiple Redundant NOC/SOC locations
Florida - Texas - Minnesota

PRESIDIO[®]
Future. Built.



10 Presidio and Cisco

Presidio is a leading North American IT solutions provider focused on Digital Infrastructure, Business Analytics, Cloud, Security & Emerging solutions. We deliver this technology expertise through a full life cycle model of professional, managed, and support services including strategy, consulting, implementation and design.

Presidio was Cisco's Public Sector Partner of the Year & Cisco's State and Local, Government and Education (SLED) Partner of the Year in 2018, 2017, 2016, 2014, 2013 & 2012

The power of our Cisco partnership is best exemplified by the many awards and certifications we have received:

- Multiple Cisco Partner Summit Global Awards, namely Cisco Capital Partner of the Year and Architectural Excellence Partner of the Year (Collaboration). Presidio was also recognized with seven Cisco Partner Summit Awards in the Americas.
- Recipient of the first ever Cisco Internet of Things Partner of the Year Award.
- First Cisco Master ATP partner globally in all ATP specializations: Managed Services, Unified Communications, Security and TelePresence Video
- Over 30 Cisco specific specializations and authorizations
- Over 2,200 Cisco technical certifications including 150+ CCIEs
- Cisco Gold Star recognition for [Customer Satisfaction Excellence](#) (CSAT)

Presidio is a Cisco Gold Certification Partner with specializations in:

- Master Data Center and Hybrid Cloud
- Master Security Specialization
- Advanced SP Architecture Specialization
- Master Collaboration Specialization
- Advanced Data Center Architecture Specialization
- Advanced Security Architecture Specialization
- Advanced Collaboration Architecture Specialization
- Advanced Enterprise Networks Architecture Specialization
- Express Specialization

Authorizations in:

- EA Meraki
- Customer Journey Platform Authorization
- Networks Services Orchestrator Authorization
- Cisco IoT Authorization
- EA Collab - Cust Collab
- Adoption Services Support

- Buying Models Commerce Certification
- Cisco TelePresence Video Master Authorization
- Unified Contact Center Enterprise Authorization
- EA Data Center choice–ACI and Hyperflex
- EA Collab-Flex Plan
- EA Cisco DNA–Switching Wireless Routing
- EA Security choice
- EA Data Center Choice-Intersight TAAS CC
- EA Collab-Flex Plan On-Prem Meetings
- EA Collab-Flex Plan On-Prem Calling
- EA Collab - UC TP PC
- SaaS Simple Resale

Cloud & Managed Service Provider:

- Managed Security
- Managed Business Communications
- Cloud and Managed Services Master

Partner Designations:

- DWDM Optical Partner
- Lifecycle Advisor for Cisco Digital Network Architecture
- Solution Partner
- Lifecycle Advisor for Enterprise Networking
- Lifecycle Advisor for Cisco Security
- Lifecycle Advisor
- LIFECYCLE ADVISOR FOR CISCO WEBEX CISCO SPARK
- Lifecycle Advisor for Enterprise Agreements
- GPN Partner Agent
- Lifecycle Advisor for Cisco Collaboration
- GPN Resale Host

Other:

- Unified Workspace with Citrix
- Cisco Desktop Virtualization with Citrix Xen Desktop
- US Federal Authorization
- Cisco Partner Ecosystem
- Security Enterprise Licensing Agreement
- Accelerated TelePresence Try And Buy
- UCS Capacity Assurance-Try and Buy
- Cisco Certified Refurbished Equipment
- Regular Try And Buy

CISCO PARTNERS



AWARDS LISTING

2016 - Present

Cisco Systems

- 2018 Cisco Enterprise Partner of the Year (East, Central)
- 2018 Cisco Public Sector Partner of the Year (Americas, Public Sector)
- 2018 Cisco SLED Partner of the Year (Public Sector, East, South, West)
- 2018 Cisco Collaboration Summit Meetings (Video + Conferencing) Award, Americas
- 2017 Cisco Capital Partner of the Year (Global)
- 2017 Partner of the Year: Public Sector (Americas)
- 2017 Meraki Elevate Partner of the Year (US Central)
- 2017 Area Partner of the Year (US East)
- 2017 Architectural Excellence Partner of the Year: Collaboration (Global)
- 2017 SLED Partner of the Year (US East)
- 2017 Public Sector Cisco Capital Partner of the Year (US Public Sector)
- 2017 Public Sector Partner of the Year (US Public Sector)
- 2017 SLED State & Local Government Partner of the Year (US Public Sector)
- 2017 GEB Partner of the Year (US South)
- 2017 Commercial Partner of the Year (US West)
- 2017 Contact Center Partner of the Year, (US East)
- 2017 Contact Center Partner of the Year, (US South)
- 2017 Contact Center Partner of the Year, Contact Center Express
- 2017 Contact Center Partner of the Year, Overall Revenue
- 2016 Architectural Excellence: Cloud Builder (Global)
- 2016 Architectural Excellence US: Collaboration (Global)
- 2016 Partner of the Year: Enterprise (Global)
- 2016 Partner of the Year: US (Americas)
- 2016 Partner of the Year: Public Sector (Americas)
- 2016 Partner of the Year: Security (Americas)
- 2016 Partner of the Year: Collaboration (Americas)
- 2016 Architectural Excellence: Cloud Builder (National)
- 2016 Public Sector Partner of the Year (Public Sector)
- 2016 SLED Partner of the Year (Public Sector)
- 2016 SLED State and Local Government Partner of the Year (Public Sector)
- 2016 Public Sector Architectural Excellence – Enterprise Networking (Public Sector)
- 2016 Public Sector Architectural Excellence – Security (Public Sector)
- 2016 Enterprise Partner of the Year (Central)
- 2016 Commercial Partner of the Year (Central)
- 2016 Enterprise Partner of the Year (East)
- 2016 Area Partner of the Year (East)
- 2016 SLED Partner of the Year (East)
- 2016 Architectural Excellence – Security (East)
- 2016 Architectural Excellence – Collaboration (Netech, a Presidio Company)
- 2016 Public Sector Cisco Capital Partner of the Year (Netech, a Presidio Company)
- 2016 Commercial Territory Partner of the Year (South)
- 2016 Public Sector Cisco Capital Partner of the Year (Netech, a Presidio Company)
- 2016 Commercial Territory Partner of the Year (South)
- 2016 SLED Partner of the Year (South)
- 2016 Area Partner of the Year (South)
- 2015 Global Security Architectural Excellence Partner of the Year: Security (Global & Public Sector)



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

10/1/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER McGriff Insurance Services 2500 Renaissance Blvd Suite100 King Of Prussia PA 19406-2639	CONTACT NAME: Cheryl Fala PHONE (A/C. No. Ext): 610-279-8550 E-MAIL ADDRESS: cfala@mcgriffinsurance.com		FAX (A/C. No): 610-279-8543
	INSURER(S) AFFORDING COVERAGE		NAIC #
INSURED 150PRESINET Presidio Inc. 12100 Sunset Hills Road - Suite 300 Reston VA 20190	INSURER A : Federal Insurance Company		20281
	INSURER B : Great Northern Insurance Company		20303
	INSURER C : American Zurich Insurance Company		40142
	INSURER D :		
	INSURER E :		
INSURER F :			

COVERAGES

CERTIFICATE NUMBER: 1424847691

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
B	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Contractual Liab GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER:			35852422	10/1/2019	10/1/2020	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY <input checked="" type="checkbox"/> Comp \$1,000 <input checked="" type="checkbox"/> Coll \$1,000			73543321	10/1/2019	10/1/2020	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 0			79857023	10/1/2019	10/1/2020	EACH OCCURRENCE \$ 25,000,000 AGGREGATE \$ 25,000,000 \$
C	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		N/A	WC980925905	3/1/2019	3/1/2020	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
A	Prof, E&O, Cyber			35983225	10/1/2019	10/1/2020	Per claim/Agg 20,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Named Insureds:
 Presidio, Inc.
 Presidio Holdings Inc.
 Presidio IS LLC
 Presidio LLC
 Presidio Technology Capital, LLC
 Presidio Networked Solutions LLC
 Presidio Capital Funding LLC
 See Attached...

CERTIFICATE HOLDER**CANCELLATION**

Presidio Inc.
 12100 Sunset Hills Road
 Suite 300
 Reston VA 20190

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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ADDITIONAL REMARKS SCHEDULE

AGENCY McGriff Insurance Services		NAMED INSURED Presidio Inc. 12100 Sunset Hills Road - Suite 300 Reston VA 20190	
POLICY NUMBER		EFFECTIVE DATE:	
CARRIER	NAIC CODE		

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: 25 **FORM TITLE:** CERTIFICATE OF LIABILITY INSURANCE

Presidio Networked Solutions Group, LLC
 3rd Ave. Creative Marketing & Branding LLC
 Red Sky Solutions LLC
 Red Sky Security LTD
 Evidence of coverage.

The purchase limit is \$200,000 per project per fiscal year (July - June) for the use of the IT Hardware EPL without additional approval from ITS. Any entity using this EPL must abide by the current published IT Hardware EPL 3760 Instructions for Use document even if the entity is not under ITS purview.

PRESIDIO NETWORKED SOLUTIONS, INC.

If you purchase from this Seller, print this page for your purchase file.

MAGIC Supplier Number: 3100034708

3760 - IT Hardware EPL

EPL Expiration Date: June 30, 2021

EPL Contract Number: 40731058-3760

Value-Added Seller
ARRA Participant: YES

Main Sales Contact

WADE BROYLES
Phone: (601) 506-7011
mbroyles@presidio.com

Back-up Sales Contact 1

JIM MARTIN
Phone: (301) 313-2033
jcmartin@presidio.com

Back-up Sales Contact 2

ED GOGOL
Phone: (678) 361-3016
egogol@presidio.com

Place Order To:

5337 MILLENIA LAKES BOULEVARD
SUITE 300
ORLANDO, FL 32839

Remit To:

PO BOX 822169
PHILADELPHIA, PA 19182-2169
SAAS Code:

Vendor Service	Cost
Hourly Rate for Basic Installation Services	\$150.00
Hourly Rate for Project Manager/Engineer/Advanced Technical	\$175.00
Hourly Rate for Travel	\$150.00

Approved Manufacturers for PRESIDIO NETWORKED SOLUTIONS, INC.

This seller is only approved for the below EPL manufacturer(s) and within each manufacturer, the product categories shown in parenthesis. Some sellers are not approved for all product categories within a manufacturer's product line.

- CISCO (51-Servers, 52-Storage, 55-Switches, 56-Wireless Components, 58-Video Conferencing Equipment, 59-Audio Visual Components)
- DELL (01-Desktop-based Computers, 02-Mobile-based Computers, 03-Engineering and GIS-Level Workstations, 04-Desktop Monitors, 05-Printers/Scanners, 06-Large Format Printers and Scanners/Plotters, 07-Projectors, 08-Interactive Devices (whiteboards, voting devices, displays), 09-Large Displays, 51-Servers, 52-Storage, 53-UPS, 54-Racks, 55-Switches, 56-Wireless Components, 57-Thin Client Systems, 59-Audio Visual Components)
- EMC (52-Storage)
- EXAGRID (52-Storage)
- EXTREME NETWORKS (55-Switches, 56-Wireless Components)
- HP INC (01-Desktop-based Computers, 02-Mobile-based Computers, 03-Engineering and GIS-Level Workstations, 04-Desktop Monitors, 05-Printers/Scanners, 06-Large Format Printers and Scanners/Plotters, 08-Interactive Devices (whiteboards, voting devices, displays), 09-Large Displays, 57-Thin Client Systems)
- HEWLETT PACKARD ENTERPRISE/ARUBA (51-Servers, 52-Storage, 53-UPS, 54-Racks, 55-Switches, 56-Wireless Components)
- JUNIPER NETWORKS (55-Switches, 56-Wireless Components)
- NETAPP (52-Storage)
- PURE STORAGE (52-Storage)
- RUBRIK (52-Storage)
- RUCKUS NETWORKS (55-Switches, 56-Wireless Components)
- UNITRENDS (52-Storage)

Reference

SPIN and BEAR Contact Search Results

Guidance on determining if a company is eligible to provide telecommunications services:

Form 499 Filer column indicates "Y":

- This service provider has successfully filed a Form 499 with USAC. Telecommunications providers with a "Y" are eligible to provide Telecommunications Services and Internet service providers with a "Y" are eligible to provide Interconnected Voice over Internet Protocol (VoIP) services.

All other designations:

- Some service providers that do not have a "Y" designation are eligible to provide Telecommunications Services because they meet [certain conditions](#) and are exempt from filing a [Form 499](#). You can [contact the Client Service Bureau](#) to determine if the company has met those conditions.

Form 499 Filer column indicates "X":

- This service provider has been researched by USAC and is **not** eligible to provide Telecommunications Services.

Form 499 Filer column indicates "Z":

- This service provider is currently being researched by USAC to determine if it is eligible to provide Telecommunications Services.

Form 499 Filer column is blank:

- This service provider has not been researched and its status is unverified.

Applicants are reminded that they should confirm this and all other information with the service provider.

Page 1 of 1
Results 1 - 1 of 1

SPIN	Service Provider Name	Doing Business As	Contact Name	Contact Address	Contact Phone	Form 499 Filer	SPAC Filed
143015315	Presidio Networked Solutions LLC		Darci Taylor	5337 Millenia Lakes Blvd Suite 300, Orlando, FL 32839	301313-2114		1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

K-12 PRACTICE

For school administrators and IT teams, today's challenges are vast: delivering educational content to a range of devices, accommodating online testing across hundreds of classrooms, and expanding monitoring, messaging, and cyber protection to keep students safe and secure, to name a few. These challenges are intensified by the additional charge to do more with less funding.

Turn to Presidio for solutions that are swift, effective, affordable, and done right the first time.

The difference lies in our people, an expert team of professional solution architects, project managers, and delivery engineers. These skilled, highly trained professionals are members of local communities and vested in the success of their client projects. They're equipped with the deep resources of a \$2 billion, nationwide company and practice areas that include cyber & physical security, cloud, carriers/colocation, networking/wireless, and more

Presidio knows how help the educational community turn visions into reality. With state contracts across the Tri-State region, we've helped schools and school districts of all sizes upgrade their IT infrastructure, implement new technologies, and establish resilience for whatever the future brings.

As a trusted advisor, Presidio works with you to find the right products and solutions for your needs, wherever your school or district stands in the digital transformation process. Presidio partners with over 300 major manufacturers to create solutions that meet your requirements for pricing, functionality, and organizational objectives.

Through proven processes, expert engineering teams, and unparalleled manufacturer partnerships, Presidio delivers solutions for:

- Physical security, including cameras and door access
- Cyber and network security
- Wireless networks and infrastructure
- Data center virtualization
- Virtual desktop infrastructure (VDI)
- IP voice and emergency notification
- Video
- Bring your own device (BYOD)
- Microsoft and application support
- Cloud



SECURITY

Upgrading surveillance & emergency notification systems. Expanding monitoring for facilities and fleets. Assessing cyber threats and remediating attacks. Presidio's experts in security, wireless, the Internet of Things, and beyond help schools protect their students, teachers, staff, and data.



WIRELESS

Through proven processes, expert engineering teams, and unparalleled manufacturer partnerships, Presidio delivers the fast, robust, state-of-the-art connectivity that supports video, online testing, student devices, and more.



STORAGE/VIRTUALIZATION

Pressed to reduce your data footprint and energy costs? Need to deliver content to the range of devices, including those with limited memory and storage? Call Presidio for customized virtual desktop infrastructure and hybrid/public/internal cloud solutions.

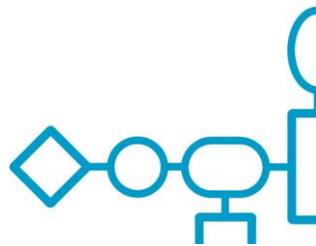


VOICE

Extend connectivity into the classroom. Migrate your campus onto a VoIP network. Strengthen emergency communications. With onsite teams of experienced experts and partnerships across the range of manufacturers and carriers, Presidio helps you seamlessly leverage existing resources into a flexible solution.

TAB 3

Pricing Sheets



TO: City of Bogalusa Schools
 1705 Sullivan Drive
 Bogalusa, LA 70427

Presidio Networked Solutions
 Virginia Temple
vtemple@presidio.com

Presidio - Product Recommendation

#	Part #	Description	Unit Price	Qty	Ext Price
Wireless Access Point - Cloud Managed, Indoor 802.11ac Wave 2					
1.0	MR42-HW	Meraki MR42 Cloud Managed AP	\$308.82	1	\$308.82
2.0	LIC-ENT-5YR	Meraki MR Enterprise License, 5YR	\$126.45	1	\$126.45
3.0	P-INSTALL-AP	Installation and Configuration - Access Point	\$180.00	1	\$180.00
					\$615.27
Wireless Access Point - Cloud Managed, Indoor 802.11ax					
4.0	MR45-HW	Meraki MR45 Cloud Managed Indoor AP	\$407.17	1	\$407.17
5.0	LIC-ENT-5YR	Meraki MR Enterprise License, 5YR	\$126.45	1	\$126.45
6.0	P-INSTALL-AP	Installation and Configuration - Access Point	\$180.00	1	\$180.00
					\$713.62
48 Port Switch					
7.0	MS250-48FP-HW	Meraki MS250-48FP L3 Stck Cld-Mngd 48x GigE 740W PoE	\$2,928.02	1	\$2,928.02
8.0	LIC-MS250-48FP-5YR	Meraki MS250-48FP Enterprise License and Support, 5YR	\$497.37	1	\$497.37
9.0	P-INSTALL-SW	Installation and Configuration - Switch	\$380.00	1	\$380.00
					\$3,805.39
24 port Switch					
10.0	MS250-24P-HW	Meraki MS250-24P L3 Stck Cld-Mngd 24x GigE 370W PoE	\$1,822.29	1	\$1,822.29
11.0	LIC-MS250-24P-5YR	Meraki MS250-24P Enterprise License and Support, 5YR	\$310.51	1	\$310.51
12.0	P-INSTALL-SW	Installation and Configuration - Switch	\$380.00	1	\$380.00
					\$2,512.80

*Note: All Meraki Access Points and Switches must be accompanied with a licenses.
 See Unit Price Sheet for alternate year terms

Product or Service	Model	Make - Item Description	Qty	Unit Price	Install Per Item	MSRP	E-Rate ELIGIBLE, INELIGIBLE, COST ALLOCATION	EXTENDED COST	REFERENCE PAGE NUMBER IN PROPOSAL OR WEBLINK WITH SPECIFICATIONS
Access Point	MR20-HW	Meraki MR20 Cloud Managed AP	1	\$ 84.02	\$ 180.00	\$ 299.00	100%	\$ 264.02	https://meraki.cisco.com/
Access Point	MR30H-HW	Meraki MR30H Cloud Managed AP	1	\$ 168.32	\$ 180.00	\$ 599.00	100%	\$ 348.32	https://meraki.cisco.com/
Access Point	MR33-HW	Meraki MR33 Cloud Managed AP	1	\$ 182.37	\$ 180.00	\$ 649.00	100%	\$ 362.37	https://meraki.cisco.com/
Access Point	MR42-HW	Meraki MR42 Cloud Managed AP	1	\$ 308.82	\$ 180.00	\$ 1,099.00	100%	\$ 488.82	https://meraki.cisco.com/
Access Point	MR42E-HW	Meraki MR42E Indoor AP with External Antenna Connectors	1	\$ 308.82	\$ 180.00	\$ 1,099.00	100%	\$ 488.82	https://meraki.cisco.com/
Access Point	MR52-HW	Meraki MR52 Cloud Managed AP	1	\$ 393.12	\$ 180.00	\$ 1,399.00	100%	\$ 573.12	https://meraki.cisco.com/
Access Point	MR53-HW	Meraki MR53 Cloud Managed AP	1	\$ 477.42	\$ 180.00	\$ 1,699.00	100%	\$ 657.42	https://meraki.cisco.com/
Access Point	MR53E-HW	Meraki MR53E Indoor AP with External Antenna Connectors	1	\$ 477.42	\$ 180.00	\$ 1,699.00	100%	\$ 657.42	https://meraki.cisco.com/
Access Point	MR45-HW	Meraki MR45 Cloud Managed Indoor AP	1	\$ 407.17	\$ 180.00	\$ 1,449.00	100%	\$ 587.17	https://meraki.cisco.com/
Access Point	MR55-HW	Meraki MR55 Cloud Managed Indoor AP	1	\$ 519.57	\$ 180.00	\$ 1,849.00	100%	\$ 699.57	https://meraki.cisco.com/
Access Point	MR70-HW	Meraki MR70 Cloud Managed AP	1	\$ 308.82	\$ 180.00	\$ 1,099.00	100%	\$ 488.82	https://meraki.cisco.com/
Access Point	MR74-HW	Meraki MR74 Cloud Managed AP	1	\$ 393.12	\$ 180.00	\$ 1,399.00	100%	\$ 573.12	https://meraki.cisco.com/
Access Point	MR84-HW	Meraki MR84 Cloud Managed AP	1	\$ 674.12	\$ 180.00	\$ 2,399.00	100%	\$ 854.12	https://meraki.cisco.com/
License - Access Point	LIC-ENT-1YR	Meraki MR Enterprise License, 1YR	1	\$ 42.15		\$ 150.00	100%	\$ 42.15	https://meraki.cisco.com/
License - Access Point	LIC-ENT-3YR	Meraki MR Enterprise License, 3YR	1	\$ 84.30		\$ 300.00	100%	\$ 84.30	https://meraki.cisco.com/
License - Access Point	LIC-ENT-5YR	Meraki MR Enterprise License, 5YR	1	\$ 126.45		\$ 450.00	100%	\$ 126.45	https://meraki.cisco.com/
License - Access Point	LIC-ENT-7YR	Meraki MR Enterprise License, 7YR	1	\$ 177.03		\$ 630.00	100%	\$ 177.03	https://meraki.cisco.com/
License - Access Point	LIC-ENT-10YR	Meraki MR Enterprise License, 10YR	1	\$ 252.90		\$ 900.00	100%	\$ 252.90	https://meraki.cisco.com/
Replacement Mounts	MA-MNT-MR-12	Meraki Replacement Mount Plate for MR20 AP	1	\$ 13.77		\$ 49.00	100%	\$ 13.77	https://meraki.cisco.com/
Replacement Mounts	MA-MNT-MR-H1	Meraki Replacement Mounting Kit for MR30H	1	\$ 13.77		\$ 49.00	100%	\$ 13.77	https://meraki.cisco.com/
Replacement Mounts	MA-MNT-MR-H2	Meraki Surface Mounting Kit for MR30H	1	\$ 13.77		\$ 49.00	100%	\$ 13.77	https://meraki.cisco.com/
Replacement Mounts	MA-MNT-MR-H3	Meraki Port Security Mounting Kit for MR30H	1	\$ 13.77		\$ 49.00	100%	\$ 13.77	https://meraki.cisco.com/
Replacement Mounts	MA-MNT-MR-11	Meraki Replacement Mounting Kit for MR33	1	\$ 13.77		\$ 49.00	100%	\$ 13.77	https://meraki.cisco.com/
Replacement Mounts	MA-MNT-MR-8	Meraki Replacement Mounting Kit for MR42 and MR42E	1	\$ 13.77		\$ 49.00	100%	\$ 13.77	https://meraki.cisco.com/
Replacement Mounts	MA-MNT-MR-9	Meraki Replacement Mounting Kit for MR52/MR53 and 53E	1	\$ 13.77		\$ 49.00	100%	\$ 13.77	https://meraki.cisco.com/
Replacement Mounts	MA-MNT-MR-14	Meraki Replacement Mounting Kit for MR45	1	\$ 13.77		\$ 49.00	100%	\$ 13.77	https://meraki.cisco.com/
Replacement Mounts	MA-MNT-MR-15	Meraki Replacement Mounting Kit for MR55	1	\$ 13.77	\$ 380.00	\$ 49.00	100%	\$ 393.77	https://meraki.cisco.com/
Replacement Mounts	MA-MNT-MR-13	Meraki Replacement Mount Plate for MR70 AP	1	\$ 19.39		\$ 69.00	100%	\$ 19.39	https://meraki.cisco.com/
Replacement Mounts	MA-MNT-MR-7	Meraki Replacement Mounting Kit for MR72/MR74	1	\$ 19.39		\$ 69.00	100%	\$ 19.39	https://meraki.cisco.com/
Replacement Mounts	MA-MNT-MR-10	Meraki Replacement Mounting Kit for MR84	1	\$ 19.39		\$ 69.00	100%	\$ 19.39	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-D5	Meraki Indoor Dual-band Downtilt Omni Antenna 5port (MR42E)	1	\$ 117.72		\$ 418.95	100%	\$ 117.72	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-E5	Meraki Indoor Dual-band Wide Patch Antenna, 5-port for MR42E	1	\$ 176.73	\$ 380.00	\$ 628.95	100%	\$ 556.73	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-F5	Meraki Indoor Dual-band Narrow Patch Antenna, 5-port (MR42E)	1	\$ 412.77		\$ 1,468.95	100%	\$ 412.77	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-A5	Meraki Indoor Dual-band Dipole Antennas, 5-pack for MR42E	1	\$ 47.49		\$ 169.00	100%	\$ 47.49	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-B5	Meraki Indoor Bendable Dual-band Dipole Ant 5pk for MR42E	1	\$ 47.49		\$ 169.00	100%	\$ 47.49	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-C5	Meraki Indoor Dual-band Panel Omni Antenna, 5-port for MR42E	1	\$ 112.12		\$ 399.00	100%	\$ 112.12	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-C6	Meraki Indoor Dual-band Panel Omni Antenna, 6-port for MR53E	1	\$ 140.22		\$ 499.00	100%	\$ 140.22	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-D6	Meraki Indoor Dual-band Downtilt Omni Antenna, 6port (MR53E)	1	\$ 147.23		\$ 523.95	100%	\$ 147.23	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-E6	Meraki Indoor Dual-band Wide Patch Antenna, 6port for MR53E	1	\$ 176.73	\$ 380.00	\$ 628.95	100%	\$ 556.73	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-F6	Meraki Indoor Dual-band Narrow Patch Antenna, 6-port (MR53E)	1	\$ 412.77		\$ 1,468.95	100%	\$ 412.77	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-A6	Meraki Indoor Dual-band Dipole Antennas, 6-pack for MR53E	1	\$ 55.92		\$ 199.00	100%	\$ 55.92	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-B6	Meraki Indoor Bendable Dual-band Dipole Ant 6pk for MR53E	1	\$ 55.92		\$ 199.00	100%	\$ 55.92	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-20	Meraki Dual-band Omni Antennas	1	\$ 55.92		\$ 199.00	100%	\$ 55.92	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-21	Meraki 5GHz Sector Antenna	1	\$ 98.07		\$ 349.00	100%	\$ 98.07	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-23	Meraki 2.4GHz Sector Antenna	1	\$ 98.07	\$ 380.00	\$ 349.00	100%	\$ 478.07	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-A1	Meraki Indoor Dual-band Dipole Antenna	1	\$ 10.96		\$ 39.00	100%	\$ 10.96	https://meraki.cisco.com/
Access Point Antenna	MA-ANT-3-B1	Meraki Indoor Bendable Dual-band Dipole Antenna	1	\$ 10.96		\$ 39.00	100%	\$ 10.96	https://meraki.cisco.com/
Access Point Power	MA-INJ-4-US	Meraki MR 802.3at PoE Injector (US Plug)	1	\$ 52.34		\$ 186.25	100%	\$ 52.34	https://meraki.cisco.com/
Access Point Power	MA-INJ-5-US	Meraki Multigigabit 802.3at PoE Injector (US Plug)	1	\$ 112.12		\$ 399.00	100%	\$ 112.12	https://meraki.cisco.com/
Switch - 8 port	MS120-8-HW	Meraki MS120-8 1G L2 Cloud Managed 8x GigE Switch	1	\$ 219.74	\$ 380.00	\$ 782.00	100%	\$ 599.74	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8-1YR	Meraki MS120-8 Enterprise License and Support, 1 Year	1	\$ 11.24		\$ 40.00	100%	\$ 11.24	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8-3YR	Meraki MS120-8 Enterprise License and Support, 3 Year	1	\$ 22.48		\$ 80.00	100%	\$ 22.48	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8-5YR	Meraki MS120-8 Enterprise License and Support, 5 Year	1	\$ 32.32		\$ 115.00	100%	\$ 32.32	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8-7YR	Meraki MS120-8 Enterprise License and Support, 7 Year	1	\$ 46.37		\$ 165.00	100%	\$ 46.37	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8-10YR	Meraki MS120-8 Enterprise License and Support, 10 Year	1	\$ 67.44		\$ 240.00	100%	\$ 67.44	https://meraki.cisco.com/
Switch - 8 port	MS120-8LP-HW	Meraki MS120-8LP 1G L2 Cloud Managed 8x GigE 67W PoE Switch	1	\$ 289.22	\$ 380.00	\$ 1,029.25	100%	\$ 669.22	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8LP-1YR	Meraki MS120-8LP Enterprise License and Support, 1 Year	1	\$ 14.05		\$ 50.00	100%	\$ 14.05	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8LP-3YR	Meraki MS120-8LP Enterprise License and Support, 3 Year	1	\$ 28.10		\$ 100.00	100%	\$ 28.10	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8LP-5YR	Meraki MS120-8LP Enterprise License and Support, 5 Year	1	\$ 42.15		\$ 150.00	100%	\$ 42.15	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8LP-7YR	Meraki MS120-8LP Enterprise License and Support, 7 Year	1	\$ 59.01		\$ 210.00	100%	\$ 59.01	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8LP-10YR	Meraki MS120-8LP Enterprise License and Support, 10 Year	1	\$ 84.30		\$ 300.00	100%	\$ 84.30	https://meraki.cisco.com/
Switch - 8 port	MS120-8FP-HW	Meraki MS120-8FP 1G L2 Cloud Managed 8x GigE 124W PoE Switch	1	\$ 371.62	\$ 380.00	\$ 1,322.50	100%	\$ 751.62	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8FP-1YR	Meraki MS120-8FP Enterprise License and Support, 1 Year	1	\$ 18.27		\$ 65.00	100%	\$ 18.27	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8FP-3YR	Meraki MS120-8FP Enterprise License and Support, 3 Year	1	\$ 36.53		\$ 130.00	100%	\$ 36.53	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8FP-5YR	Meraki MS120-8FP Enterprise License and Support, 5 Year	1	\$ 54.80		\$ 195.00	100%	\$ 54.80	https://meraki.cisco.com/
License - Switch - 8 port	LIC-MS120-8FP-7YR	Meraki MS120-8FP Enterprise License and Support, 7 Year	1	\$ 77.28		\$ 275.00	100%	\$ 77.28	https://meraki.cisco.com/

Product or Service	Model	Make - Item Description	Qty	Unit Price	Install Per Item	MSRP	E-Rate ELIGIBLE, INELIGIBLE, COST ALLOCATION	EXTENDED COST	REFERENCE PAGE NUMBER IN PROPOSAL OR WEBLINK WITH SPECIFICATIONS
License - Switch - 8 port	LIC-MS120-8FP-10YR	Meraki MS120-8FP Enterprise License and Support, 10 Year	1	\$ 109.59		\$ 390.00	100%	\$ 109.59	https://meraki.cisco.com/
Switch - 24 Port - L2	MS120-24-HW	Meraki MS120-24 1G L2 Cloud Managed 24x GigE Switch	1	\$ 523.50	\$ 380.00	\$ 1,863.00	100%	\$ 903.50	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS120-24-1YR	Meraki MS120-24 Enterprise License and Support, 1 Year	1	\$ 25.29		\$ 90.00	100%	\$ 25.29	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS120-24-3YR	Meraki MS120-24 Enterprise License and Support, 3 Year	1	\$ 51.99		\$ 185.00	100%	\$ 51.99	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS120-24-5YR	Meraki MS120-24 Enterprise License and Support, 5 Year	1	\$ 77.28		\$ 275.00	100%	\$ 77.28	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS120-24-7YR	Meraki MS120-24 Enterprise License and Support, 7 Year	1	\$ 106.78		\$ 380.00	100%	\$ 106.78	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS120-24-10YR	Meraki MS120-24 Enterprise License and Support, 10 Year	1	\$ 151.74		\$ 540.00	100%	\$ 151.74	https://meraki.cisco.com/
Switch - 24 Port - L2	MS120-24P-HW	Meraki MS120-24P 1G L2 Cld -Mngd 24x GigE 370W PoE Switch	1	\$ 812.72	\$ 380.00	\$ 2,892.25	100%	\$ 1,192.72	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS120-24P-1YR	Meraki MS120-24P Enterprise License and Support, 1 Year	1	\$ 40.75		\$ 145.00	100%	\$ 40.75	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS120-24P-3YR	Meraki MS120-24P Enterprise License and Support, 3 Year	1	\$ 80.09		\$ 285.00	100%	\$ 80.09	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS120-24P-5YR	Meraki MS120-24P Enterprise License and Support, 5 Year	1	\$ 120.83		\$ 430.00	100%	\$ 120.83	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS120-24P-7YR	Meraki MS120-24P Enterprise License and Support, 7 Year	1	\$ 168.60		\$ 600.00	100%	\$ 168.60	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS120-24P-10YR	Meraki MS120-24P Enterprise License and Support, 10 Year	1	\$ 241.66		\$ 860.00	100%	\$ 241.66	https://meraki.cisco.com/
Switch - 48 Port - L2	MS120-48-HW	Meraki MS120-48 1G L2 Cloud Managed 48x GigE Switch	1	\$ 814.90	\$ 380.00	\$ 2,900.00	100%	\$ 1,194.90	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48-1YR	Meraki MS120-48 Enterprise License and Support, 1 Year	1	\$ 46.37		\$ 165.00	100%	\$ 46.37	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48-3YR	Meraki MS120-48 Enterprise License and Support, 3 Year	1	\$ 92.73		\$ 330.00	100%	\$ 92.73	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48-5YR	Meraki MS120-48 Enterprise License and Support, 5 Year	1	\$ 139.10		\$ 495.00	100%	\$ 139.10	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48-7YR	Meraki MS120-48 Enterprise License and Support, 7 Year	1	\$ 195.30		\$ 695.00	100%	\$ 195.30	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48-10YR	Meraki MS120-48 Enterprise License and Support, 10 Year	1	\$ 278.19		\$ 990.00	100%	\$ 278.19	https://meraki.cisco.com/
Switch - 48 Port - L2	MS120-48LP-HW	Meraki MS120-48LP 1G L2 Cld Managed 48x GigE 370W PoE Switch	1	\$ 1,102.93	\$ 380.00	\$ 3,925.00	100%	\$ 1,482.93	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48LP-1YR	Meraki MS120-48LP Enterprise License and Support, 1 Year	1	\$ 61.82		\$ 220.00	100%	\$ 61.82	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48LP-3YR	Meraki MS120-48LP Enterprise License and Support, 3 Year	1	\$ 125.05		\$ 445.00	100%	\$ 125.05	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48LP-5YR	Meraki MS120-48LP Enterprise License and Support, 5 Year	1	\$ 186.87		\$ 665.00	100%	\$ 186.87	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48LP-7YR	Meraki MS120-48LP Enterprise License and Support, 7 Year	1	\$ 261.33		\$ 930.00	100%	\$ 261.33	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48LP-10Y	Meraki MS120-48LP Enterprise License and Support, 10 Year	1	\$ 373.73		\$ 1,330.00	100%	\$ 373.73	https://meraki.cisco.com/
Switch - 48 Port - L2	MS120-48FP-HW	Meraki MS120-48FP 1G L2 Cld Managed 48x GigE 740W PoE Switch	1	\$ 1,497.80	\$ 380.00	\$ 5,330.25	100%	\$ 1,877.80	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48FP-1YR	Meraki MS120-48FP Enterprise License and Support, 1 Year	1	\$ 74.47		\$ 265.00	100%	\$ 74.47	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48FP-3YR	Meraki MS120-48FP Enterprise License and Support, 3 Year	1	\$ 148.93		\$ 530.00	100%	\$ 148.93	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48FP-5YR	Meraki MS120-48FP Enterprise License and Support, 5 Year	1	\$ 221.99		\$ 790.00	100%	\$ 221.99	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48FP-7YR	Meraki MS120-48FP Enterprise License and Support, 7 Year	1	\$ 311.91		\$ 1,110.00	100%	\$ 311.91	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS120-48FP-10Y	Meraki MS120-48FP Enterprise License and Support, 10 Year	1	\$ 443.98		\$ 1,580.00	100%	\$ 443.98	https://meraki.cisco.com/
Switch - 24 Port - L2	MS125-24-HW	Meraki MS125-24 10G L2 Cld-Mngd 24x GigE Switch	1	\$ 636.47	\$ 380.00	\$ 2,265.00	100%	\$ 1,016.47	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS125-24-1Y	Meraki MS125-24 Enterprise License and Support, 1 Year	1	\$ 37.94		\$ 135.00	100%	\$ 37.94	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS125-24-3Y	Meraki MS125-24 Enterprise License and Support, 3 Year	1	\$ 74.47		\$ 265.00	100%	\$ 74.47	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS125-24-5Y	Meraki MS125-24 Enterprise License and Support, 5 Year	1	\$ 112.40		\$ 400.00	100%	\$ 112.40	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS125-24-7Y	Meraki MS125-24 Enterprise License and Support, 7 Year	1	\$ 157.36		\$ 560.00	100%	\$ 157.36	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS125-24-10Y	Meraki MS125-24 Enterprise License and Support, 10 Year	1	\$ 224.80		\$ 800.00	100%	\$ 224.80	https://meraki.cisco.com/
Switch - 24 Port - L2	MS125-24P-HW	Meraki MS125-24P 10G L2 Cld-Mngd 24x GigE 370W PoE Switch	1	\$ 1,042.51	\$ 380.00	\$ 3,710.00	100%	\$ 1,422.51	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS125-24P-1Y	Meraki MS125-24P Enterprise License and Support, 1 Year	1	\$ 61.82		\$ 220.00	100%	\$ 61.82	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS125-24P-3Y	Meraki MS125-24P Enterprise License and Support, 3 Year	1	\$ 122.24		\$ 435.00	100%	\$ 122.24	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS125-24P-5Y	Meraki MS125-24P Enterprise License and Support, 5 Year	1	\$ 184.06		\$ 655.00	100%	\$ 184.06	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS125-24P-7Y	Meraki MS125-24P Enterprise License and Support, 7 Year	1	\$ 257.12		\$ 915.00	100%	\$ 257.12	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS125-24P-10Y	Meraki MS125-24P Enterprise License and Support, 10 Year	1	\$ 368.11		\$ 1,310.00	100%	\$ 368.11	https://meraki.cisco.com/
Switch - 48 Port - L2	MS125-48-HW	Meraki MS125-48 10G L2 Cld-Mngd 48x GigE Switch	1	\$ 935.73	\$ 380.00	\$ 3,330.00	100%	\$ 1,315.73	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48-1Y	Meraki MS125-48 Enterprise License and Support, 1 Year	1	\$ 54.80		\$ 195.00	100%	\$ 54.80	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48-3Y	Meraki MS125-48 Enterprise License and Support, 3 Year	1	\$ 111.00		\$ 395.00	100%	\$ 111.00	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48-5Y	Meraki MS125-48 Enterprise License and Support, 5 Year	1	\$ 165.79		\$ 590.00	100%	\$ 165.79	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48-7Y	Meraki MS125-48 Enterprise License and Support, 7 Year	1	\$ 231.83		\$ 825.00	100%	\$ 231.83	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48-10Y	Meraki MS125-48 Enterprise License and Support, 10 Year	1	\$ 331.58		\$ 1,180.00	100%	\$ 331.58	https://meraki.cisco.com/
Switch - 48 Port - L2	MS125-48LP-HW	Meraki MS125-48LP 10G L2 Cld-Mngd 48x GigE 370W PoE Switch	1	\$ 1,227.97	\$ 380.00	\$ 4,370.00	100%	\$ 1,607.97	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48LP-1Y	Meraki MS125-48LP Enterprise License and Support, 1 Year	1	\$ 71.66		\$ 255.00	100%	\$ 71.66	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48LP-3Y	Meraki MS125-48LP Enterprise License and Support, 3 Year	1	\$ 144.72		\$ 515.00	100%	\$ 144.72	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48LP-5Y	Meraki MS125-48LP Enterprise License and Support, 5 Year	1	\$ 216.37		\$ 770.00	100%	\$ 216.37	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48LP-7Y	Meraki MS125-48LP Enterprise License and Support, 7 Year	1	\$ 303.48		\$ 1,080.00	100%	\$ 303.48	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48LP-10Y	Meraki MS125-48LP Enterprise License and Support, 10 Year	1	\$ 432.74		\$ 1,540.00	100%	\$ 432.74	https://meraki.cisco.com/
Switch - 48 Port - L2	MS125-48FP-HW	Meraki MS125-48FP 10G L2 Cld-Mngd 48x GigE 740W PoE Switch	1	\$ 1,813.86	\$ 380.00	\$ 6,455.00	100%	\$ 2,193.86	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48FP-1Y	Meraki MS125-48FP Enterprise License and Support, 1 Year	1	\$ 106.78		\$ 380.00	100%	\$ 106.78	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48FP-3Y	Meraki MS125-48FP Enterprise License and Support, 3 Year	1	\$ 213.56		\$ 760.00	100%	\$ 213.56	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48FP-5Y	Meraki MS125-48FP Enterprise License and Support, 5 Year	1	\$ 320.34		\$ 1,140.00	100%	\$ 320.34	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48FP-7Y	Meraki MS125-48FP Enterprise License and Support, 7 Year	1	\$ 448.20		\$ 1,595.00	100%	\$ 448.20	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS125-48FP-10Y	Meraki MS125-48FP Enterprise License and Support, 10 Year	1	\$ 640.68		\$ 2,280.00	100%	\$ 640.68	https://meraki.cisco.com/
Switch - 24 Port - L2	MS210-24-HW	Meraki MS210-24 1G L2 Cld-Mngd 24x GigE Switch	1	\$ 964.60	\$ 380.00	\$ 3,432.75	100%	\$ 1,344.60	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS210-24-1YR	Meraki MS210-24 Enterprise License and Support, 1 Year	1	\$ 47.77		\$ 170.00	100%	\$ 47.77	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS210-24-3YR	Meraki MS210-24 Enterprise License and Support, 3 Year	1	\$ 95.54		\$ 340.00	100%	\$ 95.54	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS210-24-5YR	Meraki MS210-24 Enterprise License and Support, 5 Year	1	\$ 141.91		\$ 505.00	100%	\$ 141.91	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS210-24-7YR	Meraki MS210-24 Enterprise License and Support, 7 Year	1	\$ 199.51		\$ 710.00	100%	\$ 199.51	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS210-24-10YR	Meraki MS210-24 Enterprise License and Support, 10 Year	1	\$ 283.81		\$ 1,010.00	100%	\$ 283.81	https://meraki.cisco.com/
Switch - 24 Port - L2	MS210-24P-HW	Meraki MS210-24P 1G L2 Cld-Mngd 24x GigE 370W PoE Switch	1	\$ 1,184.34	\$ 380.00	\$ 4,214.75	100%	\$ 1,564.34	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS210-24P-1YR	Meraki MS210-24P Enterprise License and Support, 1 Year	1	\$ 59.01		\$ 210.00	100%	\$ 59.01	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS210-24P-3YR	Meraki MS210-24P Enterprise License and Support, 3 Year	1	\$ 118.02		\$ 420.00	100%	\$ 118.02	https://meraki.cisco.com/

Product or Service	Model	Make - Item Description	Qty	Unit Price	Install Per Item	MSRP	E-Rate ELIGIBLE, INELIGIBLE, COST ALLOCATION	EXTENDED COST	REFERENCE PAGE NUMBER IN PROPOSAL OR WEBLINK WITH SPECIFICATIONS
License - Switch - 24 port - L2	LIC-MS210-24P-5YR	Meraki MS210-24P Enterprise License and Support, 5 Year	1	\$ 175.63		\$ 625.00	100%	\$ 175.63	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS210-24P-7YR	Meraki MS210-24P Enterprise License and Support, 7 Year	1	\$ 245.88		\$ 875.00	100%	\$ 245.88	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS210-24P-10YR	Meraki MS210-24P Enterprise License and Support, 10 Year	1	\$ 351.25		\$ 1,250.00	100%	\$ 351.25	https://meraki.cisco.com/
Switch - 48 Port - L2	MS210-48-HW	Meraki MS210-48 1G L2 Cld-Mngd 48x GigE Switch	1	\$ 1,270.12	\$ 380.00	\$ 4,520.00	100%	\$ 1,650.12	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48-1YR	Meraki MS210-48 Enterprise License and Support, 1 Year	1	\$ 73.06		\$ 260.00	100%	\$ 73.06	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48-3YR	Meraki MS210-48 Enterprise License and Support, 3 Year	1	\$ 144.72		\$ 515.00	100%	\$ 144.72	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48-5YR	Meraki MS210-48 Enterprise License and Support, 5 Year	1	\$ 216.37		\$ 770.00	100%	\$ 216.37	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48-7YR	Meraki MS210-48 Enterprise License and Support, 7 Year	1	\$ 303.48		\$ 1,080.00	100%	\$ 303.48	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48-10YR	Meraki MS210-48 Enterprise License and Support, 10 Year	1	\$ 432.74		\$ 1,540.00	100%	\$ 432.74	https://meraki.cisco.com/
Switch - 48 Port - L2	MS210-48LP-HW	Meraki MS210-48LP 1G L2 Cld-Mngd 48x GigE 370W PoE Switch	1	\$ 1,607.32	\$ 380.00	\$ 5,720.00	100%	\$ 1,987.32	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48LP-1YR	Meraki MS210-48LP Enterprise License and Support, 1 Year	1	\$ 91.33		\$ 325.00	100%	\$ 91.33	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48LP-3YR	Meraki MS210-48LP Enterprise License and Support, 3 Year	1	\$ 182.65		\$ 650.00	100%	\$ 182.65	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48LP-5YR	Meraki MS210-48LP Enterprise License and Support, 5 Year	1	\$ 272.57		\$ 970.00	100%	\$ 272.57	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48LP-7YR	Meraki MS210-48LP Enterprise License and Support, 7 Year	1	\$ 382.16		\$ 1,360.00	100%	\$ 382.16	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48LP-10YR	Meraki MS210-48LP Enterprise License and Support, 10 Year	1	\$ 545.14		\$ 1,940.00	100%	\$ 545.14	https://meraki.cisco.com/
Switch - 48 Port - L2	MS210-48FP-HW	Meraki MS210-48FP 1G L2 Cld-Mngd 48x GigE 740W PoE Switch	1	\$ 2,123.10	\$ 380.00	\$ 7,555.50	100%	\$ 2,503.10	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48FP-1YR	Meraki MS210-48FP Enterprise License and Support, 1 Year	1	\$ 103.97		\$ 370.00	100%	\$ 103.97	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48FP-3YR	Meraki MS210-48FP Enterprise License and Support, 3 Year	1	\$ 209.35		\$ 745.00	100%	\$ 209.35	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48FP-5YR	Meraki MS210-48FP Enterprise License and Support, 5 Year	1	\$ 313.32		\$ 1,115.00	100%	\$ 313.32	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48FP-7YR	Meraki MS210-48FP Enterprise License and Support, 7 Year	1	\$ 438.36		\$ 1,560.00	100%	\$ 438.36	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS210-48FP-10YR	Meraki MS210-48FP Enterprise License and Support, 10 Year	1	\$ 626.63		\$ 2,230.00	100%	\$ 626.63	https://meraki.cisco.com/
Switch - 24 Port - L2	MS225-24-HW	Meraki MS225-24 L2 Stck Cld-Mngd 24x GigE Switch	1	\$ 1,174.58	\$ 380.00	\$ 4,180.00	100%	\$ 1,554.58	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS225-24-1YR	Meraki MS225-24 Enterprise License and Support, 1YR	1	\$ 70.25		\$ 250.00	100%	\$ 70.25	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS225-24-3YR	Meraki MS225-24 Enterprise License and Support, 3YR	1	\$ 129.26		\$ 460.00	100%	\$ 129.26	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS225-24-5YR	Meraki MS225-24 Enterprise License and Support, 5YR	1	\$ 199.51		\$ 710.00	100%	\$ 199.51	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS225-24-7YR	Meraki MS225-24 Enterprise License and Support, 7YR	1	\$ 258.52		\$ 920.00	100%	\$ 258.52	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS225-24-10YR	Meraki MS225-24 Enterprise License and Support, 10YR	1	\$ 328.77		\$ 1,170.00	100%	\$ 328.77	https://meraki.cisco.com/
Switch - 24 Port - L2	MS225-24P-HW	Meraki MS225-24P L2 Stck Cld-Mngd 24x GigE 370W PoE Switch	1	\$ 1,367.07	\$ 380.00	\$ 4,865.00	100%	\$ 1,747.07	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS225-24P-1YR	Meraki MS225-24P Enterprise License and Support, 1YR	1	\$ 81.49		\$ 290.00	100%	\$ 81.49	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS225-24P-3YR	Meraki MS225-24P Enterprise License and Support, 3YR	1	\$ 150.34		\$ 535.00	100%	\$ 150.34	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS225-24P-5YR	Meraki MS225-24P Enterprise License and Support, 5YR	1	\$ 231.83		\$ 825.00	100%	\$ 231.83	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS225-24P-7YR	Meraki MS225-24P Enterprise License and Support, 7YR	1	\$ 300.67		\$ 1,070.00	100%	\$ 300.67	https://meraki.cisco.com/
License - Switch - 24 port - L2	LIC-MS225-24P-10YR	Meraki MS225-24P Enterprise License and Support, 10YR	1	\$ 382.16		\$ 1,360.00	100%	\$ 382.16	https://meraki.cisco.com/
Switch - 48 Port - L2	MS225-48-HW	Meraki MS225-48 L2 Stck Cld-Mngd 48x GigE Switch	1	\$ 1,607.32	\$ 380.00	\$ 5,720.00	100%	\$ 1,987.32	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48-1YR	Meraki MS225-48 Enterprise License and Support, 1YR	1	\$ 96.95		\$ 345.00	100%	\$ 96.95	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48-3YR	Meraki MS225-48 Enterprise License and Support, 3YR	1	\$ 177.03		\$ 630.00	100%	\$ 177.03	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48-5YR	Meraki MS225-48 Enterprise License and Support, 5YR	1	\$ 272.57		\$ 970.00	100%	\$ 272.57	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48-7YR	Meraki MS225-48 Enterprise License and Support, 7YR	1	\$ 354.06		\$ 1,260.00	100%	\$ 354.06	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48-10YR	Meraki MS225-48 Enterprise License and Support, 10YR	1	\$ 449.60		\$ 1,600.00	100%	\$ 449.60	https://meraki.cisco.com/
Switch - 48 Port - L2	MS225-48LP-HW	Meraki MS225-48LP L2 Stck Cld-Mngd 48x GigE 370W PoE Switch	1	\$ 1,943.12	\$ 380.00	\$ 6,915.00	100%	\$ 2,323.12	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48LP-1YR	Meraki MS225-48LP Enterprise License and Support, 1YR	1	\$ 116.62		\$ 415.00	100%	\$ 116.62	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48LP-3YR	Meraki MS225-48LP Enterprise License and Support, 3YR	1	\$ 213.56		\$ 760.00	100%	\$ 213.56	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48LP-5YR	Meraki MS225-48LP Enterprise License and Support, 5YR	1	\$ 330.18		\$ 1,175.00	100%	\$ 330.18	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48LP-7YR	Meraki MS225-48LP Enterprise License and Support, 7YR	1	\$ 427.12		\$ 1,520.00	100%	\$ 427.12	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48LP-10YR	Meraki MS225-48LP Enterprise License and Support, 10YR	1	\$ 543.74		\$ 1,935.00	100%	\$ 543.74	https://meraki.cisco.com/
Switch - 48 Port - L2	MS225-48FP-HW	Meraki MS225-48FP L2 Stck Cld-Mngd 48x GigE 740W PoE Switch	1	\$ 2,183.37	\$ 380.00	\$ 7,770.00	100%	\$ 2,563.37	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48FP-1YR	Meraki MS225-48FP Enterprise License and Support, 1YR	1	\$ 130.67		\$ 465.00	100%	\$ 130.67	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48FP-3YR	Meraki MS225-48FP Enterprise License and Support, 3YR	1	\$ 240.26		\$ 855.00	100%	\$ 240.26	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48FP-5YR	Meraki MS225-48FP Enterprise License and Support, 5YR	1	\$ 370.92		\$ 1,320.00	100%	\$ 370.92	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48FP-7YR	Meraki MS225-48FP Enterprise License and Support, 7YR	1	\$ 480.51		\$ 1,710.00	100%	\$ 480.51	https://meraki.cisco.com/
License - Switch - 48 port - L2	LIC-MS225-48FP-10YR	Meraki MS225-48FP Enterprise License and Support, 10YR	1	\$ 611.18		\$ 2,175.00	100%	\$ 611.18	https://meraki.cisco.com/
Switch - 24 Port - L3	MS250-24-HW	Meraki MS250-24 L3 Stck Cld-Mngd 24x GigE Switch	1	\$ 1,678.98	\$ 380.00	\$ 5,975.00	100%	\$ 2,058.98	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS250-24-1YR	Meraki MS250-24 Enterprise License and Support, 1YR	1	\$ 101.16		\$ 360.00	100%	\$ 101.16	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS250-24-3YR	Meraki MS250-24 Enterprise License and Support, 3YR	1	\$ 184.06		\$ 655.00	100%	\$ 184.06	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS250-24-5YR	Meraki MS250-24 Enterprise License and Support, 5YR	1	\$ 285.22		\$ 1,015.00	100%	\$ 285.22	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS250-24-7YR	Meraki MS250-24 Enterprise License and Support, 7YR	1	\$ 369.52		\$ 1,315.00	100%	\$ 369.52	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS250-24-10YR	Meraki MS250-24 Enterprise License and Support, 10YR	1	\$ 470.68		\$ 1,675.00	100%	\$ 470.68	https://meraki.cisco.com/
Switch - 24 Port - L3	MS250-24P-HW	Meraki MS250-24P L3 Stck Cld-Mngd 24x GigE 370W PoE Switch	1	\$ 1,822.29	\$ 380.00	\$ 6,485.00	100%	\$ 2,202.29	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS250-24P-1YR	Meraki MS250-24P Enterprise License and Support, 1YR	1	\$ 109.59		\$ 390.00	100%	\$ 109.59	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS250-24P-3YR	Meraki MS250-24P Enterprise License and Support, 3YR	1	\$ 200.92		\$ 715.00	100%	\$ 200.92	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS250-24P-5YR	Meraki MS250-24P Enterprise License and Support, 5YR	1	\$ 310.51		\$ 1,105.00	100%	\$ 310.51	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS250-24P-7YR	Meraki MS250-24P Enterprise License and Support, 7YR	1	\$ 400.43		\$ 1,425.00	100%	\$ 400.43	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS250-24P-10YR	Meraki MS250-24P Enterprise License and Support, 10YR	1	\$ 510.02		\$ 1,815.00	100%	\$ 510.02	https://meraki.cisco.com/
Switch - 48 Port - L3	MS250-48-HW	Meraki MS250-48 L3 Stck Cld-Mngd 48x GigE Switch	1	\$ 2,350.57	\$ 380.00	\$ 8,365.00	100%	\$ 2,730.57	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48-1YR	Meraki MS250-48 Enterprise License and Support, 1YR	1	\$ 140.50		\$ 500.00	100%	\$ 140.50	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48-3YR	Meraki MS250-48 Enterprise License and Support, 3YR	1	\$ 258.52		\$ 920.00	100%	\$ 258.52	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48-5YR	Meraki MS250-48 Enterprise License and Support, 5YR	1	\$ 399.02		\$ 1,420.00	100%	\$ 399.02	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48-7YR	Meraki MS250-48 Enterprise License and Support, 7YR	1	\$ 517.04		\$ 1,840.00	100%	\$ 517.04	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48-10YR	Meraki MS250-48 Enterprise License and Support, 10YR	1	\$ 657.54		\$ 2,340.00	100%	\$ 657.54	https://meraki.cisco.com/

Product or Service	Model	Make - Item Description	Qty	Unit Price	Install Per Item	MSRP	E-Rate ELIGIBLE, INELIGIBLE, COST ALLOCATION	EXTENDED COST	REFERENCE PAGE NUMBER IN PROPOSAL OR WEBLINK WITH SPECIFICATIONS
Switch - 48 Port - L3	MS250-48LP-HW	Meraki MS250-48LP L3 Stck Cld-Mngd 48x GigE 370W PoE Switch	1	\$ 2,687.77	\$ 380.00	\$ 9,565.00	100%	\$ 3,067.77	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48LP-1YR	Meraki MS250-48LP Enterprise License and Support, 1YR	1	\$ 161.58		\$ 575.00	100%	\$ 161.58	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48LP-3YR	Meraki MS250-48LP Enterprise License and Support, 3YR	1	\$ 295.05		\$ 1,050.00	100%	\$ 295.05	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48LP-5YR	Meraki MS250-48LP Enterprise License and Support, 5YR	1	\$ 456.63		\$ 1,625.00	100%	\$ 456.63	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48LP-7YR	Meraki MS250-48LP Enterprise License and Support, 7YR	1	\$ 591.51		\$ 2,105.00	100%	\$ 591.51	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48LP-10YR	Meraki MS250-48LP Enterprise License and Support, 10YR	1	\$ 753.08		\$ 2,680.00	100%	\$ 753.08	https://meraki.cisco.com/
Switch - 48 Port - L3	MS250-48FP-HW	Meraki MS250-48FP L3 Stck Cld-Mngd 48x GigE 740W PoE Switch	1	\$ 2,928.02	\$ 380.00	\$ 10,420.00	100%	\$ 3,308.02	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48FP-1YR	Meraki MS250-48FP Enterprise License and Support, 1YR	1	\$ 175.63		\$ 625.00	100%	\$ 175.63	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48FP-3YR	Meraki MS250-48FP Enterprise License and Support, 3YR	1	\$ 321.75		\$ 1,145.00	100%	\$ 321.75	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48FP-5YR	Meraki MS250-48FP Enterprise License and Support, 5YR	1	\$ 497.37		\$ 1,770.00	100%	\$ 497.37	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48FP-7YR	Meraki MS250-48FP Enterprise License and Support, 7YR	1	\$ 643.49		\$ 2,290.00	100%	\$ 643.49	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS250-48FP-10YR	Meraki MS250-48FP Enterprise License and Support, 10YR	1	\$ 820.52		\$ 2,920.00	100%	\$ 820.52	https://meraki.cisco.com/
Switch - 24 Port - L3	MS350-24-HW	Meraki MS350-24 L3 Stck Cld-Mngd 24x GigE Switch	1	\$ 1,594.68	\$ 380.00	\$ 5,675.00	100%	\$ 1,974.68	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24-1YR	Meraki MS350-24 Enterprise License and Support, 1YR	1	\$ 92.73		\$ 330.00	100%	\$ 92.73	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24-3YR	Meraki MS350-24 Enterprise License and Support, 3YR	1	\$ 188.27		\$ 670.00	100%	\$ 188.27	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24-5YR	Meraki MS350-24 Enterprise License and Support, 5YR	1	\$ 281.00		\$ 1,000.00	100%	\$ 281.00	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24-7YR	Meraki MS350-24 Enterprise License and Support, 7YR	1	\$ 375.14		\$ 1,335.00	100%	\$ 375.14	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24-10YR	Meraki MS350-24 Enterprise License and Support, 10YR	1	\$ 469.27		\$ 1,670.00	100%	\$ 469.27	https://meraki.cisco.com/
Switch - 24 Port - L3	MS350-24P-HW	Meraki MS350-24P L3 Stck Cld-Mngd 24x GigE 370W PoE Switch	1	\$ 1,813.86	\$ 380.00	\$ 6,455.00	100%	\$ 2,193.86	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24P-1YR	Meraki MS350-24P Enterprise License and Support, 1YR	1	\$ 106.78		\$ 380.00	100%	\$ 106.78	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24P-3YR	Meraki MS350-24P Enterprise License and Support, 3YR	1	\$ 213.56		\$ 760.00	100%	\$ 213.56	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24P-5YR	Meraki MS350-24P Enterprise License and Support, 5YR	1	\$ 320.34		\$ 1,140.00	100%	\$ 320.34	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24P-7YR	Meraki MS350-24P Enterprise License and Support, 7YR	1	\$ 427.12		\$ 1,520.00	100%	\$ 427.12	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24P-10YR	Meraki MS350-24P Enterprise License and Support, 10YR	1	\$ 533.90		\$ 1,900.00	100%	\$ 533.90	https://meraki.cisco.com/
Switch - 24 Port - L3	MS350-24X-HW	Meraki MS350-24X L3 Stck Cld-Mngd 24xGigE mGig UPOE Switch	1	\$ 2,106.10	\$ 380.00	\$ 7,495.00	100%	\$ 2,486.10	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24X-1YR	Meraki MS350-24X Enterprise License and Support, 1YR	1	\$ 126.45		\$ 450.00	100%	\$ 126.45	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24X-3YR	Meraki MS350-24X Enterprise License and Support, 3YR	1	\$ 252.90		\$ 900.00	100%	\$ 252.90	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24X-5YR	Meraki MS350-24X Enterprise License and Support, 5YR	1	\$ 379.35		\$ 1,350.00	100%	\$ 379.35	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24X-7YR	Meraki MS350-24X Enterprise License and Support, 7YR	1	\$ 505.80		\$ 1,800.00	100%	\$ 505.80	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS350-24X-10YR	Meraki MS350-24X Enterprise License and Support, 10YR	1	\$ 611.18		\$ 2,175.00	100%	\$ 611.18	https://meraki.cisco.com/
Switch - 48 Port - L3	MS350-48-HW	Meraki MS350-48 L3 Stck Cld-Mngd 48x GigE Switch	1	\$ 2,583.80	\$ 380.00	\$ 9,195.00	100%	\$ 2,963.80	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48-1YR	Meraki MS350-48 Enterprise License and Support, 1YR	1	\$ 151.74		\$ 540.00	100%	\$ 151.74	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48-3YR	Meraki MS350-48 Enterprise License and Support, 3YR	1	\$ 303.48		\$ 1,080.00	100%	\$ 303.48	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48-5YR	Meraki MS350-48 Enterprise License and Support, 5YR	1	\$ 455.22		\$ 1,620.00	100%	\$ 455.22	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48-7YR	Meraki MS350-48 Enterprise License and Support, 7YR	1	\$ 606.96		\$ 2,160.00	100%	\$ 606.96	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48-10YR	Meraki MS350-48 Enterprise License and Support, 10YR	1	\$ 758.70		\$ 2,700.00	100%	\$ 758.70	https://meraki.cisco.com/
Switch - 48 Port - L3	MS350-48LP-HW	Meraki MS350-48LP L3 Stck Cld-Mngd 48x GigE 370W PoE Switch	1	\$ 2,996.87	\$ 380.00	\$ 10,665.00	100%	\$ 3,376.87	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48LP-1YR	Meraki MS350-48LP Enterprise License and Support, 1YR	1	\$ 177.03		\$ 630.00	100%	\$ 177.03	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48LP-3YR	Meraki MS350-48LP Enterprise License and Support, 3YR	1	\$ 352.66		\$ 1,255.00	100%	\$ 352.66	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48LP-5YR	Meraki MS350-48LP Enterprise License and Support, 5YR	1	\$ 528.28		\$ 1,880.00	100%	\$ 528.28	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48LP-7YR	Meraki MS350-48LP Enterprise License and Support, 7YR	1	\$ 705.31		\$ 2,510.00	100%	\$ 705.31	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48LP-10YR	Meraki MS350-48LP Enterprise License and Support, 10YR	1	\$ 880.93		\$ 3,135.00	100%	\$ 880.93	https://meraki.cisco.com/
Switch - 48 Port - L3	MS350-48FP-HW	Meraki MS350-48FP L3 Stck Cld-Mngd 48x GigE 740W PoE Switch	1	\$ 3,269.44	\$ 380.00	\$ 11,635.00	100%	\$ 3,649.44	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48FP-1YR	Meraki MS350-48FP Enterprise License and Support, 1YR	1	\$ 192.49		\$ 685.00	100%	\$ 192.49	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48FP-3YR	Meraki MS350-48FP Enterprise License and Support, 3YR	1	\$ 384.97		\$ 1,370.00	100%	\$ 384.97	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48FP-5YR	Meraki MS350-48FP Enterprise License and Support, 5YR	1	\$ 577.46		\$ 2,055.00	100%	\$ 577.46	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48FP-7YR	Meraki MS350-48FP Enterprise License and Support, 7YR	1	\$ 769.94		\$ 2,740.00	100%	\$ 769.94	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS350-48FP-10YR	Meraki MS350-48FP Enterprise License and Support, 10YR	1	\$ 961.02		\$ 3,420.00	100%	\$ 961.02	https://meraki.cisco.com/
Switch - 24 Port - L3	MS355-24X-HW	Meraki MS355-L3 Stck Cld-Mngd 24GE, 8xmG UPOE Switch	1	\$ 2,880.25	\$ 380.00	\$ 10,250.00	100%	\$ 3,260.25	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS355-24X-1YR	Meraki MS355-24X Enterprise License and Support, 1 Year		\$ 172.82		\$ 615.00	100%	\$ 172.82	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS355-24X-3YR	Meraki MS355-24X Enterprise License and Support, 3 Year		\$ 345.63		\$ 1,230.00	100%	\$ 345.63	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS355-24X-5YR	Meraki MS355-24X Enterprise License and Support, 5 Year		\$ 518.45		\$ 1,845.00	100%	\$ 518.45	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS355-24X-7YR	Meraki MS355-24X Enterprise License and Support, 7 Year		\$ 726.39		\$ 2,585.00	100%	\$ 726.39	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS355-24X-10YR	Meraki MS355-24X Enterprise License and Support, 10 Year		\$ 1,036.89		\$ 3,690.00	100%	\$ 1,036.89	https://meraki.cisco.com/
Switch - 24 Port - L3	MS355-24X2-HW	Meraki MS355-L3 Stck Cld-Mngd 24xmG UPOE Switch		\$ 3,905.90	\$ 380.00	\$ 13,900.00	100%	\$ 4,285.90	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS355-24X2-1YR	Meraki MS355-24X2 Enterprise License and Support, 1 Year		\$ 234.64		\$ 835.00	100%	\$ 234.64	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS355-24X2-3YR	Meraki MS355-24X2 Enterprise License and Support, 3 Year		\$ 469.27		\$ 1,670.00	100%	\$ 469.27	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS355-24X2-5YR	Meraki MS355-24X2 Enterprise License and Support, 5 Year		\$ 702.50		\$ 2,500.00	100%	\$ 702.50	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS355-24X2-7YR	Meraki MS355-24X2 Enterprise License and Support, 7 Year		\$ 984.91		\$ 3,505.00	100%	\$ 984.91	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS355-24X2-10YR	Meraki MS355-24X2 Enterprise License and Support, 10 Year		\$ 1,406.41		\$ 5,005.00	100%	\$ 1,406.41	https://meraki.cisco.com/
Switch - 48 Port - L3	MS355-48X-HW	Meraki MS355-L3 Stck Cld-Mngd 48GE, 16xmG UPOE Switch		\$ 4,720.80	\$ 380.00	\$ 16,800.00	100%	\$ 5,100.80	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS355-48X-1YR	Meraki MS355-48X Enterprise License and Support, 1 Year		\$ 283.81		\$ 1,010.00	100%	\$ 283.81	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS355-48X-3YR	Meraki MS355-48X Enterprise License and Support, 3 Year		\$ 566.22		\$ 2,015.00	100%	\$ 566.22	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS355-48X-5YR	Meraki MS355-48X Enterprise License and Support, 5 Year		\$ 850.03		\$ 3,025.00	100%	\$ 850.03	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS355-48X-7YR	Meraki MS355-48X Enterprise License and Support, 7 Year		\$ 1,190.04		\$ 4,235.00	100%	\$ 1,190.04	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS355-48X-10YR	Meraki MS355-48X Enterprise License and Support, 10 Year		\$ 1,700.05		\$ 6,050.00	100%	\$ 1,700.05	https://meraki.cisco.com/

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Switch - 48 Port - L3	MS355-48X2-HW	Meraki MS355-L3 Stck Cld-Mngd 48GE, 24xmG UPOE Switch		\$ 5,198.50	\$ 380.00	\$ 18,500.00	100%	\$ 5,578.50	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS355-48X2-1YR	Meraki MS355-48X2 Enterprise License and Support, 1 Year		\$ 311.91		\$ 1,110.00	100%	\$ 311.91	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS355-48X2-3YR	Meraki MS355-48X2 Enterprise License and Support, 3 Year		\$ 623.82		\$ 2,220.00	100%	\$ 623.82	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS355-48X2-5YR	Meraki MS355-48X2 Enterprise License and Support, 5 Year		\$ 935.73		\$ 3,330.00	100%	\$ 935.73	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS355-48X2-7YR	Meraki MS355-48X2 Enterprise License and Support, 7 Year		\$ 1,309.46		\$ 4,660.00	100%	\$ 1,309.46	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS355-48X2-10Y	Meraki MS355-48X2 Enterprise License and Support, 10 Year		\$ 1,871.46		\$ 6,660.00	100%	\$ 1,871.46	https://meraki.cisco.com/
Switch - 24 Port - L3	MS390-24-HW	Meraki MS390 24GE L3 Switch		\$ 1,409.22	\$ 380.00	\$ 5,015.00	100%	\$ 1,789.22	https://meraki.cisco.com/
Switch - 24 Port - L3	MS390-24P-HW	Meraki MS390 24GE L3 POE+ Switch		\$ 1,663.52	\$ 380.00	\$ 5,920.00	100%	\$ 2,043.52	https://meraki.cisco.com/
Switch - 24 Port - L3	MS390-24U-HW	Meraki MS390 24GE L3 UPOE Switch		\$ 1,797.00	\$ 380.00	\$ 6,395.00	100%	\$ 2,177.00	https://meraki.cisco.com/
Switch - 24 Port - L3	MS390-24UX-HW	Meraki MS390 24mGig L3 UPOE Switch		\$ 3,653.00	\$ 380.00	\$ 13,000.00	100%	\$ 4,033.00	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS390-24E-1Y	Meraki MS390 24-port Enterprise License and Support, 1 Year		\$ 157.36		\$ 560.00	100%	\$ 157.36	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS390-24E-3Y	Meraki MS390 24-port Enterprise License and Support, 3 Year		\$ 316.13		\$ 1,125.00	100%	\$ 316.13	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS390-24E-5Y	Meraki MS390 24-port Enterprise License and Support, 5 Year		\$ 473.49		\$ 1,685.00	100%	\$ 473.49	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS390-24E-7Y	Meraki MS390 24-port Enterprise License and Support, 7 Year		\$ 663.16		\$ 2,360.00	100%	\$ 663.16	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS390-24E-10Y	Meraki MS390 24-port Enterprise License and Support, 10 Year		\$ 946.97		\$ 3,370.00	100%	\$ 946.97	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS390-24A-1Y	Meraki MS390 24-port Advanced License and Support, 1 Year		\$ 376.54		\$ 1,340.00	100%	\$ 376.54	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS390-24A-3Y	Meraki MS390 24-port Advanced License and Support, 3 Year		\$ 751.68		\$ 2,675.00	100%	\$ 751.68	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS390-24A-5Y	Meraki MS390 24-port Advanced License and Support, 5 Year		\$ 1,128.22		\$ 4,015.00	100%	\$ 1,128.22	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS390-24A-7Y	Meraki MS390 24-port Advanced License and Support, 7 Year		\$ 1,579.22		\$ 5,620.00	100%	\$ 1,579.22	https://meraki.cisco.com/
License - Switch - 24 port - L3	LIC-MS390-24A-10Y	Meraki MS390 24-port Advanced License and Support, 10 Year		\$ 2,256.43		\$ 8,030.00	100%	\$ 2,256.43	https://meraki.cisco.com/
Switch - 48 Port - L3	MS390-48-HW	Meraki MS390 48GE L3 Switch		\$ 2,356.19	\$ 380.00	\$ 8,385.00	100%	\$ 2,736.19	https://meraki.cisco.com/
Switch - 48 Port - L3	MS390-48P-HW	Meraki MS390 48GE L3 POE+ Switch		\$ 2,811.41	\$ 380.00	\$ 10,005.00	100%	\$ 3,191.41	https://meraki.cisco.com/
Switch - 48 Port - L3	MS390-48U-HW	Meraki MS390 48GE L3 UPOE Switch		\$ 3,105.05	\$ 380.00	\$ 11,050.00	100%	\$ 3,485.05	https://meraki.cisco.com/
Switch - 48 Port - L3	MS390-48UX-HW	Meraki MS390 48 port 12mGig, 36m2.5G L3 UPOE Switch		\$ 3,637.55	\$ 380.00	\$ 12,945.00	100%	\$ 4,017.55	https://meraki.cisco.com/
Switch - 48 Port - L3	MS390-48UX2-HW	Meraki MS390 48m5G L3 UPOE Switch		\$ 3,512.50	\$ 380.00	\$ 12,500.00	100%	\$ 3,892.50	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS390-48E-1Y	Meraki MS390 48-port Enterprise License and Support, 1 Year		\$ 282.41		\$ 1,005.00	100%	\$ 282.41	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS390-48E-3Y	Meraki MS390 48-port Enterprise License and Support, 3 Year		\$ 564.81		\$ 2,010.00	100%	\$ 564.81	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS390-48E-5Y	Meraki MS390 48-port Enterprise License and Support, 5 Year		\$ 847.22		\$ 3,015.00	100%	\$ 847.22	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS390-48E-7Y	Meraki MS390 48-port Enterprise License and Support, 7 Year		\$ 1,185.82		\$ 4,220.00	100%	\$ 1,185.82	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS390-48E-10Y	Meraki MS390 48-port Enterprise License and Support, 10 Year		\$ 1,694.43		\$ 6,030.00	100%	\$ 1,694.43	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS390-48A-1Y	Meraki MS390 48-port Advanced License and Support, 1 Year		\$ 695.48		\$ 2,475.00	100%	\$ 695.48	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS390-48A-3Y	Meraki MS390 48-port Advanced License and Support, 3 Year		\$ 1,390.95		\$ 4,950.00	100%	\$ 1,390.95	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS390-48A-5Y	Meraki MS390 48-port Advanced License and Support, 5 Year		\$ 2,086.43		\$ 7,425.00	100%	\$ 2,086.43	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS390-48A-7Y	Meraki MS390 48-port Advanced License and Support, 7 Year		\$ 2,921.00		\$ 10,395.00	100%	\$ 2,921.00	https://meraki.cisco.com/
License - Switch - 48 port - L3	LIC-MS390-48A-10Y	Meraki MS390 48-port Advanced License and Support, 10 Year		\$ 4,172.85		\$ 14,850.00	100%	\$ 4,172.85	https://meraki.cisco.com/
Switch - 16 Port - Aggregation	MS410-16-HW	Meraki MS410-16 Cld-Mngd 16x GigE SFP Switch		\$ 2,388.50	\$ 380.00	\$ 8,500.00	100%	\$ 2,768.50	https://meraki.cisco.com/
License - Switch - 16 Port - Aggregation	LIC-MS410-16-1YR	Meraki MS410-16 Enterprise License and Support, 1YR		\$ 140.50		\$ 500.00	100%	\$ 140.50	https://meraki.cisco.com/
License - Switch - 16 Port - Aggregation	LIC-MS410-16-3YR	Meraki MS410-16 Enterprise License and Support, 3YR		\$ 281.00		\$ 1,000.00	100%	\$ 281.00	https://meraki.cisco.com/
License - Switch - 16 Port - Aggregation	LIC-MS410-16-5YR	Meraki MS410-16 Enterprise License and Support, 5YR		\$ 421.50		\$ 1,500.00	100%	\$ 421.50	https://meraki.cisco.com/
License - Switch - 16 Port - Aggregation	LIC-MS410-16-7YR	Meraki MS410-16 Enterprise License and Support, 7YR		\$ 562.00		\$ 2,000.00	100%	\$ 562.00	https://meraki.cisco.com/
License - Switch - 16 Port - Aggregation	LIC-MS410-16-10YR	Meraki MS410-16 Enterprise License and Support, 10YR		\$ 843.00		\$ 3,000.00	100%	\$ 843.00	https://meraki.cisco.com/
Switch - 32 Port - Aggregation	MS410-32-HW	Meraki MS410-32 Cld-Mngd 32x GigE SFP Switch		\$ 4,215.00	\$ 380.00	\$ 15,000.00	100%	\$ 4,595.00	https://meraki.cisco.com/
License - Switch - 32 Port - Aggregation	LIC-MS410-32-1YR	Meraki MS410-32 Enterprise License and Support, 1YR		\$ 247.28		\$ 880.00	100%	\$ 247.28	https://meraki.cisco.com/
License - Switch - 32 Port - Aggregation	LIC-MS410-32-3YR	Meraki MS410-32 Enterprise License and Support, 3YR		\$ 495.97		\$ 1,765.00	100%	\$ 495.97	https://meraki.cisco.com/
License - Switch - 32 Port - Aggregation	LIC-MS410-32-5YR	Meraki MS410-32 Enterprise License and Support, 5YR		\$ 743.25		\$ 2,645.00	100%	\$ 743.25	https://meraki.cisco.com/
License - Switch - 32 Port - Aggregation	LIC-MS410-32-7YR	Meraki MS410-32 Enterprise License and Support, 7YR		\$ 991.93		\$ 3,530.00	100%	\$ 991.93	https://meraki.cisco.com/
License - Switch - 32 Port - Aggregation	LIC-MS410-32-10YR	Meraki MS410-32 Enterprise License and Support, 10YR		\$ 1,486.49		\$ 5,290.00	100%	\$ 1,486.49	https://meraki.cisco.com/
Switch - 16 Port - Aggregation	MS425-16-HW	Meraki MS425-16 L3 Cld-Mngd 16x 10G SFP+ Switch		\$ 3,934.00	\$ 380.00	\$ 14,000.00	100%	\$ 4,314.00	https://meraki.cisco.com/
License - Switch - 16 Port - Aggregation	LIC-MS425-16-1YR	Meraki MS425-16 Enterprise License and Support, 1YR		\$ 231.83		\$ 825.00	100%	\$ 231.83	https://meraki.cisco.com/
License - Switch - 16 Port - Aggregation	LIC-MS425-16-3YR	Meraki MS425-16 Enterprise License and Support, 3YR		\$ 463.65		\$ 1,650.00	100%	\$ 463.65	https://meraki.cisco.com/
License - Switch - 16 Port - Aggregation	LIC-MS425-16-5YR	Meraki MS425-16 Enterprise License and Support, 5YR		\$ 694.07		\$ 2,470.00	100%	\$ 694.07	https://meraki.cisco.com/
License - Switch - 16 Port - Aggregation	LIC-MS425-16-7YR	Meraki MS425-16 Enterprise License and Support, 7YR		\$ 925.90		\$ 3,295.00	100%	\$ 925.90	https://meraki.cisco.com/
License - Switch - 16 Port - Aggregation	LIC-MS425-16-10YR	Meraki MS425-16 Enterprise License and Support, 10YR		\$ 1,388.14		\$ 4,940.00	100%	\$ 1,388.14	https://meraki.cisco.com/
Switch - 32 Port - Aggregation	MS425-32-HW	Meraki MS425-32 L3 Cld-Mngd 32x 10G SFP+ Switch		\$ 6,182.00	\$ 380.00	\$ 22,000.00	100%	\$ 6,562.00	https://meraki.cisco.com/
License - Switch - 32 Port - Aggregation	LIC-MS425-32-1YR	Meraki MS425-32 Enterprise License and Support, 1YR		\$ 363.90		\$ 1,295.00	100%	\$ 363.90	https://meraki.cisco.com/
License - Switch - 32 Port - Aggregation	LIC-MS425-32-3YR	Meraki MS425-32 Enterprise License and Support, 3YR		\$ 727.79		\$ 2,590.00	100%	\$ 727.79	https://meraki.cisco.com/
License - Switch - 32 Port - Aggregation	LIC-MS425-32-5YR	Meraki MS425-32 Enterprise License and Support, 5YR		\$ 1,090.28		\$ 3,880.00	100%	\$ 1,090.28	https://meraki.cisco.com/
License - Switch - 32 Port - Aggregation	LIC-MS425-32-7YR	Meraki MS425-32 Enterprise License and Support, 7YR		\$ 1,454.18		\$ 5,175.00	100%	\$ 1,454.18	https://meraki.cisco.com/
License - Switch - 32 Port - Aggregation	LIC-MS425-32-10YR	Meraki MS425-32 Enterprise License and Support, 10YR		\$ 2,181.97		\$ 7,765.00	100%	\$ 2,181.97	https://meraki.cisco.com/

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Switch - 12 Port - Aggregation	MS450-12-HW	Meraki MS450-L3 Stack Cld-Mngd 12x40GE Aggregation Switch		\$ 5,816.70	\$ 380.00	\$ 20,700.00	100%	\$ 6,196.70	https://meraki.cisco.com/
License - Switch - 12 Port - Aggregation	LIC-MS450-12-1YR	Meraki MS450-12 Enterprise License and Support, 1 Year		\$ 348.44		\$ 1,240.00	100%	\$ 348.44	https://meraki.cisco.com/
License - Switch - 12 Port - Aggregation	LIC-MS450-12-3YR	Meraki MS450-12 Enterprise License and Support, 3 Year		\$ 698.29		\$ 2,485.00	100%	\$ 698.29	https://meraki.cisco.com/
License - Switch - 12 Port - Aggregation	LIC-MS450-12-5YR	Meraki MS450-12 Enterprise License and Support, 5 Year		\$ 1,046.73		\$ 3,725.00	100%	\$ 1,046.73	https://meraki.cisco.com/
License - Switch - 12 Port - Aggregation	LIC-MS450-12-7YR	Meraki MS450-12 Enterprise License and Support, 7 Year		\$ 1,465.42		\$ 5,215.00	100%	\$ 1,465.42	https://meraki.cisco.com/
License - Switch - 12 Port - Aggregation	LIC-MS450-12-10YR	Meraki MS450-12 Enterprise License and Support, 10 Year		\$ 2,093.45		\$ 7,450.00	100%	\$ 2,093.45	https://meraki.cisco.com/
Cables / SFPs / Power	MA-SFP-1GB-TX	Meraki 1 GbE SFP Copper Module		\$ 122.09		\$ 434.50	100%	\$ 122.09	https://meraki.cisco.com/
Cables / SFPs / Power	MA-SFP-1GB-SX	Meraki 1000Base SX Multi-Mode		\$ 140.50		\$ 500.00	100%	\$ 140.50	https://meraki.cisco.com/
Cables / SFPs / Power	MA-SFP-1GB-LX10	Meraki 1000Base LX10 Single-Mode		\$ 279.60		\$ 995.00	100%	\$ 279.60	https://meraki.cisco.com/
Cables / SFPs / Power	MA-SFP-10GB-SR	Meraki 10G Base SR Multi-Mode		\$ 279.60		\$ 995.00	100%	\$ 279.60	https://meraki.cisco.com/
Cables / SFPs / Power	MA-SFP-10GB-LRM	Meraki 10G Base LRM Multi-Mode		\$ 279.60		\$ 995.00	100%	\$ 279.60	https://meraki.cisco.com/
Cables / SFPs / Power	MA-SFP-10GB-LR	Meraki 10G Base LR Single-Mode		\$ 1,122.60		\$ 3,995.00	100%	\$ 1,122.60	https://meraki.cisco.com/
Cables / SFPs / Power	MA-SFP-10GB-ER	Meraki 10G Base ER Module		\$ 2,810.00		\$ 10,000.00	100%	\$ 2,810.00	https://meraki.cisco.com/
Cables / SFPs / Power	MA-SFP-10GB-ZR	Meraki 10G Base ZR Module		\$ 4,496.00		\$ 16,000.00	100%	\$ 4,496.00	https://meraki.cisco.com/
Cables / SFPs / Power	MA-QSFP-40G-SR-BD	Meraki SR-BD QSFP 40G Transceiver		\$ 307.70		\$ 1,095.00	100%	\$ 307.70	https://meraki.cisco.com/
Cables / SFPs / Power	MA-QSFP-100G-SR4	Meraki SR4 QSFP 100G Transceiver		\$ 616.65		\$ 2,194.50	100%	\$ 616.65	https://meraki.cisco.com/
Cables / SFPs / Power	MA-QSFP-40G-SR4	Meraki SR4 QSFP 40G Transceiver		\$ 925.75		\$ 3,294.50	100%	\$ 925.75	https://meraki.cisco.com/
Cables / SFPs / Power	MA-QSFP-40G-CSR4	Meraki CSR4 QSFP 40G Transceiver		\$ 925.75		\$ 3,294.50	100%	\$ 925.75	https://meraki.cisco.com/
Cables / SFPs / Power	MA-QSFP-40G-LR4	Meraki LR4 QSFP 40G Transceiver		\$ 3,062.90		\$ 10,900.00	100%	\$ 3,062.90	https://meraki.cisco.com/
Cables / SFPs / Power	MA-QSFP-100G-LR4	Meraki LR4 QSFP 100G Transceiver		\$ 9,271.45		\$ 32,994.50	100%	\$ 9,271.45	https://meraki.cisco.com/
Cables / SFPs / Power	MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter		\$ 30.91		\$ 110.00	100%	\$ 30.91	https://meraki.cisco.com/
Cables / SFPs / Power	MA-CBL-TA-3M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 3 Meter		\$ 46.37		\$ 165.00	100%	\$ 46.37	https://meraki.cisco.com/
Cables / SFPs / Power	MA-CBL-SPWR-30CM	Meraki MS390 Power-Stack Cable, 30 centimeter		\$ 30.91		\$ 110.00	100%	\$ 30.91	https://meraki.cisco.com/
Cables / SFPs / Power	MA-CBL-SPWR-150CM	Meraki MS390 Power-Stack Cable, 150 centimeter		\$ 63.23		\$ 225.00	100%	\$ 63.23	https://meraki.cisco.com/
Cables / SFPs / Power	MA-CBL-40G-50CM	Meraki 40GbE QSFP Cable, 0.5 Meter		\$ 30.91		\$ 110.00	100%	\$ 30.91	https://meraki.cisco.com/
Cables / SFPs / Power	MA-CBL-40G-1M	Meraki 40GbE QSFP Cable, 1 Meter		\$ 61.82		\$ 220.00	100%	\$ 61.82	https://meraki.cisco.com/
Cables / SFPs / Power	MA-CBL-40G-3M	Meraki 40GbE QSFP Cable, 3 Meter		\$ 92.73		\$ 330.00	100%	\$ 92.73	https://meraki.cisco.com/
Cables / SFPs / Power	MA-CBL-100G-50CM	Meraki 100GbE QSFP Cable, 0.5 Meter		\$ 185.46		\$ 660.00	100%	\$ 185.46	https://meraki.cisco.com/
Cables / SFPs / Power	MA-CBL-100G-1M	Meraki 100GbE QSFP Cable, 1 Meter		\$ 185.46		\$ 660.00	100%	\$ 185.46	https://meraki.cisco.com/
Cables / SFPs / Power	MA-CBL-100G-3M	Meraki 100GbE QSFP Cable, 3 Meter		\$ 185.46		\$ 660.00	100%	\$ 185.46	https://meraki.cisco.com/
Cables / SFPs / Power	MA-CBL-120G-50CM	Meraki MS390 120G Data-Stack Cable, 50 centimeter		\$ 35.13		\$ 125.00	100%	\$ 35.13	https://meraki.cisco.com/
Cables / SFPs / Power	MA-CBL-120G-1M	Meraki MS390 120G Data-Stack Cable, 1 meter		\$ 70.25		\$ 250.00	100%	\$ 70.25	https://meraki.cisco.com/
Cables / SFPs / Power	MA-CBL-120G-3M	Meraki MS390 120G Data-Stack Cable, 3 meter		\$ 105.38		\$ 375.00	100%	\$ 105.38	https://meraki.cisco.com/
Cables / SFPs / Power	MA-MOD-4X10G	Meraki MS390 4x10GE Module		\$ 365.30		\$ 1,300.00	100%	\$ 365.30	https://meraki.cisco.com/
Cables / SFPs / Power	MA-MOD-2X40G	Meraki MS390 2x40GE Module		\$ 716.55		\$ 2,550.00	100%	\$ 716.55	https://meraki.cisco.com/
Cables / SFPs / Power	MA-MOD-8X10G	Meraki MS390 8x10GE Module		\$ 743.25		\$ 2,645.00	100%	\$ 743.25	https://meraki.cisco.com/
Cables / SFPs / Power	MA-PWR-CORD-US	Meraki AC Power Cord for MX and MS (US Plug)		\$ 6.67		\$ 23.75	100%	\$ 6.67	https://meraki.cisco.com/
Cables / SFPs / Power	MA-PWR-250WAC	Meraki 250WAC PSU		\$ 158.06		\$ 562.50	100%	\$ 158.06	https://meraki.cisco.com/
Cables / SFPs / Power	MA-PWR-350WAC	Meraki MS390 350W AC Power Supply		\$ 189.68		\$ 675.00	100%	\$ 189.68	https://meraki.cisco.com/
Cables / SFPs / Power	MA-PWR-640WAC	Meraki 640WAC PSU		\$ 333.69		\$ 1,187.50	100%	\$ 333.69	https://meraki.cisco.com/
Cables / SFPs / Power	MA-PWR-715WAC	Meraki MS390 715W AC Power Supply		\$ 363.90		\$ 1,295.00	100%	\$ 363.90	https://meraki.cisco.com/
Cables / SFPs / Power	MA-PWR-1025WAC	Meraki 1025WAC PSU		\$ 509.31		\$ 1,812.50	100%	\$ 509.31	https://meraki.cisco.com/
Cables / SFPs / Power	MA-PWR-1100WAC	Meraki MS390 1100W AC Power Supply		\$ 553.57		\$ 1,970.00	100%	\$ 553.57	https://meraki.cisco.com/
Cables / SFPs / Power	MA-MNT-MID-1	Meraki MS225 and MS250 Mid-Mount Kit		\$ 21.08		\$ 75.00	100%	\$ 21.08	https://meraki.cisco.com/
Cabling (Fiber)		12/Armored Plenum - 50' - Per Run	1	\$ 2,970.59		\$ 2,970.59	100%	\$ 2,970.59	
Cabling (Fiber)		12/Armored Plenum - 100' - Per Run	1	\$ 3,596.47		\$ 3,596.47	100%	\$ 3,596.47	
Cabling (Fiber)		12/Armored Plenum - 200' - Per Run	1	\$ 5,243.53		\$ 5,243.53	100%	\$ 5,243.53	
Cabling (Fiber)		12/Armored Plenum - 300' - Per Run	1	\$ 6,882.35		\$ 6,882.35	100%	\$ 6,882.35	
Cabling (Fiber)		12/Armored non Plenum - 50' - Per Run	1	\$ 2,717.65		\$ 2,717.65	100%	\$ 2,717.65	
Cabling (Fiber)		12/Armored non Plenum - 100' - Per Run	1	\$ 3,429.41		\$ 3,429.41	100%	\$ 3,429.41	
Cabling (Fiber)		12/Armored non Plenum - 200' - Per Run	1	\$ 4,941.18		\$ 4,941.18	100%	\$ 4,941.18	
Cabling (Fiber)		12/Armored non Plenum - 300' - Per Run	1	\$ 6,452.94		\$ 6,452.94	100%	\$ 6,452.94	
Cabling (Non-Fiber Cat 6)		Cat 6 - 50' - Per Run includes patch panel	1	\$ 62.50		\$ 62.50	100%	\$ 62.50	
Cabling (Non-Fiber Cat 6)		Cat 6 - 150' - Per Run includes patch panel	1	\$ 168.75		\$ 168.75	100%	\$ 168.75	
Cabling (Non-Fiber Cat 6)		Cat 6 - 300' - Per Run includes patch panel	1	\$ 243.75		\$ 243.75	100%	\$ 243.75	
Cat 6E Copper Runs		Plenum Cat 6E - 50' - Per Run	1	\$ 241.41		\$ 241.41	100%	\$ 241.41	
Cat 6E Copper Runs		Plenum Cat 6E - 100' - Per Run	1	\$ 292.00		\$ 292.00	100%	\$ 292.00	
Cat 6E Copper Runs		Plenum Cat 6E - 200' - Per Run	1	\$ 362.12		\$ 362.12	100%	\$ 362.12	
Cat 6E Copper Runs		Plenum Cat 6E - 300' - Per Run	1	\$ 400.24		\$ 400.24	100%	\$ 400.24	
Conduit		1" EMT Conduit - 50' - Per Run	1	\$ 488.24		\$ 488.24	100%	\$ 488.24	
Conduit		1" EMT Conduit - 100' - Per Run	1	\$ 935.29		\$ 935.29	100%	\$ 935.29	
Conduit		1" EMT Conduit - 200' - Per Run	1	\$ 1,782.35		\$ 1,782.35	100%	\$ 1,782.35	
Conduit		1" EMT Conduit - 300' - Per Run	1	\$ 2,688.24		\$ 2,688.24	100%	\$ 2,688.24	
Existing Cable		Test and certify existing cable	1	\$ 50.00		\$ 50.00	100%	\$ 50.00	
Existing Cable		Re-route existing cable	1	\$ 147.06		\$ 147.06	100%	\$ 147.06	
Existing Cable		Re-route and Terminate 12 strand Fiber	1	\$ 2,147.06		\$ 2,147.06	100%	\$ 2,147.06	
Racks		TrippLite 6U WM RACK ENCL SVR CAB WIDE CBL MGMT	1	\$ 348.61	\$ 150.00	\$ 649.00	100%	\$ 498.61	https://www.tripplite.com
Racks		TrippLite 9U WM RACK ENCL SVR CAB LP DEEP	1	\$ 577.07	\$ 150.00	\$ 669.00	100%	\$ 727.07	https://www.tripplite.com
Racks		TrippLite 12U WM RACK ENCL CAB SWINGING HINGED	1	\$ 582.23	\$ 150.00	\$ 689.00	100%	\$ 732.23	https://www.tripplite.com

Product or Service	Model	Make - Item Description	Qty	Unit Price	Install Per Item	MSRP	E-Rate ELIGIBLE, INELIGIBLE, COST ALLOCATION	EXTENDED COST	REFERENCE PAGE NUMBER IN PROPOSAL OR WEBLINK WITH SPECIFICATIONS
Racks		TrippLite 6U WM RACK ENCL W/ DRS & SIDES	1	\$ 156.43	\$ 150.00	\$ 279.00	100%	\$ 306.43	https://www.tripplite.com
Racks		TrippLite 9U WM RACK ENCL W/ DRS SIDES	1	\$ 205.80	\$ 150.00	\$ 369.00	100%	\$ 355.80	https://www.tripplite.com
Racks		TrippLite 12U WM RACK ENCL CAB SWINGING HINGED	1	\$ 540.13	\$ 150.00	\$ 689.00	100%	\$ 690.13	https://www.tripplite.com
UPS	SMT1500RM2UC	APC Smart-UPS 1500VA LCD RM 2U 120V with SmartConnect	1	\$ 673.78	\$ 75.00	\$ 819.00			
UPS Battery	APCRBC133	APC Replacement Battery Cartridge #133	1	\$ 199.11		\$ 220.00			
UPS	SMT1500RM2UNC	APC Smart-UPS 1500VA LCD RM 2U 120V with Network Card	1	\$ 916.63	\$ 75.00	\$ 1,125.00			
UPS Battery	APCRBC133	APC Replacement Battery Cartridge #133	1	\$ 199.11		\$ 220.00			
UPS	SMT2200RM2UNC	APC Smart-UPS 2200VA LCD RM 2U - UPS - 1980 Watt - 2200 VA	1	\$ 1,331.12	\$ 75.00	\$ 1,625.00	100%	\$ 1,406.12	https://www.apc.com/
UPS Battery	RBC43	APC Replacement Battery Cartridge #43	1	\$ 345.44		\$ 379.99	100%	\$ 345.44	https://www.apc.com/
UPS	SMT3000RM2UNC	APC Smart-UPS 3000 RM 2U LCD - UPS - 2.7 KW - 3000 VA - With APC UPS Network Management Card	1	\$ 1,378.89	\$ 75.00	\$ 1,675.00	100%	\$ 1,453.89	https://www.apc.com/
UPS Battery	RBC43	APC Replacement Battery Cartridge #43	1	\$ 345.44		\$ 379.99	100%	\$ 345.44	https://www.apc.com/
UPS	SRT3000RMXLA-NC	APC Smart-UPS SRT 3000VA RM Network Card - UPS - 2700 Watt - 3000 VA - With APC UPS Network Management Card AP9631	1	\$ 2,821.79	\$ 75.00	\$ 3,525.00	100%	\$ 2,896.79	https://www.apc.com/
UPS Battery	APCRBC152	APC Replacement Battery Cartridge #152	1	\$ 490.39		\$ 539.00	100%	\$ 490.39	https://www.apc.com/
UPS	SMX2000RMLV2UNC	APC Smart-UPS X 2000 Rack/Tower LCD - UPS - 1800 Watt - 1920 VA - With APC UPS Network Management Card AP9631	1	\$ 1,525.08	\$ 75.00	\$ 1,825.00	100%	\$ 1,600.08	https://www.apc.com/
UPS Battery	APCRBC117	APC Replacement Battery Cartridge #117	1	\$ 334.24		\$ 369.99	100%	\$ 334.24	https://www.apc.com/
UPS	SMX3000RMLV2UNC	APC Smart-UPS X 3000 Rack/Tower LCD - UPS - 2.7 KW - 3000 VA - With APC UPS Network Management Card AP9631	1	\$ 1,817.20	\$ 75.00	\$ 2,175.00	100%	\$ 1,892.20	https://www.apc.com/
UPS Battery	CURK117-01-04	APC Charge-UPS Refresher Kit #117	1	\$ 472.03		\$ 529.00	100%	\$ 472.03	https://www.apc.com/
AP Enclosure	V12124-C	Ventev Large Wi-Fi Bubble Enclosure - network device enclosure	1	\$ 50.52			100%	\$ 50.52	https://www.ventevinfra.com/
AP Enclosure	V2-12083-W	Ventev Bubble Enclosure for Meraki MR Access Points - network device enclosure	1	\$ 49.46			100%	\$ 49.46	https://www.ventevinfra.com/
AP Enclosure	1015-00	11 In. Skybar Plastic Wifi Access Point Lock Box With Opaque Door	1	\$ 98.55			100%	\$ 98.55	https://oberoninc.com/
AP Enclosure	1030-00	17 in. Locking Steel Wi-Fi Access Point Enclosure with White Plastic Dome in	1	\$ 280.86			100%	\$ 280.86	https://oberoninc.com/
AP Enclosure	1016-00	18 In. Skybar Plastic Wifi Access Point Lock Box With Opaque Door	1	\$ 186.72			100%	\$ 186.72	https://oberoninc.com/
Asset Tags		Custom Asset Label With Barcode, 0.75" x 1.5"	1	\$ 3.50			100%	\$ 3.50	
Asset Tagging		Asset Tagging	1	\$ 15.00			100%	\$ 15.00	
Patch Cable		1 Meter Fiber Patch cord	1	\$ 10.00			100%	\$ 10.00	
Patch Cable		2 Meter Fiber Patch cord	1	\$ 11.50			100%	\$ 11.50	
Patch Cable		3 Meter Fiber Patch cord	1	\$ 12.50			100%	\$ 12.50	
Patch Cable		Cat 6 Patch Cables 1 foot	1	\$ 2.25			100%	\$ 2.25	
Patch Cable		Cat 6 Patch Cables 3 foot	1	\$ 9.50			100%	\$ 9.50	
Patch Cable		Cat 6 Patch Cables 10 foot	1	\$ 12.50			100%	\$ 12.50	
Patch Cable		Cat 6 Patch Cables 14 foot	1	\$ 16.00			100%	\$ 16.00	
Patch Panel		24 port Cat 6 Patch Panel	1	\$ 89.00			100%	\$ 89.00	
Patch Panel		48 port Cat 6 Patch Panel	1	\$ 89.00			100%	\$ 89.00	
37: List of Equipment for MIBS									
MIBS	P-SW-R-MONTH	MIBS for Meraki Switches - Reactive - Per Month - Per switch	1	\$ 25.77			100%	\$ 25.77	
MIBS	P-SW-ProA-E-MONTH	MIBS for Meraki Switches - ProActive E - Per Month - Per switch	1	\$ 47.77			100%	\$ 47.77	
MIBS	P-AP-R-MONTH	MIBS for Meraki APs - Reactive - Per Month - Per AP	1	\$ 8.61			100%	\$ 8.61	
MIBS	P-AP-ProA-E-MONTH	MIBS for Meraki APs - ProActive E - Per Month - Per AP	1	\$ 15.97			100%	\$ 15.97	
Note: Pricing above does not physical installation of any gear sent due to RMA procedure									



Quote: E-Rate Category 2
Date: January 30, 2020

TO: City of Bogalusa Schools
1705 Sullivan Drive
Bogalusa, LA 70427

FROM: Presidio Networked Solutions
Virginia Temple
vtemple@presidio.com

Account Manager: Virginia Temple
Email: vtemple@presidio.com

Quote valid for 30 days from date shown above. Prices may NOT include all applicable taxes and shipping charges. All prices subject to change without notice. Supply subject to availability.

This quotation subject to Presidio Standard Terms and Conditions as follows:

Credit: Net 30 Days (all credit terms subject to prior Presidio credit department approval)

The price included herein reflects a 3% discount for payment by cash, check or wire transfer. This discount will not apply in the event that customer pays using a credit or debit card.

Client understands and agrees to its obligation, that applicable sales tax will apply to the quoted services on a by site location basis.

Delivery: FOB origin (FOB destination (CONUS) applicable to Federal Government Customers only) Orders shipped from a manufacturer to Presidio at customer request for warehousing, configuration, storage or otherwise, shall be deemed to have been shipped to customer FOB origin.

Changes to the above Terms and Conditions must be accepted in writing by Presidio Networked Solutions

Preprinted terms appearing on Customer Purchase Orders must be accepted in writing by Presidio Networked Solutions to be applicable.

Size Business: Large; CAGE Code: OKD05; DUNS 15-405-0959; CEC: 15-506005G; Tax ID# 58-1667655

Product is warranted by the Manufacturer, not by Presidio Networked Solutions. Please consult Manufacturer for warranty terms.

Opened product is non-returnable. Unopened equipment is non-returnable after 30 days from shipment date. Presidio reserves the right to deny RMA requests in the event the Manufacturer will not provide for an authorized return. If integration of product is performed at a Presidio facility, transfer of ownership occurs as of inception of integration regardless of shipment terms as manufacturers will not accept return of open product.

Please inspect equipment thoroughly against packing list before opening.

Pricing for Professional Services are best-effort estimates only. Actual pricing will be finalized as part of a mutually-agreeable Statement of Work.

Import Clearance and Documentation - Customer shall be responsible for the Customs clearance process, where applicable, and for obtaining any and all required license and permits as well as satisfying any formalities required to import the Products into the Territory in accordance with all applicable laws and regulations, including but not limited to the payment of duties, taxes, surcharges, fees and any special assessments and take all other actions required in connection with the importation and Customs clearance of Products. Customer shall be responsible for ensuring documentation necessary for the import and Customs clearance process and recordkeeping meets all applicable laws and regulations.

Export Controls - (i) Customer shall comply with all applicable Export Control Laws, including but not limited to the U.S. Department of Commerce's Export Administration Regulations, in the performance of this Agreement and in the import, export, re-export, shipment, transfer, use, operation, maintenance, repair or disposal of Products and any related parts, components, accessories, know-how or technology. "Export Control Laws" means all export control, economic sanction and antiboycott laws and regulations of the United States and other jurisdictions, including but not limited to the U.S. Export Administration Regulations, the U.S. International Traffic in Arms Regulations and the U.S. Department of Treasury's economic sanctions regulations. (ii) Product and any related parts, components, accessories, know-how and technology must not be re-exported or transferred to restricted persons and sanctioned countries designated by the U.S. Government, including Cuba, Iran, North Korea, Sudan and Syria, unless authorized in advance by the Company and the U.S. Government. (iii) Customer acknowledge that transfers of Product and any related parts, components, accessories, know-how and technology may be subject to the terms and conditions of an export license, license exception or other authorization pursuant to Export Control Laws. Customer agree to comply fully with the terms of any licenses, license exceptions or authorizations and to provide Presidio Networked Solutions access to records needed to confirm such compliance upon request. (iv) Customer further acknowledges that certain Products may contain encryption and may be restricted for export, re-export, shipment or transfer to government end users in certain countries.

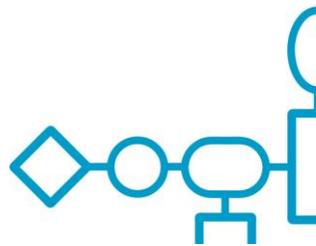
Customer hereby authorizes and agrees to make timely payment for products delivered and services rendered, including payments for partial shipments

Customer Signature

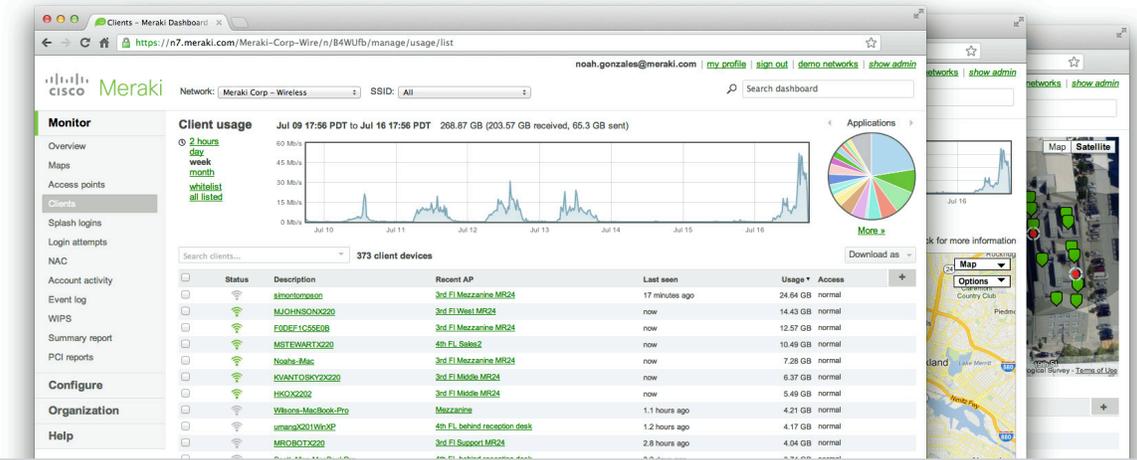
Date

TAB 4

Proposed Product Specifications



Cloud Management



Overview

Meraki’s cloud based management provides centralized visibility & control over Meraki’s wired & wireless networking hardware, without the cost and complexity of wireless controllers or overlay management systems. Integrated with Meraki’s entire product portfolio, cloud management provides feature rich, scalable, and intuitive centralized management for networks of any size.

Highlights

- Unified visibility and control of the entire network via a single dashboard: wireless, switching, and security appliances
- Streamlines large networks with tens of thousands of endpoints
- Zero-touch provisioning for rapid deployment
- Built-in multi site network management tools
- Automated network monitoring and alerts
- Intuitive interface eliminates costly training or added staff
- Network tagging engine - search and sync settings by tag
- Role-based administration and auditable change logs
- Continuous feature updates delivered from the cloud
- Highly available and secure (PCI / HIPAA compliant)

Cloud Managed Networks

Meraki’s hardware products are built from the ground up for cloud management. As a result, they come out of the box with centralized control, layer 7 device and application visibility, real time web-based diagnostics, monitoring, reporting, and much more.

Meraki networks deploy quickly and easily, without training or dedicated staff. Moreover, Meraki provides a rich feature set that provides complete control over devices, users, and applications, allowing for flexible access policies and rich security without added cost or complexity.

Meraki’s cloud management provides the features, security, and scalability for networks of any size. Meraki scales from small sites to

campuses, and even distributed networks with thousands of sites. Meraki devices, which self-provision via the cloud, can be deployed in branches without IT. Firmware and security signature updates are delivered seamlessly, over the web. With the cloud, branches can automatically establish secure VPN tunnels between one another with a single click.

With a secure, PCI and HIPAA compliant architecture and fault tolerant design that preserves local network functionality during WAN outages, Meraki is field proven in high security and mission critical network applications.

Cloud Management Architecture

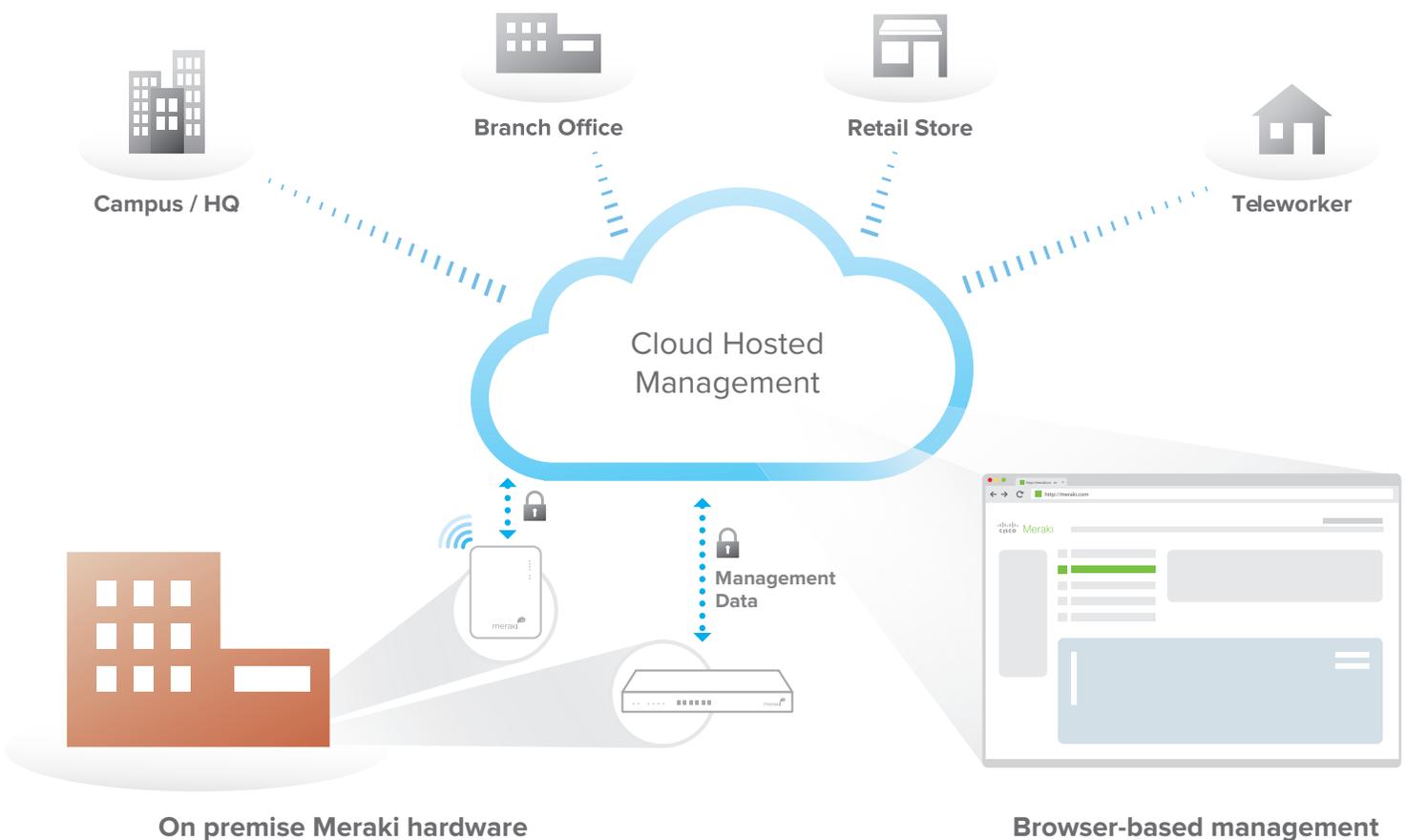
Meraki's architecture provides feature rich network management without on-site management appliances or WiFi controllers.

Every Meraki device - including wireless access points, Ethernet switches, and security appliances - connects over the Internet to Meraki's datacenters, which run Meraki's cloud management platform. These connections, secured via SSL, utilize a patented protocol that provides real time visibility and control, yet uses minimal bandwidth overhead (typically 1 kbps or less.)

In place of traditional command-line based network configuration, Meraki provides a rich web based dashboard, providing visibility and control over up to tens of thousands of Meraki devices, anywhere in the world. Tools, designed to scale to large and distributed networks, make policy changes, firmware updates, deploying new branches, etc. simple and expedient, regardless of size or location. Meraki's real time protocols combine the immediacy of on-premise management applications with the simplicity and centralized control of a cloud application.

Every Meraki device is engineered for cloud management. Specifically, this means that Meraki devices are designed with memory and CPU resources to perform packet processing, QoS, layer 3-7 security, encryption, etc. at the network edge. As a result, no network traffic passes through the cloud, with the cloud providing management functionality out of the data path. This architecture enables networks to scale horizontally, adding capacity simply by adding more endpoints, without concern for centralized bottlenecks or chokepoints. Equally important, since all packet processing is performed on premise, end-user functionality is not compromised if the network's connection to the cloud is interrupted.

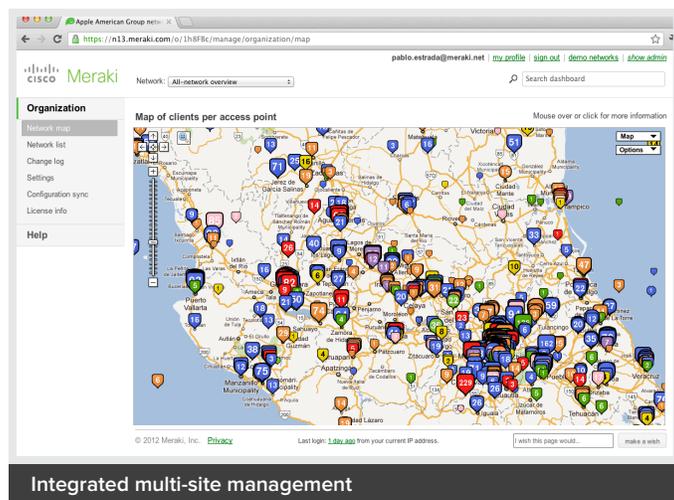
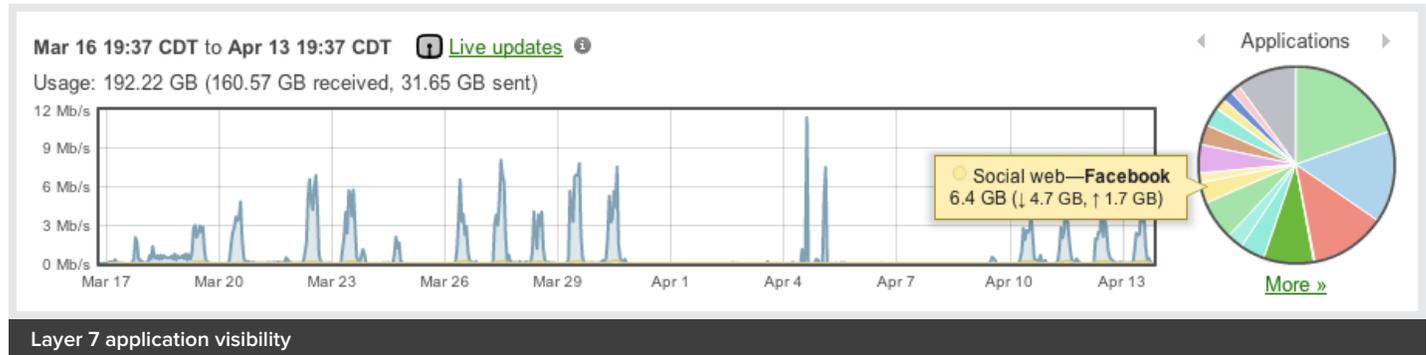
Meraki's cloud platform is designed to spread computation and storage across independent server clusters in geographically isolated datacenters. Any server or datacenter can fail without affecting customers or the rest of the system. Additionally, Meraki's datacenter design is field proven to support tens of thousands of endpoints.



Powerful Insight and Troubleshooting Tools

Meraki's cloud architecture delivers powerful insight and includes live tools integrated directly into the dashboard, giving instant analysis of performance, connectivity, and more. Using live tools, network administrators no longer need to go on site to perform routine troubleshooting tests. Visibility into devices, users, and applications gives administrators the information needed to enforce security policies and enable the performance needed in today's demanding network environments.

Troubleshooting tools such as ping, traceroute, throughput, and even live packet captures are integrated directly into the Meraki dashboard, dramatically reducing resolution times and enabling troubleshooting at remote locations without on-site IT staff.



Search: Go Clear [Advanced search >](#) [Help](#)

8 matches in 299 [Columns...](#) [Download as XML](#)

<input type="checkbox"/>	Description	IP address	MAC address	Usage	Access	Manufacturer
<input type="checkbox"/>	1 Bobby-Longs-iPad	172.16.30.51	a4:d1:d2:10:10:9d	11.3 MB	normal	Apple
<input type="checkbox"/>	2 Brian-Tobins-iPad	172.16.30.142	7c:8d:62:d7:91:58	853 KB	normal	Apple
<input type="checkbox"/>	3 iPad	172.16.30.49	70:de:e2:40:f3:02	145.8 MB	normal	Apple
<input type="checkbox"/>	4 Meraki-Marketing-iPad	172.16.30.67	b8:ff:61:b8:78:8d	331.3 MB	normal	Apple
<input type="checkbox"/>	5 PCC-iPad-1	172.16.30.183	7c:5d:62:db:32:f5	8.5 MB	normal	Apple
<input type="checkbox"/>	6 Wilson-John-Chans-iPad-2	172.16.30.135	a4:67:08:99:da:a8	33.5 MB	normal	Apple

User and Device Fingerprints

Network alerts

Enabled alerts

Send an email alert if:

- A switch goes offline for more than minutes
- Configuration settings are changed

Automatic E-mail Alerts

Packet capture

Switch:

Ports:

Output:

Duration (secs):

Ignore broadcast:

Filter expression:

[clear output](#) or [Start capture](#)

Live Troubleshooting Tools

Firmware upgrades

Upgrade window ⓘ

Two hours starting:

[What is this?](#)

Firmware upgrade

New firmware is available for your Meraki devices. They are scheduled to upgrade automatically on January 29 at 2:00 AM PST.

[Upgrade now](#)

Scheduled Firmware Updates

Out-of-Band Control Plane

Meraki's out-of-band control plane separates network management data from user data. Management data (e.g., configuration, statistics, monitoring, etc.) flows from Meraki devices (wireless access points, switches, and security appliances) to Meraki's cloud over a secure Internet connection. User data (web browsing, internal applications, etc.) does not flow through the cloud, instead flowing directly to its destination on the LAN or across the WAN.

Advantages of an out of band control plane:

Scalability

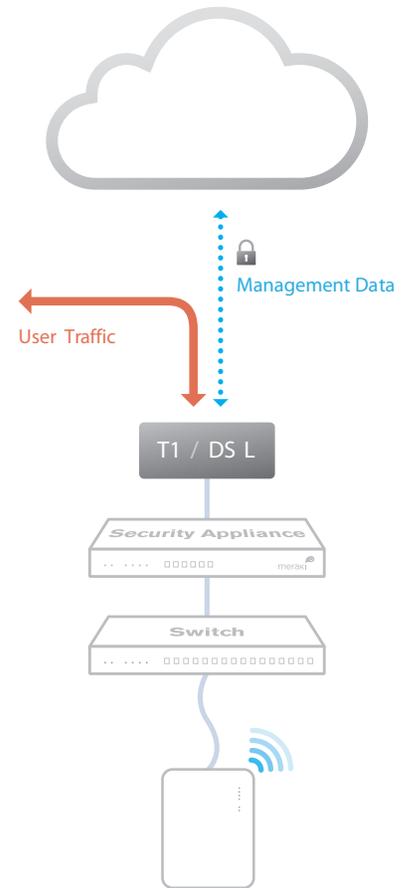
- Unlimited throughput: no centralized controller bottlenecks
- Add devices or sites without MPLS tunnels
- Add switching capacity without stacking limitations

Reliability

- Redundant cloud service provides high availability
- Network functions even if management traffic is interrupted

Security

- No user traffic passes through Meraki's datacenters
- Fully HIPAA / PCI compliant



What happens if a network loses connectivity to the Meraki cloud?

Because of Meraki's out of band architecture, most end users are not affected if Meraki wireless APs, switches, or security appliances cannot communicate with Meraki's cloud services (e.g., because of a temporary WAN failure):

- Users can access the local network (printers, file shares, etc.)
- If WAN connectivity is available, users can access the Internet
- Network policies (firewall rules, QoS, etc.) continue to be enforced
- Users can authenticate via 802.1X/RADIUS and can roam wirelessly between access points
- Users can initiate and renew DHCP leases
- Established VPN tunnels continue to operate
- Local configuration tools are available (e.g., device IP configuration)

While Meraki's cloud is unreachable, management, monitoring, and hosted services are temporarily unavailable:

- Configuration and diagnostic tools are unavailable
- Usage statistics are stored locally until the connection to the cloud is re-established, at which time they are pushed to the cloud
- Splash pages and related functionality are unavailable

Meraki Datacenter Design

Meraki's cloud management service is colocated in tier-1, SAS70 type II certified datacenters. These datacenters feature state of the art physical and cyber security and highly reliable designs. All Meraki services are replicated across multiple independent datacenters, so that customer-facing services fail over rapidly in the event of a catastrophic datacenter failure.



Redundancy

- Five geographically dispersed datacenters
- Every customer's data (network configuration and usage metrics) replicated across three independent datacenters
- Real-time data replication between datacenters (within 60 seconds)
- Nightly archival backups

Availability Monitoring

- 24x7 automated failure detection — all servers are tested every five minutes from multiple locations
- Rapid escalation procedures across multiple operations teams
- Independent outage alert system with 3x redundancy

Disaster Recovery

- Rapid failover to hot spare in event of hardware failure or natural disaster
- Out of band architecture preserves end-user network functionality, even if connectivity to Meraki's cloud services is interrupted
- Failover procedures drilled weekly

Cloud Services Security

- 24x7 automated intrusion detection
- Protected via IP and port-based firewalls
- Access restricted by IP address and verified by public key (RSA)
- Systems are not accessible via password access
- Administrators automatically alerted on configuration changes

Physical Security

- High security card keys and biometric readers control facility access
- All entries, exits, and cabinets are monitored by video surveillance
- Security guards monitor all traffic into and out of the datacenters 24x7, ensuring that entry processes are followed

Out-of-Band Architecture

- Only configuration and usage statistics are stored in the cloud
- End user data does not traverse through the datacenter
- All sensitive data (e.g., passwords) stored in encrypted format

Disaster Preparedness

- Datacenters feature sophisticated sprinkler systems with interlocks to prevent accidental water discharge
- Diesel generators provide backup power in the event of power loss
- UPS systems condition power and ensure orderly shutdown in the event of a full power outage
- Each datacenter has service from at least two top-tier carriers
- Seismic bracing for raised floor, cabinets, and support systems
- In the event of a catastrophic datacenter failure, services fail over to another geographically separate datacenter

Environmental Controls

- Over-provisioned HVAC systems provide cooling and humidity control
- Flooring systems are dedicated for air distribution

Certification

- Meraki datacenters are SAS70 type II certified
- PCI level 1 certified

Service Level Agreement

- Meraki's cloud management is backed by a 99.99% uptime SLA. See www.meraki.com/trust for details.

Security Tools for Administrators

In addition to Meraki's secure out-of-band architecture and hardened datacenters, Meraki provides a number of tools for administrators to maximize the security of their network deployments. These tools provide optimal protection, visibility, and control over your Meraki network.

Two-factor authentication

Two-factor authentication adds an extra layer of security to an organization's network by requiring access to an administrator's phone, in addition to her username and password, in order to log in to Meraki's cloud services. Meraki's two factor authentication implementation uses secure, convenient, and cost effective SMS technology: after entering their username and password, an administrator is sent an a one-time passcode via SMS, which they must enter before authentication is complete. In the event that a hacker guesses or learns an administrator's password, she still will not be able to access the organization's account, as the hacker does not have the administrator's phone. Meraki includes two-factor authentication for all enterprise users at no additional cost.

Password policies

Organization-wide security policies for Meraki accounts help protect access to the Meraki dashboard. These tools allow administrators to:

- Force periodic password changes (e.g., every 90 days)
- Require minimum password length and complexity
- Lock users out after repeated failed login attempts
- Disallow password reuse
- Restrict logins by IP address

Role-based administration

Role-based administration lets supervisors appoint administrators for specific subsets of an organization, and specify whether they have read-only access to reports and troubleshooting tools, administer managed guest access, or can make configuration changes to the network. This minimizes the chance of accidental or malicious mis-configuration, and restricts errors to isolated parts of the network.

Configuration change alerts

The Meraki system can automatically send human-readable email and text message alerts when configuration changes are made, enabling the entire IT organization to stay abreast of new policies. Change alerts are particularly important with large or distributed IT organizations.

Configuration and login audits

Meraki logs the time, IP, and approximate location (city, state) of logged in administrators. A searchable configuration change log indicates what configuration changes were made, who they were made by, and which part of the organization the change occurred in.

SSL certificates

Meraki accounts can only be accessed via https, ensuring that all communication between an administrator's browser and Meraki's cloud services is encrypted.

Idle Timeout

30 seconds before being logged out, users are shown a notice that allows them to extend their session. Once time expires, users are asked to log in again.

Security

Password expiration	<input checked="" type="checkbox"/> Force users to change their password every <input type="text" value="90"/> days
Used passwords	<input checked="" type="checkbox"/> Force users to choose passwords different from their past <input type="text" value="5"/> passwords
Strong passwords	<input checked="" type="checkbox"/> Force users to choose strong passwords for their accounts What is this?
Account lockout	<input checked="" type="checkbox"/> Lock accounts after <input type="text" value="5"/> consecutive failed login attempts What is this?
Idle timeout	<input checked="" type="checkbox"/> Logout users after <input type="text" value="15"/> minutes of inactivity What is this?
Two-factor authentication	<input checked="" type="checkbox"/> Force users to set up and use two-factor authentication What is this?

Password Security Policies

Administration

Organization admins	User	Account status	Privileges	Actions
These users have administrator access to all of your networks in Dashboard. You can add per-network administrators on the "Network-wide settings" page under the Configure tab.	Mick Johnson (mick@meraki.com)	Active	Full	Log out X
	Chris Hilsenbeck (chris@meraki.com)	Active	Full	Log out X
	Bret Hull (bwhull@meraki.com)	Pending ⓘ	Read-only	Log out X
	<input type="text" value="Add an existing user..."/>	or	<input type="button" value="Create new user"/>	

Role-Based Administration

Meraki Inc. change log

<input type="text" value="Search..."/>				
Time (UTC) ▼	Admin	Network	SSID	Page
Jun 27 03:12	Mick Johnson	Teleworker - Mick Johnson MX60		Firewall
Jun 22 18:20	Mick Johnson	Meraki Corp - Switches		Switch ports
Jun 22 17:26	Mick Johnson	Meraki Corp - Switches		Switch ports
Jun 20 23:31	Chris Hilsenbeck			Organization settings
Jun 20 23:31	Chris Hilsenbeck			Organization settings
Jun 20 22:28	Mick Johnson	Meraki Corp - Firewall		DHCP
Jun 20 21:07	Network Operations	Branch - London - Switches		Switch ports

Configuration Change Audits

MR42

Dual-band 802.11ac Wave 2 access point with separate radios dedicated to security, RF management, and Bluetooth



High performance 802.11ac Wave 2 wireless

The Cisco Meraki MR42 is a four radio, cloud-managed 3x3 MU-MIMO 802.11ac Wave 2 access point. Designed for next-generation deployments in offices, schools, hospitals, shops, and hotels, the MR42 offers performance, security, and simple management.

The MR42 provides a maximum 1.9 Gbps frame rate with concurrent 802.11ac Wave 2 and 802.11n 3x3:3 MIMO radios. A dedicated third radio provides real-time WIDS/WIPS with automated RF optimization. In addition, an integrated fourth radio delivers Bluetooth Low Energy (BLE) scanning and Beacons functionality.

With a combination of cloud management, high performance hardware, multiple radios, and advanced software features, the MR42 makes an outstanding platform for the most demanding of uses today and tomorrow. These uses include high-density deployments and support for applications like voice and high-definition video.

MR42 and Meraki cloud management: a powerful combination

Management of the MR42 is handled through the Meraki cloud, enabling rapid deployment across multiple sites without the need for time-consuming training or costly certifications. Since the

MR42 is self-configuring and managed over the web, it can be deployed at a remote location in a matter of minutes, even without on-site IT staff.

24/7 monitoring via the Meraki cloud delivers real-time alerts if the network encounters problems. Remote diagnostic tools enable immediate troubleshooting over the web, meaning multi-site, distributed networks can be easily managed.

The MR42's firmware is automatically kept up to date via the cloud. New features, bug fixes, and enhancements are delivered seamlessly over the web. This means no manual software updates to download or missing security patches to worry about.

Product Highlights

- » 3x3:3 MU-MIMO 802.11ac Wave 2
- » 1.9 Gbps aggregate dual-band frame rate
- » 24x7 real-time WIDS/WIPS and spectrum analytics via dedicated third radio
- » Integrated Bluetooth Low Energy Beacon and scanning radio
- » Enhanced transmit power and receive sensitivity
- » Full-time WiFi location tracking via dedicated 3rd radio
- » Integrated enterprise security and guest access
- » Application-aware traffic shaping
- » Optimized for voice and video
- » Self-configuring, plug-and-play deployment
- » Sleek, low-profile design blends into office environments

Features

Aggregate data rate of up to 1.9 Gbps

A 5 GHz 3x3:3 radio and a 2.4 GHz 3x3:3 radio offer a combined aggregate dual-band frame rate of 1.9 Gbps. Supports up to 1,300 Mbps in the 5 GHz band and 600 Mbps in the 2.4 GHz band. Technologies like transmit beamforming and enhanced receive sensitivity allow the MR42 to support a higher client density than typical enterprise-class access points, resulting in fewer APs for a given deployment.

Multi User Multiple Input Multiple Output (MU-MIMO)

With support for the 802.11ac Wave 2 standard, the MR42 offers MU-MIMO for efficient transmission to multiple clients. Especially suited for environments with numerous mobile devices, MU-MIMO enables multiple clients to receive data simultaneously. This increases the total network performance and improves the end user experience.

Third radio delivers 24x7 wireless security and RF analytics

The MR42's sophisticated, dedicated dual-band radio scans the environment continuously, characterizing RF interference and containing wireless threats like rogue access points. No longer choose between wireless security, advanced RF analysis, and serving client data: a dedicated third radio means that all three occur in real-time, without any impact to client traffic or AP throughput.

Bluetooth Low Energy Beacon and scanning radio

An integrated fourth radio for Bluetooth Low Energy (BLE) provides seamless deployment of BLE Beacon functionality and effortless visibility of BLE devices. The MR42 enables the next generation of location-aware applications while futureproofing your deployment, making it ready for any new customer engagement strategies.

Automatic cloud-based RF optimization

The MR42's sophisticated, automated RF optimization means that there is no need for the dedicated hardware and RF expertise typically required to tune a wireless network. The RF analysis data collected by the dedicated third radio is continuously fed back to the Meraki cloud. This then automatically tunes the MR42's channel selection, transmit power, and client connection settings for optimal performance under even the most challenging RF conditions.

Integrated enterprise security and guest access

The MR42 features integrated, easy-to-use security technologies to provide secure connectivity for employees and guests alike. Advanced security features such as AES hardware-based encryption and WPA2-Enterprise authentication with 802.1X and Active Directory integration provide wire-like security while still being easy to configure. One-click guest isolation provides secure, Internet-only access for visitors. Our policy firewall (Identity Policy Manager) enables granular access control at the group or device level. PCI compliance reports check network settings against PCI requirements to simplify secure retail deployments.

Enterprise Mobility Management (EMM) & Mobile Device Management (MDM) integration

Meraki Systems Manager natively integrates with the MR42 to offer simple automatic security that is context aware. Rapidly deploy self-service MDM enrolment without installing additional equipment or dynamically tie firewall policies to client posture. End-to-end security has never been so easy.

Application-aware traffic shaping

The MR42 includes an integrated layer 7 packet inspection, classification, and control engine, enabling you to set QoS policies based on traffic type. Prioritize your mission critical applications, while setting limits on recreational traffic, e.g., peer-to-peer and video streaming. Importantly, controls can be implemented per network, per SSID,

per user group, or per individual user.

Voice and video optimizations

Industry standard QoS features are easy to configure and come built in. Wireless Multi Media (WMM) access categories, 802.1p, and DSCP industry standards all ensure important applications get prioritized correctly, not only on the MR42, but on other steps in the traffic flow. Unscheduled Automatic Power Save Delivery (U-APSD) ensures minimal battery drain on wireless VoIP phones.

Low-profile, modern, user friendly design

Despite its extensive capabilities, the MR42 is packaged in a sleek, low-profile enclosure that blends seamlessly into any environment. This makes it ideal for modern offices, high end retail locations, and discrete deployments. Using human interface design principles, even the physical installation and mounting experience has been developed to eliminate error and simplify installation process.

Self-configuring, self-maintaining, always up-to-date

When plugged in, the MR42 automatically connects to the Meraki cloud, downloads its configuration, and joins the appropriate network. If new firmware is required, this is retrieved by the AP and updated automatically. This ensures the network is maintained with bug fixes, security updates, and new features managed for you.

Advanced analytics

Drill down into exceptional detail with highly granular traffic analytics. Understand how your network is used with access to numerous datasets. Extend your visibility to the physical world with journey tracking through location analytics. View visitor numbers, dwell time, repeat visit rates, and track trends. Fully customize your analysis with raw data available via simple APIs.

Specifications

Radios

2.4 GHz 802.11b/g/n client access radio

5 GHz 802.11a/n/ac client access radio

2.4 GHz & 5 GHz dual-band WIDS/WIPS, spectrum analysis, & location analytics radio

2.4 GHz Bluetooth radio with Bluetooth Low Energy (BLE) and Beacon support

Concurrent operation of all four radios

Max aggregate frame rate 1.9 Gbit/s

Supported frequency bands (country-specific restrictions apply):

2.412-2.484 GHz

5.150-5.250 GHz (UNII-1)

5.250-5.350 GHz (UNII-2)

5.470-5.600, 5.660-5.725 GHz (UNII-2e)

5.725 -5.825 GHz (UNII-3)

Antenna

Integrated omni-directional antennas (5 dBi gain at 2.4 GHz, 5.5 dBi gain at 5 GHz)

Individual antenna elements for each radio

802.11ac Wave 2 and 802.11n Capabilities

3 x 3 multiple input, multiple output (MIMO) with three spatial streams

SU-MIMO and MU-MIMO support

Maximal ratio combining (MRC) & beamforming

20 and 40 MHz channels (802.11n), 20, 40, and 80

MHz channels (802.11ac)

Up to 256-QAM on both 2.4 GHz & 5 GHz

Packet aggregation

Power

Power over Ethernet: 37 - 57 V (802.3at required with functionality-restricted 802.3af mode supported)

Alternative 12 V DC input

Power consumption: 20W max (802.3at)

Power over Ethernet injector and DC adapter sold separately

LED Indicators

Multi color & multi function status indicator

Interfaces

1x 10/100/1000Base-T Ethernet (RJ45)

1x DC power connector (5.5 mm x 2.5 mm, center positive)

Mounting

All standard mounting hardware included

Desktop, ceiling, and wall mount capable

Ceiling tile rail (9/16, 15/16 or 1 1/2" flush or recessed rails), assorted cable junction boxes

Bubble level on mounting cradle for accurate horizontal wall mounting

Physical Security

Two security screw options (included)

Kensington lock hard point

Concealed mount plate with anti-tamper cable bay

Environment

Operating temperature: 32 °F to 104 °F (0 °C to 40 °C)

Humidity: 5 to 95% non-condensing

Physical Dimensions

10.0" x 6.1" x 1.5" (253.4 mm x 155.8 mm x 37.1 mm), not including deskmount feet or mount plate

Weight: 25 oz (0.7kg)

Security

Integrated Layer 7 firewall with mobile device policy management

Real-time WIDS/WIPS with alerting and automatic rogue AP containment with Air Marshal

Flexible guest access with device isolation

VLAN tagging (802.1q) and tunneling with IPsec VPN

PCI compliance reporting

WEP, WPA, WPA2-PSK, WPA2-Enterprise with 802.1X

EAP-TLS, EAP-TTLS, EAP-MSCHAPv2, EAP-SIM

TKIP and AES encryption

Enterprise Mobility Management (EMM) & Mobile Device Management (MDM) integration

Quality of Service

Advanced Power Save (U-APSD)

WMM Access Categories with DSCP and 802.1p support

Layer 7 application traffic identification and shaping

Mobility

PMK and OKC credential support for fast

Layer 2 roaming

Distributed or centralized layer 3 roaming

Analytics

Embedded location analytics reporting and device tracking

Global L7 traffic analytics reporting per network, per device, per application

Warranty

Lifetime hardware warranty with advanced replacement included

Ordering Information

MR42-HW: Meraki MR42 Cloud Managed 802.11ac AP

MA-PWR-30W-XX: Meraki AC Adapter for MR Series (XX = US, EU, UK or AU)

MA-INJ-4-XX: Cisco Meraki 802.3at Power over Ethernet Injector (XX = US, EU, UK or AU)

Note: Meraki access point license required.

Compliance & Standards

IEEE Standards

802.11b

802.11g

802.11a

802.11n

802.11ac

802.11h

802.11i

802.11e

802.11k

802.11r

802.11u

Safety Approvals

UL 60950-1

CAN/CSA-C22.2 No. 60950-1

IEC 60950-1

EN 60950-1

UL 2043 (Plenum Rating)

Radio Approvals

FCC Part 15C, 15E

RSS-247 (Canada)

EN 300 328, EN 301 893 (Europe)

AS/NZS 4268 (Australia/NZ)

NOM-121 (Mexico)

NCC LP0002 (Taiwan)

For additional country-specific regulatory information, please contact Meraki sales

EMI Approvals (Class B)

FCC Part 15B

ICES-003 (Canada)

EN 301 489-1-17, EN 55032, EN 55024 (Europe)

CISPR 22 (Australia/NZ)

VCCI (Japan)

Exposure Approvals

FCC Part 2

RSS-102 (Canada)

EN 50385, EN 62311, EN 62479 (Europe)

AS/NZS 2772 (Australia/NZ)



RF Performance Table

2.4 GHz

Operating Band	Operation Mode	Data Rate	TX Power	RX Sensitivity
2.4 GHz	802.11b	1 Mb/s	21 dBm	-98 dBm
		2 Mb/s	21 dBm	-93.5 dBm
		5.5 Mb/s	21 dBm	-92 dBm
		11 Mb/s	21 dBm	-86 dBm
2.4 GHz	802.11g	6 Mb/s	21 dBm	-93 dBm
		9 Mb/s	21 dBm	-92.5 dBm
		12 Mb/s	20.5 dBm	-91 dBm
		18 Mb/s	20.5 dBm	-89 dBm
		24 Mb/s	19 dBm	-85 dBm
		36 Mb/s	19.5 dBm	-82.5 dBm
		48 Mb/s	18.5 dBm	-78 dBm
		54 Mb/s	18.5 dBm	-76 dBm
2.4 GHz	802.11n (HT20)	MCS0/8/16	21/24/25.7 dBm	-93/-96/-97.7 dBm
		MCS1/9/17	20.5/23.5/25.2 dBm	-89/-92/-93.7 dBm
		MCS2/10/18	20.5/23.5/25.2 dBm	-87/-90/-91.7 dBm
		MCS3/11/19	19/22/23.7 dBm	-83/-86/-87.7 dBm
		MCS4/12/20	19.5/22.5/24.2 dBm	-80/-83/-84.7 dBm
		MCS5/13/21	18.5/21.5/23.2 dBm	-76/-79/-80.7 dBm
		MCS6/14/22	18.5/21.5/23.2 dBm	-74/-77/-78.7 dBm
		MCS7/15/23	18/21/22.7 dBm	-73/-76/-77.7 dBm
2.4 GHz	802.11n (VHT20)	MCS0/0/0	21/24/25.7 dBm	-93/-96/-97.7 dBm
		MCS1/1/1	20.5/23.5/25.2 dBm	-89/-92/-93.7 dBm
		MCS2/2/2	20.5/23.5/25.2 dBm	-87/-90/-91.7 dBm
		MCS3/3/3	19/22/23.7 dBm	-83/-86/-87.7 dBm
		MCS4/4/4	19.5/22.5/24.2 dBm	-80/-83/-84.7 dBm
		MCS5/5/5	18.5/21.5/23.2 dBm	-76/-79/-80.7 dBm
		MCS6/6/6	18.5/21.5/23.2 dBm	-74/-77/-78.7 dBm
		MCS7/7/7	18/21/22.7 dBm	-73/-76/-77.7 dBm
		MCS8/8/8	17/xx/xx dBm	-73/xx/xx dBm
MCS9/9/9	17/xx/xx dBm	-68/xx/x dBm		

RF Performance Table

5 GHz

Operating Band	Operation Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11a	6 Mb/s	22 dBm	-92 dBm
		9 Mb/s	22 dBm	-91 dBm
		12 Mb/s	22 dBm	-90 dBm
		18 Mb/s	22 dBm	-88 dBm
		24 Mb/s	20 dBm	-84 dBm
		36 Mb/s	19 dBm	-81 dBm
		48 Mb/s	19 dBm	-76 dBm
		54 Mb/s	19 dBm	-74 dBm
5 GHz	802.11n (HT20)	MCS0/8/16	22/25/26.7 dBm	-92/-95/-96.7 dBm
		MCS1/9/17	22/25/26.7 dBm	-88/-91/-92.7 dBm
		MCS2/10/18	22/25/26.7 dBm	-86/-89/-90.7 dBm
		MCS3/11/19	22/23/24.7 dBm	-82/-85/-86.7 dBm
		MCS4/12/20	19/22/23.7 dBm	-79/-82/-83.7 dBm
		MCS5/13/21	19/22/23.7 dBm	-74/-77/-78.7 dBm
		MCS6/14/22	19/22/23.7 dBm	-73/-76/-77.7 dBm
		MCS7/15/23	19/22/23.7 dBm	-71/-74/-75.7 dBm
5 GHz	802.11n (HT40)	MCS0/8/16	2/25/26.7 dBm	-88/-91/-92.7 dBm
		MCS1/9/17	21.5/24.5/26.2 dBm	-85/-88/-89.7 dBm
		MCS2/10/18	20/23/24.7 dBm	-83/-86/-87.7 dBm
		MCS3/11/19	20/23/24.7 dBm	-79/-82/-83.7 dBm
		MCS4/12/20	19.5/22.5/24.2 dBm	-76/-79/-80.7 dBm
		MCS5/13/21	19.5/22.5/24.2 dBm	-72/-75/-76.7 dBm
		MCS6/14/22	18.5/21.5/23.2 dBm	-70/-73/-74.7 dBm
		MCS7/15/23	18/21/22.7 dBm	-69/-72/-73.7 dBm

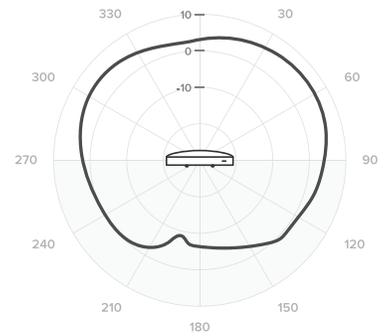
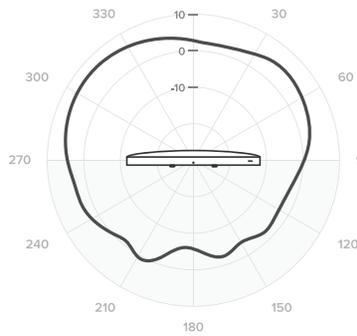
RF Performance Table

5 GHz

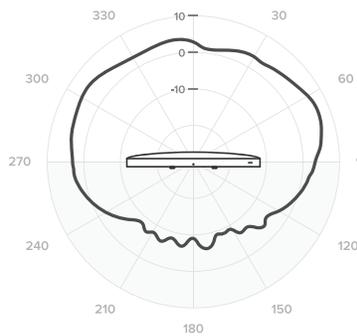
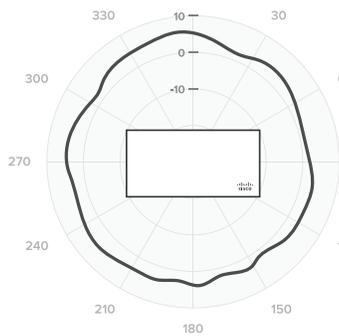
Operating Band	Operation Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11ac (HT20)	MCS0/0/0	22/25/26.7 dBm	-92/-95/-96.7 dBm
		MCS1/1/1	22/25/26.7 dBm	-88/-91/-92.7 dBm
		MCS2/2/2	22/25/26.7 dBm	-86/-89/-90.7 dBm
		MCS3/3/3	22/23/24.7 dBm	-82/-85/-86.7 dBm
		MCS4/4/4	19/22/23.7 dBm	-79/-82/-83.7 dBm
		MCS5/5/5	19/22/23.7 dBm	-74/-77/-78.7 dBm
		MCS6/6/6	19/22/23.7 dBm	-73/-76/-77.7 dBm
		MCS7/7/7	19/22/23.7 dBm	-71/-74/-75.7 dBm
		MCS8/8/8	18.5/21.5/23.2 dBm	-67/-70/-71.7 dBm
		MCS9/9/9	18.5/21.5/23.2 dBm	-63/-66/-67.7 dBm
5 GHz	802.11ac (HT40)	MCS0/0/0	22/25/26.7 dBm	-88/-91/-92.7 dBm
		MCS1/1/1	21.5/24.5/26.2 dBm	-85/-88/-89.7 dBm
		MCS2/2/2	20/23/24.7 dBm	-83/-86/-87.7 dBm
		MCS3/3/3	20/23/24.7 dBm	-79/-82/-83.7 dBm
		MCS4/4/4	19.5/22.5/24.2 dBm	-76/-79/-80.7 dBm
		MCS5/5/5	19.5/22.5/24.2 dBm	-72/-75/-76.7 dBm
		MCS6/6/6	18.5/21.5/23.2 dBm	-70/-73/-74.7 dBm
		MCS7/7/7	18/21/22.7 dBm	-69/-72/-73.7 dBm
		MCS8/8/8	18/21/22.7 dBm	-67/-70/-71.7 dBm
		MCS9/9/9	18/21/22.7 dBm	-63/-66/-67.7 dBm
5 GHz	802.11ac (VHT80)	MCS0/0/0	22/25/26.7 dBm	-86/-89/-90.7 dBm
		MCS1/1/1	21.5/24.5/26.2 dBm	-82/-85/-86.7 dBm
		MCS2/2/2	21.5/24.5/26.2 dBm	-80/-83/-84.7 dBm
		MCS3/3/3	20.5/23.5/24.2 dBm	-76/-79/-80.7 dBm
		MCS4/4/4	20.5/23.5/24.2 dBm	-73/-76/-77.7 dBm
		MCS5/5/5	19.5/22.5/24.2 dBm	-69/-72/-73.7 dBm
		MCS6/6/6	19/22/23.7 dBm	-67/-70/-71.7 dBm
		MCS7/7/7	19/22/23.7 dBm	-66/-69/-70.7 dBm
		MCS8/8/8	18/21/22.7 dBm	-61/-64/-65.7 dBm
		MCS9/9/9	18/21/22.7 dBm	-59/-62/-63.7 dBm

Signal Coverage Patterns

Radiation Pattern for 2.4GHz Antennas



Radiation Pattern for 5GHz Antennas



MR45

Dual-band 802.11ax compatible access point with separate radios dedicated to security, RF management, and Bluetooth



High Performance 802.11ax compatible wireless

The Cisco Meraki MR45 is a cloud-managed 4x4:4 802.11ax compatible access point that raises the bar for wireless performance and efficiency. Designed for next-generation deployments in offices, schools, hospitals, shops, and hotels, the MR45 offers high throughput, enterprise-grade security, and simple management.

The MR45 provides a maximum of 3.5 Gbps* aggregate frame rate with concurrent 2.4 Ghz and 5 Ghz radios. A dedicated third radio provides real-time WIDS/WIPS with automated RF optimization, and a fourth integrated radio delivers Bluetooth scanning and beaconing.

With the combination of cloud management, high performance hardware, multiple radios, and advanced software features, the MR45 makes an outstanding platform for the most demanding of uses—including high-density deployments and bandwidth or performance-intensive applications like voice and high-definition video.

MR45 and Meraki cloud management

Management of the MR45 is through the Meraki cloud, with an intuitive browser-based interface that enables rapid deployment without time-consuming training or costly certifications. Since the MR45 is self-configuring and managed over the web, it can be deployed at a remote location in a matter of minutes, even without on-site IT staff.

24x7 monitoring via the Meraki cloud delivers real-time alerts if the network encounters problems. Remote diagnostic tools enable immediate troubleshooting over the web so that distributed networks can be managed with a minimum of hassle.

The MR45's firmware is automatically kept up to date via the cloud. New features, bug fixes, and enhancements are delivered seamlessly over the web. This means no manual software updates to download or missing security patches to worry about.

Product Highlights

- 4 x 4 802.11ax with MU-MIMO and OFDMA
Multi-Gigabit 1G/2.5G Ethernet
- 3.5 Gbps dual-radio aggregate frame rate
- 24 x 7 real-time WIPS/WIDS and spectrum analytics via dedicated third radio
- Integrated Bluetooth Low Energy Beacon and scanning radio
- Enhanced transmit power and receive sensitivity
- Full-time Wi-Fi location tracking via dedicated 3rd radio
- Integrated enterprise security and guest access
- Application-aware traffic shaping
- Optimized for voice and video
- Self-configuring, plug-and-play deployment
- Sleek, low-profile design blends into office environments

Features

Dual-radio aggregate frame rate of up to 3.5 Gbps*

A 5 GHz 4x4:4 radio and a 2.4 GHz 4x4:4 radio offer a combined dual-radio aggregate frame rate of 3.5 Gbps*, with up to 2,402 Mbps in the 5 GHz band and 1,147 Mbps in the 2.4 GHz band. Technologies like transmit beamforming and enhanced receive sensitivity allow the MR45 to support a higher client density than typical enterprise-class access points, resulting in better performance for more clients, from each AP.

Multi User Multiple Input Multiple Output (MU-MIMO)

With support for features of 802.11ax, the MR45 offers MU-MIMO and OFDMA for more efficient transmission to multiple clients. Especially suited to environments with numerous mobile devices, MU-MIMO enables multiple clients to receive data simultaneously. This increases the total network performance and improves the end user experience.

Multigigabit Ethernet

The MR45 has an integrated multigigabit uplink that ensures maximum capacity for this high performance 802.11ax compatible hardware configuration.

Bluetooth Low Energy Beacon and scanning radio

An integrated fourth Bluetooth radio provides seamless deployment of BLE Beacon functionality and effortless visibility of Bluetooth devices. The MR45 enables the next generation of location-aware applications while future proofing deployments, ensuring it's ready for any new customer engagement strategies.

Automatic cloud-based RF optimization

The MR45's sophisticated and automated RF optimization means that there is no need for the dedicated hardware and RF expertise typically required to tune a wireless network. The RF data collected by the dedicated third radio is continuously fed back to the Meraki cloud. This data is then used to automatically tune the channel selection, transmit power, and client connection settings for optimal performance under even the most challenging RF conditions.

Integrated enterprise security and guest access

The MR45 features integrated, easy-to-use security technologies to provide secure connectivity for employees and guests alike. Advanced security features such as AES hardware-based encryption and Enterprise authentication with 802.1X and Active Directory integration provide wired-like security while still being easy to configure. One-click guest isolation provides secure, Internet-only access for visitors. PCI compliance reports check network settings against PCI requirements to simplify secure retail deployments.

3rd radio delivers 24x7 wireless security and RF analytics

The MR45's dedicated dual-band scanning and security radio continually assesses the environment, characterizing RF interference and containing wireless threats like rogue access points. There's no need to choose between wireless security, advanced RF analysis, and serving client data - a dedicated third radio means that all functions occur in real-time, without any impact to client traffic or AP throughput.

Enterprise Mobility Management (EMM) & Mobile Device Management (MDM) integration

Meraki Systems Manager natively integrates with the MR45 to offer automatic, context-aware security. Systems Manager's self-service enrollment helps to rapidly deploy MDM without installing additional equipment, and then dynamically tie firewall and traffic shaping policies to client posture.

Application-aware traffic shaping

The MR45 includes an integrated Layer 7 packet inspection, classification, and control engine, enabling the configuration of QoS policies based on traffic type, helping to prioritize mission critical applications while setting limits on recreational traffic like peer-to-peer and video streaming. Policies can be implemented per network, per SSID, per user group, or per individual user for maximum flexibility and control.

* Refers to maximum over-the-air data frame rate capability of the radio chipsets, and may exceed data rates allowed by IEEE-compliant operation.

Features (cont'd)

Voice and video optimization

Industry standard QoS features are built-in and easy to configure. Wireless Multi Media (WMM) access categories, 802.1p, and DSCP standards support all ensure important applications get prioritized correctly, not only on the MR45, but on other devices in the network. Unscheduled Automatic Power Save Delivery (U-APSD) and new Target Wait Time features in 802.11ax clients ensure minimal battery drain on wireless VoIP phones.

Self-configuring, self-maintaining, always up-to-date

When plugged in, the MR45 automatically connects to the Meraki cloud, downloads its configuration, and joins the appropriate network. If new firmware is required, this is retrieved by the AP and updated automatically. This ensures the network is kept up-to-date with bug fixes, security updates, and new features.

Advanced analytics

Wireless Health is a tool integrated within the Meraki Dashboard to offer powerful heuristics for smarter troubleshooting of customer networks. Drilling down into the details of network usage provides highly granular traffic analytics. Visibility into the physical world can be enhanced with journey tracking through location analytics. Visitor numbers, dwell time, repeat visit rates, and track trends can all be easily monitored in the dashboard and deeper analysis is enabled with raw data available via simple APIs.

MR45 Tx / Rx Tables | 2.4 GHz

Operating Band	Operating Mode	Data Rate	TX Power (conducted)	RX Sensitivity
2.4 GHz	802.11b	1 Mb/s	26.0 dBm	-99 dBm
		2 Mb/s	26.0 dBm	-94 dBm
		5.5 Mb/s	26.0 dBm	-94 dBm
		11 Mb/s	26.0 dBm	-90 dBm
2.4 GHz	802.11g	6 Mb/s	26.0 dBm	-94 dBm
		9 Mb/s	26.0 dBm	-93 dBm
		12 Mb/s	24.0 dBm	-90 dBm
		18 Mb/s	24.0 dBm	-89 dBm
		24 Mb/s	23.0 dBm	-86 dBm
		36 Mb/s	23.0 dBm	-83 dBm
		48 Mb/s	22.0 dBm	-78 dBm
		54 Mb/s	22.0 dBm	-77 dBm
2.4 GHz	802.11n (HT20)	MCS0	26.0 dBm	-95 dBm
		MCS1	26.0 dBm	-92 dBm
		MCS2	24.0 dBm	-90 dBm
		MCS3	24.0 dBm	-87 dBm
		MCS4	24.0 dBm	-84 dBm
		MCS5	22.0 dBm	-80 dBm
		MCS6	22.0 dBm	-70 dBm
		MCS7	21.0 dBm	-77 dBm

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
2.4 GHz	802.11ac (VHT20)	MCS0	26.0 dBm	-95 dBm
		MCS1	26.0 dBm	-92 dBm
		MCS2	24.0 dBm	-90 dBm
		MCS3	24.0 dBm	-87 dBm
		MCS4	24.0 dBm	-84 dBm
		MCS5	22.0 dBm	-80 dBm
		MCS6	22.0 dBm	-79 dBm
		MCS7	21.0 dBm	-77 dBm
		MCS8	20.0 dBm	-73 dBm
2.4 GHz	802.11ax (HE20)	MCS0	26.0 dBm	-95 dBm
		MCS1	26.0 dBm	-93 dBm
		MCS2	26.0 dBm	-91 dBm
		MCS3	24.0 dBm	-88 dBm
		MCS4	24.0 dBm	-85 dBm
		MCS5	24.0 dBm	-81 dBm
		MCS6	23.0 dBm	-79 dBm
		MCS7	22.0 dBm	-77 dBm
		MCS8	21.0 dBm	-74 dBm
		MCS9	20.0 dBm	-72 dBm
		MCS10	19.0 dBm	-68 dBm
		MCS11	19.0 dBm	-66 dBm

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
2.4 GHz	802.11ac (VHT40)	MCS0	24.0 dBm	-92 dBm
		MCS1	24.0 dBm	-89 dBm
		MCS2	24.0 dBm	-87 dBm
		MCS3	24.0 dBm	-84 dBm
		MCS4	24.0 dBm	-81 dBm
		MCS5	23.0 dBm	-77 dBm
		MCS6	22.0 dBm	-76 dBm
		MCS7	23.0 dBm	-74 dBm
		MCS8	20.5 dBm	-71 dBm
		MCS9	20.0 dBm	-69 dBm
2.4 GHz	802.11ax (HE40)	MCS0	24.0 dBm	-92 dBm
		MCS1	24.0 dBm	-91 dBm
		MCS2	24.0 dBm	-88 dBm
		MCS3	24.0 dBm	-85 dBm
		MCS4	24.0 dBm	-82 dBm
		MCS5	23.0 dBm	-78 dBm
		MCS6	22.0 dBm	-79 dBm
		MCS7	21.5 dBm	-75 dBm
		MCS8	20.5 dBm	-71 dBm
		MCS9	20.0 dBm	-69 dBm
		MCS10	18.5 dBm	-65 dBm
		MCS11	18.5 dBm	-63 dBm

MR45 Tx / Rx Tables | 5 GHz

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11a	6 Mb/s	26.0 dBm	-93 dBm
		9 Mb/s	26.0 dBm	-91 dBm
		12 Mb/s	24.0 dBm	-89 dBm
		18 Mb/s	24.0 dBm	-87 dBm
		24 Mb/s	23.0 dBm	-84 dBm
		36 Mb/s	23.0 dBm	-81 dBm
		48 Mb/s	22.0 dBm	-77 dBm
		54 Mb/s	22.0 dBm	-75 dBm
5 GHz	802.11n (HT20)	MCS0	26.0 dBm	-93 dBm
		MCS1	26.0 dBm	-90 dBm
		MCS2	24.0 dBm	-88 dBm
		MCS3	24.0 dBm	-85 dBm
		MCS4	24.0 dBm	-82 dBm
		MCS5	23.0 dBm	-78 dBm
		MCS6	22.0 dBm	-77 dBm
		MCS7	22.0 dBm	-75 dBm
5 GHz	802.11n (HT40)	MCS0	24.0 dBm	-90 dBm
		MCS1	24.0 dBm	-88 dBm
		MCS2	24.0 dBm	-85 dBm
		MCS3	24.0 dBm	-82 dBm
		MCS4	24.0 dBm	-79 dBm
		MCS5	23.0 dBm	-75 dBm
		MCS6	22.0 dBm	-74 dBm
		MCS7	22.0 dBm	-73 dBm

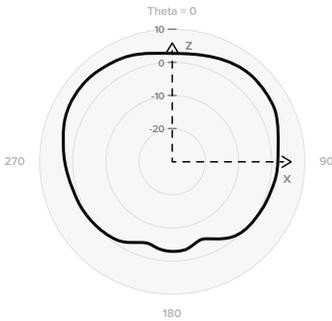
Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11ac (VHT20)	MCS0	26.0 dBm	-93 dBm
		MCS1	26.0 dBm	-90 dBm
		MCS2	24.0 dBm	-88 dBm
		MCS3	24.0 dBm	-85 dBm
		MCS4	24.0 dBm	-82 dBm
		MCS5	23.0 dBm	-78 dBm
		MCS6	22.0 dBm	-77 dBm
		MCS7	22.0 dBm	-75 dBm
		MCS8	21.0 dBm	-71 dBm
5 GHz	802.11ac (VHT40)	MCS0	24.0 dBm	-90 dBm
		MCS1	24.0 dBm	-88 dBm
		MCS2	24.0 dBm	-85 dBm
		MCS3	24.0 dBm	-82 dBm
		MCS4	24.0 dBm	-79 dBm
		MCS5	23.0 dBm	-75 dBm
		MCS6	22.0 dBm	-74 dBm
		MCS7	22.0 dBm	-73 dBm
		MCS8	20.5 dBm	-69 dBm
		MCS9	20.0 dBm	-67 dBm
5 GHz	802.11ac (VHT80)	MCS0	24.0 dBm	-87 dBm
		MCS1	24.0 dBm	-85 dBm
		MCS2	24.0 dBm	-82 dBm
		MCS3	24.0 dBm	-79 dBm
		MCS4	24.0 dBm	-77 dBm
		MCS5	22.0 dBm	-72 dBm
		MCS6	22.0 dBm	-71 dBm
		MCS7	20.0 dBm	-69 dBm
		MCS8	19.0 dBm	-65 dBm
		MCS9	19.0 dBm	-64 dBm

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11ax (HE20)	MCS0	26.0 dBm	-93 dBm
		MCS1	26.0 dBm	-91 dBm
		MCS2	24.0 dBm	-89 dBm
		MCS3	24.0 dBm	-86 dBm
		MCS4	24.0 dBm	-83 dBm
		MCS5	23.0 dBm	-79 dBm
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		MCS4	24.0 dBm	-81 dBm
		MCS5	23.0 dBm	-76 dBm
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		MCS7	21.5 dBm	-73 dBm
		MCS8	20.5 dBm	-69 dBm
		MCS9	20.0 dBm	-68 dBm
		MCS10	18.5 dBm	-64 dBm
MCS11	18.5 dBm	-61 dBm		

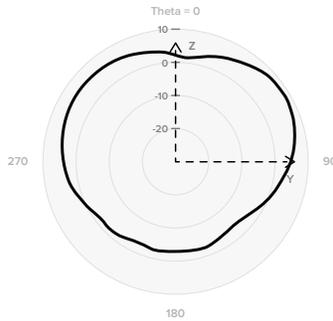
Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11ax (HE80)	MCS0	24.0 dBm	-87 dBm
		MCS1	24.0 dBm	-85 dBm
		MCS2	24.0 dBm	-83 dBm
		MCS3	24.0 dBm	-80 dBm
		MCS4	24.0 dBm	-77 dBm
		MCS5	22.0 dBm	-73 dBm
		MCS6	22.0 dBm	-73 dBm
		MCS7	20.0 dBm	-70 dBm
		MCS8	19.0 dBm	-67 dBm
		MCS9	19.0 dBm	-65 dBm
		MCS10	17.0 dBm	-61 dBm
MCS11	17.0 dBm	-59 dBm		

MR45

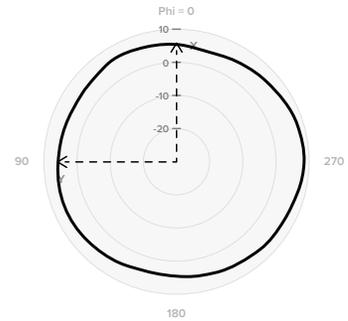
Radiation Pattern for 2.4 GHz Antennas



XZ-cut



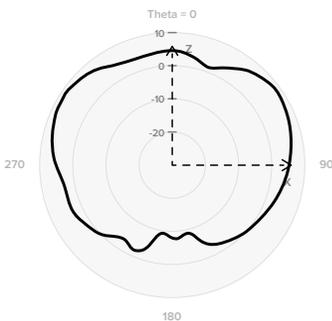
YZ-cut



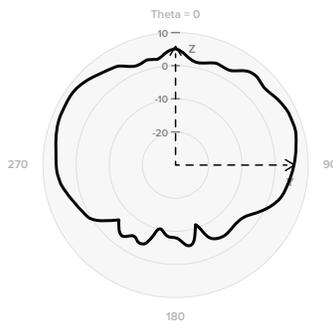
XY-cut
(Theta = 90°)

MR45

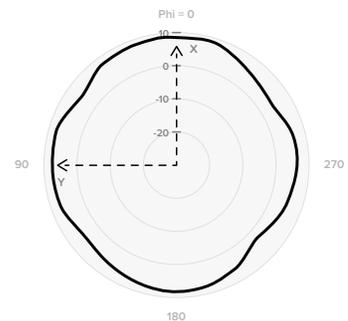
Radiation Pattern for 5 GHz Antennas



XZ-cut



YZ-cut



XY-cut
(Theta = 90°)

Specifications

Radios

2.4 GHz 802.11b/g/n/ax client access radio
5 GHz 802.11a/n/ac/ax client access radio
2.4 GHz & 5 GHz dual-band WIDS/WIPS, spectrum analysis, and location analytics radio
2.4 GHz Bluetooth Low Energy (BLE) radio with Beacon and BLE scanning support
Concurrent operation of all four radios

Supported frequency bands (country-specific restrictions apply):

- 2.400-2.484 GHz
- 5.170-5.250 GHz (UNII-1)
- 5.250-5.330 GHz (UNII-2)
- 5.490-5.730 GHz (UNII-2e)
- 5.735-5.835 GHz (UNII-3)

Antenna

Internal omni antennas (5.4 dBi gain at 2.4 GHz, 6 dBi gain at 5 GHz)

802.11ax Compatible, 802.11ac Wave 2 and 802.11n Capabilities

DL-OFDMA, TWT support
4 x 4 multiple input, multiple output (MIMO) with four spatial streams
SU-MIMO and DL MU-MIMO support
Maximal ratio combining (MRC) and beamforming
20 and 40 MHz channels (802.11n); 20, 40, and 80 MHz channels (802.11ac Wave 2)
Up to 1024-QAM on both 2.4 GHz & 5 GHz bands
Packet aggregation

Power

Power over Ethernet: 42.5-57 V (802.3at compliant)
Alternative: 12 V DC input
Power consumption: 18 W max
Power over Ethernet injector and DC adapter sold separately

Interfaces

1x 1000/2.5G BASE-T Ethernet
1x DC power connector (5.5 mm x 2.5 mm, center positive)

Mounting

All standard mounting hardware included
Desktop, ceiling, and wall mount capable
Ceiling tile rail (9/16, 15/16, or 1 1/2" flush or recessed rails), assorted cable junction boxes
Bubble level on mounting cradle for accurate horizontal wall mounting

Physical Security

Two security screw options included
13.5 mm long, 2.5 mm diameter, 5 mm head
Kensington lock hard point
Concealed mount plate with anti-tamper cable bay

Environment

Operating temperature: 32 °F to 104 °F (0 °C to 40 °C)
Humidity: 5% to 95%

Physical Dimensions

12.05" x 5.06" x 1.74" (30.6 cm x 12.84 cm x 4.426 cm), not including deskmount feet or mount plate
Weight: 28.22 oz (800 g)

Security

Integrated Layer 7 firewall with mobile device policy management
Real-time WIDS/WIPS with alerting and automatic rogue AP containment with Air Marshal
Flexible guest access with device isolation
VLAN tagging (802.1Q) and tunneling with IPsec VPN
PCI compliance reporting
WEP, WPA, WPA2-PSK, WPA2-Enterprise with 802.1X
EAP-TLS, EAP-TTLS, EAP-MSCHAPv2, EAP-SIM
TKIP and AES encryption
Enterprise Mobility Management (EMM) & Mobile Device Management (MDM) integration
Cisco ISE integration for guest access and BYOD posturing

Quality of Service

Advanced Power Save (U-APSD)
WMM Access Categories with DSCP and 802.1p support
Layer 7 application traffic identification and shaping

Mobility

PMK, OKC, and 802.11r for fast Layer 2 roaming
Distributed or centralized Layer 3 roaming

Analytics

Embedded location analytics reporting and device tracking
Global L7 traffic analytics reporting per network, per device, and per application

LED Indicators

1 power/booting/firmware upgrade status

Regulatory

RoHS
For additional country-specific regulatory information, please contact Meraki Sales

Warranty

Lifetime hardware warranty with advanced replacement included

Ordering Information

MR45-HW: Meraki MR45 Cloud Managed 802.11ax Compatible AP
MA-PWR-30W-XX: Meraki AC Adapter for MR Series (XX = US/EU/UK/AU)
MA-INJ-4-XX: Meraki Gigabit 802.3at Power over Ethernet Injector (XX = US/EU/UK/AU)
MA-INJ-5-XX: Meraki Multigigabit 802.3at Power over Ethernet Injector (XX = US/EU/UK/AU)
Note: Meraki access point license required

Compliance and Standards

IEEE Standards

802.11a
802.11ac
802.11ax Compatible
802.11b
802.11e
802.11g
802.11h
802.11i
802.11k
802.11n
802.11r
802.11u and Hotspot 2.0

Safety Approvals

CSA and CB 60950 & 62368
Conforms to UL 2043 (Plenum Rating)

Radio Approvals

Canada: FCC Part 15C, 15E, RSS-247
Europe: EN 300 328, EN 301 893
Australia/NZ: AS/NZS 4268
Mexico: IFT, NOM-208
Taiwan: NCC LP0002
For additional country-specific regulatory information, please contact Meraki Sales

EMI Approvals (Class B)

Canada: FCC Part 15B, ICES-003
Europe: EN 301 489-1-17, EN 55032, EN 55024
Australia/NZ: CISPR 22
Japan: VCCI

Exposure Approvals

Canada: FCC Part 2, RSS-102
Europe: EN 50385, EN 62311, EN 62479
Australia/NZ: AS/NZS 2772

Meraki MS Series Switches

FAMILY DATASHEET



Overview

Cisco Meraki offers a broad range of switches, built from the ground up to be easy to manage without compromising any of the power and flexibility traditionally found in traditional enterprise-class switches.

Meraki access & aggregation switches are all managed through an elegant, intuitive cloud interface, freeing administrators to spend less time on configuration and more time on meeting business needs.

To set up a Meraki switch, just plug it in; there's no need for repetitive, command-based configuration, and switches can be up and running within minutes of connecting them to the network.

A powerful centralized management interface gives administrators deep visibility into the network and how it is used. See which switches are near capacity across hundreds of sites. Quickly provision and reconfigure switch ports with security, QoS, and more. The Meraki dashboard provides unified policies, event logs, and monitoring, making it easy to manage network deployments without sacrifice.

PRODUCT HIGHLIGHTS

- Range of enterprise switching options built on proven Cisco hardware technologies
- Basic L2 to high-performance L3 switches with upto 40GbE uplinks on access and upto 100GbE on aggregation switches, suitable for deployments of all sizes
- True zero-touch configuration model that scales with organization needs and requirements
- Integrated troubleshooting tools, logging and alerting reduce operational costs
- Energy efficient design with low acoustics and fanless options
- Flexible stacking for scaled configuration and high performance in one
- Cloud management reduces cost, overhead and time to resolution
- Industry-standard features allow for simple integration into existing and mixed infrastructures
- Role-based administration and automatic, secure firmware updates delivered via the web
- StackPower, Improved physical stacking, and multiGig options on select models

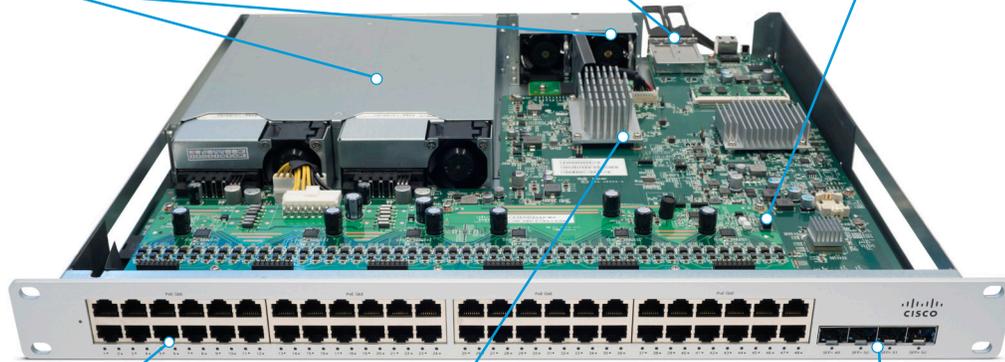
Inside the Meraki MS

MERAKI MS350-48FP SHOWN, VARIES BY MODEL

Energy Efficient Dual Power Supplies with Variable Speed Fans

Stacking connectors

High Reliability / MTBF
Extended Life Components



48x 1 GbE Ports with
802.3af/802.3at PoE/PoE+

Enhanced CPU / Memory
Meraki Cloud Management

Built-in 4 x 10 GbE SFP+ Uplink
Ports for Uplink Connectivity

ENTERPRISE-CLASS HARDWARE

Meraki switches feature high-end hardware and an exceptional feature set, including:

- Options for fixed and modular uplinks. GbE, 10 GbE and 40 GbE uplink ports for high-speed connectivity to aggregation layer switches or other upstream devices
- Optional Multigigabit ports providing up to 10Gbps on a single Ethernet cable, supporting the latest WiFi performance capabilities
- Wire-speed, non-blocking switch fabric (up to 800 Gbps) and 6 dedicated QoS queues for high-performance, converged voice, video, and data deployments
- Power efficient, quiet acoustic designs, and shallow rack depth options, enabling flexible deployment in wiring closets as well as offices and classrooms
- Fanless design on select models
- Power over Ethernet, PoE+ and UPoE options available
- Up to 740 watt PoE budget with PoE+ support for powering APs, phones, cameras, and other PoE enabled devices (124W for 120-8 series), with 830W available on the MS390 UPoE model
- Lifetime hardware warranty and advanced replacement at no additional cost
- Field-replaceable, hot-swappable power supplies and fans. RPS option for mission-critical applications. StackPower on select models for added resilience.

POWERFUL FEATURE SET FOR DEPLOYMENTS OF ALL TYPES

Meraki switches include all of the traditional Ethernet features found on the highest end products, including:

- Quality-of-Service (QoS) to prioritize mission critical traffic such as voice and video
- IEEE 802.1X support for port based network access control
- MAC-based RADIUS auth and MAC whitelisting
- Voice VLAN support for simplified VoIP deployments
- Port Mirroring support for monitoring network traffic at line rate
- DHCP snooping to prevent users from adding unauthorized DHCP servers on the network
- IGMP Snooping to optimize network performance with multicast traffic
- Link Aggregation Control Protocol (LACP) for high-capacity trunking, stacking, and increased availability
- Rapid spanning tree, BPDU guard, root guard, and other safeguards to help prevent misconfigurations and reduce convergence time
- Per port VLAN configuration
- Multiple administrative roles with sophisticated security policy management
- High-performance layer 3 routing capabilities on select models

Meraki Access Switching Portfolio

Series	MS120-8	MS120	MS125
			
Deployment type	Compact	Small branch & office	Small branch & office
Interfaces	8 x 1GbE RJ45	24 / 48 x 1GbE RJ45	24 / 48 x 1GbE RJ45
Uplinks	2 x 1GbE SFP Fixed	4 x 1GbE SFP Fixed	4 x 1GbE SFP Fixed
PoE capabilities	67W (LP model) 124W (FP model)	370W (P, LP models) 740W (FP model)	370W (P, LP models) 740W (FP model)
Power configuration	External PSU (non-PoE, LP model) Internal (FP Model)	Internal	Internal
Stacking capabilities	Virtual only	Virtual only	Virtual only
Routing capabilities	DHCP Relay	DHCP Relay	DHCP Relay
Models	MS120-8-HW MS120-8LP-HW MS120-8FP-HW	MS120-24-HW MS120-24P-HW MS120-48-HW MS120-48LP-HW MS120-48FP-HW	MS125-24-HW MS125-24P-HW MS125-48-HW MS125-48LP-HW MS125-48FP-HW

Meraki Stackable Access Switching Portfolio

Series	MS210	MS225	MS250
			
Deployment type	Branch & Small campus	Branch & Small campus	Branch & Campus
Interfaces	24 / 48 x 1GbE RJ45	24 / 48 x 1GbE RJ45	24 / 48 x 1GbE RJ45
Uplinks	4 x 1GbE SFP Fixed	4 x 10GbE SFP+ Fixed	4 x 10GbE SFP+ Fixed
PoE capabilities	370W (P, LP models) 740W (FP models)	370W (P, LP models) 740W (FP models)	370W (P, LP models) 740W (FP models)
Power configuration	Internal Optional RPS	Internal Optional RPS	Modular Redundant PSU optional
Stacking capabilities	Compatible with MS225 80G physical + virtual	Compatible with MS210 80G physical + virtual	80G physical + virtual
Routing capabilities	Static only DHCP Relay	Static only DHCP Relay	Static + Dynamic ² DHCP Server + Relay Warm spare (VRRP)
Models	MS210-24-HW MS210-24P-HW MS210-48-HW MS210-48LP-HW MS210-48FP-HW	MS225-24-HW MS225-24P-HW MS225-48-HW MS225-48LP-HW MS225-48FP-HW	MS250-24-HW MS250-24P-HW MS250-48-HW MS250-48LP-HW MS250-48FP-HW

¹Interfaces do not support half-duplex on the MS350

²Detailed routing specifications are available in series datasheets

Meraki Stackable Access Switching Portfolio

Series	MS350	MS355	MS390
			
Deployment type	Campus & Multigigabit	Branch & Small campus	High-performance Campus & Branch
Interfaces	24 / 48 x 1GbE RJ45 ¹ 8 x XGbE RJ45 (24X only)	24 / 48 x 1GbE RJ45 8 x XGbE RJ45 (24X only)	24 / 48 x 1GbE RJ45 24 / 48x XGbE RJ45 (in select models)*
Uplinks	4 x 10GbE SFP+ Fixed	2 x 40G (QSFP+) Fixed	4/8 x 10GbE SFP+ 2 x 40GbE QSFP Modular
PoE capabilities	370W (P, LP models) 740W (24X, FP models)	740W (24 port, X2 models) 740W (48 port, X2 models)	830W (24 port models) 822W (48 port models)
Power configuration	Modular Redundant PSU optional	Removable PSU	Removable PSU
Stacking capabilities	160G physical + virtual	400G physical + virtual	Compatible only with MS390 480G physical + virtual
Routing capabilities	Static + Dynamic ² DHCP Server + Relay Warm spare (VRRP)	Static + Dynamic DHCP Server + Relay	Static + Dynamic DHCP Server + Relay
Models	MS350-24-HW MS350-24P-HW MS350-24X-HW MS350-48-HW MS350-48LP-HW MS350-48FP-HW	MS355-24-HW MS355-24X-HW MS355-48-HW MS355-48X-HW MS355-48X2-HW	MS390-24-HW MS390-24P-HW MS390-24U-HW MS390-24UX-HW MS390-48-HW MS390-48P-HW MS390-48U-HW MS390-48UX-HW MS390-48UX2-HW

Meraki Aggregation Switching Portfolio

Series	MS410	MS425	MS450
			
Deployment type	1G fiber aggregation	10G fiber aggregation	10G fiber aggregation
Interfaces	16 / 32 x GbE SFP	16 / 32 x 10GbE SFP+	12x 40GbE QSFP+
Uplinks	2 x 10GbE SFP+ (MS410-16) 4 x 10GbE SFP+ (MS410-32)	2 x 40GbE QSFP+	2 x 100GbE QSFP28
Power configuration	Modular Redundant PSU optional (sold separately)	Modular Redundant PSU optional (sold separately)	Modular Redundant PSU optional (sold separately)
Stacking capabilities	160G physical + virtual	Front-port 160G + virtual	Front-port 160G + virtual
Routing capabilities	Static + Dynamic DHCP Server + Relay Warm spare (VRRP)	Static + Dynamic DHCP Server + Relay Warm spare (VRRP)	Static + Dynamic DHCP Server + Relay Warm spare (VRRP)
Models	MS410-16-HW MS410-32-HW	MS425-16-HW MS425-32-HW	MS450-12-HW

Lifetime Warranty with Next Day Advance Replacement

All Cisco Meraki MS switches include a limited lifetime hardware warranty that provides next-day advance hardware replacement. Meraki's simplified software and support licensing model also combines all software upgrades, centralized systems management, and phone support under a single, easy-to-understand model. For complete details, please visit meraki.cisco.com/support.

Features and Capabilities

Meraki switches include all of the traditional Ethernet features found in modern enterprise access switches, including:

INTELLIGENT CAMPUS & BRANCH SWITCHING

With built-in monitoring, troubleshooting and logging capabilities, Meraki switches provide a refreshing new approach to managing network infrastructure, regardless of deployment size. Meraki's Virtual Stacking technology eliminates the need for configuration scripts and commands, empowering administrators to make changes quickly and securely on one or all the switches in a deployment at once.

Clients with high usage

5 clients used more than 100.00 GB
'FILESVR1'; 'NAKIVOTRANSPORTSF' and 3 other clients

Usage stats

Total Data Transferred	Total Data Downloaded	Total Data Uploaded
3.93 TB	1.56 TB	2.37 TB

Intelligent anomaly detection flags potential network events

WIRED SECURITY WITHOUT COMPROMISE

Whether deployed in an office environment, hospital or retail store, Meraki switches make enforcing security policies a breeze. Set up multiple policies and enable them at the port-level, or apply them across the entire network in a few clicks. Meraki switches also provide comprehensive security reporting, making it easy to proactively discover rogue DHCP servers and other malicious activity on the network.

Email alerts: Send an email if a new DHCP server is seen

Default DHCP server policy: Allow DHCP servers

Note: Switches with configured DHCP servers are always allowed.

Blocked DHCP servers: 02:31:3a:1c:c4:14

DHCP servers for the last day

Description	VLAN	Subnet	IP	Last seen	Recent packet	Policy
CORE_1 (interface CORP_WIFI)	132	10.92.132.0/22	10.92.135.254	13 seconds	view packet	allowed
CORE_1 (interface)	46	172.16.46.0/23	172.16.47.254	1 second	view packet	allowed
SD-WAN Security 1	42	172.16.42.0/23	172.16.43.254	2 seconds	view packet	blocked

Rogue DHCP server detection across the entire network

TROUBLESHOOTING, THE WAY IT SHOULD BE

Drastically reduce time-to-resolution with a variety of powerful troubleshooting tools such as remote cable testing and packet captures that help isolate and troubleshoot network issues.

With Meraki's dynamic network topology, see how the entire network is interconnected, automatically.

Ensure the entire team receives alerts upon power loss, downtime, or configuration changes.

Select a tool: Cable test

Warning: This test will disrupt traffic to 100 or 10 Mbit devices.

12 Run cable test

Testing the cable attached to port 12

Port	Link	Length	Status	Pair 1	Pair 2	Pair 3	Pair 4
12	down	94.5 m	Failure	open	ok	ok	open

Remote cable test in the Meraki Dashboard

STACKPOWER AND, IMPROVED PHYSICAL STACKING

StackPower pools power from each individual PSU in a switch stack to form a larger, shared pool of power that provides additional redundancy and also helps save cost by managing the available PoE more efficiently.

Improved Physical stacking helps in faster-stack convergence in case of a failover which is critical in large enterprise deployments.

INDUSTRY LEADING CLOUD MANAGEMENT

Meraki's cloud management architecture delivers true zero-touch switch provisioning – configure switches before they arrive onsite, or use Meraki templates to standardize an entire fleet of switches, no matter what size.

With Meraki Virtual stacking, administrators can manage up to thousands of ports from a single pane of glass, enabling rapid and streamlined configuration that could otherwise take weeks to complete.

Switch / Port *	Switch	Name	Type	VLAN	Status	Tags	POE	Access policy	CDP/LLDP
CORE 1/16	CORE 1	Staging Port	access	110				Open	-
CORE 1/17	CORE 1	To ALPHA-GW1	access	78				Open	sf012.00a-gw1.cisco.com
CORE 1/18	CORE 1	To ALPHA-GW2	access	78				Open	sf012.00a-gw2.cisco.com
Core 1.1.3/1	Core 1.1.3	Cisco Alpha	access	110, voice 110			disabled	Open	SEP58978D2E1674

BUILT-IN APPLICATION LAYER VISIBILITY

Meraki is the only switch to include integrated Layer 7 fingerprinting. Identify hundreds of applications from business apps to BitTorrent and YouTube. User fingerprinting with Google-like search allows administrators to easily identify and control individual users, PCs, iPads, Androids, and other devices. This unprecedented visibility allows optimizing of network resources and maintaining optimal network performance.

BEYOND-THE-NETWORK SOFTWARE ARCHITECTURE

Meraki switches run the same Meraki operating system used by all of Meraki's products. The use of a common operating system allows Meraki to deliver a consistent experience across all product lines, from our Security products to our VoIP phones. When connected, MS350 switches automatically connect to the Meraki cloud, download configuration, and join the appropriate network. If new firmware is required, this is retrieved by the switch and updated automatically. This ensures the network is kept up-to-date with bug fixes, security updates, and new features.



Included In the Box

MS120-8 Series	Integrated mounting brackets, External PSU (non-PoE and LP models), Mounting screw kit, Getting started insert
MS120 Series	Mounting screw kit, Getting started insert
MS210 Series	Mounting screw kit, Getting started insert
MS225 Series	Mounting screw kit, Getting started insert
MS250 Series	Power Supply (1), System fans (2), Mounting screw kit, Getting started insert
MS350 Series	Stacking cable (1), Power Supply (1), system fans (2), Mounting screw kit, Getting started insert
MS390 Series	Power Supply (1), System fans (3), Mounting screw kit, Getting started insert
MS410 Series	Power Supply (1), System fans (2), Mounting screw kit, Getting started insert
MS425 Series	Power Supply (1), System fans (3), Mounting screw kit, Getting started insert

Optional Accessories

DESCRIPTION	ACCESSORY	SUPPORTED MODELS
Power cable	MA-PWR-CORD-US MA-PWR-CORD-EU MA-PWR-CORD-UK MA-PWR-CORD-AU	All models
External Power Supply	DC 54V/1.67A, 90W, MA-PWR-90WAC DC 12V/2.5A, 30W, MA-PWR-30WAC	MS120-8, MS120-8-LP
250W Power Supply	MA-PWR-250WAC	MS250-24, MS250-48, MS350-24, MS350-48, MS410 models, MS425 models
640W Power Supply	MA-PWR-640WAC	MS250-24LP, MS250-48LP, MS350-24P, MS350-48LP
1025W Power Supply	MA-PWR-1025WAC	MS250-24FP, MS250-48FP, MS350-24X, MS350-48FP
350W Power Supply	MA-PWR-350WAC	MS390-24HW, MS390-48HW
715W Power Supply	MA-PWR-715WAC	MS390 models
1100W Power Supply	MA-PWR-1100WAC	MS390 models
Meraki Stacking Cable, 0.5 Meter	MA-CBL-40G-50CM	All MS210, MS225, MS250, MS350, MS410 models, MS425 models
Meraki Stacking Cable, 1 Meter	MA-CBL-40G-1M	All MS210, MS225, MS250, MS350, MS410 models, MS425 models

Meraki MS switches support SFP/SFP+/QSFP+ optic accessories for high-speed connectivity. Meraki offers a variety of GbE, 10GbE and 40GbE accessories. Full specifications and compatibility information is available in the Meraki Accessories datasheet: https://meraki.cisco.com/lib/pdf/meraki_datasheet_sfp.pdf

Optional Accessories

DESCRIPTION	ACCESSORY	SUPPORTED MODELS
Meraki Stacking Cable, 3 Meter	MA-CBL-40G-3M	All MS210, MS225, MS250, MS350, MS410 models, MS425 models
16K System Fan	MA-FAN-16K	MS350-24, MS350-24P, MS350-48, MS350-48LP, MS350-48FP, MS410 models
18K System Fan	MA-FAN-18K	MS350-24X, MS425 Series
StackPower Cables	MA-CBL-SPWR-30CM MA-CBL-SPWR-150CM	MS390 models
Stacking Cables	MA-CBL-120G-50CM MA-CBL-120G-1M MA-CBL-120G-3M	MS390 models
8 x 1/10G SFP+ Uplink Module	MA-MOD-8x10G	MS390 models
4 x 1/10G SFP+ Uplink Module	MA-MOD-4x10G	MS390 models
2 x 40G QSFP+ Uplink Module	MA-MOD-2x40G	MS390 models
16K2 System Fan	MA-FAN-16K2	MS390 models

Meraki MS switches support SFP/SFP+/QSFP+ optic accessories for high-speed connectivity. Meraki offers a variety of GbE, 10GbE and 40GbE accessories. Full specifications and compatibility information is available in the Meraki Accessories datasheet: https://meraki.cisco.com/lib/pdf/meraki_datasheet_sfp.pdf

Additional Resources

Meraki MS120-8 Compact Series Datasheet

https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms120_compact.pdf

Meraki MS120 Series Datasheet

https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms120.pdf

Meraki MS210 Series Datasheet

meraki.cisco.com/lib/pdf/meraki_datasheet_ms_210.pdf

Meraki MS225 Series Datasheet

meraki.cisco.com/lib/pdf/meraki_datasheet_ms_225.pdf

Meraki MS250 Series Datasheet

meraki.cisco.com/lib/pdf/meraki_datasheet_ms_250.pdf

Meraki MS350 Series Datasheet

https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms_350.pdf

Meraki MS355 Series Datasheet

https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms_355.pdf

Meraki MS390 Series Datasheet

https://documentation.meraki.com/MS/MS_Overview_and_Specifications/MS390_Datasheet

Meraki MS400 Series Datasheet

meraki.cisco.com/lib/pdf/meraki_datasheet_ms400-series.pdf

Meraki SFP & Stacking Accessories Datasheet

meraki.cisco.com/lib/pdf/meraki_datasheet_sfp.pdf

Cost Calculator

<https://meraki.cisco.com/buy/cost-calculator>

MS250 SERIES

Stackable access switches with 10G SFP+ uplinks, designed for the branch and campus



CLOUD MANAGED STACKABLE ACCESS SWITCHES

The Cisco Meraki **MS250** series provides 10G SFP+ uplinks for medium-size enterprises and campus networks. The switch includes optional PoE/PoE+ support, Layer 3 routing, and modular power for mission-critical networks.

Our switches are built from the ground up to be easy to manage without compromising any of the power and flexibility traditionally found in enterprise-class switches.

All Meraki switches are managed through an elegant, intuitive cloud-based interface, rather than cryptic command line.

To bring up a Meraki switch, simply plug it in. Meraki switches do not require CLI for switch configuration or port management.

Meraki's centralized management gives administrators granular visibility into their network. Our dashboard helps you keep track of every configuration change in your network with our detailed event and change logs.

INDUSTRY LEADING CLOUD MANAGEMENT

Cloud management has a number of benefits that make it easier to build networks large and small:

- Automatic email alerts from power loss, downtime, excessive Layer 1 errors, or configuration changes
- Powerful remote diagnostic tools such as packet capture to help isolate and troubleshoot network issues
- Role-based administration
- Firmware upgrades and enhancements from the Meraki cloud
- Virtual Stacking enables switch port configuration changes on the dashboard interface without the need to physically stack switches
- Incredible network transparency with application, operating system, client, and hostname visibility
- Zero-touch provisioning for rapid deployment across sites

Product Highlights

- Gigabit access switching with 24- and 48- port models and optional PoE+ support
- 4 x 10G SFP+ uplink interfaces on all models
- Dual stacking interfaces with up to 80 Gbps of bandwidth
- Support for field replaceable, redundant power supplies
- Non-blocking switch backplane with up to 176 Gbps of switching capacity
- 6 configurable QoS queues for converged voice, video, and data applications
- Up to 740 watt PoE budget with PoE+ support and dynamic power allocation for powering APs, phones, cameras, and other PoE-enabled devices
- Low power consumption, quiet acoustic design, and shallow rack depth options, enabling flexible deployment in wiring closets as well as offices and classrooms
- Integrated mounting brackets for rack mounting
- Lifetime hardware warranty and advanced replacement at no additional cost

Features and Capabilities

Meraki switches include every feature you need to configure your network with the ease of cloud-management, including;

Access Switching

- High-bandwidth physical stacking with support for up to 8 stack members for built-in redundancy and performance
- Link Aggregation Control Protocol (LACP) for high-capacity trunking, with Multichassis (MLAG) support on stacked switches
- Static and dynamic routing support with DHCP relay and server capabilities
- Quality-of-Service (QoS) to prioritize mission critical traffic such as voice and video
- Voice VLAN support for simplified VoIP deployments
- CDP, LLDP advertisement and snooping, with detailed neighbor visibility and discovery
- Port Mirroring to monitor network traffic
- IGMP Snooping to optimize network performance for multicast applications

Network Security

- IEEE 802.1X, MAB, and Hybrid authentication support for wired access control with RADIUS server monitoring
- ACL support (IPv4 & IPv6) and MAC whitelisting
- Single-Host/Multi-Domain/Multi-Host/Multi Authentication
- Change of Authorization (CoA) and RADIUS accounting support
- DHCP snooping to protect against rogue DHCP servers on the network
- Dynamic ARP Inspection to prevent man-in-the-middle attacks
- Rapid Spanning Tree, BPDU guard, root guard, loop guard, and other safeguards to help prevent misconfigurations and reduce convergence time
- Per port VLAN configuration
- Multiple administrative roles with sophisticated security policy management

Network Troubleshooting & Automation

- Virtual Stacking helps IT admins make configuration changes to hundreds of switch ports in seconds with our intuitive dashboard interface
- Configuration templates for rapid, zero-touch provisioning and auditing of all sites
- Network Topology for automatic and interactive network mapping
- Remote cable testing, packet capture and client discovery
- Automatic and scheduled firmware upgrades for the complete network

Converged Voice, Video and Data Environments

The Meraki switch family is designed to unify data, voice, and video onto a single IP backbone. All Meraki switches support rich quality-of-service (QoS) functionality for prioritizing data, voice, and video traffic. The switches support eight class-of-service (CoS) queues on every port, enabling them to maintain end-to-end traffic prioritization.

PoE models provide power to VoIP telephones, IP security cameras, wireless access points (APs), and other IP devices. Using CDP and LLDP, PoE power is intelligently budgeted to maximize the number of PoE clients supported.

Application Layer Visibility

Meraki switches include integrated Layer 7 fingerprinting without the need to purchase additional modules or services. Identify hundreds of applications from business apps to BitTorrent and YouTube.

User fingerprinting allows administrators to quickly identify individual users by device and tune network resources for optimum performance.

Unified Software Architecture

Meraki switches run the same operating system used by all of our products. The use of a common operating system allows us to deliver a consistent experience across all product lines, from our security appliances to cameras.

When connected, new MS250 switches automatically reach out to the Meraki cloud and download the most current network configuration. Future updates can be user-scheduled. This ensures the network is kept up-to-date with bug fixes, security updates, and new features.

Virtual Stacking with Meraki

Switch ports

for the last day ▾

Edit	Aggregate	Split	Mirror	Unmirror	switch:"Closet 1.1.2"
<input type="checkbox"/> Switch / Port	Switch ▲	Type ⓘ	VLAN ⓘ		
<input type="checkbox"/> Closet 1.1.2 / 1	Closet 1.1.2	trunk	native 128		
<input type="checkbox"/> Closet 1.1.2 / 2	Closet 1.1.2	trunk	native 128		
<input type="checkbox"/> Closet 1.1.2 / 3	Closet 1.1.2	trunk	native 128		

Simplified Management and Operations

Meraki's cloud-managed architecture makes it simpler than ever to quickly provision and configure switch ports with security, QoS, and other parameters. The Meraki dashboard provides unified policies, event logs, and monitoring, which make it easy to manage and grow large network deployments.

By providing a complete, robust set of management functions over the web, Meraki's cloud-based management eliminates the need for proprietary command line configuration interfaces which require expensive and time-consuming certifications.

Meraki MS switches can be fully deployed and provisioned in minutes without local configuration or staging. New switches can be sent to remote offices and installed by non-technical staff, saving thousands of dollars in time and travel expenses.

The Meraki MS family includes several remote diagnostic features; including ping, traceroute, cable test, and latency measurement tools. For in-depth client troubleshooting, administrators can remotely perform port-level packet captures without additional hardware.

Scheduled & automatic firmware updates

Firmware upgrades

Overview **Scheduled changes** All networks

Scheduled Changes

DEVICE TYPE TARGET VERSION SCHEDULER
Any device type ▾ Any version ▾ Any scheduler ▾

Redundant power supply monitoring & alerts

Operating normally

- Slot 1: POWERING
- Slot 2: FAILURE

Designed for Reliability & Environmental Efficiency

The Meraki switch family was designed for reliable, long-lived operation in wiring closet environments, which may be prone to high temperatures and limited ventilation.

Meraki is able to deliver highly reliable products with exceptional mean time between failure (MTBF) ratings by using proven switching silicon and by minimizing total component count.

Each switch also operates with a split-plane architecture, where silicon-based switching and data forwarding are separated from software-based control and management.

By decoupling the underlying switching logic from control, each unit is able to deliver wire-speed switching even when advanced software features such as Layer 7 host and OS fingerprinting are enabled.

The highly integrated designs of Meraki switches result in power and cooling savings in large deployment environments of 30-60% when compared with similar managed switches.

CAMPUS EDGE

MS switches are ideal for small and large scale campus deployments, where reliability, scalability, and manageability are top priorities:

- Physical stacking for increased redundancy
- Warm spare failover for all stacking switches
- Get alerts if a switch fails or goes offline, before it impacts users

Managing and monitoring stacks in the dashboard

Configured stacks

Stack Name	Stack Members
1.1 Access	Closet 1.1.1 Closet 1.1.2 Closet 1.1.4 Closet 1.1.3
5.3 Wifi Stack	Closet 5.3.2 Closet 5.3.3
5.3 Access	Closet 5.3.5 Closet 5.3.4
4.1 Access Orange	Closet 4.1.15 Closet 4.1.16 Closet 4.1.14

Dimensions & Interfaces

Model	Physical Dimensions (H x W x D)*	Weight	Interface	Switching Capacity	Stacking Bandwidth
MS250-24-HW	1.72 x 19.08 x 14.89" (4.38 x 48.46 x 37.8cm)	9.9 lb (4.5 kg)	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T Ethernet RJ45 with auto negotiation and crossover detection (auto-MDIX crossover) • 4 x SFP+ 10G uplink • 2 x stacking ports 	128 Gbps	80 Gbps
MS250-24P-HW	1.72 x 19.08 x 14.89" (4.38 x 48.46 x 37.8cm)	10.59 lb (4.8 kg)	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T Ethernet RJ45 with auto negotiation and crossover detection (auto-MDIX crossover) • 4 x SFP+ 10G uplink • 2 x stacking ports 	128 Gbps	80 Gbps
MS250-48-HW	1.72 x 19.08 x 18.82" (4.38 x 48.46 x 47.8cm)	11.56 lb (5.24 kg)	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T Ethernet RJ45 with auto negotiation and crossover detection (auto-MDIX crossover) • 4 x SFP+ 10G uplink • 2 x stacking ports 	176 Gbps	80 Gbps
MS250-48LP-HW	1.72 x 19.08 x 18.82" (4.38 x 48.46 x 47.8cm)	12.37 lb (5.61 kg)	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T Ethernet RJ45 with auto negotiation and crossover detection (auto-MDIX crossover) • 4 x SFP+ 10G uplink • 2 x stacking ports 	176 Gbps	80 Gbps
MS250-48FP-HW	1.72 x 19.08 x 20.42" (4.38 x 48.46 x 51.87cm)	12.83 lb (5.82 kg)	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T Ethernet RJ45 with auto negotiation and crossover detection (auto-MDIX crossover) • 4 x SFP+ 10G uplink • 2 x stacking ports 	176 Gbps	80 Gbps

*Depth includes accessories and FRUs (field-replaceable units) that ship with the product

Power Options & Specifications

Model	Idle / Full Load Power	Available PoE+ Power	Power Supply Configuration	Supported Power Supply
MS250-24-HW	14 / 27 W	–	Hot-swappable	2 x 250W PSU*
MS250-24P-HW	15 / 434 W	370 W	Hot-swappable	2 x 640W PSU*
MS250-48-HW	24 / 44 W	–	Hot-swappable	2 x 250W PSU*
MS250-48LP-HW	46 / 480 W	370 W	Hot-swappable	2 x 640W PSU*
MS250-48FP-HW	25 / 874 W	740 W	Hot-swappable	2 x 1025W PSU*

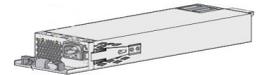
* Single power supply (PSU) included. For redundancy, second PSU is sold separately

What's Included

MS250-24-HW	1 x Power Supply (MA-PWR-250WAC), Mounting screw kit
MS250-24P-HW	1 x Power Supply (MA-PWR-640WAC), Mounting screw kit
MS250-48-HW	1 x Power Supply (MA-PWR-250WAC), Mounting screw kit
MS250-48LP-HW	1 x Power Supply (MA-PWR-640WAC), Mounting screw kit
MS250-48FP-HW	1 x Power Supply (MA-PWR-1025WAC), Mounting screw kit



Rack Mounting Kit



Power Supply (PSU)

Optional Accessories

MS250 switches support 40G stacking cables in various lengths as well as replaceable power supplies (PSU):

Description	Model	Supported Models
250W Power Supply	MA-PWR-250WAC	MS250-24, MS250-48
640W Power Supply	MA-PWR-640WAC	MS250-24P, MS250-48LP
1025W Power Supply	MA-PWR-1025WAC	MS250-48FP
Meraki Stacking Cable, 0.5 Meter	MA-CBL-40G-50CM	All Models
Meraki Stacking Cable, 1 Meter	MA-CBL-40G-1M	All Models
Meraki Stacking Cable, 3 Meter	MA-CBL-40G-3M	All Models

The Meraki MS family also supports SFP/SFP+ pluggable optics for high-speed connectivity. Meraki offers a variety of Gigabit and 10 Gigabit accessories. Full specifications and compatibility information is available in the Meraki Accessories datasheet: https://meraki.cisco.com/lib/pdf/meraki_datasheet_sfp.pdf

Specifications

Management

Managed via the Web with the Meraki cloud management platform

Integrated with Meraki Wireless and complete portfolio of IT products and solutions

Zero-touch remote provisioning (no staging needed)

Detailed historical per-port and per-client usage statistics

Operating System, device, and hostname fingerprinting

SNMP and SYSLOG support for integration with other network management solutions

Automatic firmware upgrades with scheduling control

Remote Diagnostics

Email, SMS and Mobile push notification alerts¹

Ping, traceroute, cable testing, and link failure detection with alerting

Remote packet capture

Dynamic and interactive network discovery and topology

Combined event and configuration change logs with instant search

Stacking

Physically stack up to 8 switches with 80 Gbps of stacking bandwidth on all models

Virtual Stacking supports thousands of switch ports in a single logical stack for unified management, monitoring, and configuration

Ethernet Switching Capabilities

802.1p Quality of Service, 8 queues (w/ 6 configurable for DSCP-to-CoS mapping)

802.1Q VLAN and trunking support for up to 4,094 VLANs

802.1w, 802.1D Rapid Spanning Tree Protocol (RSTP, STP)

STP Enhancements: BPDU guard, Root guard, Loop guard, UDLD

Broadcast storm control

802.1ab Link Layer Discovery Protocol (LLDP) and Cisco Discovery Protocol (CDP)

802.3ad Link aggregation with up to 8 ports per aggregate, Multichassis aggregates supported on stacked switches

Port mirroring

IGMP snooping for multicast filtering

MAC forwarding entries: 16K on 24-port models, 32K on 48-port models

Security

Integrated multi-factor authentication for Dashboard management

Role-based access control (RBAC) with granular device and configuration control

Corporate wide password policy enforcement

IEEE 802.1X RADIUS and MAB, hybrid authentication and RADIUS server testing

Single-Host/Multi-Domain/Multi-Host/Multi Authentication

Port security: Sticky MAC, MAC whitelisting

DHCP snooping, detection and blocking, Dynamic ARP Inspection

IPv4 and IPv6 ACLs

¹ Requires carrier-supported email to SMS gateway and/or Meraki Mobile app

² OSPF and Warm Spare do not operate concurrently

Performance

Switching capacity: 128Gbps on 24-port models, 176Gbps on 48-port models

Forwarding rate: 95.24mpps on 24-port models, 127.98mpps on 48-port models

Jumbo frame support (9578 byte Ethernet frame)

Flow control support

Layer 3

Static routing, OSPFv2

Warm Spare (VRRP)²

DHCP Relay, DHCP Server

Power

Power input: 100 - 240 VAC, 47-63 Hz

Power consumption: 5-1655W

Mounting

1U rack-mountable with included rack mount hardware

2-post front mounting options available

Desktop-mountable with included feet

Environment

Operating temperature: -5°C to 50°C

Humidity: 5 to 95% non-condensing

Variable speed fans

Regulatory

CSA-US (US, Canada)

FCC (USA)

IC (Canada)

CE (Europe)

RCM (Australia/New Zealand)

RoHS

For international availability, please contact sales@meraki.com

Warranty

Full lifetime hardware warranty with next-day advanced replacement included

MTBF Rating

Model	MTBF (at 25c)
MS250-24-HW	633,811
MS250-24P-HW	403,717
MS250-48-HW	392,906
MS250-48LP-HW	339,906
MS250-48FP-HW	338,366

SFP & Stacking Accessories

Fiber Transceivers

Meraki Product ID	Standard	Wavelength (nm)	Fiber Type	Fiber Description	Core / Diameter	Jacket Color	Max Distance	Data Rate	Compatibility
MA-SFP-1GB-SX	1000BASE-SX	850	MMF	OM1	62.5 μm / 125 μm	Orange	220m	Gigabit	MX84/ MX100 MX250/ MX400 MX450/ MX600 MS120 Series MS125 Series MS210 Series MS225 Series MS250 Series MS350 Series MS355 Series MS390 Series MS410 Series MS425 Series
MA-SFP-1GB-SX	1000BASE-SX	850	MMF	OM2	50 μm / 125 μm	Orange	550m	Gigabit	
MA-SFP-1GB-SX	1000BASE-SX	850	MMF	OM3	50 μm / 125 μm	Aqua	550m	Gigabit	
MA-SFP-1GB-SX	1000BASE-SX	850	MMF	OM4	50 μm / 125 μm	Aqua	1km	Gigabit	
MA-SFP-1GB-LX10	1000BASE-LX10	1310	SMF	OS1/OS2	9 μm / 125 μm	Yellow	10km	Gigabit	
MA-SFP-1GB-LX10	1000BASE-LX10	1310	MMF	with LC mode-conditioning cable		Yellow/Orange	550m	Gigabit	
MA-SFP-1GB-TX	1000BASE-T	N/A	N/A	N/A	N/A	N/A	100m	Gigabit	All except MS390
MA-SFP-10GB-SR	10GBASE-SR	850	MMF	OM1	62.5 μm / 125 μm	Orange	26m	10 Gigabit	MX250/ MX400 MX450/ MX600 MS125 Series MS225 Series MS250 Series MS350 Series MS355 Series MS390 Series MS410 Series MS425 Series
MA-SFP-10GB-SR	10GBASE-SR	850	MMF	OM2	50 μm / 125 μm	Orange	82m	10 Gigabit	
MA-SFP-10GB-SR	10GBASE-SR	850	MMF	OM3	50 μm / 125 μm	Aqua	300m	10 Gigabit	
MA-SFP-10GB-SR	10GBASE-SR	850	MMF	OM4	50 μm / 125 μm	Aqua	400m	10 Gigabit	
MA-SFP-10GB-LR	10GBASE-LR	1310	SMF	OS1/OS2	9 μm / 125 μm	Yellow	10km	10 Gigabit	MX250/450/400/600 MS225/250 Series MS350/355/390 Series MS410/425 Series
MA-SFP-10GB-LRM	10GBASE-LRM	1310	MMF	OM1	62.5 μm / 125 μm	Orange	220m	10 Gigabit	
MA-SFP-10GB-LRM	10GBASE-LRM	1310	MMF	OM2	50 μm / 125 μm	Orange	220m ¹	10 Gigabit	
MA-SFP-10GB-LRM	10GBASE-LRM	1310	MMF	OM3	50 μm / 125 μm	Aqua	220m	10 Gigabit	
MA-SFP-10GB-LRM	10GBASE-LRM	1310	SMF	OS1/OS2	9 μm / 125 μm	Yellow	300m	10 Gigabit	
MA-SFP-10GB-ER ²	10GBASE-ER	1550	SMF	OS1/OS2	9 μm / 125 μm	Yellow	40km	10 Gigabit	
MA-SFP-10GB-ZR	10GBASE-ZR	1550	SMF	OS1/OS2	9 μm / 125 μm	Yellow	80km	10 Gigabit	

¹ Modal bandwidth at 500MHz/km

² Please refer to the MS125 specifications for additional compatibility data

Fiber Transceivers

Meraki Product ID	Standard	Wavelength (nm)	Fiber Type	Fiber Description	Core / Clad Diameter	Jacket Color	Max Distance	Data Rate	Compatibility
MA-QSFP-40G-SR4	QSFP - MPO12	850nm	MMF	OM2, OM3, OM4	50 µm	Aqua	30m, 100m, 150m	40 Gigabit	MS355 Series MS390 series MS425 Series MS450
MA-QSFP-40G-LR4	QSFP - LC	1310nm	SMF	OS1, OS2	G.652	Yellow	10Km	40 Gigabit	MS355 Series MS390 Series MS425 Series
MA-QSFP-40G-CSR4	QSFP - MPO12	850nm	MMF	OM2, OM3, OM4	50 µm	Aqua	82m, 300m, 400m	40 Gigabit	MS355 Series MS390 Series MS425 Series MS450
MA-QSFP-40G-SR-BD	QSFP - Duplex LC	832-918nm	MMF	OM2, OM3, OM4	50 µm	Aqua	30m, 100m, 150m	40 Gigabit	MS355 Series MS390 Series MS425 Series MS450

Direct Attach

Meraki Product ID	Standard	Cable Length	Assembly Type	Data Rate	Compatibility
MA-CBL-TA-1M	10GSFP+Cu	1m	Passive Twinax	10 Gigabit	MX250/450 MS 125/225/250 Series MS350/355 Series
MA-CBL-TA-3M	10GSFP+Cu	3m	Passive Twinax	10 Gigabit	MS390 Series MS410/425 Series

Stacking Cables

Meraki Product ID	Standard	Cable length	Assembly type	Data Rate	Compatibility
MA-CBL-40G-50CM	40GQSFP+Cu	50cm	QSFP+ passive Twinax cable assembly	40 Gigabit	MS210 Series MS225 Series
MA-CBL-40G-1M	40GQSFP+Cu	1m	QSFP+ passive Twinax cable assembly	40 Gigabit	MS250 Series MS350 Series
MA-CBL-40G-3M	40GQSFP+Cu	3m	QSFP+ passive Twinax cable assembly	40 Gigabit	MS410 Series MS425 Series
MA-CBL-100G-50CM	100GQSFP28	50cm	QSFP28 passive Twinax cable assembly	100 Gigabit	MS355 and MS450 Models
MA-CBL-100G-1M	100GQSFP28	1m	QSFP28 passive Twinax cable assembly	100 Gigabit	MS355 and MS450 Models
MA-CBL-100G-3M	100GQSFP28	3m	QSFP28 passive Twinax cable assembly	100 Gigabit	MS355 and MS450 Models

Stacking Cables

Meraki Product ID	Standard	Cable length	Assembly type	Data Rate	Compatibility
MA-CBL-120G-50CM	NA	0.5m	0.5m Cisco Meraki 120G stack cable	120 Gigabit	MS390 Series
MA-CBL-120G-1M	NA	1m	1m Cisco Meraki 120G stack cable	120 Gigabit	
MA-CBL-120G-3M	NA	3m	3m Cisco Meraki 120G stack cable	120 Gigabit	

StackPower Cables

Meraki Product ID	Cable length	Compatibility
MA-CBL-SPWR-30CM	0.3m	MS390 Series
MA-CBL-SPWR-150CM	1.5m	

Uplink Modules

Meraki Product ID	Description	Compatibility
MA-MOD-8x10G	8-port 1/10G SFP+ Uplink module	MS390 Series
MA-MOD-4x10G	4-port 1/10G SFP+ Uplink module	
MA-MOD-2x40G	2-port 40G QSFP+ Uplink module	



CISCO MERAKI FOR K-12

IT for the Connected Classroom

Cisco Meraki cloud-managed IT is built for the demands of modern school districts, from managing office or classroom networks, to streamlining standardized testing and everything in between.

- High performing wireless access points are optimized for heavy classroom use and district-wide deployments
- Complete visibility and control over network users, devices, and applications
- Block inappropriate sites, limit YouTube streaming, and prioritize educational apps with device and application management
- Protect students and faculty from the network all the way to the classroom with cloud-managed endpoint management, security appliances, built-in wireless intrusion prevention (WIDS/WIPS), and security cameras
- Self-provisioning, self-optimizing, and self-healing end-to-end solution makes it easy to deploy and manage without specialized training or dedicated staff
- Secure, manage, and troubleshoot iOS, Mac, Windows, and Android devices from the cloud with endpoint management
- The Meraki cloud architecture enables cost savings and future-proofing by eliminating hardware-based WLAN controllers and including all future firmware updates and feature releases
- Access points, switches, and security appliances are all E-rate eligible

“Cisco Meraki is so easy to use, we can focus on innovation, integration, and training.”

– Dirk DeLo, Chief Technology Officer, Avenues: The World School



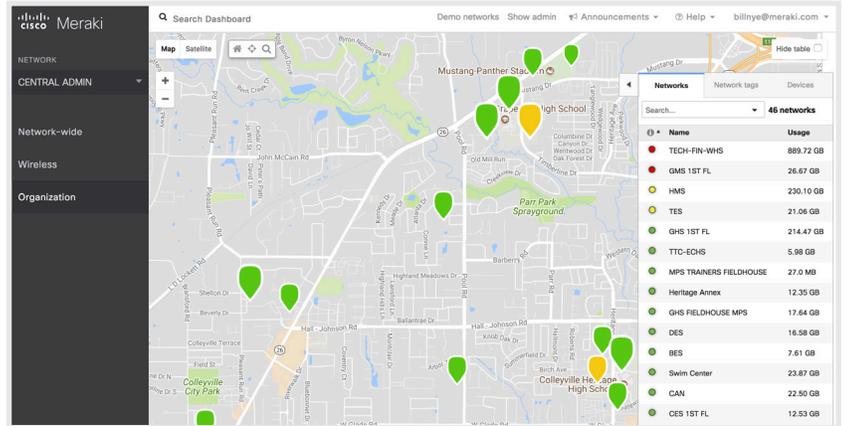
Proven in thousands of K-12 school districts



Complete visibility and control without dedicated staff

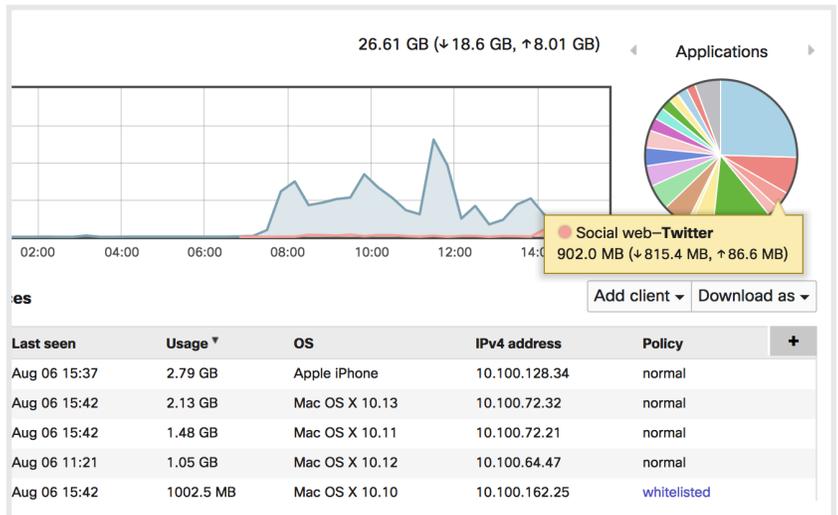
Reduce management complexity

- A unified dashboard provides visibility and control over the entire network deployment, regardless of size
- Zero-touch provisioning and built-in dashboard tools enable remote network management and troubleshooting, saving countless hours or even days
- 3G/LTE failover and Layer 3 & 7 traffic shaping help provide connectivity in demanding environments
- Scale and adapt the network by quickly deploying additional hardware as needed, creating learning spaces anywhere, without added complexity



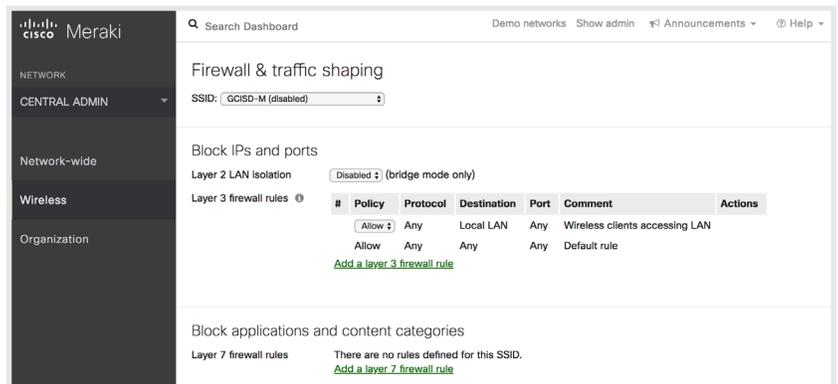
Effectively allocate resources

- Serve Wi-Fi to one or more classrooms with each 802.11ac Wave 2 or Wi-Fi 6 access point
- Provide robust Wi-Fi to classrooms, outdoor areas, and other learning spaces
- Limit excessive bandwidth usage with built-in QoS, Layer 7 traffic shaping rules, and per-port configurations on Meraki MS switches
- Define access and permissions by grade level or user group by partitioning SSIDs and setting granular policies
- Keep mobile devices up-to-date by remotely deploying applications and updates district-wide



Protect students & maintain network security

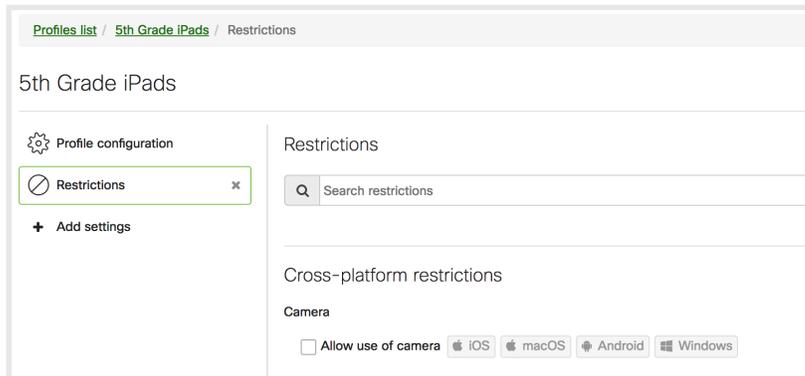
- Ensure safe and secure learning environments with automatically updated, industry-leading content filtering
- Protect students from inappropriate content with built-in Google/Bing/Yahoo! Internet SafeSearch
- Enable educational YouTube videos without recreational or inappropriate content
- Create identity-based access policies, applying varying levels of filtering for teachers and students
- Locate students on campus using integrated Location Analytics, or by leveraging built-in, dedicated Bluetooth Low Energy radios in Meraki APs



ENDPOINT MANAGEMENT

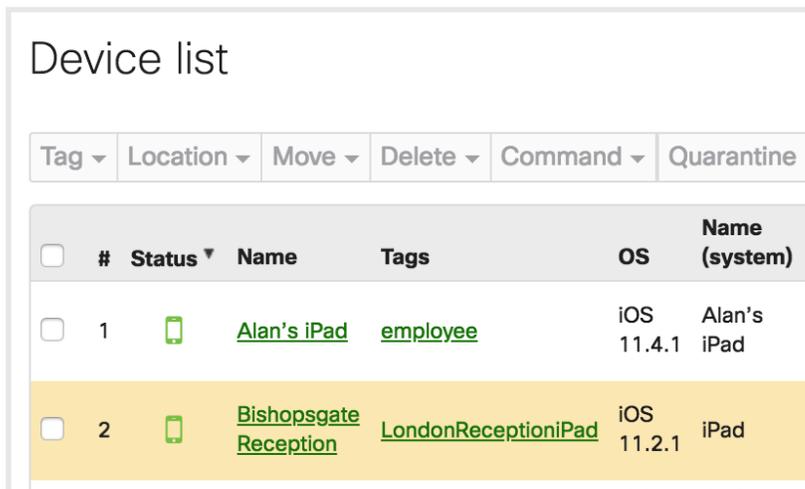
The easiest way to manage 1:1 and BYOD deployments

With an endpoint management solution, IT can easily manage and control school and student owned devices alike. Cisco Meraki Systems Manager provides an easy to use and reliable solution for provisioning, monitoring, and securing end devices.



Provision school-owned and BYOD devices

- Create device profiles and customize settings based on department, class, grade-level, or other group
- Enroll devices in Systems Manager at scale with Apple DEP or Android Enterprise
- Preconfigure devices with access to the right Wi-Fi networks, email accounts, apps, and device configurations (including wallpaper, webclips, block app store access, etc.)
- Prevent users from removing Systems Manager on supervised devices

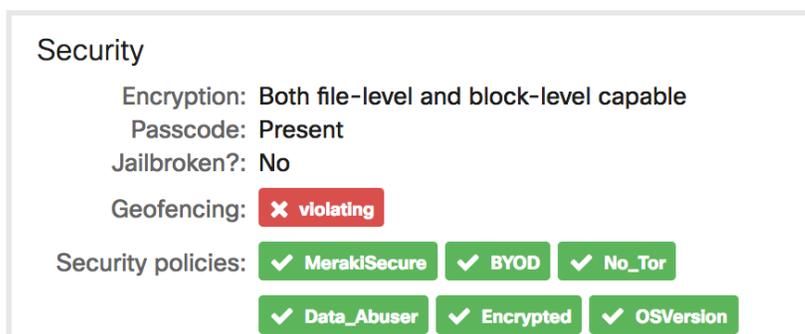


Keep Devices Up-to-Date

- Update devices en masse with the latest settings, applications, Wi-Fi profiles, and restrictions
- Integrate with Apple VPP to easily distribute free and paid apps and automatically keep apps up-to-date
- Silently push apps to supervised devices without entering Apple IDs or passwords

Integration with Apple School Manager and Apple Classroom

- Full integration for in-class learning tools and instruction
- Flexible deployment settings to support 1:1 or shared device models



Ensure device security

- Enable web content filtering to prevent access to inappropriate content on school and off-campus networks
- Establish a geofence perimeter and adjust device settings and access based on location
- Alert admin teams when devices leave a certain location

PHYSICAL SAFETY AND SECURITY

Ensure student and faculty safety from anywhere

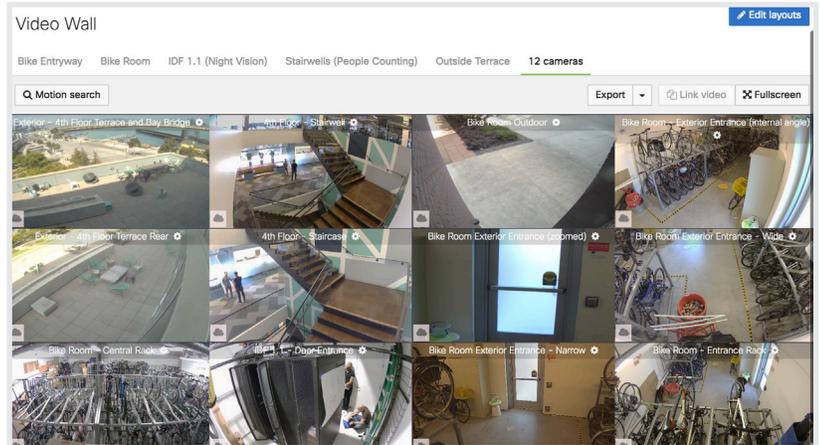
Meraki smart cameras feature a unique architecture that stores video on the camera, not on an NVR or server. School districts can get an entire deployment up and running in a fraction of the time of a traditional solution: it's never been easier to keep students and faculty safe.

See the entire district at-a-glance

- Standardize all schools in a district around Meraki cameras and view everything from the browser-based video wall
- Scale seamlessly from one school to hundreds of schools

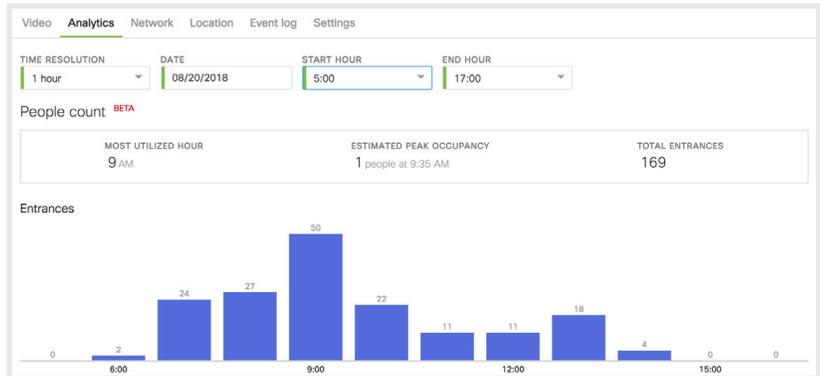
Easy access for those who need it

- Granular access controls for faculty and administrators
- First-of-its-kind access to live video feeds for law enforcement and first responders without VPN or specialized software



Be the first to know with camera alerts

- Set zones and schedules to trigger motion alerts
- Easily detect when students or unauthorized personnel enter sensitive areas
- Receive an email or SMS if a camera goes down and troubleshoot more efficiently

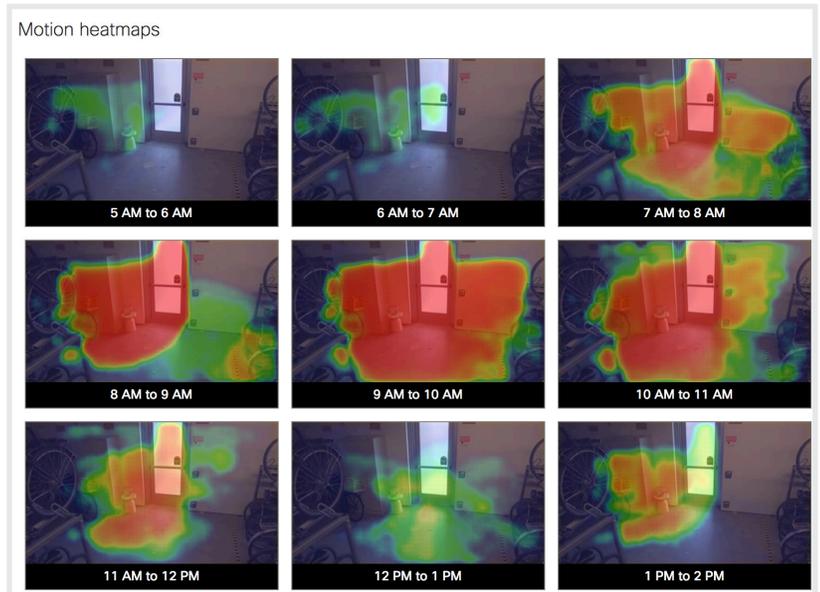


Deployment and management are as easy as 1-2-3

- Eliminate onsite infrastructure using onboard camera storage
- No standalone software or manual configuration required

Increase school efficiency and save money

- Make the most of school funding by optimizing where money gets spent using advanced analytics at no extra cost
- Replace the playground equipment that gets the most use and make a case for expanding the computer lab by quantifying traffic with built-in heat maps and people counting



Case Studies



With access points providing district-wide wireless, security appliances aggregating network traffic, switches making troubleshooting a breeze, endpoint management securing iPads, and security cameras helping to keep students safer, Reading School District's full-stack Meraki solution provides an amazing network experience for students, teachers, and the IT team.

- Located in southeastern Pennsylvania, the school district has 13 elementary schools, four middle schools, one intermediate high school, and one senior high school, totaling 25 buildings
- Manage all of their access points, switches, security appliances, endpoint management, and security cameras through the web-based Meraki dashboard; enabling remote access, faster troubleshooting, and simplified deployments
- 1,400+ APs provide complete wireless coverage, with separated group policies for students and guests and pre-configured templates for faster deployments
- Built-in troubleshooting tools and network topology are automatically provided on the switches, saving hours of effort
- 300 shared iPads at elementary and special education schools use Systems Manager to push out applications remotely and track devices
- Six gigabits of traffic flow through the security appliances across all buildings, connected with site-to-site VPN
- Meraki MV security cameras eliminated their complex NVR system and allow security guards to isolate incidents in less than 20 minutes

“Thanks to the vastly superior management capabilities and the minimal amount of time spent managing, troubleshooting, or configuring Meraki hardware, we have more time that we can dedicate to making our classrooms 21st century learning centers.” – C.R. Hiestand, Network and Systems Administrator



Orange County Public Schools is leading the way for school districts across the nation by implementing a 1:1 device program district-wide, ensuring student success in today's digital economy. But to make this dream a reality, they required a robust and secure network to give students and teachers continuous Internet access.

- The 9th largest school district in the United States with 208,000 students and 200 schools in central Florida
- Cloud-managed access points and switches deployed district-wide to support growing 1:1 device program and enable remote management and troubleshooting
- Simplified deployment model allows the IT team to flip a school over to Meraki in under four hours
- Standardized SSID availability across the district, with separate rules for student, staff, and guest networks
- IT team can easily identify anomalous traffic and throttle bandwidth when needed - ensuring the testing application has the appropriate bandwidth needed on state-mandated testing day
- Instead of driving back and forth between 200 schools when there is a network issue, the IT team can just log into the dashboard from their office and easily see the problem
- With every student connected to a robust network on their own laptop, teachers can use new and creative applications to provide a more personalized learning experience.

“I can't say enough good stuff about the dashboard. It gives me an idea of what is going on; if there is an issue at the school, the network folks are able to get in there and pinpoint the issue much faster than if they had to go out to each switch and troubleshoot.” – David Overton, Senior Director of Information Security

100% CLOUD-MANAGED IT PRODUCT FAMILY



Wireless Access Points

Supports high density 1:1 classroom deployments and BYOD with built-in traffic shaping



Switches

Centrally managed Layer 3 Ethernet switches designed for performance and reliability



Security & SD-WAN

Feature-rich security and networking, with CIPA compliant content filtering and SafeSearch

Endpoint Management

Centrally manage iOS devices, Androids, Macs, and Windows devices



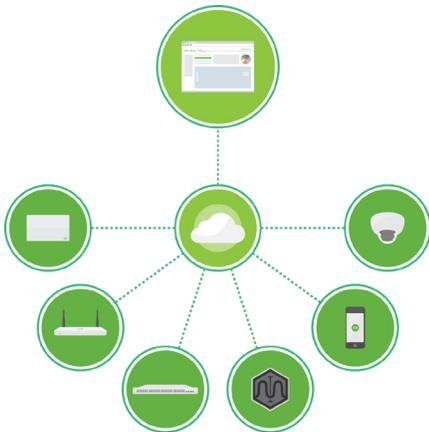
Insight

Works with MX to collect network/web traffic and visually identify and isolate web application problems



Smart Cameras

Scalable, easy-to-use physical security deployments with built-in storage and intelligence



AWARD-WINNING CLOUD MANAGEMENT ARCHITECTURE

- Network-wide visibility and control
- No on-site controller hardware
- Automatic monitoring and alerts
- Seamless over-the-web upgrades
- Scales to networks of all sizes

Try Cisco Meraki in your district, try meraki.cisco.com/eval



“Is our internet fast enough?
Do we need more speed?
Where are the bottlenecks in our network? We were able to answer these questions thanks to the Meraki MX.”

– David Termunde, Chief Technology Officer



“The genius of a strong cloud-based dashboard is that you can troubleshoot with one click and move on, which is extremely powerful.”

– Scott D. Miller, Director of Technology, Wayne Highlands School District



“For me, the interoperability is key. We knew the MDM would work seamlessly with the wireless APs and give us a level of detail we wouldn’t get if we had separate systems.”

– Denis Guerrero, Director of Technology, Moreland School District



“We can troubleshoot 20x faster within the Meraki dashboard than any other network I’ve interfaced with.”

– Benjamin Moeller, Director of Information Technology and Operations