



MANAGED WIRELESS NETWORK - SERVICE GUIDE

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1 MANAGED NETWORK SERVICES OVERVIEW

Managed Network and Monitoring Services provides organizations with the management and monitoring of their network infrastructure, to improve availability, whether the infrastructure is on premises, a third-party datacenter or the cloud. This Service Guide describes Managed Network Services in general (part one) and then describes the specific details of the managed network devices for which this service guide is intended (part two). This document clarifies the scope of the service, service level, roles and responsibilities, and other specifications of the service for customers of this service. This document may get updated from time to time to add additional clarification and details related to this service.

1.1 MANAGED NETWORK SERVICES - GENERAL SERVICE DETAILS

In Scope

- This Managed Service offers management and monitoring of devices and software according to this Service Guide and the InterVision Work Order to aid in resuming normal operations. Additional requests above and beyond will be based upon time and material expense to the Customer.
- Detection, isolation, diagnosis of each fault and restoration to normal operating conditions, testing and documenting each fault within the InterVision trouble ticket system
- Ownership of resolution of the problem on behalf of the Customer and act as an agent for the Customer under executed letters of agency
- Notify the Customer of the progress of all faults per Customer provided contact process.
- Critical software and firmware updates.
- Summary reports delivered via our monitoring portal to help the Customer understand traffic, clients and application usage
- Assistance with warranty replacement and vendor escalations.
- Changes to individual devices. Mass additions/deletions or changes (greater than 5) are not covered via the Managed Network Services agreement and will be considered project billable tasks.
- Safeguard customer's proprietary information using commercially reasonable efforts to securely access client network through an encrypted tunnel.

Out of Scope

- Hardware or Software installation or non-RMA replacement is not included with network support unless specifically stated below. Professional services may be engaged to assist with installation, upgrade or replacement.
- Software license and subscriptions are not included. Management devices and software provided as part of the Managed Service will be licensed.
- Netflow reporting is available as an additional optional paid service. The device to be covered by Netflow must support the application and have the necessary capabilities to provide reporting appropriate to need.
- Mass configuration changes to covered devices that are required, due to Customer upstream or downstream projects, are not covered as part of the service.
- Coverage for devices not under agreement are ineligible for support of any type.

Customer Requirements

To allow for successful monitoring and management of devices and execution of SLAs, Customer responsibilities include:

- Providing all network and device information for the InterVision Managed Services team and tools to discover the contracted devices and enable monitoring. This information includes network diagrams, site information, circuit information and Customer Vendors, Letters of Agency, and current software levels.
- Providing computing resources to run InterVision's monitoring and collection tools, and the means for the Collector to contact the InterVision Data Center.



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- Performing configuration of devices and network, as necessary, to facilitate monitoring and management of the contracted devices. In the event the customer is unable or does not have the personnel to enable monitoring and management of devices, InterVision's Professional Services can be engaged for assistance at an incremental cost.
- Provide devices access - Remote access to devices must be available for support. The client is responsible for out of band access, along with in-band access.
- Provide a distribution list of Customer contacts to receive alarm triggered emails and reports
- Supply InterVision team with all the necessary security information including dial-in numbers, access ID's, passwords, SNMP community names necessary for InterVision to perform the Services
- Provide notification contact and escalation lists for use by InterVision during business and non-business hours.
- Provide InterVision team with site contact to facilitate access to equipment and connection terminations, along with out-of-hours access procedures
- Notify InterVision within 72 hours of any changes to the contracted devices via a service/change ticket.
- Execute letters of agency notifying vendors, such as carriers, that InterVision will represent the Customer by isolating and troubleshooting Customer's network problems
- All devices and applications must have vendor support contracts and operate at currently supported vendor versions.
- All devices must be in a supportable state, including current versions of software supported by vendor, with all critical patches applied, in a production capable state with no known failures or functions in order to be covered. Remediation efforts to bring software to current version including patches to make a device production capable will be billable to the customer.

1.2 SERVICE LEVEL OFFERS

- Monitoring Service provides 24/7 monitoring and customer notification. Notification includes automated alerts as well as notification via service personal to client for critical events. This does not include trouble shooting and device support. Support is available for changes to monitoring settings and assistance with reports.
- Standard Service offers 24/7/365 phone and ticket support. it does not include dispatch for onsite support.
- Enhanced Service offers 24/7/365 phone and ticket support. It includes dispatch for onsite support^{1,2} where remote support is unable to fulfill eligible service events such as RMA device replacement.
- Premium Service is available for SD-WAN devices. See Managed SD-WAN Service description and details for additional details

¹ Applies to devices covered under Managed Network Services in the continental US. International onsite coverage may be added via a custom scope of work.

² Onsite support is at the discretion of InterVision as determined necessary

1.3 SUPPORT

Service	Monitor Only	Standard	Enhanced	Premium
Event notification	Included	Included	Included	Included
Phone & Ticket Support 24 hours, 7 days a week	Included for monitoring issues	Included, with SLA	Included, with SLA	Included, with SLA



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Service	Monitor Only	Standard	Enhanced	Premium
Onsite Support 7AM-7PM MON-FRI**	Not Included	Not Included, No SLA.	Included, with SLA	Included, with SLA
Onsite Support Off-Hours**	Not Included	Not Included, No SLA	Included, with SLA	Included, with SLA
Phone Support – Devices Not Covered by NetTend	Not Included	Not Included	Not Included	Not Included
Onsite Support – Devices Not Covered by NetTend	Not Included	Not Included	Not Included	Not Included

* All coverage times are based on the local time zone of the supported device.

** Applies to devices covered under Managed Services in the continental US. International onsite coverage may be added via a custom scope of work.

- In the event that an outage or network problem occurs which is determined to be a site related issue InterVision managed service team will document the Incident within its ticketing system. Examples of site related Incidents are: Loss of power to site, damage to premise cabling, accidental disconnection of site cabling or Equipment.
- In the event that an outage or network problem occurs which is determined to be a Broadband Carrier circuit failure, InterVision will, via a Letter of Agency from Customer, contact the relevant Carrier or ISP and report the Incident for resolution. InterVision will then continue to manage the problem and follow up with the Carrier or ISP to ensure service is restored as quickly as possible.
- In the event that an outage or network problem occurs which is determined to be a failure of CPE, InterVision will diagnose and attempt to resolve the issue remotely. If the outage cannot be resolved remotely, InterVision will escalate to the Customer and/or technician dispatch when needed. Determination of the necessity of on-site services is at the sole discretion of InterVision, If dispatch is requested and cancelled within 48 hours of requested dispatch time, a \$500 cancellation fee will be applied.

1.4 REPORTING

For all Managed Network Services, the following reports are available provided quarterly.

- Hardware availability
- Device performance and capacity
- Trouble tickets
- Change tickets
- Monthly overview reports
- SLA reports

1.5 SERVICE ACTIVATION

InterVision employs a structured process to help ensure a smooth transition to Managed Infrastructure and Monitoring services. Our Project Management Office (PMO) owns the process with the Onboarding Engineer (OE), holding the ultimate responsibility and serving as the single point of contact (SPOC).



Steps to activate service

1. Data gathering
 - a. Customer service manual
 - b. Order form
2. Monitoring collector/ Support workstation Deployment and Configuration
3. Onboard customer devices
4. Add data from step one into systems
5. Finalize customer onboarding
6. Send any found issues with onboarding for client to review
7. Go Live/ Customer training
8. Perform true up / Project Closeout

1.6 SERVICE DELIVERY - INCIDENT AND DEVICE IMPACT CLASSIFICATION

The Managed Infrastructure and Monitoring service employs a sophisticated algorithm called the Ticket Enrichment Engine that utilizes the severity of the incident, and the business criticality of the device to determine the appropriate priority levels. Devices such as SD-WAN, routers and firewalls are defaulted to classification as critical devices, and are automatically prioritized higher than other devices. Customers are able to designate other devices as critical, to decrease/increase their prioritization based upon their business impact

Severity 1	No Ticket	
Severity 2	No Ticket	
Severity 3	No Ticket	
Severity 4	Notification Ticket Closed State	
Severity 5	Notification Ticket Closed State	Upgrade Eligible
Severity 6	P3 Ticket	
Severity 7	P3 Ticket	Upgrade Eligible
Severity 8	P2 Ticket	
Severity 9	P2 Ticket	Upgrade Eligible
Severity 10	P1 Ticket	

Emergency (P1 or P2) services require a phone call to create an incident.



2 SERVICE SPECIFICATIONS - MANAGED WIRELESS

The Wireless Controller service covers the designated Wireless Controller(s) and access points and provides availability and performance monitoring, support and management of the Wireless LAN. It is recommended that this service also be combined with Managed WAN services for comprehensive services.

This is a managed service for client-owned equipment or a combination of cloud based wireless services and client owned access points.

- This managed service is provided based upon each instance of a wireless controller and the number of associated access points.
- As the number of controllers and/or access point increase fees for this management service may increase.

This service is designed to pick up day-to-day monitoring and management of the Wireless LAN after it has been initially installed to vendor support specifications and connections are made and devices are in production. Design and installation service may be obtained via our Professional services. For existing environments an audit to determine managemability may be required.

- Ongoing monitoring, configuration and troubleshooting performed by our knowledgeable network OpsCenter staff
- Software and firmware updates per your request pushed out from a customer's central management console.
- Support Desk with 24/7/365 coverage
- Summary reports delivered via our monitoring portal to help you understand traffic, clients and application usage**
- Assistance with warranty replacement and vendor escalations.
- Monitoring for cloud based controllers may be limited by their capabilities

For a list of currently supported devices, please contact your account representative.

2.1 ROLES AND RESPONSIBILITIES MATRIX

	Client	Hosted Cafe'	Extended Services*
General			
Provide Wireless Controller and Access Point information (account, password, location, MAC address,...)	X		
Provide client escalation information	X		
Provide vendor support contracts	X		
Installation and Configuration			



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	Client	Hosted Cafe'	Extended Services*
Predictive site survey to develop Access Point placement			X
Development of new office/site wireless plan			X
Physical controller install	X		X
Physical deployment of new access points	X		X
Configure new access points via controller (remote)		X	
Configure new access points directly			X
Create new SSID		X	
Switch Port Configuration to allow for additional wireless devices		X	
Create new vLAN on wireless controller		X	X
Create new authentication methods - 802.1x, Guest, Mac Authentication			X
Third Party Integrations			X
Implementations and major change project management / coordination			X
Monitoring			
Setup monitoring and logging of wireless network		X	



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	Client	Hosted Cafe'	Extended Services*
Update monitoring thresholds per client requirements		X	
Manage notification profiles		X	
Setup wireless dashboard in InterVision monitoring portal		X	
Wireless standard reports setup		X	
NAC Monitoring and Alerting (Clearpass, Cisco Identity Services Engine,...)			X
Incident and Problem Management			
Incident management		X	
Root cause analysis		X	
Vendor management (Escalations, RMA,...)		X	
Troubleshoot down access point		X	
Troubleshoot signal strength issues (remote)			
Troubleshoot FlexConnect™ issues **		X	
Troubleshoot Authentication issue on wireless devices**		X	
Troubleshoot configuration deployment issues		X	
Assist with wireless connection issues		X Network Admin support only	X End user support requires Help Desk contract



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	Client	Hosted Cafe'	Extended Services*
(does not cover Operating system support)			
Vendor management (Escalations, RMA,...)		X	
Troubleshooting End-User access issue (help desk)	X		
Patch Management			
Software Minor version release update (as needed pushed from customer controller)		X	
Software Major version release update			X
Critical Security patching (as required)		X	
Management			
Administer device accounts		X	
Administer user access to wireless network	X		X
Administer Guest Network Captive Portal	X		X
NAC Management	X		X
Change Management			
Controllers' Software settings		X	
Log and store changes information via config backup (dependent upon controller tools capability)		X	



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	Client	Hosted Cafe'	Extended Services*
Hardware device physical replacement	X		X
Hardware replacement configuration migration to new device (if compatible with config backup)		X	
Optimization of wireless signal coverage			X
Create new SSID		X	
Configure access policies via controller		X	
Configure suthentication policies via controller		X	
Change controller port configuration		X	
RF optimizaiton of wireless LAN (WLAN) for offices			X
NAC changes and change managment			X
Capacity Planning			
Performance Tuning and Management	X		X
Capacity Analysis	X		X
Life Cycle Management Notification (EOL, EOS)	X		X
Wireless Access Point coverage recommendations		X	



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	Client	Hosted Cafe'	Extended Services*
		For Cisco, requires client Cisco Prime Infrastructure Agreement	
Reporting			
Standard Operations Reports		X	
Custom Operations Reports	X		X

*Extended services are optional services that can be provided with incremental fees. These service may be additional managed services or InterVision professional services

** Full troubleshooting may require Managed Infrastructure support of all upstream network components.

2.2 MONITORING - MANAGED WIRELESS

2.2.1 MONITORS FOR CISCO AND ARUBA WIRELESS:

Monitor	Type	Frequency	Threshold	Severity
Device Configuration Backup and Change Tracking	Polled	10 minutes	N/A	N/A
Device Down or Unresponsive	Polled	2 minutes	> 240 seconds	10
High CPU Utilization	Polled	3 minutes	> 90% for 600 seconds	7
High Memory Utilization	Polled	3 minutes	> 85% for 600 seconds	9
Critical Interface Staying Down	Polled	1 minute	> 5 minutes	9
Critical Interface High Utilization	Polled	1 minute	> 85% for 600 seconds	7
Critical Interface High Error Count	Polled	1 minute	> 10% for 600 seconds	5
Critical Events Including fans, temp, and power supply	Polled	3 minutes	> 1 for 300 seconds	6



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Monitor	Type	Frequency	Threshold	Severity
Access Point Monitors				
Critical Hardware Events	Polled	3 minutes	> 1 for 300 seconds	6
Access Point Offline	Trap	Upon Event	N/A	6
Coverage Hole Detection	Trap	Upon Event	N/A	1
High Wireless Channel Utilization	Polled	1 minute	> 85% for 600 seconds	1

2.2.2 MONITORS FOR MERAKI WIRELESS:

Monitor	Trap Freq	Threshold	Severity
Device Down - Controller	Upon Event	N/A	10
Network Memory Critical	3-minute	85% for 600 seconds	9
Critical Network Device Interface Staying Down	1-minute	5 minutes	9
Device Interface Down	Upon Event	N/A	9
Network CPU Critical (NT)	3-minute	90% for 600 seconds	7
Critical Interface - High Utilization (NT)	1-minute	85% for 600 seconds	7
Meraki Device IP Conflict	Upon Event	N/A	7
Network Memory Warning	3-minute	50%-84% for 600 seconds	5
Network CPU Warning (NT)	3-minute	75%-89% for 600 seconds	1



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Network Interface Error Critical (NT)	1-minute	5% for 600 seconds	1
Access Point Monitors			
Device Down - Access Point	Upon event	N/A	7
Unreachable Device	Upon event	N/A	7

Refer to the main service guide for description of severity levels and mapping to operations center priority levels. (ex. Severity 10 is our highest severity and maps to our Priority 1 service level.)

2.3 REPORTING - MANAGED WIRELESS

Reports may be limited by device capabilities.

2.4 DEFINITIONS

Enhanced- Hosted Cafe' will place the Customer premise equipment ("CPE"), Cloud Services, and Software under support and monitoring service. With this version of the Service the customer receives both unlimited phone support and onsite support as detailed in an applicable Service Order.

Hosted Cafe' - Hosted Cafe is a name for the InterVision managed services organization and team. It is used to differentiate the services from other services such as professional services or Customer IT operations.

Monitor only- Hosted Cafe' will place the Customer premise equipment ("CPE") under support and monitoring only service. The Service covers the specific IT infrastructure devices as detailed in an applicable Service Order. There is no phone support or onsite support with this service.

RMA - Return Merchandise Authorization. This refers to like-for-like device replacement under vendor warranty.

Standard- Hosted Cafe' will place the Customer premise equipment ("CPE"), Cloud Services, and Software under support and monitoring service. The Service covers the specific IT infrastructure devices as detailed in an applicable Service Order and includes unlimited phone support.

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