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Cisco Unified Communications/Unified Contact Center Remote Management Services Monitoring Details



Cisco[®] Unified Communications (UC)/Unified Contact Center (UCC) Remote Management Services (RMS) provide comprehensive availability and performance monitoring and remote, proactive management of the Cisco Unified Communications and Contact Center solutions.

Cisco UC/UCC RMS features a single point of contact to facilitate all Cisco UC and UCC questions, collaborate with clients to address their productivity goals, and coordinate responses to complex technical issues by our expert engineers. Our remote, high-visibility, co-managed approach gives you simple ownership and control of your converged network and peace of mind knowing that Cisco expertise, proven management processes, and advanced management tools are working with you to maximize the value of your Cisco UC/UCC experience.

The Cisco Management Application Platform (MAP) is a comprehensive service solution element that provides 24-hour monitoring of converged network infrastructure and server-based applications.

Services, resources, and applications that are monitored are subject to change without notice.

Note: *Incident* signifies an issue with the system; an incident ticket is generated. *Performance* refers to system functioning and responsiveness.

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Monitoring Details for Cisco Customer Voice Portal (CVP) Ingress Gateway

This document summarizes all of the Cisco Customer Voice Portal (CVP) Ingress Gateway services, resources, and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
Identifies the precise s	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	~		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a CVP Ingress Gateway that has failed.	~		\checkmark
AVAILABILITY				1
Monitors the Gateway	for availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	✓		✓
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	1		1
Module Status	Monitors individual modules for up/down status.	\checkmark		\checkmark
Interface Monitoring	Monitors critical interfaces (ATM, BRI, E1, Eth, Fa, FC, Gi, Lo, mgmt., POS, PRI, Se, T1, VI, and Vo).	~	~	√
Interface/Port Flapping	Monitors for port or interface that is repeatedly alternating between up and down states within a short period of time.	✓i		
System Uptime	Reports the length of time system has been in up status.			\checkmark
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			√
Scheduled Outages	Displays a list of scheduled outages during a given time period.			✓
Top Active Devices	Displays devices that are generating the most case incident case activity.			✓
PERFORMANCE				
Monitors Gateway per	formance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	✓	~	~
Memory Utilization	Opens incident ticket when memory utilization exceeds threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	\checkmark	\checkmark	\checkmark
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		√	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		\checkmark	√
Rate of Calls	Displays the call levels processed by the Gateway over time (Daily, Weekly, Monthly & Yearly).		~	~
CISCO CUSTOMER VO	DICE PORTAL (CVP) INGRESS GATEWAY			-
System*				
Port Information Viewer	At the port level, displays gateway name, IP address, MAC address, type of interface, VLAN name, MAC address of connected device, IP address of connected device, Cisco MAP and DNS name of connected device, and a Cisco MAP Tools management link to the connected device.			\checkmark
DS0 Metrics	Monitors DS0 availability and usage; opens incident ticket if threshold exceeded.	~		~
Port Metrics	Monitors port availability and usage; opens incident ticket if threshold exceeded.	~		✓

Attribute	Description	Incident	Performance	Management
Trunk Allocation	Displays the number of trunks available per trunk group.			✓
Call Counts	Monitors call volumes.			\checkmark
Request Counts	Monitors call request activity.		✓	\checkmark
Seconds In Use	Monitors activity as a measure of time.			\checkmark
Busy Hour	Calculates and displays monthly busy hour per device.			\checkmark
Erlangs	Calculates and displays monthly and daily Erlang values.			✓
UCCE Trunk Availability ⁱⁱⁱ	Displays monthly summary and daily hourly detail call metrics per Trunk Group.			\checkmark
H.323 Traffic Metrics	Displays H.323 voice Gateway traffic utilization monthly summary and daily hourly detail call metrics.			√
Line Code Violations (LCV)	Monitors for T1/DS1 LCV errors; alarms and opens incident ticket when LCV errors are detected.	~		~
Path Code Violations (PCV)	Monitors for T1/DS1 PCV errors; alarms and opens incident ticket when PCV errors are detected.	~		~
Line Errored Seconds (LES)	Monitors for T1/DS1 LES errors; alarms and opens incident ticket when LES errors are detected.	~		~
Controlled Slip Seconds (CSS)	Monitors for T1/DS1 CSS errors; alarms and opens incident ticket when CSS errors are detected.	✓		~
Errored Seconds (ES)	Monitors for T1/DS1 ES errors; alarms and opens incident ticket when ES errors are detected.	~		✓
Bursty Errored Seconds (BES)	Monitors for T1/DS1 BES errors; alarms and opens incident ticket when BES errors are detected.	√		√
Severely Errored Seconds (SES)	Monitors for T1/DS1 SES errors; alarms and opens incident ticket when SES errors are detected.	•		•
Severely Errored Framing Seconds (SEFS)	Monitors for T1/DS1 SEFS errors; alarms and opens incident ticket when SEFS errors are detected.	~		V
Degraded Minutes (DM)	Monitors for T1/DS1 DM errors; alarms and opens incident ticket when DM errors are detected.	~		✓
Unavailable Seconds (UAS)	Monitors for T1/DS1 UAS errors; alarms and opens incident ticket when UAS errors are detected.	~		~
T1/DS1 Statistics	Displays near real-time and 10 day historical DS1 interface operational status and error count statistics.			\checkmark
ISDN D-Channel Status	Alarms and opens incident ticket when the status of an interface changes state to not active.	\checkmark		
PRI Interface Operational Status	Monitors the operational status of each interface.	~		
ANALYSIS TOOLS				
	stem event and performance detail			
Syslog Viewer	Captures, archives and displays SYSLOG events; opens incident tickets to alert on issues.	~		✓
Traplog Viewer	Captures, archives and displays Trap events; opens incident tickets to alert on issues.	✓		✓
HARDWARE / ENVIRO				
-	e components essential to Gateway operation			
Power Supply Status	Monitors the up/down status of the power supply; alerts when power supply state is down.	1		1
Fan Status	Monitors the up/down status of the fan; alerts when fan state is down.	√ √		V
Temperature (ambient)	Measures temperature at chassis input.	v		√
Temperature (CPU)	Measures temperature at hot spot of chassis.	~		~
Temperature (output)	Measures temperature at chassis output.	~		✓
Modules	Monitors the status of the individual interface modules in the Gateway.	\checkmark		\checkmark

Attribute	Description	Incident	Performance	Management
ASSET DETAIL				
Information to help yo	ou manage your IT investment			
Site Name	Name of site where the Gateway is located.			✓
Site Location	Physical location of the Gateway.			✓
Name	Name of the Gateway configured in Cisco MAP.			✓
IP	IP address assigned to the Gateway.			✓
MAC Address	Media Access Control (MAC) address assigned to the Gateway.			✓
Туре	Type of device (ex., Gateway).			✓
Vendor	Manufacturer of the Gateway hardware.			✓
Model	Model of the Gateway hardware.			✓
Serial #	Serial number of the Gateway hardware.			✓
Contract Expiration	Date that service/support contract expires.			✓
Installed Modules	Number of modules installed on the Gateway.			✓
Operating System	Network operating system and version information installed on the Gateway.			\checkmark
IOS [®] Version	IOS [®] Version installed on the Gateway.			✓
IOS [®] Subset	Subset of IOS [®] version installed on the Gateway.			\checkmark
IOS [®] Image Name	IOS [®] image name.			✓
Flash	Amount of flash memory on the Gateway (bytes).			✓
System RAM	Amount of RAM on the Gateway (bytes).			✓
Date of Last Backup	Date of last successful back-up of configuration files.			✓
Date of Last Commit	Date of last commit of configuration files.			✓
Date Last Changed	Date of last detected change to configuration files.			✓
Configuration File Activity	Summary of device configuration file download and change activity.			~
Network Operating System Version Summary	Displays detailed Cisco IOS [®] /CatOS version information for managed Cisco devices.			~
System Infrastructure	At a glance module count, IOS^{\circledast} image name, flash and RAM memory installed on managed Cisco IOS^{\circledast} devices.			~
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			✓
KEY PERFORMANCE	INDICATORS (KPIs)			
Measure performance	metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			~
Average Ping Latency KPI	Average Ping Latency key performance indicator.			~
Average Bandwidth In	Average Bandwidth In key performance indicator.			~
Average Bandwidth Out	Average Bandwidth Out key performance indicator.			\checkmark
SERVICE LEVEL MAN	AGEMENT			
Measure service resp	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~

ⁱⁱ Monitoring/Reporting availability is dependent upon the modules installed in the Cisco Gateway device.

^{III} When deployed in a Cisco Unified Contact Center Enterprise environment having an Intelligent Contact Manager (ICM), Historical Database Server (HDS), or Administrative Workstation (AW)

Monitoring Details for Cisco Customer Voice Portal (CVP) Media Server Versions 3.x, 4.x, 7.x and 8.x

This document summarizes the Cisco Customer Voice Portal Media Server Versions 3.x, 4.x, 7.x and 8.x services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
Identifies the precise	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	✓		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a CVP Ingress Gateway that has failed.	~		~
AVAILABILITY		1	1	1
Monitors the server fo	r availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	✓		✓
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		~
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		
Service Port Monitoring	Monitors service ports for availability; opens incident tickets to alert on issues.	1		~
Remote Server Operations	Monitors remote server operations availability.	~		~
System Uptime	Reports the length of time system has been in up status.			~
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			~
Scheduled Outages	Displays a list of scheduled outages during a given time period.			✓
Top Active Devices	Displays devices that are generating the most case incident case activity.			✓
PERFORMANCE				
Monitors server perfo	rmance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	✓	~	~
Memory Utilization	Opens incident ticket when memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	\checkmark	~
Virtual Memory Utilization	Opens incident ticket when virtual memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	~	~
Drive Space	Opens incident ticket when hard drive usage exceeds 85% threshold, and displays	1	~	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		~	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		√	✓
CISCO CUSTOMER V	DICE PORTAL (CVP) MEDIA SERVER SERVICES			
System				
Component Management	Monitors the up/down status of the Unified CVP component management service; opens incident ticket when state is down.	~		~
Component Support	Monitors up/down status of the agent that assists troubleshooting of configured CVP devices; opens incident ticket if agent is down or missing.	~		~
Server	Monitors the up/down status of the server process.	\checkmark		✓

Attribute	Description	Incident	Performance	Management
Database Synchronization	Monitors the up/down status of the service that ensures database synchronization; opens incident ticket when service state is down.	~		\checkmark
Endpoint Protection	Monitors the up/down status of the agent responsible for zero-update attack prevention, data loss prevention, and compliance and acceptable use auditing and enforcement; opens incident ticket if agent is down or missing.	~		~
System Management	Monitors the up/down status of the system management process; opens incident ticket when service state is down.	~		~
Remote Access	Monitors the up/down status of remote access service; opens incident ticket when service state is down.	~		✓
Time Synchronization	Monitors system time synchronization.	~		✓
System Event Log	Monitors the up/down status of the system event log process; opens incident ticket when service state is down.	~		✓
Automatic Server Shutdown	Monitors the up/down status of the process that automatically shuts down the server if a major fault is detected; opens incident ticket when service state is down.	✓		~
Anti-Virus Services	Monitors the presence and status of Anti-Virus software.	✓		✓
ANALYSIS TOOLS				i
Viewers to analyze sys	stem event and performance detail			
Syslog Viewer	Captures, archives and displays SYSLOG events; opens incident tickets to alert on issues.	~		√
Traplog Viewer	Captures, archives and displays Trap events; opens incident tickets to alert on issues.	~		✓
HARDWARE / ENVIRO	NMENTAL			
Monitors key hardward	e components essential to server operation			
System Version Control ⁱⁱ	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	~		✓
CPU Status ⁱⁱ	Monitors CPU; opens incident ticket if CPU fails.	~		✓
CPU Errors ⁱⁱ	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	~		✓
Fan Status"	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	~		✓
Fan Speed ⁱⁱ	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		✓
Temperature ⁱⁱ	Monitors all temperature sensors detected in chassis: opens incident ticket if temperature exceeds threshold.	~		✓
Memory Status ⁱⁱ	Monitors memory status; opens incident ticket if degraded or failed.	✓		\checkmark
Memory Error Status ⁱⁱ	Monitors memory error messages; opens incident ticket if error threshold exceeded.	1		√
Disk Controller Status ⁱⁱ	Monitors disk controller status; opens incident ticket if status is down.	1		✓
Logical Disk (RAID) Status ⁱⁱ	Monitors logical disk status; opens incident ticket if status is down.	1		✓
Physical Disk Status ⁱⁱ	Monitors physical disk status; opens incident ticket if status is down.	~		~
Physical Disk Errors	Monitors the number of physical disk errors messages; opens incident ticket if threshold exceeded.	1		✓
Power Supply Status	Monitors the status and condition of the power supply; opens incident ticket on error or when state is down.	~		~
Power Supply Capacity	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	~		~
ASSET DETAIL				
Information to help yo	u manage your IT investment			
Site Name	Name of site where the server is located.			✓
		1		

Attribute	Description	Incident	Performance	Management
Name	Name of the server configured in Cisco MAP.			✓
IP	IP address assigned to the server.			✓
MAC Address	Media Access Control (MAC) address assigned to the server.			✓
Туре	Type of device (ex., server).			\checkmark
Vendor	Manufacturer of the server hardware.			✓
Model	Model of the server hardware.			✓
Serial #	Serial number of the server hardware.			✓
Contract Expiration	Date that service/support contract expires.			✓
Date of Last Backup	Date of last successful back-up of configuration files.			✓
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			\checkmark
KEY PERFORMANCE	INDICATORS (KPIs)			
Measure performance	e metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			✓
Average Ping Latency KPI	Average Ping Latency key performance indicator.			~
Average Bandwidth In	Average Bandwidth In key performance indicator.			~
Average Bandwidth Out	Average Bandwidth Out key performance indicator.			~
SERVICE LEVEL MAN				·
Measure service resp	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~

ⁱⁱ Monitoring/Reporting available with agent installed.

Monitoring Details for Cisco Customer Voice Portal (CVP) Operation, Administration, and Management Portal (OAMP) Versions 3.x, 4.x, 7.x and 8.x

This document summarizes the Cisco Customer Voice Portal (CVP) Operation, Administration, and Management Portal (OAMP) Versions 3.x, 4.x, 7.x and 8.x services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
Identifies the precise s	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	~		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a CVP OAMP that has failed.	~		~
AVAILABILITY				
Monitors the server fo	r availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	✓		✓

Attribute	Description	Incident	Performance	Management
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		✓
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		
Service Port Monitoring	Monitors service ports for availability; opens incident tickets to alert on issues.	~		✓
Remote Server Operations	Monitors remote server operations availability.	1		✓
System Uptime	Reports the length of time system has been in up status.			\checkmark
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			√
Scheduled Outages	Displays a list of scheduled outages during a given time period.			\checkmark
Top Active Devices	Displays devices that are generating the most case incident case activity.			\checkmark
PERFORMANCE				
Monitors server perfo	rmance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	~	~
Memory Utilization	Opens incident ticket when memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	✓	~
Virtual Memory Utilization	Opens incident ticket when virtual memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	√	\checkmark
Drive Space	Opens incident ticket when hard drive usage exceeds 85% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	\checkmark	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		~	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		~	✓
CISCO CUSTOMER V	DICE PORTAL (CVP) OPERATION, ADMINISTRATION, AND MANAGEMEN	T PORTAL	(OAMP) SERVIC	ES
System				
Component Management	Monitors the up/down status of the Unified CVP component management service; opens incident ticket when state is down.	~		~
Component Support	Monitors up/down status of the agent that assists troubleshooting of configured CVP devices; opens incident ticket if agent is down or missing.	~		✓
Server	Monitors up/down status of the server that allows the administration and configuration of CVP component devices; opens incident ticket when service state is down.	~		~
Database Synchronization	Monitors the up/down status of the service that ensures database synchronization; opens incident ticket when service state is down.	~		~
Endpoint Protection	Monitors the up/down status of the agent responsible for zero-update attack prevention, data loss prevention, and compliance and acceptable use auditing and enforcement; opens incident ticket if agent is down or missing.	~		~
System Management	Monitors the up/down status of the system management process; opens incident ticket when service state is down.	~		\checkmark
Remote Access	Monitors the up/down status of remote access service; opens incident ticket when service state is down.	~		~
Time Synchronization	Monitors system time synchronization.	~		✓
System Event Log	Monitors the up/down status of the system event log process; opens incident ticket when service state is down.	~		✓
Automatic Server Shutdown	Monitors the up/down status of the process that automatically shuts down the server if a major fault is detected; opens incident ticket when service state is down.	~		~
Anti-Virus Services	Monitors the presence and status of Anti-Virus software.	✓		✓
ANALYSIS TOOLS				

Attribute	Description	Incident	Performance	Management
Viewers to analyze s	ystem event and performance detail			
Syslog Viewer	Captures, archives and displays SYSLOG events; opens incident tickets to alert on issues.	✓		✓
Traplog Viewer	Captures, archives and displays Trap events; opens incident tickets to alert on issues.	✓		~
HARDWARE / ENVIR	ONMENTAL	1	l	1
Monitors key hardwa	re components essential to server operation			
System Version Control ⁱⁱ	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	✓		~
CPU Status ⁱⁱ	Monitors CPU; opens incident ticket if CPU fails.	✓		~
CPU Errors ⁱⁱ	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	✓		~
Fan Status ⁱⁱ	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	1		~
Fan Speed ⁱⁱ	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		~
Temperature ⁱⁱ	Monitors all temperature sensors detected in chassis: opens incident ticket if temperature exceeds threshold.	~		~
Memory Status ⁱⁱ	Monitors memory status; opens incident ticket if degraded or failed.	~		~
Memory Error Status ⁱⁱ	Monitors memory error messages; opens incident ticket if error threshold exceeded.	~		~
Disk Controller Status ⁱⁱ	Monitors disk controller status; opens incident ticket if status is down.	~		~
Logical Disk (RAID) Status ⁱⁱ	Monitors logical disk status; opens incident ticket if status is down.	1		~
Physical Disk Status ⁱⁱ	Monitors physical disk status; opens incident ticket if status is down.	1		~
Physical Disk Errors ⁱⁱ	Monitors the number of physical disk errors messages; opens incident ticket if threshold exceeded.	~		~
Power Supply Status ⁱⁱ	Monitors the status and condition of the power supply; opens incident ticket on error or when state is down.	\checkmark		\checkmark
Power Supply Capacity ⁱⁱ	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	~		~
ASSET DETAIL				
Information to help y	ou manage your IT investment			
Site Name	Name of site where the server is located.			✓
Site Location	Physical location of the server.			\checkmark
Name	Name of the server host system configured in Cisco MAP.			✓
IP	IP address assigned to the Server.			\checkmark
MAC Address	Media Access Control (MAC) address assigned to the Server.			~
Туре	Type of device (ex., server).			\checkmark
Vendor	Manufacturer of the server hardware.			~
Model	Model of the server hardware.			\checkmark
Serial #	Serial number of the server hardware.			~
Contract Expiration	Date that service/support contract expires.			\checkmark
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			✓
-	INDICATORS (KPIs)			
	e metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			~
Average % Memory Used KPI	Average % Memory Used key performance indicator.			✓

Attribute	Description	Incident	Performance	Management
Average Memory Utilization – page/sec KPI	Average Memory Utilization – page/sec key performance indicator.			•
Average % Disk Used KPI	Average % Disk Used key performance indicator.			~
SERVICE LEVEL MAN	AGEMENT			
Measure service resp	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			✓

ⁱⁱ Monitoring/Reporting available when agent installed.

Monitoring Details for Cisco Customer Voice Portal (CVP) VXML Gateway Versions 3.x, 4.x, 7.x and 8.x

This document summarizes all of the Cisco Customer Voice Portal (CVP) VXML Gateway Versions 3.x, 4.x, 7.x and 8.x services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management	
EVENT PROCESSING					
Identifies the precise	source of problems				
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	✓			
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a Gateway that has failed.	~		~	
AVAILABILITY					
Monitors the Gateway for availability					
ICMP Polling	ICMP ping test for up/down status.	✓		✓	
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i			
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	✓		✓	
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	✓		√	
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i			
Module Status	Monitors individual modules for up/down status.	✓		✓	
Card Status	Monitors individual cards for up/down status.	✓		\checkmark	
Interface Monitoring	Monitors critical interfaces (ATM, E1, Eth, Fa, FC, Gi, Lo, mgmt., POS, Se, T1, and VI).	✓	~	~	
Interface/Port Flapping	Monitors for port or interface that is repeatedly alternating between up and down states within a short period of time.	√ i			
System Uptime	Reports the length of time system has been in up status.			✓	
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			√	
Scheduled Outages	Displays a list of scheduled outages during a given time period.			\checkmark	
Top Active Devices	Displays devices that are generating the most case incident case activity.			✓	
PERFORMANCE					

Attribute	Description	Incident	Performance	Management
Monitors Gateway per	formance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	~	~
Memory Utilization	Opens incident ticket when memory utilization exceeds threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	\checkmark	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		~	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		~	~
CISCO CUSTOMER VO	DICE PORTAL (CVP) VXML GATEWAY			
System ⁱⁱ				
DS0 Metrics	Monitors DS0 availability and usage; opens incident ticket if threshold exceeded.	✓		✓
Port Metrics	Monitors port availability and usage; opens incident ticket if threshold exceeded.	~		1
Call Counts	Monitors call volumes.			✓
Request Counts	Monitors request activity.		\checkmark	✓
Seconds In Use	Monitors activity as a measure of time.			✓
Busy Hour	Calculates and displays monthly busy hour per device.			✓
Erlangs	Calculates and displays monthly and daily Erlang values.			✓
H.323 Traffic Metrics	Displays H.323 voice Gateway traffic utilization monthly summary and daily hourly detail call metrics.		~	~
Failed Calls	Monitors failed calls; alerts when threshold exceeded during a specified timeframe.	1		~
Circuit/Channel Availability	Monitors the availability of available circuits/channels; alerts when threshold exceeded during a specified timeframe.	~		~
Peer Call Information	Monitors Gateway-peer communications; alerts on issues.	✓		✓
Call Recovery	Monitors call recovery attempts; alerts when threshold exceeded during a specified timeframe.	~		~
Line Code Violations (LCV)	Monitors for T1/DS1 LCV errors; alarms and opens incident ticket when LCV errors are detected.	~		~
Path Code Violations (PCV)	Monitors for T1/DS1 PCV errors; alarms and opens incident ticket when PCV errors are detected.	~		~
Line Errored Seconds (LES)	Monitors for T1/DS1 LES errors; alarms and opens incident ticket when LES errors are detected.	~		~
Controlled Slip Seconds (CSS)	Monitors for T1/DS1 CSS errors; alarms and opens incident ticket when CSS errors are detected.	~		~
Errored Seconds (ES)	Monitors for T1/DS1 ES errors; alarms and opens incident ticket when ES errors are detected.	~		~
Bursty Errored Seconds (BES)	Monitors for T1/DS1 BES errors; alarms and opens incident ticket when BES errors are detected.	~		~
Severely Errored Seconds (SES)	Monitors for T1/DS1 SES errors; alarms and opens incident ticket when SES errors are detected.	~		~
Severely Errored Framing Seconds (SEFS)	Monitors for T1/DS1 SEFS errors; alarms and opens incident ticket when SEFS errors are detected.	~		~
Degraded Minutes (DM)	Monitors for T1/DS1 DM errors; alarms and opens incident ticket when DM errors are detected.	~		~
Unavailable Seconds (UAS)	Monitors for T1/DS1 UAS errors; alarms and opens incident ticket when UAS errors are detected.	~		~
T1/DS1 Statistics	Displays near real-time and 10 day historical DS1 interface operational status and error count statistics.	~		~
ISDN D-Channel Status	Alarms and opens incident ticket when the status of an interface changes state to not active.	~		✓
PRI Interface Operational Status	Monitors the operational status of each interface.	~		~

Attribute	Description	Incident	Performance	Manageme
ANALYSIS TOOLS				
Viewers to analyze sys	stem event and performance detail			
Syslog Viewer	Captures, archives and displays SYSLOG events; opens incident tickets to alert on issues.	✓		✓
Traplog Viewer	Captures, archives and displays Trap events; opens incident tickets to alert on issues.	✓		✓
HARDWARE / ENVIRO	NMENTAL			1
Monitors key hardwar	e components essential to Gateway operation			
Power Supply Status	Monitors the up/down status of the power supply; alerts when power supply			
i onoi ouppiy otatao	state is down.	~		\checkmark
Power Supply Fan Status	Monitors the up/down status of the power supply fan; alerts when power supply state is down.	✓		✓
Fan Status	Monitors the up/down status of the fan; alerts when fan state is down.	✓		\checkmark
Temperature (Ambient)	Measures temperature at chassis input.	~		~
Temperature (output)	Measures temperature at chassis output.	~		~
Temperature (ioBoard)	Measures temperature at chassis core.	~		\checkmark
ASSET DETAIL				
Information to help yo	u manage your IT investment			
Site Name	Name of site where the Gateway is located.			✓
Site Location	Physical location of the Gateway server.			✓
Name	Name of the Gateway configured in Cisco MAP.			✓
IP	IP address assigned to the Gateway.			✓
MAC Address	Media Access Control (MAC) address assigned to the Gateway.			✓
Туре	Type of device (ex., Gateway).			✓
Vendor	Manufacturer of the Gateway hardware.			✓
Model	Model of the Gateway hardware.			✓
Serial #	Serial number of the Gateway hardware.			✓
Contract Expiration	Date that service/support contract expires.			✓
Installed Modules	Number of modules installed on the Gateway.			✓
Operating System	Network operating system and version information installed on the Gateway.			✓
IOS [®] Version	IOS [®] Version installed on the Gateway.			✓
IOS [®] Subset	Subset of IOS [®] version installed on the Gateway.			✓
IOS [®] Image Name	IOS [®] image name.			✓
Flash	Amount of flash memory on the Gateway (bytes).			✓
System RAM	Amount of RAM on the Gateway (bytes).			~
Date of Last Backup	Date of last successful back-up of configuration files.			✓
Date of Last Commit	Date of last commit of configuration files.			~
Date Last Changed	Date of last detected change to configuration files.			✓
Configuration File Activity	Summary of device configuration file download and change activity.			~
Network Operating System Version Summary	Displays detailed Cisco IOS [®] /CatOS version information for managed Cisco devices.			~
System Infrastructure	At a glance module count, $IOS^{\$}$ image name, flash and RAM memory installed on managed Cisco $IOS^{\$}$ devices.			~
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			\checkmark
KEY PERFORMANCE		1		

Attribute	Description	Incident	Performance	Management	
Average CPU % KPI	Average CPU % key performance indicator.			✓	
Average Ping Latency KPI	Average Ping Latency key performance indicator.			~	
Average Percent Memory Used	Average Memory % key performance indicator.			~	
Average Memory Utilization	Average Memory Utilization (Pages/Sec) key performance indicator.			~	
Average Bandwidth In	Average Bandwidth In key performance indicator.			~	
Average Bandwidth Out	Average Bandwidth Out key performance indicator.			√	
SERVICE LEVEL MAN	AGEMENT				
Measure service response against objectives					
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~	

ⁱⁱ Monitoring/Reporting availability is dependent upon the modules installed in the Cisco CVP VXML Gateway device.

Monitoring Details for Cisco Customer Voice Portal (CVP) VXML Server Versions 3.x, 4.x, 7.x and 8.x

This document summarizes all of the Cisco Customer Voice Portal (CVP) VXML Server Versions 3.x, 4.x, 7.x and 8.x services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
Identifies the precise	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	✓		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a CVP VXML Server that has failed.	~		√
AVAILABILITY				
Monitors the server fo	r availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	✓		✓
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		~
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		
Service Port Monitoring	Monitors service ports for availability; opens incident tickets to alert on issues.	~		√
Remote Server Operations	Monitors remote server operations availability.	~		~
System Uptime	Reports the length of time system has been in up status.			✓
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			~

Attribute	Description	Incident	Performance	Managemer
Scheduled Outages	Displays a list of scheduled outages during a given time period.			✓
Top Active Devices	Displays devices that are generating the most case incident case activity.			✓
PERFORMANCE				
Monitors server perfo	rmance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	~	~
Memory Utilization	Opens incident ticket when memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	~	~
Virtual Memory Utilization	Opens incident ticket when memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	~	~
Drive Space	Opens incident ticket when hard drive usage exceeds 85% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	✓	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		~	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		~	√
CISCO CUSTOMER VO	DICE PORTAL (CVP) VXML SERVER SERVICES			
System				
Endpoint Protection	Monitors the up/down status of the agent responsible for zero-update attack prevention, data loss prevention, and compliance and acceptable use auditing and enforcement; opens incident ticket if agent is down or missing.	~		✓
Component Support	Monitors up/down status of the agent that assists troubleshooting of configured CVP devices; opens incident ticket if agent is down or missing.	~		~
Component Management	Monitors the up/down status of the Unified CVP component management service; opens incident ticket when state is down.	~		~
Server	Monitors the up/down status of the server process.	✓		✓
Database Synchronization	Monitors the up/down status of the service that ensures database synchronization; opens incident ticket when service state is down.	~		~
Web Server	Monitors the up/down status of the web server service; opens incident ticket when service state is down.	~		~
Web Publishing Service	Monitors the up/down status of web publishing service; opens incident ticket when service state is down.	~		~
System Management	Monitors the up/down status of the system management process; opens incident ticket when service state is down.	~		~
Remote Access	Monitors the up/down status of remote access service; opens incident ticket when service state is down.	~		~
System Event Log	Monitors the up/down status of the system event log process; opens incident ticket when service state is down.	~		~
Time Synchronization	Monitors system time synchronization.	~		~
Automatic Server Shutdown	Monitors the up/down status of the process that automatically shuts down the server if a major fault is detected; opens incident ticket when service state is down.	~		~
Anti-Virus Services	Monitors the presence and status of Anti-Virus software.	✓		✓
ANALYSIS TOOLS				
Viewers to analyze sys	stem event and performance detail			
Syslog Viewer	Captures, archives and displays SYSLOG events; opens incident tickets to alert on issues.	~		~
Traplog Viewer	Captures, archives and displays Trap events; opens incident tickets to alert on issues.	~		~
HARDWARE / ENVIRC	NMENTAL			
Monitors key hardwar	e components essential to Gateway operation			
System Version Control ⁱⁱ	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	✓		✓

Attribute	Description	Incident	Performance	Management
CPU Status ⁱⁱ	Monitors CPU; opens incident ticket if CPU fails.	✓		✓
CPU Errors ⁱⁱ	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	✓		✓
Fan Status ⁱⁱ	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	~		~
Fan Speed ⁱⁱ	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		√
Temperature ⁱⁱ	Monitors all temperature sensors detected in chassis: opens incident ticket if temperature exceeds threshold.	~		~
Memory Status ⁱⁱ	Monitors memory status; opens incident ticket if degraded or failed.	~		\checkmark
Memory Error Status ⁱⁱ	Monitors memory error messages; opens incident ticket if error threshold exceeded.	~		~
Disk Controller Status ⁱⁱ	Monitors disk controller status; opens incident ticket if status is down.	1		✓
Logical Disk (RAID) Status ⁱⁱ	Monitors logical disk status; opens incident ticket if status is down.	~		~
Physical Disk Status ⁱⁱ	Monitors physical disk status; opens incident ticket if status is down.	~		√
Physical Disk Errors ⁱⁱ	Monitors the number of physical disk errors messages; opens incident ticket if threshold exceeded.	~		\checkmark
Power Supply Status ⁱⁱ	Monitors the status and condition of the power supply; opens incident ticket on error or when state is down.	~		√
Power Supply Capacity ⁱⁱ	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	~		√
ASSET DETAIL				
Information to help yo	u manage your IT investment			
Site Name	Name of site where the server is located.			✓
Site Location	Physical location of the server.			\checkmark
Name	Name of the server configured in Cisco MAP.			\checkmark
IP	IP address assigned to the server.			~
MAC Address	Media Access Control (MAC) address assigned to the server.			~
Туре	Type of device (ex., server).			\checkmark
Vendor	Manufacturer of the server hardware.			\checkmark
Model	Model of the server hardware.			\checkmark
Serial #	Serial number of the server hardware.			✓
Contract Expiration	Date that service/support contract expires.			✓
Date of Last Backup	Date of last successful back-up of configuration files.			✓
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			✓
KEY PERFORMANCE	INDICATORS (KPIs)	1	1	1
Measure performance	metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			✓
Average % Memory Used KPI	Average % Memory Used key performance indicator.			~
Average Memory Utilization – page/sec KPI	Average Memory Utilization – page/sec key performance indicator.			~
Average % Disk Used KPI	Average % Disk Used key performance indicator.			~
SERVICE LEVEL MAN	AGEMENT			
Measure service respo	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~

ⁱⁱ Monitoring/Reporting available with agent installed.

Monitoring Details for Cisco Gatekeeper

This document summarizes all of the Cisco Gatekeeper services, resources, and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
Identifies the precise	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	~		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a Gatekeeper that has failed.	~		√
AVAILABILITY		1	l	1
Monitors the Gatekee	per for availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	✓		✓
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		~
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	✓i		
Interface Monitoring	Monitoring of critical interfaces (Eth, Fa, FC, Gi, Lo, m/p, mgmt., and VI).	1	\checkmark	\checkmark
Interface/Port Flapping	Monitors for port or interface that is repeatedly alternating between up and down states within a short period of time.	✓i		
Module Status	Monitors individual modules for up/down status.	\checkmark		\checkmark
System Uptime	Reports the length of time system has been in up status.			✓
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			~
Scheduled Outages	Displays a list of scheduled outages during a given time period.			✓
Top Active Devices	Displays devices that are generating the most case incident case activity.			\checkmark
PERFORMANCE				
Monitors Gatekeeper	performance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	~	~
Memory Utilization	Opens incident ticket when memory utilization exceeds threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	~	\checkmark
Virtual Memory Utilization	Opens incident ticket when virtual memory utilization exceeds threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	\checkmark	\checkmark
Bandwidth Utilization	Opens incident ticket when bandwidth utilization exceeds threshold, and displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.	~	~	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		~	~

Attribute	Description	Incident	Performance	Management
CISCO IOS [®] GATEKE	EPER			
System				
Port Information Viewer	At the port level, displays Gatekeeper name, IP address, MAC address, type of interface, VLAN name, MAC address of connected device, IP address of connected device, Cisco MAP and DNS name of connected device, and a Cisco MAP Tools management link to the connected device.			~
Gatekeeper Statistics	Real-time display of Gatekeeper call metrics.			✓
ANALYSIS TOOLS		1		'
Viewers to analyze sy	ystem event and performance detail			
Syslog Viewer	Captures, archives and displays SYSLOG events; opens incident tickets to alert on issues.	~		✓
Traplog Viewer	Captures, archives and displays Trap events; opens incident tickets to alert on issues.	~		~
HARDWARE / ENVIR	ONMENTAL	1		1
Monitors key hardwa	re components essential to Gatekeeper operation			
Power Supply Status	Monitors the up/down status of the power supply; alerts when power supply state is down.	~		✓
Power Supply Fan Status	Monitors the up/down status of the power supply fan; alerts when power supply fan state is down.	~		~
Fan Status	Monitors the up/down status of the fan; alerts when fan state is down.	✓		✓
Temperature (ambient)	Measures temperature at chassis input.	~		1
Temperature (CPU)	Measures temperature at hot spot of chassis.	✓		✓
Temperature (output)	Measures temperature at chassis output.	~		~
Modules	Monitors the status of the individual interface modules in the Gatekeeper.	✓		✓
ASSET DETAIL				
Information to help y	ou manage your IT investment			
Site Name	Name of site where the Gatekeeper is located.			✓
Site Location	Physical location of the Gatekeeper.			✓
Name	Name of the Gatekeeper configured in Cisco MAP.			✓
IP	IP address assigned to the Gatekeeper.			✓
Mac Address	Media Access Control (MAC) address assigned to the Gatekeeper.			✓
Туре	Type of device (ex Gatekeeper).			✓
Vendor	Manufacturer of the Gatekeeper hardware.			✓
Model	Model of the Gatekeeper hardware.			✓
Serial #	Serial number of the Gatekeeper hardware.			✓
Contract Expiration	Date that service/support contract expires.			✓
Installed Modules	Number of modules installed on the Gatekeeper.			✓
Operating System	Network operating system and version information installed on the Gatekeeper.			\checkmark
IOS [®] Version	IOS [®] Version installed on the Gatekeeper.			✓
IOS [®] Subset	Subset of IOS [®] version installed on the Gatekeeper.			✓
IOS [®] Image Name	IOS [®] image name.			~
Flash	Amount of flash memory on the Gatekeeper (bytes).			✓
System RAM	Amount of RAM on the Gatekeeper (bytes).			✓
Date of Last Backup	Date of last successful back-up of configuration files.			\checkmark
Date of Last Commit	Date of last commit of configuration files.			~
Date of Last Commit				1
Date Last Changed	Date of last detected change to configuration files.			\checkmark

Attribute	Description	Incident	Performance	Management
Network Operating System Version Summary	Displays detailed Cisco IOS [®] /CatOS version information for managed Cisco devices.			~
System Infrastructure	At a glance module count, IOS^{\circledast} image name, flash and RAM memory installed on managed Cisco IOS^{\circledast} devices.			~
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			✓
KEY PERFORMANCE	INDICATORS (KPIs)			
Measure performance	e metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			✓
Average Ping Latency KPI	Average Ping Latency key performance indicator.			~
Average Memory % KPI	Average Memory Used key performance indicator.			~
Average Bandwidth In	Average Bandwidth In key performance indicator.			✓
Average Bandwidth Out	Average Bandwidth Out key performance indicator.			~
SERVICE LEVEL MAN	IAGEMENT		-	
Measure service resp	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~

Monitoring Details for Cisco Intelligent Contact Manager (ICM) Computer Telephony Integration Object Server (CTI OS) Versions 6.x, 7.x and 8.x

This document summarizes all of the Cisco Intelligent Contact Management (ICM) Computer Telephony Integration Object Server (CTI OS) Versions 6.x, 7.x and 8.x services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
Identifies the precise s	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	~		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a CTI Object Server that has failed.	~		\checkmark
AVAILABILITY				
Monitors the server fo	r availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	✓		✓
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	1		\checkmark
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	✓i		
Interface Monitoring	Monitors the up/down status of Eth interfaces. Monitoring of Eth interfaces applies to speeds of 10/100/1000 Mbps; opens incident ticket if state is down.	✓	✓	✓

Attribute	Description	Incident	Performance	Management
Interface Flapping	Monitors for interfaces repeatedly alternating between up and down states within a short period of time.	√i		
Service Port Monitoring ⁱⁱ	Monitors service ports for availability; opens incident tickets to alert on issues.	~		✓
Remote Server Operations	Monitors remote server operations availability.	~		√
System Uptime Report	Reports the length of time system has been in up status.			✓
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			\checkmark
Scheduled Outages	Displays a list of scheduled outages during a given time period.			\checkmark
Top Active Devices	Displays devices that are generating the most case incident case activity.			✓
PERFORMANCE				
Monitors server perfo	rmance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	~	~
Memory Utilization	Opens incident ticket when memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	~	~
Virtual Memory Utilization	Opens incident ticket when virtual memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	~	~
Drive Space	Opens incident ticket when drive space utilization exceeds 85% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	~	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		~	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		~	✓
CISCO INTELLIGENT	CONTACT MANAGEMENT (ICM) COMPUTER TELEPHONY INTEGRATION	OBJECT S	ERVER (CTI OS)	SERVICES
System				
CTI OS Service	Monitors the up/down status of the CTI OS service; opens incident ticket when service state is down.	~		✓
Server	Monitors the up/down status of the service; opens incident ticket when service state is down.	~		~
Management Information Translation	Monitors the up/down status of the agent that provides extended ICM CTI server metrics; opens incident ticket if state is down.	✓		~
Extended Metrics Agent	Monitors the up/down status of the agent that provides extended device metrics;Nopens incident ticket when service state is down.	~		✓
Diagnostic Portal	Monitors up/down status of the diagnostic portal service; opens incident ticket if service is down.	~		~
Data Synchronization	Monitors the up/down status of the process that maintains real-time data in distributed environments; opens incident ticket if state is down.	~		~
Web Server	Monitors the up/down status of the web server service; opens incident ticket when service state is down.	~		~
Web Publishing Service	Monitors the up/down status of web publishing service; opens incident ticket when service state is down.	~		~
Remote Access	Monitors the up/down status of remote access service; opens incident ticket when service state is down.	~		~
System Management	Monitors the up/down status of the system management process; opens incident ticket when service state is down.	~		~
System Event Log	Monitors the up/down status of the system event log process; opens incident ticket when service state is down.	~		~
Time Synchronization	Monitors system time synchronization.	~		1

Attribute	Description	Incident	Performance	Management
Automatic System Shutdown	Monitors the up/down status of the process that automatically shuts down the server if a major fault is detected; opens incident ticket when service state is down.	~		✓
Anti-Virus Services	Monitors the presence and status of Anti-Virus software.	~		~
ANALYSIS TOOLS		1		l
Viewers to analyze sy	stem event and performance detail			
Syslog Viewer	Captures, archives and displays SYSLOG events; opens incident tickets to alert on issues.	~		~
Traplog Viewer	Captures, archives and displays Trap events; opens incident tickets to alert on issues.	\checkmark		✓
HARDWARE / ENVIR	ONMENTAL	1		1
Monitors key hardwa	re components essential to server operation			
System Version Control ⁱⁱⁱ	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	~		✓
CPU Status ^{III}	Monitors CPU; opens incident ticket if CPU fails.	✓		✓
CPU Errors ⁱⁱⁱ	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	1		✓
Fan Status ⁱⁱⁱ	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	~		\checkmark
Fan Speed ⁱⁱⁱ	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		✓
Temperature ⁱⁱⁱ	Monitors all temperature sensors detected in chassis: opens incident ticket if temperature exceeds threshold.	~		~
Memory Status ⁱⁱⁱ	Monitors memory status; opens incident ticket if degraded or failed.	✓		✓
Memory Error Status ^{ill}	Monitors memory error messages; opens incident ticket if error threshold exceeded.	~		✓
Disk Controller Status [™]	Monitors disk controller status; opens incident ticket if status is down.	1		√
Logical Disk (RAID) Status ⁱⁱⁱ	Monitors logical disk status; opens incident ticket if status is down.	1		√
Physical Disk Status ^{III}	Monitors physical disk status; opens incident ticket if status is down.	~		√
Physical Disk Errors ^{ill}	Monitors the number of physical disk errors messages; opens incident ticket if threshold exceeded.	~		~
Power Supply Status ⁱⁱⁱ	Monitors the status and condition of the power supply; opens incident ticket on error or when state is down.	~		✓
Power Supply Capacity ⁱⁱⁱ	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	~		~
ASSET DETAIL				
Information to help ye	ou manage your IT investment			
Site Name	Name of site where the server is located.			✓
Site Location	Physical location of the server.			✓
Name	Name of the server configured in Cisco MAP.			1
IP	IP address assigned to the server.			✓
MAC Address	Media Access Control (MAC) address assigned to the server.			1
Туре	Type of device (ex., server).			1
Vendor	Manufacturer of the server hardware.			~
Model	Model of the server hardware.			✓
Serial #	Serial number of the server hardware.			~
Contract Expiration	Date that service/support contract expires.			\checkmark
Date of Last Backup	Date of last successful back-up of configuration files.			~
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			✓
	INDICATORS (KPIs)			

Attribute	Description	Incident	Performance	Management
Measure performance	metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			✓
Average % Memory Used KPI	Average % memory used key performance indicator.			✓
Average Memory Utilization (page/sec) KPI	Average memory utilization key performance indicator.			~
Average % Disk Used KPI	Average % disk used key performance indicator.			1
Average Ping Latency KPI	Average Ping Latency key performance indicator.			1
Average Bandwidth In KPI	Average Bandwidth In key performance indicator.			1
Average Bandwidth Out KPI	Average Bandwidth Out key performance indicator.			✓
SERVICE LEVEL MAN	AGEMENT	·		
Measure service resp	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~

ⁱⁱ Feature available for CTI Object Server Version 8.x

iii Monitoring/Reporting available with agent installed.

Monitoring Details for Cisco Intelligent Contact Manager (ICM) Computer Telephony Integration (CTI) Versions 6.x, 7.x and 8.x

This document summarizes all of the Cisco Intelligent Contact Management (ICM) Computer Telephony Integration (CTI) Server Versions 6.x, 7.x and 8.x services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
Identifies the precise s	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	~		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a CTI Server that has failed.	~		✓
AVAILABILITY				
Monitors the server fo	r availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	✓		✓
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		✓
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		

Attribute	Description	Incident	Performance	Management
Interface Monitoring	Monitors the up/down status of Eth interfaces. Monitoring of Eth interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket if state is down.	~	✓	~
Interface Flapping	Monitors for interfaces repeatedly alternating between up and down states within a short period of time.	√i		
Service Port Monitoring	Monitors service ports for availability; opens incident tickets to alert on issues.	~		√
Remote Server Operations	Monitors remote server operations availability.	~		√
System Uptime Report	Reports the length of time system has been in up status.			~
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			√
Scheduled Outages	Displays a list of scheduled outages during a given time period.			\checkmark
Top Active Devices	Displays devices that are generating the most case incident case activity.			✓
PERFORMANCE				1
Monitors server perfo	rmance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	~	~
Memory Utilization	Opens incident ticket when memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	√	~
Virtual Memory Utilization	Opens incident ticket when virtual memory utilization 90% exceeds threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	\checkmark	~
Drive Space	Opens incident ticket when drive space utilization exceeds 85% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	\checkmark	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		\checkmark	\checkmark
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		\checkmark	√
CISCO INTELLIGENT	CONTACT MANAGEMENT (ICM) COMPUTER TELEPHONY INTEGRATION	(CTI) SERV	ER SERVICES	
System				
CTI Gateway Service	Monitors the up/down status of the CTI Gateway service; opens incident ticket when service state is down.	~		~
Server	Monitors the up/down status of the server agent; opens incident ticket when service state is down.	~		~
Management Information Translation	Monitors the up/down status of the agent that provides extended ICM CTI server metrics; opens incident ticket if state is down.	~		\checkmark
Extended Metrics Agent	Monitors the up/down status of the agent that provides extended device metrics; opens incident ticket when service state is down.	~		~
Diagnostic Portal ⁱⁱ	Monitors up/down status of the CTI server diagnostic portal service; opens incident ticket if service is down.	~		~
Data Synchronization	Monitors the up/down status of the process that maintains real-time data in distributed environments; opens incident ticket if state is down.	~		~
Web Server	Monitors the up/down status of the web server service; opens incident ticket when service state is down.	~		~
Web Publishing Service	Monitors the up/down status of web publishing service; opens incident ticket when service state is down.	~		✓
Remote System Access	Monitors the up/down status of remote access service; opens incident ticket when service state is down.	~		✓
System Management	Monitors the up/down status of the system management process; opens incident ticket when service state is down.	~		\checkmark
System Event Log	Monitors the up/down status of the system event log process; opens incident ticket when service state is down.	~		✓

Attribute	Description	Incident	Performance	Management
Time Synchronization	Monitors system time synchronization; opens incident ticket when service state is down.	~		✓
Automatic System Shutdown	Monitors the up/down status of the process that automatically shuts down the server if a major fault is detected; opens incident ticket when service state is down.	~		~
Anti-Virus Services	Monitors the presence and status of Anti-Virus software; opens incident ticket when service state is down.	~		√
Trunk Allocation ⁱⁱⁱ	Displays the number of trunks available per trunk group.			✓
Call Counts ⁱⁱⁱ	Displays call volumes.			\checkmark
Seconds In Use ⁱⁱⁱ	Displays call activity as a measure of time.			✓
Busy Hour ⁱⁱⁱ	Calculates and displays monthly busy hour per device.			✓
Erlangs ⁱⁱⁱ	Calculates and displays monthly and daily Erlang values.			✓
UCCE Trunk Availability ⁱⁱⁱ	Displays trunk group name, calls in and out, total calls, seconds in and out, total seconds, busy hour, Erlangs, seconds busy, percentage available, and Max Erlangs Daily Trend performance graph.		\checkmark	✓
Endpoint Protection	Monitors the up/down status of the agent responsible for zero-update attack prevention, data loss prevention, and compliance and acceptable use auditing and enforcement; opens incident ticket if agent is down or missing.	✓		~
Component Support	Monitors up/down status of the agent that assists troubleshooting of configured devices; opens incident ticket if agent is down or missing.	~		√
ANALYSIS TOOLS				
Viewers to analyze sys	stem event and performance detail			
Syslog Viewer	Captures, archives, and displays SYSLOG events; opens incident tickets to alert on issues.	~		✓
Traplog Viewer	Captures, archives, and displays Trap events; opens incident tickets to alert on issues.	~		✓
HARDWARE / ENVIRC	NMENTAL			
Monitors key hardwar	e components essential to Server operation			
System Version Control ^{iv}	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	1		√
CPU Status ^{iv}	Monitors CPU; opens incident ticket if CPU fails.	\checkmark		\checkmark
CPU Errors ^{iv}	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	~		~
Fan Status ^{iv}	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	~		√
Fan Speed ^{iv}	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		\checkmark
Temperature ^{iv}	Monitors all temperature sensors detected in chassis; opens incident ticket if temperature exceeds threshold.	~		\checkmark
Memory Status ^{iv}	Monitors memory status; opens incident ticket if degraded or failed.	~		✓
Memory Error Status ^{iv}	Monitors memory error messages; opens incident ticket if error threshold exceeded.	~		~
Disk Controller Status ^{iv}	Monitors disk controller status; opens incident ticket if status is down.	~		✓
Logical Disk (RAID) Status ^{iv}	Monitors logical disk status; opens incident ticket if status is down.	~		~
Physical Disk Status ^{iv}	Monitors physical disk status; opens incident ticket if status is down.	~		✓
Physical Disk Errors ^{iv}	Monitors the number of physical disk errors messages; opens incident ticket if threshold exceeded.	~		1
Power Supply Status ^{iv}	Monitors the status and condition of the power supply; opens incident ticket on error or when state is down.	~		~
Power Supply Capacity ^{iv}	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	✓		✓
ASSET DETAIL				

Attribute	Description	Incident	Performance	Management
Site Name	Name of site where the server is located.			✓
Site Location	Physical location of the server.			✓
Name	Name of the server configured in Cisco MAP.			✓
IP	IP address assigned to the server.			\checkmark
MAC Address	Media Access Control (MAC) address assigned to the server.			✓
Туре	Type of device (ex., server).			✓
Vendor	Manufacturer of the server hardware.			\checkmark
Model	Model of the server hardware.			✓
Serial #	Serial number of the server hardware.			✓
Contract Expiration	Date that service/support contract expires.			✓
Date of Last Backup	Date of last successful back-up of configuration files.			✓
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			✓
KEY PERFORMANCE	INDICATORS (KPIs)			
Measure performance	metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			✓
Average % Memory Used KPI	Average % memory used key performance indicator.			~
Average Memory Utilization (page/sec) KPI	Average memory utilization key performance indicator.			~
Average % Disk Used KPI	Average % disk used key performance indicator.			~
Average Ping Latency KPI	Average Ping Latency key performance indicator.			~
Average Bandwidth In KPI	Average Bandwidth In key performance indicator.			✓
Average Bandwidth Out KPI	Average Bandwidth Out key performance indicator.			✓
SERVICE LEVEL MAN	AGEMENT			
Measure service resp	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~

ⁱⁱ Feature available for CTI Server Version 8.x.

^{III} When deployed in a Cisco Unified Contact Center Enterprise environment having an Intelligent Contact Manager (ICM) Historical Database Server (HDS) or Administrative Workstation (AW).

 $^{\mbox{\scriptsize iv}}$ Monitoring/Reporting available with agent installed.

Monitoring Details for Cisco Intelligent Contact Manager (ICM) Administrative Workstation Versions 6.x, 7.x and 8.x

This document summarizes all of the Cisco Intelligent Contact Management (ICM) Administrative Workstation Versions 6.x, 7.x and 8.x services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
dentifies the precise s	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	~		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a workstation that has failed.	✓		1
AVAILABILITY		1		Ч
Monitors the workstati	ion for availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	✓		✓
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		~
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		
Interface Monitoring	Monitors the up/down status of Eth interfaces. Monitoring of Eth interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket if state is down.	~	\checkmark	~
Interface Flapping	Monitors for interfaces repeatedly alternating between up and down states within a short period of time.	√i		
Service Port Monitoring	Monitors service ports for availability; opens incident tickets to alert on issues.	~		~
Remote Workstation Operations	Monitors remote workstation operations availability.	~		~
System Uptime	Reports the length of time system has been in up status.			~
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			~
Scheduled Outages	Displays a list of scheduled outages during a given time period.			1
Top Active Devices	Displays devices that are generating the most case incident case activity.			~
PERFORMANCE				
Monitors workstation	performance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	\checkmark	~
Memory Utilization	Opens incident ticket when memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	~	~
Virtual Memory Utilization	Opens incident ticket when virtual memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	\checkmark	~
Drive Space	Opens incident ticket when drive space utilization exceeds 85% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	\checkmark	\checkmark
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		~	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		✓	✓
CISCO INTELLIGENT	CONTACT MANAGEMENT (ICM) ADMINISTRATIVE WORKSTATION SERV			
System				

Attribute	Description	Incident	Performance	Management
Management Information Translation	Monitors the up/down status of the agent that provides extended workstation metrics; opens incident ticket if state is down.	~		✓
Extended Metrics Agent	Monitors the up/down status of the agent that provides extended device metrics; opens incident ticket when service state is down.	~		~
Diagnostic Portal ⁱⁱ	Monitors up/down status of the diagnostic portal service; opens incident ticket if service is down.	✓		~
Data Synchronization	Monitors the up/down status of the process that maintains real-time data in distributed environments; opens incident ticket if state is down.	~		~
Endpoint Protection	Monitors the up/down status of the agent responsible for zero-update attack prevention, data loss prevention, and compliance and acceptable use auditing and enforcement; opens incident ticket if agent is down or missing.	~		~
Server	Monitors the up/down status of the server process.	\checkmark		\checkmark
System Management	Monitors the up/down status of the system management process; opens incident ticket when service state is down.	~		~
Web Server	Monitors the up/down status of the web server service; opens incident ticket when service state is down.	~		~
Web Publishing Service	Monitors the up/down status of web publishing service; opens incident ticket when service state is down.	~		~
System Event Log	Monitors the up/down status of the system event log process; opens incident ticket when service state is down.	~		~
Remote System Access	Monitors the up/down status of remote access service; opens incident ticket when service state is down.	1		~
Automatic Workstation Shutdown	Monitors the up/down status of the process that automatically shuts down the workstation if a major fault is detected; opens incident ticket when service state is down.	~		✓
Time Synchronization	Monitors system time synchronization; opens incident ticket when service state is down.	~		~
Anti-Virus Services	Monitors the presence and status of Anti-Virus software; opens incident ticket when service state is down.	✓		~
Trunk Allocation ⁱⁱⁱ	Displays the number of trunks available per trunk group.			~
Call Counts ⁱⁱⁱ	Displays call volumes.			~
Seconds In Use ⁱⁱⁱ	Displays call activity as a measure of time.			✓
Busy Hour ⁱⁱⁱ	Calculates and displays monthly busy hour per device.			✓
Erlangs ^{III}	Calculates and displays monthly and daily Erlang values.			✓
UCCE Trunk Availability ^{III}	Displays monthly summary and daily hourly detail call metrics per Trunk Group.		\checkmark	~
ANALYSIS TOOLS				
Viewers to analyze sys	stem event and performance detail			
Syslog Viewer	Captures, archives, and displays SYSLOG events; opens incident tickets to alert on issues.	~		\checkmark
Traplog Viewer	Captures, archives, and displays Trap events; opens incident tickets to alert on issues	~		✓
HARDWARE / ENVIRO	NMENTAL			
Monitors key hardwar	e components essential to workstation operation			
System Version Control ^{iv}	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	✓		✓
CPU Status ^{iv}	Monitors CPU; opens incident ticket if CPU fails.	✓		✓
CPU Errors ^{iv}	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	~		\checkmark
Fan Status ^{iv}	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	~		~
Fan Speed ^{iv}	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		✓

Attribute	Description	Incident	Performance	Management
Temperature ^{iv}	Monitors all temperature sensors detected in chassis: opens incident ticket if temperature exceeds threshold.	~		~
Memory Status ^{iv}	Monitors memory status; opens incident ticket if degraded or failed.	✓		✓
Memory Error Status ^{iv}	Monitors memory error messages; opens incident ticket if error threshold exceeded.	~		✓
Disk Controller Status ^{iv}	Monitors disk controller status; opens incident ticket if status is down.	~		~
Logical Disk (RAID) Status ^{iv}	Monitors logical disk status; opens incident ticket if status is down.	\checkmark		~
Physical Disk Status ^{iv}	Monitors physical disk status; opens incident ticket if status is down.	✓		~
Physical Disk Errors ^{iv}	Monitors the number of physical disk errors messages; opens incident ticket if threshold exceeded.	~		\checkmark
Power Supply Status ^{iv}	Monitors the status and condition of the power supply; opens incident ticket on error or when state is down.	~		✓
Power Supply Capacity ^{iv}	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	~		✓
ASSET DETAIL				
Information to help yo	u manage your IT investment			
Site Name	Name of site where the workstation is located.			✓
Site Location	Physical location of the workstation.			\checkmark
Name	Name of the workstation configured in Cisco MAP.			✓
IP	IP address assigned to the workstation.			\checkmark
MAC Address	Media Access Control (MAC) address assigned to the workstation.			✓
Туре	Type of device (ex., workstation).			\checkmark
Vendor	Manufacturer of the workstation hardware.			\checkmark
Model	Model of the workstation hardware.			\checkmark
Serial #	Serial number of the workstation hardware.			✓
Contract Expiration	Date that service/support contract expires.			\checkmark
Date of Last Backup	Date of last successful back-up of configuration files.			\checkmark
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			✓
KEY PERFORMANCE	INDICATORS (KPIs)			
Measure performance	metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			✓
Average Ping Latency KPI	Average Ping Latency key performance indicator.			√
Average Bandwidth In	Average Bandwidth In key performance indicator.			\checkmark
Average Bandwidth Out	Average Bandwidth Out key performance indicator.			✓
SERVICE LEVEL MAN	AGEMENTS			
Measure service resp	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~

ⁱⁱ Feature available for ICM Administrative Workstation Version 8.x.

ⁱⁱⁱ Metrics available when deployed in a Cisco Unified Contact Center Enterprise environment.

 $^{\mbox{\tiny iv}}$ Monitoring/Reporting available with agent installed.

Monitoring Details for Cisco Support Tools Server Versions 6.x, 7.x and 8.x

This document summarizes the Cisco Support Tools Server Versions 6.x, 7.x and 8.x services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING		•		
Identifies the precise	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	~		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a Support Tools Server that has failed.	~		~
AVAILABILITY				
Monitors the server fo	or availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	✓		✓
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		✓
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		
Service Port Monitoring	Monitors service ports for availability; opens incident tickets to alert on issues.	~		~
Remote Server Operations	Monitors remote server operations availability.	~		~
System Uptime	Reports the length of time system has been in up status.			~
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			~
Scheduled Outages	Displays a list of scheduled outages during a given time period.			~
Top Active Devices	Displays devices that are generating the most case incident case activity.			✓
PERFORMANCE				
Monitors server perfo	rmance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	✓	~
Memory Utilization	Opens incident ticket when memory utilization exceeds threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	\checkmark	✓
Virtual Memory Utilization	Opens incident ticket when virtual memory utilization exceeds threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	~	~
Drive Space	Opens incident ticket when hard drive usage exceeds 85% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	\checkmark	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		~	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		\checkmark	~
SUPPORT TOOLS SE	RVER SERVICES			
System				
Support Tools	Monitors up/down status of the Support Tools communication support and processing service; opens incident ticket when service state is down.	~		✓
Support Tools Web Service	Monitors the up/down status of the Support Tools web service; opens incident ticket when service state is down.	~		~
Management Information Translation	Monitors the up/down status of the agent that provides extended server metrics; opens incident ticket when service state is down.	~		~

Attribute	Description	Incident	Performance	Management
Diagnostic Portal ⁱⁱ	Monitors up/down status of the diagnostic portal service; opens incident ticket if service is down.	~		1
Component Support	Monitors up/down status of the agent that assists troubleshooting of Unified Communications devices; opens incident ticket if agent is down or missing.	~		~
Server	Monitors up/down status of the host server process; opens incident ticket when service state is down.	~		~
Endpoint Protection	Monitors the up/down status of the agent responsible for zero-update attack prevention, data loss prevention, and compliance and acceptable use auditing and enforcement; opens incident ticket if agent is down or missing.	~		✓
System Management	Monitors the up/down status of the system management process; opens incident ticket when service state is down.	\checkmark		\checkmark
Remote Access	Monitors the up/down status of remote access service; opens incident ticket when service state is down.	~		✓
Fime Synchronization	Monitors system time synchronization.	1		~
System Event Log	Monitors the up/down status of the system event log process; opens incident ticket when service state is down.	~		✓
Automatic Server Shutdown	Monitors the up/down status of the process that automatically shuts down the server if a major fault is detected; opens incident ticket when service state is down.	~		~
Anti-Virus Services	Monitors the presence and status of Anti-Virus software.	✓		✓
ANALYSIS TOOLS				
Viewers to analyze sy	stem event and performance detail			
Syslog Viewer	Captures, archives and displays SYSLOG events; opens incident tickets to alert on issues.	~		✓
Traplog Viewer	Captures, archives and displays Trap events; opens incident tickets to alert on issues.	~		~
HARDWARE / ENVIRC	DNMENTAL			1
Vonitors key hardwar	e components essential to server operation			
System Version Control ⁱⁱⁱ	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	~		✓
CPU Status ⁱⁱⁱ	Monitors CPU; opens incident ticket if CPU fails.	✓		✓
CPU Errors ^{III}	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	~		~
Fan Status ⁱⁱⁱ	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	1		✓
Fan Speed ⁱⁱⁱ	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		√
Femperatureⁱⁱⁱ	Monitors all temperature sensors detected in chassis; opens incident ticket if temperature exceeds threshold.	~		~
Memory Status ⁱⁱⁱ	Monitors memory status; opens incident ticket if degraded or failed.	~		\checkmark
Memory Error Status ⁱⁱⁱ	Monitors memory error messages; opens incident ticket if error threshold exceeded.	~		~
Disk Controller Status ⁱⁱⁱ	Monitors disk controller status; opens incident ticket if status is down.	1		✓
Logical Disk (RAID) Status ⁱⁱⁱ	Monitors logical disk status; opens incident ticket if status is down.	1		✓
Physical Disk Status ⁱⁱⁱ	Monitors physical disk status; opens incident ticket if status is down.	~		~
Physical Disk Errors ^{ill}	Monitors the number of physical disk errors messages; opens incident ticket if threshold exceeded.	~		~
Power Supply Status ⁱⁱⁱ	Monitors the status and condition of the power supply; opens incident ticket on error or when state is down.	~		✓
Power Supply	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	~		~
Capacity ⁱⁱⁱ				

Attribute	Description	Incident	Performance	Management
Site Name	Name of site where the server is located.			✓
Site Location	Physical location of the server.			~
Name	Name of the server configured in Cisco MAP.			✓
IP	IP address assigned to the server.			✓
MAC Address	Media Access Control (MAC) address assigned to the server.			✓
Туре	Type of device (ex., server).			✓
Vendor	Manufacturer of the server hardware.			✓
Model	Model of the server hardware.			✓
Serial #	Serial number of the server hardware.			✓
Contract Expiration	Date that service/support contract expires.			\checkmark
Date of Last Backup	Date of last successful back-up of configuration files.			✓
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			\checkmark
KEY PERFORMANCE	INDICATORS (KPIs)			
Measure performance	metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			✓
Average % Memory Used KPI	Average % memory used key performance indicator.			~
Average Memory Utilization (page/sec) KPI	Average memory utilization key performance indicator.			~
Average % Disk Used KPI	Average % disk used key performance indicator.			\checkmark
Average Ping Latency KPI	Average Ping Latency key performance indicator.			~
Average Bandwidth In KPI	Average Bandwidth In key performance indicator.			~
Average Bandwidth Out KPI	Average Bandwidth Out key performance indicator.			✓
SERVICE LEVEL MAN	AGEMENT			
Measure service respo	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~

ⁱⁱ Feature available for Support Tools Server Version 8.x.

^{III} Monitoring/Reporting available with agent installed.

Monitoring Details for Cisco Switches

This document summarizes the Cisco Switch services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management	
EVENT PROCESSING					
Identifies the precise	Identifies the precise source of problems				
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	✓			

Attribute	Description	Incident	Performance	Managemei
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a switch that has failed.	~		✓
AVAILABILITY				
Monitors the switch fe	or availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	\checkmark		\checkmark
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		~
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		
Module Status	Monitors individual modules for up/down status.	~		~
Carrier Facing Interface Monitoring	Monitors the up/down status of critical carrier facing interfaces of types Eth, Fa, FC, Gi, Lo, m/p, mgmt, and VI. Monitoring of Eth, Fa, and Gi interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket if state is down.	~	~	~
Intranet Interface Monitoring	Monitors the up/down status of critical intranet interfaces of types Eth, Fa, Gi. Monitoring of Eth, Fa, Gi interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket if state is down.	~	1	~
Interface/Port Flapping	Monitors for port or interface that is repeatedly alternating between up and down states within a short period of time.	√i		
System Uptime	Reports the length of time the switch has been in up status.			~
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			~
Scheduled Outages	Displays a list of scheduled outages during a given time period.			~
Top Active Devices	Displays devices that are generating the most case incident case activity.			~
PERFORMANCE				
Monitors switch perfo	ormance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	~	✓
Memory Utilization	Opens incident ticket if memory utilization exceeds threshold of 80%; displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	\checkmark	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		\checkmark	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		~	~
сіѕсо юѕ. ѕwітсн				
System				
Port Information Viewer	At the port level, displays router name, IP address, MAC address, type of interface, VLAN name, MAC address of connected device, IP address of connected device, Cisco MAP and DNS name of connected device, and a Cisco MAP Tools management link to the connected device.			~
	In a Cisco StackWise configuration, monitors the role of the switch. Alerts	~	\checkmark	~
	when the role of the switch changes.			
Monitoring ⁱⁱ	when the role of the switch changes.			
Switch Role Monitoring ⁱⁱ ANALYSIS TOOLS Viewers to analyze sy	when the role of the switch changes. stem event and performance detail			
Monitoring ⁱⁱ ANALYSIS TOOLS		✓		✓
Monitoring ⁱⁱ ANALYSIS TOOLS Viewers to analyze sy	rstem event and performance detail Captures, archives and displays SYSLOG events; opens incident tickets to			✓ ✓

PerformantsNotice the up/down status of the power supply, later when power supplyImage of the power supply, later when power supplyImage of the power supply, later when power supplyPerformantsMoniters the up/down status of the power supply, later when fan state is down.Image of the power supply, later when fan state is down.Image of the power supply.PerformantsMeasures temperature at chassis exput.Image of the power supply.Image of the power supply.Image of the power supply.Temperature (PU)Measures temperature at chassis output.Image of the power supply.Image of the power supply.Image of the power supply.Temperature (PC)Measures temperature at chassis output.Image of the power supply.Image of the power supply.Image of the power supply.Temperature (PC)Measures temperature at chassis output.Image of the where the switch is located.Image of the power supply.Image of the power supply.Temperature (PC)Measures temperature at chassis output.Image of the power supply.Image of the power supply.Image of the power supply.Temperature (PC)Measures temperature at chassis output.Image of the power supply.Image of the power supply.Image of the power supply.Temperature (PC)Measures temperature at chassis output.Image of the power supply.Image of the power supply.Image of the power supply.Temperature (PC)Mande of switch.Image of the power supply.Image of the power supply.Image of the power supply.Temperature of temperature of switch.Image of temperature of switch.Image of temperature	Attribute	Description	Incident	Performance	Management
Statusmaske is down.maske is down.	Power Supply Status		~		√
International to be proof a basis on the bin from and a basis or when an above in controlImage of the set o			\checkmark		\checkmark
(Ambient) Temperature (CPU) Measures temperature at hot spot of chassis.Image: CPU (CPU) Measures temperature at chassis output.Image: CP	Fan Status	Monitors the up/down status of the fan; alerts when fan state is down.	✓		✓
Concentration of the part of matabalance of the part of the pa		Measures temperature at chassis input.	~		✓
Notice of the set of	Temperature (CPU)	Measures temperature at hot spot of chassis.	~		\checkmark
Information to help yumanage your IT investment Site Location Physical location of the switch. Image of the switch is located. Image of the switch. Name Name of switch configured in Cisco MAP. Image of the switch. Image of the switch. Name Period Seassing of to switch. Image of the switch. Image of the switch. Image of the switch. Mack Address Media Access Control (MAC) address assigned to switch. Image of the switch. Image of the switch. Image of the switch. Vendor Manufacture of hardware. Image of the switch. Image of the switch. Image of the switch. Image of the switch. Contract Date that service/support contract expires. Image of the switch. Image of the switch. <th< td=""><td></td><td>Measures temperature at chassis output.</td><td>~</td><td></td><td>~</td></th<>		Measures temperature at chassis output.	~		~
Site Name Name of site where the switch is located. Image of site where the switch. Image of site where the switch. Site Location Physical location of the switch. Image of site where the switch. Image of site where the switch. IP IP address assigned to switch. Image of site where the switch. Image of site where the switch. Type Type of device (ex., switch). Image of site where the switch. Image of site where the switch. Vendor Manufacture of hardware. Image of site where the switch. Image of site where the switch. Serial W Serial number of switch. Image of site where the switch. Image of site where the switch. Contract Date that service/support contract expires. Image of site where the switch. Image of site where the switch. Operating System Displays network operating system and version information for Claco Image of site where the switch. Image of site where the switch. IOS [®] Subset Subset of IOS [®] version installed on the switch. Image of site where the switch. Image of site where the switch. IOS [®] Subset Subset of IOS [®] version installed on the switch. Image of site where the switch. Image of site where the switch. IOS [®] Image Name IOS [®] version installed on the switch. <	ASSET DETAIL				
InstructionInstruction of the statistic for sta	Information to help yo	u manage your IT investment			
NameName of switch configured in Cisco MAP.ImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImage <td>Site Name</td> <td>Name of site where the switch is located.</td> <td></td> <td></td> <td>\checkmark</td>	Site Name	Name of site where the switch is located.			\checkmark
P IP address assigned to switch. Image: State S	Site Location	Physical location of the switch.			\checkmark
MAC Address Media Access Control (MAC) address assigned to switch. Image Mathematical Control (MAC) address assigned to switch. Type Type of device (ex., switch). Image Mathematical Control Mack Manufacture of hardware. Image Mathematical Control Mack Manufacture of hardware. Model Model of switch. Image Mathematical Control Contro Contro Control Control Control Contro Control Contro	Name	Name of switch configured in Cisco MAP.			\checkmark
medual Access Outbol (whoc) stability of which addies assigned to smitch.Import addies of a	IP	IP address assigned to switch.			\checkmark
VendorManufacturer of hardware.Image: Construct of hardware.Image: Construct of hardware.Image: Construct of witch.Image: Construc	MAC Address	Media Access Control (MAC) address assigned to switch.			\checkmark
VariationManufacture of nationale.Image: Construct ModelModel of switch.Image: Construct ModelModel of switch.Image: Construct ModelSerial number of switch.Image: Construct ModelSerial number of switch.Image: Construct Model SystemSerial number of switch.Image: Construct Model SystemSerial number of switch.Image: Construct Model SystemSerial number of modules installed on switch.Image: Construct Model SystemImage: Construct Model SystemIDS® Image NameIDS® Image NameIDS® Image NameIDS® Image NameImage: Construct Model SystemImage: Construct Model Syste	Туре	Type of device (ex., switch).			\checkmark
Serial #Serial number of switch.Image: Serial series of the service/support contract expires.Image: Serial service/support contract expires.Image:	Vendor	Manufacturer of hardware.			\checkmark
Contract ExpirationDate that service/support contract expires.Image of the service of th	Model	Model of switch.			\checkmark
Contract ExpirationData bits also that set the support contract expires.Image of the set the support contract expires.Installed ModulesNumber of modules installed on switch.Image of the set the se	Serial #	Serial number of switch.			\checkmark
Operating System devices.Displays network operating system and version information for Cisco devices.Image System devices.Image System and version information for Cisco devices.Image System devices.Image System devices. <th< td=""><td></td><td>Date that service/support contract expires.</td><td></td><td></td><td>√</td></th<>		Date that service/support contract expires.			√
Operating SystemDisplays network operating system and version minimuted into CiscoImage in the set of into t	Installed Modules	Number of modules installed on switch.			\checkmark
Not outsideSubset of IOS® version installed on the switch.Image Installed on the switch.Image Installed on the switch.IOS® Image NameIOS® image name.IOS® image name.Image Installed on the switch.Image Installed on the switch.FlashAmount of flash memory on switch (bytes).Image Installed on the switch.Image Installed on the switch.Image Installed on the switch.System RAMAmount of RAM on switch (bytes).Image Installed on the switch.Image Installed on the switch.Image Installed on the switch.Date of Last BackupDate of last successful back-up of configuration files.Image Installed on the switch.Image Installed on the switch.Date of Last CommitDate of last detected change to configuration files.Image Installed on the switch.Image Installed on the switch.Configuration FileSummary of device configuration file download and change activity.Image Installed on the switch.Image Installed on the switch.Network Operating System Version Installed on managed Cisco IOS®/CatOS version information for managed Cisco devices.Image Installed on the switch.Image Installed on the switch.System Version Installed on managed Cisco IOS® devices.Image Installed on the switch installed on the switch installed on the switch.Image Installed on the switch.Kery PERFORMANCE VENCATORS (KPIs)Image Installed on the switch installed on the switch.Image Installed on the switch.Kery PERFORMANCE VENCATORS (KPIs)Image Installed on the switch installed on the switch.Image Installed on the switch.Average CPU % KPI Latency KPIAverage Pi	Operating System	devices.			✓
IOS® image name.IOS® image name.IOSImage name.Image na	IOS [®] Version	IOS [®] Version installed on the switch.			✓
FlashAmount of flash memory on switch (bytes).Image: Constraint of	IOS [®] Subset	Subset of IOS [®] version installed on the switch.			✓
System RAMAmount of RAM on switch (bytes).Image: Constraint of Configuration files.Image: Constraint of Configuration files.Date of Last CommitDate of last commit of configuration files.Image: Configuration files.Image: Configuration files.Date Last ChangedDate of last detected change to configuration files.Image: Configuration files.Image: Configuration files.Configuration FileSummary of device configuration file download and change activity.Image: Configuration file download and change activity.Image: Configuration file download and change activity.Network OperatingDisplays detailed Cisco IOS®/CatOS version information for managed Cisco download and change activity.Image: Configuration file download and change activity.System VersionDisplays detailed Cisco IOS®/CatOS version information for managed Cisco download and change activity.Image: Configuration file download and change activity.System VersionDisplays detailed Cisco IOS®/CatOS version information for managed Cisco download and change activity.Image: Configuration file download and change activity.System VersionAt a glance module count, IOS® image name, flash and RAM memory installed on managed Cisco IOS® devices.Image: Configuration file download and change activity.KEY PERFORMANCE VICATORS (KPIs)Image: Configuration file download and change activity.Image: Configuration file download and change activity.Average CPU % KPIAverage CPU % key performance indicator.Image: Configuration file download and change activity.Average Ping Latency key performance indicator.Image: Configuration file download and change activity.Averag	IOS [®] Image Name	IOS [®] image name.			✓
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Date of Last CommitDate of last commit of configuration files.Image: Configuration files.Image: Configuration files.Date Last ChangedDate of last detected change to configuration files.Image: Configuration FileImage: Configuration file download and change activity.Image: Configuration File download and change	System RAM	Amount of RAM on switch (bytes).			\checkmark
Date Last ChangedDate of last detected change to configuration files.Image: Configuration fileConfiguration File ActivitySummary of device configuration file download and change activity.Image: Configuration fileNetwork Operating System Version SummaryDisplays detailed Cisco IOS®/CatOS version information for managed Cisco devices.Image: Configuration fileNetwork Operating System Version SummaryDisplays detailed Cisco IOS®/CatOS version information for managed Cisco devices.Image: Configuration fileNetwork Operating System Version SummaryAt a glance module count, IOS® image name, flash and RAM memory installed on managed Cisco IOS® devices.Image: Configuration fileHardware Inventory Identifies hardware components managed by Cisco MAP.Image: Configuration fileImage: Configuration fileKEY PERFORMANCE INDICATORS (KPIs)Image: Configuration fileImage: Configuration fileImage: Configuration fileAverage CPU % KPI Latency KPIAverage CPU % key performance indicator.Image: Configuration fileImage: Configuration fileAverage Bandwidth In NAverage Bandwidth In key performance indicator.Image: Configuration fileImage: Configuration fileAverage Bandwidth In NAverage Bandwidth Out key performance indicator.Image: Configuration fileImage: Configuration fileAverage Bandwidth In NAverage Bandwidth Out key performance indicator.Image: Configuration fileImage: Configuration fileAverage Bandwidth InAverage Bandwidth Out key performance indicator.Image: Configuration fileImage: Config	Date of Last Backup	Date of last successful back-up of configuration files.			\checkmark
Date bits of large aDate of late of l	Date of Last Commit	Date of last commit of configuration files.			\checkmark
ActivityInterference of the second of the secon	Date Last Changed	Date of last detected change to configuration files.			\checkmark
System Version Summarydevices.devices.vSystem InfrastructureAt a glance module count, IOS® image name, flash and RAM memory installed on managed Cisco IOS® devices.Image name, flash and RAM memoryImage name, flash and RAM memoryHardware InventoryIdentifies hardware components managed by Cisco MAP.Image name, flash and RAM memoryImage name, flash and RAM memoryKEY PERFORMANCE INDICATORS (KPIs)Image name, flash and RAM memoryImage name, flash and RAM memoryImage name, flash and RAM memoryMeasure performance metrics against objectivesImage name, flash and RAM memoryImage name, flash and RAM memoryImage name, flash and RAM memoryMeasure performance metrics against objectivesImage name, flash and RAM memoryImage name, flash and RAM memoryImage name, flash and RAM memoryMeasure performance vertrics against objectivesImage name, flash and RAM memoryImage name, flash and RAM memoryImage name, flash and RAM memoryMeasure performance vertrics against objectivesImage name, flash and RAM memoryImage name, flash and RAM memoryImage name, flash and RAM memoryMeasure performance vertrics against objectivesImage name, flash and RAM memoryImage name, flash and RAM memoryImage name, flash and RAM memoryAverage Ping Latency KPIAverage Ping Latency key performance indicator.Image name, flash and RAM memoryImage name, flash and RAM memoryAverage Bandwidth InAverage Bandwidth In key performance indicator.Image name, flash and flas		Summary of device configuration file download and change activity.			~
Hardware InventoryIdentifies hardware components managed by Cisco MAP.Image: Cisco MAP.Image: Cisco MAP.KEY PERFORMANCE UDICATORS (KPIs)Measure performance wetrics against objectivesAverage CPU % KPIAverage CPU % key performance indicator.Image: Cisco MAP.Average Ping Latency KPIAverage Ping Latency key performance indicator.Image: Cisco MAP.Average Bandwidth InAverage Ping Latency key performance indicator.Image: Cisco MAP.Average Bandwidth InAverage Bandwidth In key performance indicator.Image: Cisco MAP.Average Bandwidth InAverage Bandwidth Out key performance indicator.Image: Cisco MAP.Average BandwidthAverage Bandwidth Out key Performance indic	System Version				~
KEY PERFORMANCE INDICATORS (KPIs) Measure performance metrics against objectives Average CPU % KPI Average CPU % key performance indicator. Average Ping Latency KPi Average Ping Latency key performance indicator. Image: CPU % key performance indicator. Average Bandwidth In Average Bandwidth Out key performance indicator. Image: CPU % key performance indicator. Average Bandwidth Average Bandwidth Out key performance indicator. Image: CPU % key performance indicator.		At a glance module count, IOS^{\circledast} image name, flash and RAM memory installed on managed Cisco IOS^{\circledast} devices.			~
Measure performance metrics against objectives Average CPU % KPI Average CPU % key performance indicator. Image CPU % key performance indicator. Average Ping Latency KPI Average Ping Latency key performance indicator. Image CPU % key performance indicator. Average Bandwidth In Average Bandwidth In key performance indicator. Image CPU % key performance indicator. Image CPU % key performance indicator. Average Bandwidth Average Bandwidth Out key performance indicator. Image CPU % key performance indicator. Image CPU % key performance indicator. Average Bandwidth Average Bandwidth Out key performance indicator. Image CPU % key performance indicator. Image CPU % key performance indicator. Average Bandwidth Average Bandwidth Out key performance indicator. Image CPU % key performance indicator. Image CPU % key performance indicator.	Hardware Inventory	Identifies hardware components managed by Cisco MAP.			✓
Average CPU % KPI Average CPU % key performance indicator. Average Ping Latency KPi Average Ping Latency key performance indicator. Average Bandwidth In Average Bandwidth In key performance indicator. Average Bandwidth Average Bandwidth Out key performance indicator. Image CPU % key performance indicator.	KEY PERFORMANCE	INDICATORS (KPIs)			
Average Ping Latency KPI Average Ping Latency key performance indicator. Average Bandwidth In Average Bandwidth In key performance indicator. Average Bandwidth Average Bandwidth Out key performance indicator. Average Bandwidth Average Bandwidth Out key performance indicator.	Measure performance	metrics against objectives			
Latency KPI Average Bandwidth Average Bandwidth In key performance indicator. Image Bandwidth I	Average CPU % KPI	Average CPU % key performance indicator.			\checkmark
In Average Bandwidth Average Bandwidth Average Bandwidth Out key performance indicator.		Average Ping Latency key performance indicator.			✓
		Average Bandwidth In key performance indicator.			✓
		Average Bandwidth Out key performance indicator.			~

Measure service re	sponse against objectives		
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.		\checkmark

ⁱⁱ Available for Cisco IOS[®] Switches configured to utilize Cisco StackWise technology.

Monitoring Details for Cisco Unified Border Element (CUBE)

This document summarizes all of the Cisco Unified Border Element (CUBE) services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				,
Identifies the precise	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	1		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a Cisco Unified Border Element that has failed.	~		~
AVAILABILITY				
Monitors the Router/G	ateway for availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√ ⁱ		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms); opens incident tickets to alert on issues.	1		~
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		1
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		
Carrier Facing Interface Monitoring	Monitors the up/down status of critical carrier facing interfaces of types ATM, E1, Eth, Fa, Gi, Lo, m/p, mgmt., POS, Se, T1, and VI. Monitoring of Eth, Fa, and Gi interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket if state is down.	1	~	~
Intranet Interface Monitoring	Monitors the up/down status of critical intranet interfaces of types ATM, E1, Eth, Fa, FC, Gi, Lo, m/p, mgmt., POS, Se, T1, and VI. Monitoring of Eth, Fa, and Gi interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket if state is down.	~	1	~
Interface Flapping	Monitors for interfaces repeatedly alternating between up and down states within a short period of time.	√i		
Port Flapping	Monitors for ports repeatedly alternating between up and down states within a short period of time.	√i		
Module Status	Monitors individual modules for up/down status.	~		✓
Card Status	Monitors the up/down status of each card within router module(s); opens incident ticket if card state is down.	~		✓
System Uptime	Reports the length of time system has been in up status.			✓
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			~
Scheduled Outages	Displays a list of scheduled outages during a given time period.			✓
Top Active Device	Displays devices that are generating the most case incident case activity.			✓
PERFORMANCE				

Attribute	Description	Incident	Performance	Management
Monitors Route/Gatew	ay performance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	~	~
Memory Utilization	Opens incident ticket when memory utilization exceeds threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	\checkmark	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		\checkmark	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs		\checkmark	~
CISCO UNIFIED BORD	DER ELEMENT (CUBE)			
System ⁱⁱ				
Port Information Viewer	At the port level, displays router name, IP address, MAC address, type of interface, VLAN name, MAC address of connected device, IP address of connected device, Cisco MAP and DNS name of connected device, and a Cisco MAP Tools management link to the connected device.			✓
Line Code Violations (LCV)	Monitors for T1/DS1 LCV errors; alarms and opens incident ticket when LCV errors are detected.	~		~
Path Code Violations (PCV)	Monitors for T1/DS1 PCV errors; alarms and opens incident ticket when PCV errors are detected.	~		~
Line Errored Seconds (LES)	Monitors for T1/DS1 LES errors; alarms and opens incident ticket when LES errors are detected.	~		~
Controlled Slip Seconds (CSS)	Monitors for T1/DS1 CSS errors; alarms and opens incident ticket when CSS errors are detected.	~		~
Errored Seconds (ES)	Monitors for T1/DS1 ES errors; alarms and opens incident ticket when ES errors are detected.	~		√
Bursty Errored Seconds (BES)	Monitors for T1/DS1 BES errors; alarms and opens incident ticket when BES errors are detected.	~		~
Severely Errored Seconds (SES)	Monitors for T1/DS1 SES errors; alarms and opens incident ticket when SES errors are detected.	~		~
Severely Errored Framing Seconds (SEFS)	Monitors for T1/DS1 SEFS errors; alarms and opens incident ticket when SEFS errors are detected.	~		~
Degraded Minutes (DM)	Monitors for T1/DS1 DM errors; alarms and opens incident ticket when DM errors are detected.	~		~
Unavailable Seconds (UAS)	Monitors for T1/DS1 UAS errors; alarms and opens incident ticket when UAS errors are detected.	~		~
T1/DS1 Statistics	Displays near real-time and 10 day historical DS1 interface operational status and error count statistics.			~
ANALYSIS TOOLS				
Viewers to analyze sys	stem event and performance detail			
Syslog Viewer	Captures, archives and displays SYSLOG events; opens incident tickets to alert on issues.	~		~
Traplog Viewer	Captures, archives and displays Trap events; opens incident tickets to alert on issues.	~		~
HARDWARE / ENVIRO	NMENTAL			
Monitors key hardward	e components essential to Route/Gateway operation			
Power Supply Status	Monitors the up/down status of the power supply; alerts when power supply state is down.	~		~
Power Supply Fan Status	Monitors the up/down status of the power supply fan; alerts when power supply fan state is down.	~		1
Fan Status	Monitors the up/down status of the fan; alerts when fan state is down.	1		✓
Temperature (Ambient)	Measures temperature at chassis input.	~		~
Temperature (CPU)	Measures temperature at hot spot of chassis.	1		✓
Temperature (output)	Measures temperature at chassis output.	~		~

Attribute	Description	Incident	Performance	Managemen
Modules	Monitors the status of the individual interface modules in the Gateway.	✓		~
ASSET DETAIL	· 	1		1
Information to help yo	ou manage your IT investment			
Site Name	Name of site where the Router/Gateway is located.			✓
Site Location	Physical location of the Router/Gateway.			\checkmark
Name	Name of the Router/Gateway configured in Cisco MAP.			✓
IP	IP address assigned to the Router/Gateway.			\checkmark
MAC Address	Media Access Control (MAC) address assigned to the Router/Gateway.			✓
Туре	Type of device (ex., Router/Gateway).			✓
Vendor	Manufacturer of the hardware.			✓
Serial #	Serial number of the Router/Gateway hardware.			✓
Contract Expiration	Date that service/support contract expires.			~
Installed Modules	Number of modules installed on the Router/Gateway.			\checkmark
Operating System	Displays network operating system and version information for Cisco devices.			~
IOS [®] Version	IOS® Version installed on the Router/Gateway element.			✓
IOS [®] Subset	Subset of IOS^{\circledast} version installed on the Router/Gateway.			✓
IOS [®] Image Name	IOS [®] image name.			✓
Flash	Amount of flash memory on the Router/Gateway (bytes).			✓
System RAM	Amount of RAM on the Router/Gateway (bytes).			✓
Date Last Backup	Date of last successful back-up of configuration files.			\checkmark
Date Last Commit	Date of last commit of configuration files.			✓
Date Last Changed	Date of last detected change to configuration files.			~
Configuration File Activity	Summary of device configuration file download and change activity.			~
Network Operating System Version Summary	Displays detailed Cisco IOS [®] /CatOS version information for managed Cisco devices.			~
System Infrastructure Hardware Inventory	At a glance module count, IOS [®] image name, flash and RAM memory installed on managed Cisco IOS [®] devices.			v
-	Identifies hardware components managed by Cisco MAP.			V
KEY PERFORMANCE				
-	e metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			V
Average Ping Latency KPI	Average Ping Latency key performance indicator.			· ·
Average Bandwidth In	Average Bandwidth In key performance indicator.			~
Average Bandwidth Out	Average Bandwidth Out key performance indicator.			
SERVICE LEVEL MAN	IAGEMENT			
Measure service resp	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			✓

ⁱⁱ Port Information Viewer is available for all Cisco router models. DS1, ISDN, D-Channel, and PRI monitoring/reporting available with the applicable modules deployed on the router.
Monitoring Details for Cisco Unified SIP Proxy (CUSP)

This document summarizes all of the Cisco Unified SIP Proxy** (CUSP) services, resources and applications monitored by Cisco MAP.

** For Cisco models 38XX Integrated Services Router (ISI	R) Series Chassis.

Attribute	Description	Incident	Performance	Managemen
EVENT PROCESSING				
Identifies the precise	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	1		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a Cisco Unified SIP Proxy that has failed.	~		~
AVAILABILITY				
Monitors the router fo	r availability			
ICMP Polling	ICMP ping test for up/down status	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	✓		✓
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		~
Module Status	Monitors individual modules for up/down status.	~		\checkmark
Card Status	Monitors the up/down status of each card within router module(s); opens incident ticket if card state is down.	~		~
Carrier Facing Interface Monitoring	Monitors the up/down status of critical carrier facing interfaces of types ATM, E1, Eth, Fa, FC, Gi, Lo, m/p, mgmt., POS, Se, T1, and VI. Monitoring of Eth, Fa, Gi interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket if state is down.	~	~	~
Intranet Interface Monitoring	Monitors the up/down status of critical carrier facing interfaces of types ATM, E1, Eth, Fa, FC, Gi, Lo, m/p, mgmt., POS, Se, T1, and VI. Monitoring of Eth, Fa, Gi interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket if state is down.	~	~	~
Interface Flapping	Monitors for interfaces repeatedly alternating between up and down states within a short period of time.	√i		
Port Flapping	Monitors for ports repeatedly alternating between up and down states within a short period of time.	√ i		
System Uptime	Reports the length of time the router has been in up status.			✓
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			~
Scheduled Outages	Displays a list of scheduled outages during a given time period.			~
Top Active Devices	Displays devices that are generating the most case incident case activity.			~
PERFORMANCE				
Monitors router perfor	rmance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly, & Yearly utilization percentages in performance graphs.	~	\checkmark	~
Memory Utilization	Opens incident ticket when router memory utilization exceeds threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	~	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		✓	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		~	~

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(output) Modules Card Status Monitors the status router.	ture at hot spot of chassis.	✓		✓
Card Status Monitors the status router. ASSET DETAIL	ture at chassis output.	~		√
router.	of the individual interface modules in the Gateway.	✓		✓
	of each card mounted in the interface modules of the	~		✓
Information to help you manage your IT in				
	nvestment			
	e the router is located.			✓

Attribute	Description	Incident	Performance	Management
Site Location	Physical location of the router.			√
Name	Name of router configured in Cisco MAP.			✓
IP	IP address assigned to router.			✓
MAC Address	Media Access Control (MAC) address assigned to the router.			✓
Туре	Type of device (ex., router).			✓
Vendor	Manufacturer of the router hardware.			✓
Serial #	Model of the router.			✓
Contract Expiration	Serial number of router module.			✓
Installed Modules	Date that service/support contract expires.			✓
Operating System	Number of modules installed in chassis.			✓
IOS [®] Version	Displays network operating system and version information for Cisco devices.			✓
IOS [®] Subset	IOS [®] Version installed on the router.			✓
IOS [®] Image Name	Subset of IOS [®] version installed on the router.			✓
Flash	IOS [®] image name.			✓
System RAM	Amount of flash memory on the router (bytes).			✓
Date Last Backup	Amount of RAM on the router (bytes).			✓
Date Last Commit	Date of last successful back-up of configuration files.			\checkmark
Configuration File Activity	Summary of device configuration file download and change activity.			~
Network Operating System Version Summary	Displays detailed Cisco IOS [®] /CatOS version information for managed Cisco devices.			~
System Infrastructure	At a glance module count, IOS^{\otimes} image name, flash and RAM memory installed on managed Cisco IOS^{\otimes} devices.			~
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			~
KEY PERFORMANCE	INDICATORS (KPIs)			
Measure performance	metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			✓
Average Percent Memory Used	Average Memory % key performance indicator.			~
Average Memory Utilization	Average Memory Utilization (Pages/Sec) key performance indicator.			~
Average Ping Latency KPI	Average Ping Latency key performance indicator.			~
Average Bandwidth In	Average Bandwidth In key performance indicator.			~
Average Bandwidth Out	Average Bandwidth Out key performance indicator.			~
SERVICE LEVEL MAN	AGEMENT			
Measure service resp	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~

ⁱⁱ Port Information Viewer is available for all Cisco Router models. DS1, ISDN, D-Channel, and PRI monitoring/reporting available with the applicable modules deployed on the router.

Monitoring Details for Cisco Intelligent Contact Management (ICM) Historical Database Server (HDS) Versions 6.x, 7.x and 8.x

This document summarizes all of the Cisco Intelligent Contact Management (ICM) Historical Database Server (HDS) Versions 6.x, 7.x and 8.x services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
Identifies the precise s	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	~		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on an ICM HDS that has failed.	~		~
AVAILABILITY				
Monitors the server fo	r availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	✓		✓
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		~
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√ i		
Interface Monitoring	Monitors the up/down status of Eth interfaces. Monitoring of Eth interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket if state is down.	~	\checkmark	~
Interface Flapping	Monitors for interfaces repeatedly alternating between up and down states within a short period of time.	√i		
Service Port Monitoring	Monitors service ports for availability; opens incident tickets to alert on issues.	~		~
Remote Server Operations	Monitors remote server operations availability.	~		~
System Uptime	Reports the length of time system has been in up status.			✓
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			✓
Scheduled Outages	Displays a list of scheduled outages during a given time period.			✓
Top Active Devices	Displays devices that are generating the most case incident case activity.			~
PERFORMANCE				
Monitors server perfor	rmance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	✓	✓	✓
Memory Utilization	Opens incident ticket when memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	\checkmark	~
Virtual Memory Utilization	Opens incident ticket when virtual memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	√	~
Drive Space	Opens incident ticket when hard drive usage exceeds 85% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	1	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		~	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		~	✓
CISCO INTELLIGENT	CONTACT MANAGEMENT (ICM) HISTORICAL DATABASE SERVER (HDS)			
System Services				

Attribute	Description	Incident	Performance	Management
ICM Services	Monitors ICM services; opens incident ticket on Operator requested shutdown requests.	~		1
Server	Monitors the up/down status of the server process; opens incident ticket when service state is down.	~		~
Management Information Translation	Monitors the up/down status of the agent that provides extended ICM HDS metrics; opens incident ticket if state is down.	~		~
Extended Metrics Agent	Monitors the up/down status of the agent that provides extended device metrics; opens incident ticket when service state is down.	~		~
Diagnostic Portal ⁱⁱ	Monitors up/down status of the diagnostic portal service; opens incident ticket if service is down.	~		~
Data Synchronization	Monitors the up/down status of the process that maintains real-time data in distributed environments; opens incident ticket if state is down.	1		~
System Management	Monitors the up/down status of the system management process; opens incident ticket when service state is down.	1		~
Database Services	Monitors the up/down status of database services; opens incident ticket if state is down.	~		1
Database Administration	Monitors the up/down status of the database administration service; opens incident ticket if state is down.	1		~
WebView	Monitors the up/down status of ICM WebView services; opens incident ticket if state is down.	~		~
WebView Monitor	Monitors the up/down status of the service that restarts WebView if problems are detected; opens incident ticket if state is down.	~		1
Web Server	Monitors the up/down status of the web server service; opens incident ticket when service state is down.	~		~
Web Publishing Service	Monitors the up/down status of web publishing service; opens incident ticket when service state is down.	~		1
Remote System Access	Monitors the up/down status of remote access service; opens incident ticket when service state is down.	~		~
Time Synchronization	Monitors system time synchronization; opens incident ticket when service state is down.	~		~
System Event Log	Monitors the up/down status of the system event log process; opens incident ticket when service state is down.	~		~
Automatic Server Shutdown	Monitors the up/down status of the process that automatically shuts down the server if a major fault is detected; opens incident ticket when service state is down.	~		√
Anti-Virus Services	Monitors the presence and status of Anti-Virus software; opens incident ticket when service state is down.	~		~
Trunk Allocation ⁱⁱⁱ	Displays the number of trunks available per trunk group.			✓
Call Counts ⁱⁱⁱ	Displays call volumes.			✓
Seconds In Use ⁱⁱⁱ	Displays call activity as a measure of time.			✓
Busy Hour ⁱⁱⁱ	Calculates and displays monthly busy hour per device.			\checkmark
Erlangs ⁱⁱⁱ	Calculates and displays monthly and daily Erlang values.			✓
UCCE Trunk Availability ⁱⁱⁱ	Displays trunk group name, calls in and out, total calls, seconds in and out, total seconds, busy hour, Erlangs, seconds busy, percentage available, and Max Erlangs Daily Trend performance graph.		√	~
Endpoint Protection	Monitors the up/down status of the agent responsible for zero-update attack prevention, data loss prevention, and compliance and acceptable use auditing and enforcement; opens incident ticket if agent is down or missing.	~		*
Component Support	Monitors up/down status of the agent that assists troubleshooting of configured CVP devices; opens incident ticket if agent is down or missing.	~		✓
ANALYSIS TOOLS				
Viewers to analyze sy	stem event and performance detail			
Syslog Viewer	Captures, archives, and displays SYSLOG events; opens incident tickets to alert on issues.	~		✓
Traplog Viewer	Captures, archives, and displays Trap events; opens incident tickets to alert on issues.	~		1

Attribute	Description	Incident	Performance	Management
Monitors key hardward	e components essential to server operation			
System Version Control ^{iv}	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	~		✓
CPU Status ^{iv}	Monitors CPU; opens incident ticket if CPU fails.	✓		✓
CPU Errors ^{iv}	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	~		√
Fan Status ^{iv}	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	~		1
Fan Speed ^{iv}	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		√
Temperature ^{iv}	Monitors all temperature sensors detected in chassis: opens incident ticket if temperature exceeds threshold.	~		1
Memory Status ^{iv}	Monitors memory status; opens incident ticket if degraded or failed.	✓		✓
Memory Error Status [™]	Monitors memory error messages; opens incident ticket if error threshold exceeded.	1		~
Disk Controller Status ^{iv}	Monitors disk controller status; opens incident ticket if status is down.	1		~
Logical Disk (RAID) Status ^{iv}	Monitors logical disk status; opens incident ticket if status is down.	~		~
Physical Disk Status ^{iv}	Monitors physical disk status; opens incident ticket if status is down.	~		✓
Physical Disk Errors ^{iv}	Monitors the number of physical disk errors messages; opens incident ticket if threshold exceeded.	~		✓
Power Supply Status [™]	Monitors the status and condition of the power supply; opens incident ticket on error or when state is down.	1		~
Power Supply Capacity ^{i∨}	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	~		~
ASSET DETAIL				
Information to help yo	u manage your IT investment			
Site Name	Name of site where the server is located.			✓
Site Location	Physical location of the server.			✓
Name	Name of the server configured in Cisco MAP.			✓
IP	IP address assigned to the server.			~
MAC Address	Media Access Control (MAC) address assigned to the server.			✓
Туре	Type of device (ex., server).			✓
Vendor	Manufacturer of the server hardware.			✓
Model	Model of the server hardware.			✓
Serial #	Serial number of the server hardware.			✓
Contract Expiration	Date that service/support contract expires.			✓
Date of Last Backup	Date of last successful back-up of configuration files.			✓
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			✓
KEY PERFORMANCE	INDICATORS (KPIs)	1		1
Measure performance	metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			✓
Average % Memory Used KPI	Average % memory used key performance indicator.			√
Average Memory Utilization (page/sec) KPI	Average memory utilization key performance indicator.			✓
Average SQL Server User Connections KPI	Average SQL server user connections key performance indicator.			~
Average % Disk Used KPI	Average % disk used key performance indicator.			~

Attribute	Description	Incident	Performance	Management
Average Ping Latency KPI	Average Ping Latency key performance indicator.			~
Average Bandwidth In KPI	Average Bandwidth In key performance indicator.			~
Average Bandwidth Out KPI	Average Bandwidth Out key performance indicator.			~
SERVICE LEVEL MAN	AGEMENT			
Measure service resp	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~

- ⁱⁱ Feature available for ICM Historical Data Server Version 8.x.
- ⁱⁱⁱ Metrics available when deployed in a Cisco Unified Contact Center Enterprise environment.
- ^{iv} Monitoring/Reporting available with agent installed.

Monitoring Details for Cisco Intelligent Contact Manager (ICM) Logger Versions 6.x, 7.x and 8.x

This document summarizes all of the Cisco Intelligent Contact Management (ICM) Logger Versions 6.x, 7.x and 8.x services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
Identifies the precise	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	✓		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on an ICM Logger that has failed.	✓		~
AVAILABILITY				
Monitors the server fo	r availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	√		✓
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		✓
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		
Interface Monitoring	Monitors the up/down status of Eth interfaces. Monitoring of Eth interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket if state is down.	✓	\checkmark	\checkmark
Interface Flapping	Monitors for interfaces repeatedly alternating between up and down states within a short period of time.	√i		
Service Port Monitoring	Monitors service ports for availability; opens incident tickets to alert on issues.	~		√
Remote Server Operations	Monitors remote server operations availability; opens incident tickets to alert on issues.	√		\checkmark
System Uptime	Reports the length of time system has been in up status.			~

Attribute	Description	Incident	Performance	Management
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			~
Scheduled Outages	Displays a list of scheduled outages during a given time period.			~
Top Active Devices	Displays devices that are generating the most case incident case activity.			~
PERFORMANCE				
Monitors server perfo	rmance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	√	~	~
Memory Utilization	Opens incident ticket when memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	V	\checkmark
Virtual Memory Utilization	Opens incident ticket when virtual memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	V	~
Drive Space	Opens incident ticket when hard drive usage exceeds 85% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	~	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		\checkmark	✓
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		\checkmark	√
CISCO INTELLIGENT	CONTACT MANAGER (ICM) LOGGER			
System				
ICM Logger Service	Monitors the up/down status of the ICM Logger Service; opens incident ticket when service state is down.	~		✓
Server	Monitors the up/down status of the server process; opens incident ticket when service state is down.	\checkmark		~
Management Information Translation	Monitors the up/down status of the agent that provides extended ICM HDS metrics; opens incident ticket if state is down.	~		~
Extended Metrics Agent	Monitors the up/down status of the agent that provides extended device metrics; opens incident ticket when service state is down.	~		✓
Diagnostic Portal ⁱⁱ	Monitors up/down status of the diagnostic portal service; opens incident ticket if service is down.	~		~
Database Services	Monitors the up/down status of database services; opens incident ticket when service state is down.	~		~
Database Administration	Monitors the up/down status of database administration services; opens incident ticket when service state is down.	~		~
Data Synchronization	Monitors the up/down status of the process that maintains real-time data in distributed environments; opens incident ticket if state is down.	~		~
Web Server	Monitors the up/down status of the web server service; opens incident ticket when service state is down.	~		~
Web Publishing Service	Monitors the up/down status of web publishing service; opens incident ticket when service state is down.	~		~
Remote System Access	Monitors the up/down status of remote access service; opens incident ticket when service state is down.	~		~
System Management	Monitors the up/down status of the system management process; opens incident ticket when service state is down.	~		~
System Event Log	Monitors the up/down status of the system event log process; opens incident ticket when service state is down.	~		~
Time Synchronization	Monitors system time synchronization; opens incident ticket when service state is down.	~		√
Automatic Server Shutdown	Monitors the up/down status of the process that automatically shuts down the server if a major fault is detected; opens incident ticket when service state is down.	✓		~
Anti-Virus Services	Monitors the presence and status of Anti-Virus software; opens incident ticket when service state is down.	✓		~

Attribute	Description	Incident	Performance	Management
Trunk Allocation ⁱⁱⁱ	Displays the number of trunks available per trunk group.			~
Call Counts ⁱⁱⁱ	Displays call volumes.			✓
Seconds In Use "	Displays call activity as a measure of time.			✓
Busy Hour "	Calculates and displays monthly busy hour per device.			\checkmark
Erlangs ⁱⁱⁱ	Calculates and displays monthly and daily Erlang values.			✓
UCCE Trunk Availability ⁱⁱⁱ	Displays trunk group name, calls in and out, total calls, seconds in and out, total seconds, busy hour, Erlangs, seconds busy, percentage available, and Max Erlangs Daily Trend performance graph.		~	~
Endpoint Protection	Monitors the up/down status of the agent responsible for zero-update attack prevention, data loss prevention, and compliance and acceptable use auditing and enforcement; opens incident ticket if agent is down or missing.	~		~
Component Support	Monitors up/down status of the agent that assists troubleshooting of configured devices; opens incident ticket if agent is down or missing.	~		\checkmark
Configuration Logging	Monitors the up/down status of the service that stores configuration data in the central database; opens incident ticket when service state is down.	~		√
Customer Event Handling	Monitors the up/down status of the service that receives, filters, and saves events for delivery to ICM support; opens incident ticket when service state is down.	~		~
Historical Data Logging	Monitors the up/down status of the process that stores historical data in the central database; opens incident ticket when service state is down.	~		~
Database Maintenance	Monitors the up/down status of database maintenance services; opens incident ticket when service state is down.	~		~
Database Recovery	Monitors the up/down status of the central database recovery service; opens incident ticket when service state is down.	~		√
ANALYSIS TOOLS				
Viewers to analyze sy	stem event and performance detail			
Syslog Viewer	Captures, archives, and displays SYSLOG events; opens incident tickets to alert on issues.	✓		~
Traplog Viewer	Captures, archives, and displays Trap events; opens incident tickets to alert on issues.	~		✓
HARDWARE / ENVIR	DNMENTAL			
Monitors key hardwa	re components essential to server operation			
System Version Control ^{iv}	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	✓		~
CPU Status ^{iv}	Monitors CPU; opens incident ticket if CPU fails.	\checkmark		✓
CPU Errors ^{iv}	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	~		~
Fan Status ^{iv}	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	~		√
Fan Speed ^{iv}	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		√
Temperature ^{iv}	Monitors all temperature sensors detected in chassis; opens incident ticket if temperature exceeds threshold.	~		✓
Memory Status ^{iv}	Monitors memory status; opens incident ticket if degraded or failed.	~		\checkmark
Memory Error Status [™]	Monitors memory error messages; opens incident ticket if error threshold exceeded.	~		\checkmark
Disk Controller	Monitors disk controller status; opens incident ticket if status is down.	~		~
Status [™]		1		✓
Status [™] Logical Disk (RAID) Status [™]	Monitors logical disk status; opens incident ticket if status is down.	✓		
Status [™]	Monitors logical disk status; opens incident ticket if status is down. Monitors physical disk status; opens incident ticket if status is down.	✓ ✓		~
Status ^{iv} Logical Disk (RAID) Status ^{iv}				√ √

Attribute	Description	Incident	Performance	Management
Power Supply Capacity ^{iv}	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	~		~
ASSET DETAIL				
Information to help yo	u manage your IT investment			
Site Name	Name of site where the server is located.			✓
Site Location	Physical location of the server.			✓
Name	Name of the server configured in Cisco MAP.			✓
IP	IP address assigned to the server.			✓
MAC Address	Media Access Control (MAC) address assigned to the server.			✓
Туре	Type of device (ex., server).			✓
Vendor	Manufacturer of the server hardware.			✓
Model	Model of the server hardware.			✓
Serial #	Serial number of the server hardware.			✓
Contract Expiration	Date that service/support contract expires.			✓
Date of Last Backup	Date of last successful back-up of configuration files.			✓
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			✓
KEY PERFORMANCE	INDICATORS (KPIs)			
Measure performance	metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			✓
Average % Memory Used KPI	Average % memory used key performance indicator.			~
Average Memory Utilization (page/sec) KPI	Average memory utilization key performance indicator.			~
Average % Disk Used KPI	Average % disk used key performance indicator.			✓
Average Clients Connected	Average Clients Connected key performance indicator			√
Average Ping Latency KPI	Average Ping Latency key performance indicator.			~
Average Bandwidth In	Average Bandwidth In key performance indicator.			✓
Average Bandwidth Out	Average Bandwidth Out key performance indicator.			1
SERVICE LEVEL MAN	AGEMENT			
Measure service respo	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~

ⁱⁱ Feature available for ICM Logger Version 8.x.

^{III} When deployed in a Cisco Unified Contact Center Enterprise environment having an Intelligent Contact Manager (ICM) Historical Database Server (HDS) or Administrative Workstation (AW).

^{iv} Monitoring/Reporting available with agent installe

Monitoring Details for Cisco Intelligent Contact Management (ICM) Network Gateway

This document summarizes the Cisco Intelligent Contact Management (ICM) Network Gateway services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
Identifies the precise	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	•		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on an ICM Network Gateway that has failed.	~		✓
AVAILABILITY				
Monitors the Gateway	for availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	\checkmark		✓
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		~
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		
Interface Monitoring	Monitors the up/down status of Eth interfaces. Monitoring of Eth interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket if state is down.	✓	\checkmark	~
Interface Flapping	Monitors for interfaces repeatedly alternating between up and down states within a short period of time.	√i		
Service Port Monitoring	Monitors service ports for availability; opens incident tickets to alert on issues.	~		~
Remote Server Operations	Monitors remote server operations availability; opens incident tickets to alert on issues.	~		√
System Uptime	Reports the length of time system has been in up status.			\checkmark
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			~
Scheduled Outages	Displays a list of scheduled outages during a given time period.			✓
Top Active Devices	Displays devices that are generating the most case incident case activity.			~
PERFORMANCE				
Monitors Gateway per	formance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	\checkmark	~
Memory Utilization	Opens incident ticket when memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	✓	\checkmark	~
Virtual Memory Utilization	Opens incident ticket when virtual memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	✓	✓	~
Drive Space	Opens incident ticket when hard drive usage exceeds 85% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	~	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		\checkmark	✓
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		✓	✓
	CONTACT MANAGEMENT (ICM) NETWORK GATEWAY			
System				
Server	Monitors the up/down status of the server process; opens incident ticket when service state is down.	~		~

Attribute	Description	Incident	Performance	Management
Web Server	Monitors the up/down status of the web server service; opens incident ticket when service state is down.	✓		✓
Web Publishing Service	Monitors the up/down status of web publishing service; opens incident ticket when service state is down.	~		✓
Data Synchronization	Monitors the up/down status of the process that maintains real-time data in distributed environments; opens incident ticket if state is down.	~		\checkmark
Remote System Access	Monitors the up/down status of remote access service; opens incident ticket when service state is down.	~		✓
System Management	Monitors the up/down status of the system management process; opens incident ticket when service state is down.	~		✓
System Event Log	Monitors the up/down status of the system event log process; opens incident ticket when service state is down.	~		✓
Extended Metrics Agent	Monitors the up/down status of the agent that provides extended device metrics; opens incident ticket when service state is down.	\checkmark		\checkmark
Time Synchronization	Monitors system time synchronization.	1		√
Automatic System Shutdown	Monitors the up/down status of the process that automatically shuts down the server if a major fault is detected; opens incident ticket when service state is down.	✓		~
Anti-Virus Services	Monitors the presence and status of Anti-Virus software.	~		✓
Trunk Allocation ⁱⁱ	Displays the number of trunks available per trunk group.			\checkmark
Call Counts ⁱⁱ	Monitors call volumes; opens incident ticket if threshold exceeded.			\checkmark
Seconds In Use ⁱⁱ	Monitors activity as a measure of time; opens incident ticket if threshold exceeded.			✓
Busy Hour ⁱⁱ	Calculates and displays monthly busy hour per device.			\checkmark
Erlangs ⁱⁱ	Calculates and displays monthly and daily Erlang values.			\checkmark
UCCE Trunk Availability ⁱⁱ	Displays trunk group name, calls in and out, total calls, seconds in and out, total seconds, busy hour, Erlangs, seconds busy, percentage available, and Max Erlangs Daily Trend performance graph.		\checkmark	\checkmark
Endpoint Protection	Monitors the up/down status of the agent responsible for zero-update attack prevention, data loss prevention, and compliance and acceptable use auditing and enforcement; opens incident ticket if agent is down or missing.	~		√
Component Support	Monitors up/down status of the agent that assists troubleshooting of configured devices; opens incident ticket if agent is down or missing.	~		1
ANALYSIS TOOLS				
Viewers to analyze sys	stem event and performance detail			
Syslog Viewer	Captures, archives, and displays SYSLOG events; opens incident tickets to alert on issues.	~		✓
Traplog Viewer	Captures, archives, and displays Trap events; opens incident tickets to alert on issues.	~		\checkmark
HARDWARE / ENVIRO	NMENTAL			
Monitors key hardwar	e components essential to Gateway operation			
System Version Control ⁱⁱⁱ	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	~		\checkmark
CPU Status ⁱⁱⁱ	Monitors CPU; opens incident ticket if CPU fails.	~		✓
CPU Errors ⁱⁱⁱ	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	~		✓
Fan Status ⁱⁱⁱ	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	~		✓
Fan Speed ⁱⁱⁱ	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		\checkmark
Temperature ⁱⁱⁱ	Monitors all temperature sensors detected in chassis: opens incident ticket if temperature exceeds threshold.	~		✓
Memory Status ⁱⁱⁱ	Monitors memory status; opens incident ticket if degraded or failed.	~		\checkmark
Disk Controller Status ⁱⁱⁱ	Monitors disk controller status; opens incident ticket if status is down.	~		~
	1			

Attribute	Description	Incident	Performance	Management
Logical Disk (RAID) Status ⁱⁱⁱ	Monitors logical disk status; opens incident ticket if status is down.	~		1
Physical Disk Status ^{III}	Monitors physical disk status; opens incident ticket if status is down.	~		~
Physical Disk Errors ^{iv}	Monitors the number of physical disk errors messages; opens incident ticket if threshold exceeded.	~		✓
Power Supply Status ⁱⁱⁱ	Monitors the status and condition of the power supply; opens incident ticket on error or when state is down.	~		~
Power Supply Capacity ^{III}	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	~		✓
ASSET DETAIL				
Information to help yo	u manage your IT investment			
Site Name	Name of site where the Gateway is located.			✓
Site Location	Physical location of the Gateway.			✓
Name	Name of the Gateway configured in Cisco MAP.			✓
IP	IP address assigned to the Gateway.			✓
MAC Address	Media Access Control (MAC) address assigned to the Gateway.			✓
Туре	Type of device (ex., Gateway).			✓
Vendor	Manufacturer of the Gateway hardware.			✓
Model	Model of the Gateway hardware.			✓
Serial #	Serial number of the Gateway hardware.			✓
Contract Expiration	Date that service/support contract expires.			✓
Date of Last Backup	Date of last successful back-up of configuration files.			✓
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			\checkmark
KEY PERFORMANCE	INDICATORS (KPIs)			
Measure performance	metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			✓
Average % Memory Used KPI	Average % memory used key performance indicator.			~
Average Memory Utilization (page/sec) KPI	Average memory utilization key performance indicator.			~
Average % Disk Used KPI	Average % disk used key performance indicator.			✓
Average Ping Latency KPI	Average Ping Latency key performance indicator.			~
Average Bandwidth In KPI	Average Bandwidth In key performance indicator.			√
Average Bandwidth Out KPI	Average Bandwidth Out key performance indicator.			✓
SERVICE LEVEL MAN	AGEMENT			
Measure service respo	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~

ⁱⁱ When deployed in a Cisco Unified Contact Center Enterprise environment having an Intelligent Contact Manager (ICM) Historical Database Server (HDS) or Administrative Workstation (AW).

ⁱⁱⁱ Monitoring/Reporting available with agent installed.

Monitoring Details for Cisco Intelligent Contact Manager Peripheral Gateway (ICM PG) Versions 6.x, 7.x and 8.x

This document summarizes all of the Cisco Intelligent Contact Management (ICM) Peripheral Gateway (PG) Versions 6.x, 7.x and 8.x services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
Identifies the precise s	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	~		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on an ICM PG that has failed.	1		~
AVAILABILITY				
Monitors the Gateway	for availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√ i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	✓		✓
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		~
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		
Interface Monitoring	Monitors the up/down status of Eth interfaces. Monitoring of Eth interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket if state is down.	~	\checkmark	~
Interface Flapping	Monitors for interfaces repeatedly alternating between up and down states within a short period of time.	√i		
Service Port Monitoring	Monitors service ports for availability; opens incident tickets to alert on issues.	~		✓
Remote Server Operations	Monitors remote server operations availability.	~		~
System Uptime	Reports the length of time system has been in up status.			\checkmark
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			~
Scheduled Outages	Displays a list of scheduled outages during a given time period.			\checkmark
Top Active Devices	Displays devices that are generating the most case incident case activity.			\checkmark
PERFORMANCE				
Monitors Gateway per	formance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly, & Yearly utilization percentages in performance graphs.	✓	~	~
Memory Utilization	Opens incident ticket when memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	√	~	~
Virtual Memory Utilization	Opens incident ticket when virtual memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	\checkmark	~
Drive Space	Opens incident ticket when hard drive usage exceeds 85% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	V	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		~	✓
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		\checkmark	~
CISCO INTELLIGENT	CONTACT MANAGER PERIPHERAL GATEWAY (ICM PG)			
System				

Management Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement Improvement <th>Attribute</th> <th>Description</th> <th>Incident</th> <th>Performance</th> <th>Management</th>	Attribute	Description	Incident	Performance	Management
Agent Intellics open is incident ticket when service state is down. Intellics open is incident ticket service is down. Diagnostic Portal Monitors up down status of the diagnostic portal service; opens incident Image: Service is down. Image: Service is down. Database of the informant Line service; is down. Image: Service is down. Image: Service is down. Image: Service is down. ICM Command Line Monitors the up/down status of the processes that insure device and application connectivity within the ICM environment; opens incident ticket Image: Service is down. Image: Service is down. ICM Connectivity Monitors the up/down status of the processes that insure device and application connectivity within the ICM environment; opens incident ticket Image: Service is down. Image: Service is down. Server Monitors the up/down status of the server process; opens incident ticket Image: Service is down. Image: Service is down. Image: Service is down. Web Server Monitors the up/down status of the system event tog process; opens incident ticket Image: Service is down. Image: Service is down. Image: Service is down. Web Server Monitors the up/down status of the system event tog process; opens incident ticket when service state is down. Image: Service is down. Image: Service is down. System Event Log Monitors t	Information		✓		✓
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	Traplog Viewer		~		\checkmark

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Attribute	Description	Incident	Performance	Management
System Version Control ^{iv}	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	~		✓
CPU Status ^{iv}	Monitors CPU; opens incident ticket if CPU fails.	✓		✓
CPU Errors ^{iv}	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	~		✓
Fan Status ^{iv}	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	~		✓
Fan Speed ^{iv}	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		✓
Temperature ^{iv}	Monitors all temperature sensors detected in chassis: opens incident ticket if temperature exceeds threshold.	~		✓
Memory Status ^{iv}	Monitors memory status; opens incident ticket if degraded or failed.	✓		✓
Memory Error Status ^{iv}	Monitors memory error messages; opens incident ticket if error threshold exceeded.	\checkmark		\checkmark
Disk Controller Status ^{iv}	Monitors disk controller status; opens incident ticket if status is down.	~		√
Logical Disk (RAID) Status ^{iv}	Monitors logical disk status; opens incident ticket if status is down.	~		✓
Physical Disk Status ^{iv}	Monitors physical disk status; opens incident ticket if status is down.	~		✓
Physical Disk Errors ^{iv}	Monitors the number of physical disk errors messages; opens incident ticket if threshold exceeded.	~		√
Power Supply Status ^{iv}	Monitors the status and condition of the power supply; opens incident ticket on error or when state is down.	~		✓
Power Supply Capacity ^{iv}	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	~		√
ASSET DETAIL		1		l
Information to help yo	ou manage your IT investment			
Site Name	Name of site where the Gateway is located.			✓
Site Location	Physical location of the Gateway.			\checkmark
Name	Name of the Gateway configured in Cisco MAP.			✓
IP	IP address assigned to the Gateway.			\checkmark
MAC Address	Media Access Control (MAC) address assigned to the Gateway.			✓
Туре	Type of device (ex., Gateway).			✓
Vendor	Manufacturer of the Gateway hardware.			✓
Model	Model of the Gateway hardware.			\checkmark
Serial #	Serial number of the Gateway hardware.			✓
Contract Expiration	Date that service/support contract expires.			\checkmark
Date of Last Backup	Date of last successful back-up of configuration files.			✓
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			✓
KEY PERFORMANCE	, , ,			
-	metrics against objectives			1
Average CPU % KPI	Average CPU % key performance indicator. Average % memory used key performance indicator.			
Average % Memory Used KPI	Average % memory used key performance indicator.			•
Average Memory Utilization (page/sec) KPI	Average memory utilization key performance indicator.			~
Average % Disk Used KPI	Average % disk used key performance indicator.			√
Average Ping Latency KPI	Average Ping Latency key performance indicator.			✓

Attribute	Description	Incident	Performance	Management
Average Bandwidth Out	Average Bandwidth Out key performance indicator.			✓
SERVICE LEVEL MA	NAGEMENT			
Measure service resp	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			\checkmark

ⁱⁱ Feature available for ICM Peripheral Gateway Version 8.x.

^{III} When deploys in a Cisco Unified Contact Center Enterprise environment having an Intelligent Contact Manager (ICM) Historical Database Server (HDS) or Administrative Workstation (AW).

^{iv} Monitoring/Reporting available with agent installed.

Monitoring Details for Cisco Intelligent Contact Manager WebView Server Versions 6.x, 7.x and 8.x

This document summarizes the Cisco Intelligent Contact Management (ICM) WebView Server Versions 6.x, 7.x and 8.x services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
Identifies the precise	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	✓		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on an ICM WebView Server that has failed.	~		~
AVAILABILITY				
Monitors the server fo	r availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	\checkmark		\checkmark
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		~
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	√i		
Interface Monitoring	Monitors the up/down status of Eth interfaces. Monitoring of Eth interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket if state is down.	✓	\checkmark	~
Interface Flapping	Monitors for interfaces repeatedly alternating between up and down states within a short period of time.	√i		
Service Port Monitoring	Monitors service ports for availability; opens incident tickets to alert on issues.	~		~
Remote Server Operations	Monitors remote server operations availability.	✓		~
System Uptime	Reports the length of time system has been in up status.			✓
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			~
Scheduled Outages	Displays a list of scheduled outages during a given time period.			✓

Attribute	Description	Incident	Performance	Managemen
Top Active Devices	Displays devices that are generating the most case incident case activity.			~
PERFORMANCE				
Monitors server perfo	rmance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds 90% threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	•	~
Memory Utilization	Opens incident ticket when memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	1	~
Virtual Memory Utilization	Opens incident ticket when virtual memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	1	~
Drive Space	Opens incident ticket when hard drive usage exceeds 85% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	~	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		\checkmark	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		~	~
CISCO INTELLIGENT	CONTACT MANAGEMENT (ICM) ROUTER			
System				
WebView Service	Monitors the up/down status of the WebView service; opens incident ticket when service state is down.	~		~
WebView Service Auto- Restart	Monitors the up/down status of the service that automatically restarts the WebView service if it fails; opens incident ticket when service state is down.	~		~
WebView Monitor	Monitors the up/down status of the service that restarts WebView if problems are detected; opens incident ticket if state is down.	~		~
Server	Monitors the up/down status of the server process; opens incident ticket when service state is down.	~		~
Endpoint Protection	Monitors the up/down status of the agent responsible for zero-update attack prevention, data loss prevention, and compliance and acceptable use auditing and enforcement; opens incident ticket if agent is down or missing.	✓		~
Component Support	Monitors up/down status of the agent that assists troubleshooting of configured devices; opens incident ticket if agent is down or missing.	~		~
Data Synchronization	Monitors the up/down status of the process that maintains real-time data in distributed environments; opens incident ticket if state is down.	1		~
Remote Access	Monitors the up/down status of remote access service; opens incident ticket when service state is down.	~		~
Management Information Translation	Monitors the up/down status of the agent that provides extended device metrics; opens incident ticket when service state is down.	✓		~
Extended Metrics Agent	Monitors the up/down status of the agent that provides extended device metrics; opens incident ticket when service state is down.	~		~
Diagnostic Portal ⁱⁱ	Monitors up/down status of the diagnostic portal service; opens incident ticket if service is down.	1		~
Automatic Server Shutdown	Monitors the up/down status of the process that automatically shuts down the server if a major fault is detected; opens incident ticket when service state is down.	~		~
System Management	Monitors the up/down status of the system management process; opens incident ticket when service state is down.	~		~
Time Synchronization	Monitors system time synchronization; opens incident ticket when service state is down.	~		~
System Event Log	Monitors the up/down status of the system event log process; opens incident ticket when service state is down.	~		~
Anti-Virus Services	Monitors the presence and status of Anti-Virus software; opens incident ticket when service state is down.	~		~
Trunk Allocation "	Displays the number of trunks available per trunk group.			~
Call Counts ⁱⁱⁱ	Monitors call volumes.			\checkmark

Attribute	Description	Incident	Performance	Management
Seconds In Use ⁱⁱⁱ	Displays call activity as a measure of time.			\checkmark
Busy Hour "	Calculates and displays monthly busy hour per device.			~
Erlangs [™]	Calculates and displays monthly and daily Erlang values.			~
UCCE Trunk Availability ⁱⁱⁱ	Displays trunk group name, calls in and out, total calls, seconds in and out, total seconds, busy hour, Erlangs, seconds busy, percentage available, and Max Erlangs Daily Trend performance graph.		\checkmark	~
ANALYSIS TOOLS				
Viewers to analyze sy	stem event and performance detail			
Syslog Viewer	Captures, archives, and displays SYSLOG events; opens incident tickets to alert on issues.	~		~
Traplog Viewer	Captures, archives, and displays Trap events; opens incident tickets to alert on issues.	~		~
HARDWARE / ENVIRO	DNMENTAL	1		1
Monitors key hardwar	e components essential to server operation			
System Version Control ^{iv}	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	✓		✓
CPU Status ^{iv}	Monitors CPU; opens incident ticket if CPU fails.	✓		✓
CPU Errors ^{iv}	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	1		✓
Fan Status ^{iv}	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	1		√
Fan Speed ^{iv}	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		~
Temperature ^{iv}	Monitors all temperature sensors detected in chassis: opens incident ticket if temperature exceeds threshold.	~		√
Memory Status ^{iv}	Monitors memory status; opens incident ticket if degraded or failed.	✓		✓
Memory Error Status ^{iv}	Monitors memory error messages; opens incident ticket if error threshold exceeded.	~		✓
Disk Controller Status ^{iv}	Monitors disk controller status; opens incident ticket if status is down.	~		✓
Logical Disk (RAID) Status ^{iv}	Monitors logical disk status; opens incident ticket if status is down.	~		✓
Physical Disk Status ^{iv}	Monitors physical disk status; opens incident ticket if status is down.	~		1
Physical Disk Errors ^{iv}	Monitors the number of physical disk errors messages; opens incident ticket if threshold exceeded.	~		\checkmark
Power Supply Status ^{iv}	Monitors the status and condition of the power supply; opens incident ticket on error or when state is down.	~		1
Power Supply Capacity ^{iv}	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	~		✓
ASSET DETAIL				
Information to help yo	ou manage your IT investment			
Site Name	Name of site where the server is located.			√
Site Location	Physical location of the server.			v
Name	Name of the server configured in Cisco MAP.			V
	IP address assigned to the server.			V
MAC Address	Media Access Control (MAC) address assigned to the server.			✓ ✓
Type	Type of device (ex., server).			✓ ✓
Vendor	Manufacturer of the server hardware.			v
Model	Model of the server hardware.			•
Serial #	Serial number of the server hardware.			•
Contract Expiration	Date that service/support contract expires.			· ·
Date of Last Backup	Date of last successful back-up of configuration files.			×

Attribute	Description	Incident	Performance	Management	
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			✓	
KEY PERFORMANCE	INDICATORS (KPIs)				
Measure performance	metrics against objectives				
Average CPU % KPI	Average CPU % key performance indicator.			✓	
Average % Memory Used KPI	Average % memory used key performance indicator.			√	
Average Memory Utilization (page/sec) KPI	Average memory utilization key performance indicator.			~	
Average % Disk Used KPI	Average % disk used key performance indicator.			~	
Average Ping Latency KPI	Average Ping Latency key performance indicator.			√	
Average Bandwidth In	Average Bandwidth In key performance indicator.			~	
Average Bandwidth Out	Average Bandwidth Out key performance indicator.			1	
SERVICE LEVEL MAN	AGEMENT				
Measure service response against objectives					
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			~	

ⁱⁱ Feature available for Cisco ICM WebView Server Version 8.x.

ⁱⁱⁱ When displayed in a Cisco Unified Contact Center Enterprise environment having an Intelligent Contact Manager (ICM) Historical Database Server (HDS) or Administrative Workstation (AW).

 $^{\mbox{\scriptsize iv}}$ Monitoring/Reporting available with agent installed.

Monitoring Details for Linux Operating System

This document summarizes the Linux Operating System services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management			
EVENT PROCESSING							
Identifies the precise s	Identifies the precise source of problems						
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	✓					
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a server that has failed.	1		√			
AVAILABILITY							
Monitors the server fo	r availability						
ICMP Polling	ICMP ping test for up/down status.	✓		✓			
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i					
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	\checkmark		✓			
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		\checkmark			

Attribute	Description	Incident	Performance	Management
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	✓i		
Service Port Monitoring	Monitors service ports for availability; opens incident tickets to alert on issues.	~		√
Remote Server Operations	Monitors remote server operations availability; opens incident tickets to alert on issues.	~		~
System Uptime	Reports the length of time system has been in up status.			\checkmark
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			✓
Scheduled Outages	Displays a list of scheduled outages during a given time period.			\checkmark
Top Active Devices	Displays devices that are generating the most case incident case activity.			✓
PERFORMANCE				
Monitors server perfo	rmance and trends			
CPU Utilization	Opens incident ticket if CPU utilization exceeds threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	✓	\checkmark	✓
Total Memory Used	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		\checkmark	✓
Total Memory Available	Opens incident ticket when Total Memory Available falls below 10%, and displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	~	•
Drive Space	Opens incident ticket when hard drive usage exceeds 85% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	\checkmark	✓
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		\checkmark	√
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		\checkmark	√
LINUX OS SERVICES				
System				
System Job Scheduler	Monitors the up/down status of the system job scheduler; opens incident ticket when service state is down.	~		√
Secure Access	Monitors the up/down status of secure access service; opens incident ticket when service state is down.	~		✓
System Event Reporting	Monitors the up/down status of system event reporting service; opens incident ticket when service state is down.	~		✓
System Management	Monitors the up/down status of system management service; opens incident ticket when service state is down.	~		~
Web Server	Monitors the up/down status of the web server service; opens incident ticket	✓		✓
	when service state is down.			
Internet Name Resolution		~		~
	when service state is down. Monitors the up/down status of the system internet name resolution service;	✓ ✓		√ √
Resolution Remote Access	when service state is down. Monitors the up/down status of the system internet name resolution service; opens incident ticket when service state is down. Monitors the up/down status of remote access service; opens incident ticket			✓ ✓ ✓
Resolution Remote Access Services	when service state is down. Monitors the up/down status of the system internet name resolution service; opens incident ticket when service state is down. Monitors the up/down status of remote access service; opens incident ticket when service state is down. Monitors system time synchronization; opens incident ticket when service	v		✓ ✓ ✓ ✓
Resolution Remote Access Services System Time System Resource	 when service state is down. Monitors the up/down status of the system internet name resolution service; opens incident ticket when service state is down. Monitors the up/down status of remote access service; opens incident ticket when service state is down. Monitors system time synchronization; opens incident ticket when service state is down. Monitors the up/down status of the system resource sharing service; opens 	✓ ✓		✓
Resolution Remote Access Services System Time System Resource Sharing ANALYSIS TOOLS	 when service state is down. Monitors the up/down status of the system internet name resolution service; opens incident ticket when service state is down. Monitors the up/down status of remote access service; opens incident ticket when service state is down. Monitors system time synchronization; opens incident ticket when service state is down. Monitors the up/down status of the system resource sharing service; opens 	✓ ✓		✓
Resolution Remote Access Services System Time System Resource Sharing ANALYSIS TOOLS	 when service state is down. Monitors the up/down status of the system internet name resolution service; opens incident ticket when service state is down. Monitors the up/down status of remote access service; opens incident ticket when service state is down. Monitors system time synchronization; opens incident ticket when service state is down. Monitors the up/down status of the system resource sharing service; opens incident ticket when service state is down. 	✓ ✓		✓
Resolution Remote Access Services System Time System Resource Sharing ANALYSIS TOOLS Viewers to analyze sys	when service state is down. Monitors the up/down status of the system internet name resolution service; opens incident ticket when service state is down. Monitors the up/down status of remote access service; opens incident ticket when service state is down. Monitors system time synchronization; opens incident ticket when service state is down. Monitors the up/down status of the system resource sharing service; opens incident ticket when service state is down. Stem event and performance detail Captures, archives and displays SYSLOG events; opens incident tickets to	✓ ✓ ✓		✓

Attribute	Description	Incident	Performance	Management
System Version Control ⁱⁱ	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	1		√
CPU Status	Monitors CPU; opens incident ticket if CPU fails.	\checkmark		\checkmark
CPU Errors	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	~		~
Fan Status	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	~		~
Fan Speed ["]	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		~
Temperature	Monitors all temperature sensors detected in chassis: opens incident ticket if temperature exceeds threshold.	~		\checkmark
Memory Status	Monitors memory status; opens incident ticket if degraded or failed.	1		✓
Memory Error Status ⁱⁱ	Monitors memory error messages; opens incident ticket if error threshold exceeded.	~		~
Disk Controller Status ⁱⁱ	Monitors disk controller status; opens incident ticket if status is down.	1		~
Logical Disk (RAID) Status ⁱⁱ	Monitors logical disk status; opens incident ticket if status is down.	~		√
Physical Disk Status ⁱⁱ	Monitors physical disk status; opens incident ticket if status is down.	~		√
Physical Disk Errors ⁱⁱ	Monitors the number of physical disk errors messages; opens incident ticket if threshold exceeded.	~		√
Power Supply Status ⁱⁱ	Monitors the status and condition of the power supply; opens incident ticket on error or when state is down.	~		~
Power Supply Capacity ⁱⁱ	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	~		\checkmark
ASSET DETAIL				
Information to help yo	ou manage your IT investment			
Site Name	Name of site where the server is located.			✓
Site Location	Physical location of the server.			\checkmark
Name	Name of the server configured in Cisco MAP.			✓
IP	IP address assigned to the server.			\checkmark
MAC Address	Media Access Control (MAC) address assigned to the server.			✓
Туре	Type of device (ex., server).			✓
Vendor	Manufacturer of the server hardware.			✓
Model	Model of the server hardware.			\checkmark
Serial #	Serial number of the server hardware.			✓
Contract Expiration	Date that service/support contract expires.			✓
Date of Last Backup	Date of last successful back-up of configuration files.			✓
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			\checkmark
KEY PERFORMANCE	INDICATORS (KPIs)			
	metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			✓
Average % Disk Used	Average % disk used key performance indicator.			√
Average % Memory Used	Average % memory used key performance indicator.			✓
				1
Average Memory Utilization (page/sec)	Average memory utilization key performance indicator.			
Average Memory Utilization	Average memory utilization key performance indicator. Average Ping Latency key performance indicator.			✓

Attribute	Description	Incident	Performance	Management	
Average Bandwidth Out	Average Bandwidth Out key performance indicator.			✓	
SERVICE LEVEL MANAGEMENT					
Measure service response against objectives					
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			√	

ⁱⁱ Monitoring/Reporting available with agent installed.

Monitoring Details for Microsoft Windows Server Operating System

This document summarizes the Microsoft Windows Server services, resources and applications monitored by Cisco MAP.

Attribute	Description	Incident	Performance	Management
EVENT PROCESSING				
Identifies the precise s	source of problems			
Root Cause Analysis	Identifies the root cause of issues in the unified communications network to support fast resolution and minimize business disruption.	~		
Dependency Visibility	Identifies services and processes that may be impacted by dependency on a server that has failed.	~		~
AVAILABILITY				
Monitors the server fo	r availability			
ICMP Polling	ICMP ping test for up/down status.	✓		✓
ICMP Flapping	Monitors for ICMP repeatedly alternating between up and down states within a short period of time.	√i		
SNMP Agent	Verifies whether SNMP agent is working (Time to Live (TTL) < 256 ms).	\checkmark		✓
SNMP Uptime Polling	Opens incident ticket if SNMP uptime is less than 15 minutes to indicate outages and system restarts.	~		~
SNMP Flapping	Monitors for SNMP agent repeatedly alternating between up and down states within a short period of time.	✓i		
Interface Monitoring	Monitors the up/down status of Eth interfaces. Monitoring of Eth interfaces applies to speeds of 10/100/1000 Mbps. Opens incident ticket is state is down.	✓	~	~
Interface Flapping	Monitors for interfaces repeatedly alternating between up and down states within a short period of time.	√i		
Service Port Monitoring	Monitors service ports for availability; opens incident tickets to alert on issues.	√		1
Remote Server Operations	Monitors remote server operations availability; opens incident tickets to alert on issues.	1		~
System Uptime	Reports the length of time system has been in up status.			\checkmark
Monthly Device Availability	Displays the current to previous month's device availability metrics versus SLA target.			~
Scheduled Outages	Displays a list of scheduled outages during a given time period.			~
Top Active Devices	Displays devices that are generating the most case incident case activity.			~
PERFORMANCE				
Monitors server perfor	rmance and trends			

Attribute	Description	Incident	Performance	Management
CPU Utilization	Opens incident ticket if CPU utilization exceeds threshold for 10 minutes; displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	✓	✓	~
Memory Utilization	Opens incident ticket when memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	✓	✓	~
Virtual Memory Utilization	Opens incident ticket when virtual memory utilization exceeds 90% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages (used and free) in performance graphs.	~	✓	~
Drive Space	Opens incident ticket when hard drive usage exceeds 85% threshold, and displays Daily, Weekly, Monthly & Yearly utilization percentages in performance graphs.	~	✓	~
Bandwidth Utilization	Displays Daily, Weekly, Monthly & Yearly bandwidth utilization percentages (used and free) in performance graphs.		~	~
Round Trip Time	Displays Daily, Weekly, Monthly & Yearly percentages in performance graphs.		√	✓
MICROSOFT WINDOW	/S SERVER SERVICES			
System				
Server	Monitors the up/down status of the server service; opens incident ticket when service state is down.	√		✓
Web Server	Monitors the up/down status of the web server service; opens incident ticket when service state is down.	~		√
Web Publishing Service	Monitors the up/down status of web publishing service; opens incident ticket when service state is down.	~		✓
Data Synchronization	Monitors the up/down status of the process that maintains real-time data in distributed environments; opens incident ticket if state is down.	~		√
System Management	Monitors the up/down status of the system management process; opens incident ticket when service state is down.	~		✓
Automatic System Shutdown	Monitors the up/down status of the process that automatically shut down the server if a major fault is detected; opens incident ticket when service state is down.	✓		√
Remote Access	Monitors the up/down status of remote access service; opens incident ticket when service state is down.	~		✓
Time Synchronization	Monitors system time synchronization.	~		✓
System Event Log	Monitors the up/down status of the system event log process; opens incident ticket when service state is down.	~		√
Anti-Virus Services	Monitors the presence and status of Anti-Virus software.	✓		~
ANALYSIS TOOLS				
Viewers to analyze sy	stem event and performance detail			
Syslog Viewer	Captures, archives and displays SYSLOG events; opens incident tickets to alert on issues.	~		✓
Traplog Viewer	Captures, archives and displays Trap events; opens incident tickets to alert on issues.	~		✓
HARDWARE / ENVIRO	DNMENTAL			
Monitors key hardwar	e components essential to server operation			
System Version Control [®]	Monitors the process that manages server software and firmware; opens incident ticket if state is down.	~		\checkmark
CPU Status	Monitors CPU; opens incident ticket if CPU fails.	\checkmark		\checkmark
CPU Errors	Monitors the number of CPU errors; opens incident ticket if the number of errors exceeds threshold.	~		✓
Fan Status	Monitors the up/down status of all fans detected in the chassis; opens incident ticket when fan state is down.	~		√
Fan Speed	Monitors fan speed; opens incident ticket if fan is not spinning as fast as it should be.	~		√
Temperature	Monitors all temperature sensors detected in chassis: opens incident ticket if temperature exceeds threshold.	~		✓
Memory Status	Monitors memory status; opens incident ticket if degraded or failed.	\checkmark		✓

Attribute	Description	Incident	Performance	Management
Memory Error Status ⁱⁱ	Monitors memory error messages; opens incident ticket if error threshold exceeded.	~		√
Disk Controller Status ⁱⁱ	Monitors disk controller status; opens incident ticket if status is down.	~		√
Logical Disk (RAID) Status ⁱⁱ	Monitors logical disk status; opens incident ticket if status is down.	~		~
Physical Disk Status ⁱⁱ	Monitors physical disk status; opens incident ticket if status is down.	✓		✓
Physical Disk Errors ⁱⁱ	Monitors the number of physical disk errors messages; opens incident ticket if threshold exceeded.	~		~
Power Supply Status ⁱⁱ	Monitors the status and condition of the power supply; opens incident ticket on error or when state is down.	✓		✓
Power Supply Capacity ⁱⁱ	Monitors currently in use power; opens incident ticket if device is consuming more power than can be supplied.	✓		✓
ASSET DETAIL				
Information to help yo	u manage your IT investment			
Site Name	Name of site where the server is located.			✓
Site Location	Physical location of the server.			√
Name	Name of the server configured in Cisco MAP.			✓
IP	IP address assigned to the server.			✓
MAC Address	Media Access Control (MAC) address assigned to the server.			✓
Туре	Type of device (ex., server).			✓
Vendor	Manufacturer of the server hardware.			✓
Model	Model of the server hardware.			\checkmark
Serial #	Serial number of the server hardware.			✓
Contract Expiration	Date that service/support contract expires.			\checkmark
Date of Last Backup	Date of last successful back-up of configuration files.			✓
Hardware Inventory	Identifies hardware components managed by Cisco MAP.			✓
KEY PERFORMANCE	INDICATORS (KPIs)			
Measure performance	metrics against objectives			
Average CPU % KPI	Average CPU % key performance indicator.			✓
Average % Disk Used KPI	Average % disk used key performance indicator.			√
Average % Memory Used KPI	Average % memory used key performance indicator.			√
Average Memory Utilization (page/sec) KPI	Average memory utilization key performance indicator.			✓
Average Ping Latency KPI	Average Ping Latency key performance indicator.			✓
Average Bandwidth In KPI	Average Bandwidth In key performance indicator.			✓
Average Bandwidth Out KPI	Average Bandwidth Out key performance indicator.			✓
SERVICE LEVEL MAN	AGEMENT			
Measure service respo	onse against objectives			
SLA Manager	Reports on service responsiveness to issues identified by Cisco MAP, including SLA violation issues.			✓

ⁱⁱ Monitoring/Reporting available with agent installed.



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