Statistics Polled by MAX Resources

MAX 4.3

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1.0 Introduction

1.1 Purpose of the Document

This document serves as a report of the Statistics polled by MAX Resources in MAX 4.3.

1.2 Layout of the Document

The document has the following sections with each section providing a particular set of results for the user.

Chapter 1: Introduction – this provides the introduction to the scope of the statistics and the layout of the document.

Chapter 2: MAX Statistics– this provides the summary to the users about the statistics on the resources polled by MAX 4.3. This section is extremely useful to get an overall picture about MAX statistics.

Chapter 3: SNMP Profiles – A brief description on SNMP profiles and what it consists of.

Chapter 4: CFG Files – Describes basic components of a CFG file.

2.0 MAX Statistics

MAX 4.3 Statistics gives an overview of total number of statistics polled by MAX per resource using SNMP, WMI, Netflow, PDC, Application, RMON and Active Monitoring.

3.0 SNMP Profiles

SNMP profiles (configuration files) are text files used by MAX to:

Define the MIB variables which are to be used to collect data from the devices and how frequently should the resources be polled for data.

Define the statistical parameters to be computed form the raw MIB data like utilization, availability and so on.

Define the abnormal conditions and the alarms to be raised in abnormal conditions.

4.0 CFG Files

Configuration (CFG) files constitute the increasing array of SNMP Profiles, which are created and updated as per requirement to support a wide range of vendor proprietary MIB's (Management Information Base), thus permitting the calculation of more statistics and there by detecting many irregular network conditions within an enterprise infrastructure.

A basic CFG file consists of three components:

Input statistics – A list containing the SNMP OIDs to poll.

Virtual statistics – A list containing the formula used to compute virtual statistics.

Output statistics – A list containing information about the final output statistics, including theirs names, the display format, units, and whether or not they are logged to the hard disk.

SNMP

5.1 Using SNMP Standard

MAX 4.3 Statistics have been polled for General Devices, Device Standards, Operating System, Application; Database, Protocols and Services using SNMP Standard.

5.1.1 Devices

MAX 4.3 Statistics have been polled for Devices and the Statistics computed for various cfg files have been listed along with the statistics count and Unit of measurement for each computed statistic.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	device.cfg	Availability	%	3
		Health	%	
		Outage	Sec	
2	HostCPU.cfg	CPU Utilization	%	4
		Availability	%	
		Health	%	
		Outage	Sec	
3	HostMemory.cfg	Memory Utilization	%	6
		Memory Used	Bytes	
		Memory Size	Bytes	
		Availability	%	
		Health	%	
		Outage	Sec	
4	HostProcess.cfg	Process CPU Utilization	%	6
		Total CPU Time	Sec	
		Real Memory Used	Bytes	
		Availability	%	
		Health	%	
		Outage	Sec	
5	HostStorage.cfg	Disk Utilization	%	7
		Storage Used	Bytes	
		Storage Size	Bytes	
		Free Disk Space	Bytes	
		Availability	%	
		Health	%	
		Outage	Sec	
6	mib2If.cfg	Error Rate	%	2
		Overflow Rate	%	
7	Nms.cfg	Availability	%	1
8	Replicators.cfg	Availability	%	2
		Outage	Sec	

9	SmonSwitch.cfg	Unicasts In	pckts/sec	10
		Multicasts In	pckts/sec	
		Broadcasts In	pckts/sec	
		Good Pkts In	pckts/sec	
		Total Pkts In	pckts/sec	
		Errors In	pckts/sec	
		In Bandwith	bps	
		Availability	%	
		Health	%	
		Outage	Sec	
10	SmonVlan.cfg	Unicasts In	pckts/sec	7
		Multicasts In	pckts/sec	
		Total Pkts In	pckts/sec	
		In Bandwith	bps	
		Availability	%	
		Health	%	
		Outage	Sec	
		Power Supply #2 Fault		
		Modem Communications Fault		
		A Modulator Fault		
		B Modulator Fault		
		A Demodulator Fault		
		B Demodulator Fault		
		A Modulator On-line Status		
		B Modulator On-line Status		
		A Demodulator On-line Status		
		B Demodulator On-line Status		
11	Syslog.cfg	Syslog Messages Logged		8
		Syslog Messages Discarded		
		Syslog Messages Logged (Severity - Information / Notice)		
		Syslog Messages Logged (Severity - Debug)		
		Syslog Messages Logged (Severity - Warning)		
		Syslog Messages Logged (Severity - Alert)		
		Syslog Messages Logged (Severity - Error)		

		Syslog Messages Logged (Severity - Crictical / Emergency)		

5.1.2 Presticom Device

MAX 4.3 Statistics have been polled for Presticom Devices and the Statistics computed have been listed along with the statistics count along with the Unit of measurement.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	PresticomPVC.cfg	PvcProtocol		21
		PvcSignal		
		PvcDlciAddress		
		PvcStatus		
		PvcSpeed	bps	
		Availability	%	
		Outage	Sec	
		Throughput	bps	
		Throughput In	bps	
		Utilization	%	
		Utilization In	%	
		Utilization Out	%	
		Error Frame Rate	%	
		Overrun Frame Rate	%	
		Error Octets Rate	%	
		Overrun Octets Rate	%	
		Compression Errors		
		Channel Overflow Errors		
		Channel Abort Errors		
		Channel Sequence Errors		
		Health	%	
2	PresticomVCE.cfg	Compression Rate		7
		Utilization	%	
		Number of Overruns		
		Number of Underruns		
		Availability	%	
		Indicator		
		Health	%	
3	PresticomWAN.cfg	WanInterface		21
		WanSignal		
		WanStatus		
		WanSpeed	bps	

		Availability	%	
		Outage	Sec	
		Throughput	bps	
		Throughput In	bps	
		Throughput Out	bps	
		Utilization	%	
		Utilization In	%	
		Utilization Out	%	
		Error Frame Rate	%	
		Overrun Frame Rate	%	
		Error Octets Rate	%	
		Overrun Octets Rate	%	
		Compression Errors		
		Channel Overflow Errors		
		Channel Abort Errors		
		Channel Sequence Errors		
		Health	%	

5.1.3 GSM Modem

MAX 4.3 Statistics have been polled for GSM Modem and the Statistics computed have been listed along with the statistics count and Unit of measurement.

S.No	CFG File	Statistics Computed	UOM	Statistic Count
1	gsmmodem.cfg	Availability		13
		Field Strength	DBm	
		Bit Error Rate		
		Read SMS		
		Sent SMS		
		Unsent SMS		
		Retried SMS		
		Number of SMS test		
		Valid SMS Acks		
		Sent Paging Msgs		
		Unsent Paging Msgs		
		Retried Paging Msgs		
		Number of Paging Test		

5.1.4 Status of Device

MAX 4.3 Statistics have been polled for Device Status and the Statistics computed have been listed along with the statistics count and the Unit of measurement for each statistic computed.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	StatusIf.cfg	Availability	%	3
		Health	%	
		Outage	Sec	
2	StdIf.cfg	Speed	bps	10
		Utilization	%	
		Utilization In	%	
		Utilization Out	%	
		Throughput	bps	
		Throughput In	bps	
		Throughput Out	bps	
		Availability	%	
		Health	%	
		Outage	Sec	

5.1.5 Frame Relay

MAX 4.3 Statistics have been polled for Frame relay using framerealy.cfg and the Statistics computed have been listed along with the statistics count.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	framerelay.cfg	Data Link Connection Identifier		9
		Circuit Received FECNs		
		Circuit Received BECNs		
		Committed Information Rate	Bps	
		Circuit Throughput	Bps	
		In Congestion	%	
		Out Congestion	%	
		Utilization	%	
		Health	%	

5.1.6 Application Monitoring

MAX 4.3 Statistics have been polled for Application Monitoring and the Statistics computed have been listed along with the statistics count and with the Unit of measurement for computed statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	Domino	Availability	%	13
		Health	%	
		Outage	Sec	
		Closed Sessions		
		Free Space	Kbytes	
		Free Swap Space	Kbytes	
		Undelivered Mail		
		Routing Failure		
		Waiting Mail		
		Free Memory	Kbytes	
		Swap File Size		
		Replication Failed		
		Drop Sessions		
2	Domino_r6_disk	Disk Free Swap		1
3	Domino_r6_mail	Dead Mail		3
		Routing Failure		
		Waiting Mail		
4	Domino_r6-mem	Total free Memory		2
		Swap Memory File Size		
5	Domino_r6_replica	Replication Failed		2
		Replication Successful		
6	Domino_r6_server	Availability	%	4
		Health	%	
		Outage	Sec	
		Dropped Sessions		
7	Domino_r6_statistic	Total CPU Utilization		2
		Free Disk Space		
8	fileAPIDemo	Availability	%	4
		Outage	Sec	
		File Details		
		File Output		

5.1.7 DNS Service

MAX 4.3 Statistics have been polled for DNS Service using dns.cfg and the Statistics computed have been listed along with the statistics count and the Unit of measurement.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	DNS.cfg	Response Time	Sec	1

5.1.8 Linux Operating System

MAX 4.3 Statistics have been polled for Linux Operating System and the Statistics computed have been listed along with the statistics count and the Unit of measurement for computed statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	LinuxhostCPU.cfg	CPU Utilization	%	4
		Availability	%	
		Health	%	
		Outage	Sec	
2	Linuxhost Memory.cfg	Memory Utilization	%	6
		Memory Used	Bytes	
		Memory Size	Bytes	
		Availability	%	
		Health	%	
		Outage	Sec	
3	LinuxhostStorage.cfg	Disk Utilization	%	7
		Storage Used	Bytes	
		Storage Size	Bytes	
		Free Disk Space	Bytes	
		Availability	%	
		Health	%	
		Outage	Sec	
4	Linuxnetaskcpu.cfg	Availability	%	2
		Outage	Sec	
5	Linuxnettaskmd	Availability	%	2
		Outage	Sec	
6	Linuxnettaskraid	Availability	%	2
		Outage	Sec	
7	LinuxucdCPU	CPU Utilization	%	8
		User CPU Utilization	%	

		System CPU Utilization	%	
		Interrupts	Sec	
		Context Switches	Sec	
		Availability	%	
		Health	%	
		Outage	Sec	
8	linuxUCD Memory.cfg	Memory Utilization	%	11
		Real Memory Used	%	
		Swap Space Used	%	
		Memory Size	Bytes	
		Real Memory Available	Bytes	
		Swap Size	Bytes	
		Swap Available	Bytes	
		Swap Rate	Bytes/sec	
		Availability	%	
		Health	%	
		Outage	Sec	
9	LinuxucdStorage.cfg	Disk Utilization	%	7
		Disk Used	Bytes	
		Free Disk Space	Bytes	
		Inodes Used	%	
		Availability	%	
		Health	%	
		Outage	Sec	

5.1.9 Unix Operating System

MAX 4.3 Statistics have been polled for Unix Operating System and the Statistics computed have been listed along with the statistics count and the Unit of measurement for computed statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	Unixnettaskcpu.cfg	Availability	%	2
		Outage	Sec	
2	Unixnettaskmd.cfg	Availability	%	2
		Outage	Sec	
3	Unixnettaskraid.cfg	Availability	%	2
		Outage	Sec	
4	UnixucdCPU.cfg	CPU Utilization	%	8
		User CPU Util	%	
		System CPU Util	%	
		Interrupts	/sec	
		Context Switches	/sec	

		Availability	%	
		Health	%	
		Outage	Sec	
5	UnixucdextOutput.cfg	Availability		4
		Number of Logins		
		Bytes Received	bytes	
		Bytes Sent	bytes	
6	UnixucdMemory.cfg	Memory Utilization	%	11
		% Real Memory Used	%	
		% Swap Space Used	%	
		Real Memory Size	Bytes	
		Real Memory Avail	Bytes	
		Swap Size	Bytes	
		Swap Avail	Bytes	
		Swap Rate	bytes/sec	
		Availability	%	
		Health	%	
		Outage	Sec	
7	UnixucdStorage.cfg	Disk Utilization	%	7
		Disk Used	bytes	
		Free Disk Space	bytes	
		% Inodes Used	%	
		Availability	%	
		Health	%	
		Outage	Sec	

5.1.10 Sun Solaris Operating System

MAX 4.3 Statistics have been polled for Sun Solaris Operating System and the Statistics computed have been listed along with the statistics count and the Unit of measurement for computed statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	SolarisCPU.cfg	CPU Utilization	%	8
		User CPU Util	%	
		System CPU Utilization	%	
		Nice Mode CPU Util	%	
		Device Interrupts	/sec	
		Availability	%	
		Health	%	
		Outage	Sec	
2	SolarisDisk.cfg	Disk Transfer Rate	/sec	4
		Availability	%	
		Health	%	

		Outage	Sec	
3	SolarisMemory.cfg	Pages Read from Disk Rate	/sec	6
		Pages Written to Disk Rate	/sec	
		Pages Swap In Rate	/sec	
		Pages Swap Out Rate	/sec	
		Availability	%	
		Outage	Sec	
4	SunucdCPU.cfg	CPU Utilization	%	8
		User CPU Util	%	
		System CPU Util	%	
		Interrupts	/sec	
		Context Switches	/sec	
		Availability	%	
		Health	%	
		Outage	Sec	
5	SunucdMemory.cfg	Memory Utilization	%	11
		% Real Memory Used	%	
		% Swap Space Used	%	
		Real Memory Size	Bytes	
		Real Memory Avail	Bytes	
		Swap Size	Bytes	
		Swap Avail	Bytes	
		Swap Rate	bytes/sec	
		Availability	%	
		Health	%	
		Outage	Sec	
6	SunucdStorage.cfg	Disk Utilization	%	7
		Disk Used	bytes	
		Free Disk Space	bytes	
		% Inodes Used	%	
		Availability	%	
		Health	%	
		Outage	Sec	

5.1.11 Novell Netware

MAX 4.3 Statistics have been polled for Novell Netware and the Statistics computed have been listed along with the statistics count and the Unit of measurement for each computed statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	NetwareCPU	CPU Utilization	%	4
		CPU Availability	%	
		Health	%	
		Outage	Sec	
2	NetwareMemory	Availability	%	10
		Health	%	
		Outage	Sec	
		CacheBuffers Free	%	
		File Reads		
		File Writes		
		Read	Kbytes	
		Written	Kbytes	
		Current Used Logins		
		Logins Available		
3	NetwareServer.cfg	Availability	%	10
		Health	%	
		Outage	Sec	
		CacheBuffers Free	%	
		File Reads		
		File Writes		
		Read	Kbytes	
		Written	Kbytes	
		Current Used Logins		
		Logins Available		
4	NetwareVolume.cfg	Availability	%	5
		Health	%	
		Outage	Sec	
		Volume Free	%	
		Volume Space Free	MBytes	
5	Network Interface.cfg	Availability	%	8
		Health	%	
		Outage	Sec	
		Speed	Bps	
		Utilization	%	
		Throughput	Bps	
		Received	Bps	
		Sent	Bps	

5.1.12 Oracle Database

MAX 4.3 Statistics have been polled for Oracle Database and the Statistics computed have been listed along with the statistics count.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	Ora_datafile	File Name		6
		File Size Allocated		
		File Disk reads		
		File Disk writes		
		File disk read blocks		
		File Disk written blocks		
2	ora_SGA	SGA Fixed Size		3
		SGA Variable Size		
		SGA Database Buffers		
3	ora_tablespace	Name		5
		Size Allocated		
		Size Used		
		Tablespace State		
		Largest Available Chunk		
4	oracle	Database Status (1: Other 2:Active 3:Available 4:Restricted 5:Unavailable)		13
		Unit Used (1:bytes 2:Kbytes 3:Mbytes 4:Gbytes 5:Terabytes)		
		Database Size Allocated,		
		Database Size Used		
		Server Disk Read		
		Server logical Disk Read		
		Server Disk Write		
		Server Logical Disk Write		
		Server Page Reads		
		Server Page Writes		
		Availability	%	
		Health	%	
		Outage	Sec	
5	Oracle_9i_datafile	File Name		6
		File Size Allocated		
		File Disk Reads		
		File Disk Writes		
		File Disk Read Blocks		
		File Disk Written Blocks		

6	Oracle_9i_dbsize	Database Unit Used (1:bytes 2:Kbytes 3:Mbytes 4:Gbytes 5:Terabytes)		3
		Database Size Allocated		
		Database Size Used		
7	Oracle_9i_server	Server Disk Read		10
		Server Logical Reads		
		Server Disk Writes		
		Server Logical Writes		
		Server Page Reads		
		Server Page Writes		
		Server State (1:Others 2:Active 3:Available 4:Restricted 5:Unavailable)		
		Database Availability	%	
		Health	%	
		Outage	Sec	
8	Oracle_9i_sga	SGA Fixed Size		3
		SGA Variable Size		
		SGA Database Buffers		
9	Oracle_9i_tablespace	TableSpace Name		5
		TableSpace Size Allocated		
		Tablespace Size Used		
		TableSpace State		
		TableSpace Largest Available Chunk		

5.1.13 Protocol

MAX 4.3 Statistics have been polled for various Protocols and the Statistics computed have been listed along with the statistics count and the Unit of Measurement for each Computed Statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	ping	Availability	%	5
		Health	%	
		Outage	Sec	
		Response time	Sec	
		Packet Loss	%	

2	pop3	Availability	%	5
		Health	%	
		Outage	Sec	
		Connection Establishment Time	Sec	
		Data Transfer Time	Sec	
3	RemotePing.cfg	Target Address		11
		Availability		
		Average RTT	msec	
		Minimum RTT	msec	
		Maximum RTT	msec	
		Probe Responses		
		Admin Status		
		Operation Status		
		Sent Probe		
		RTT Sum Of Squares	msec	
		Last Good Probe		
4	lms.cfg	Availability	%	5
		DB Connection	%	
		MAX Clock Thread	%	
		Poller Thread	%	
		SNMP Trap Listener Thread	%	
5	http	Availability	%	5
		Health	%	
		Outage	Sec	
		Connection Establishment Time	Sec	
		Data Transfer Time	Sec	
6	tcp	Availability	%	5
		Health	%	
		Outage	Sec	
		Connection Establishment Time	Sec	
		Data Transfer Time	Sec	
7	smtp	Availability	%	5
		Health	%	
		Outage	Sec	
		Connection Establishment Time	sec	
		Data Transfer Time	Sec	

5.1.14 Service

MAX 4.3 Statistics have been polled for Service and the Statistics computed have been listed along with the statistics count and the Unit of Measurement for each Computed Statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	FTPService	Availability	%	6
		Health	%	
		Outage	Sec	
		Current Anonymous Users		
		Bytes Total		
		Current Connections		
2	Internet Information Services Global NT	Availability	%	5
		Health	%	
		Outage	Sec	
		Cache Hits		
		Cache Misses		

5.2.1 Windows NT

MAX 4.3 Statistics have been polled for Windows NT System and the Statistics computed have been listed along with the statistics count and the Unit of Measurement for each Computed Statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	Nt.cfg	Availability	%	5
		Utilization	%	
		Throughput	bps	
		Health	%	
		Outage	Sec	
2	NtCPU.cfg	CPU Utilization	%	4
		CPU Availability	%	
		Health	%	
		Outage	Sec	
3	NtDisk.cfg	Disk time Utilization	%	6
		Throughput	bytes/sec	

		Disk Transaction Rate	/sec	
		Availability	%	
		Health	%	
		Outage	Sec	
4	NtMemory.cfg	Memory Utilization	%	9
		Virtaul Memory Used	Bytes	
		Virtual Memory Size	Bytes	
		Memory Faults	/sec	
		Free Physical Memory	Bytes	
		System Cache Size	Bytes	
		Memory Availability	%	
		Health	%	
		Outage	Sec	

5.3 Using Netflow

MAX 4.3 Statistics have been polled for devices using Netflow Standard. The statistics obtained are as follows:

5.3.1 Device Statistics

MAX 4.3 Statistics have been polled for Devices and the Statistics computed have been listed along with the statistics count and the Unit of Measurement for each Computed Statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	netflow_device	Total Bytes per sec	bps	6
		Total Packets per sec	pps	
		In bytes per sec	bps	
		In packets per sec	pps	
		Out Bytes per sec	bps	
		Out packets per sec	pps	
2	netflow_device_app_matrix	Total Bytes per sec	bps	2
		Total Packets per sec	pps	
3	netflow_device_application	Total Bytes per sec	bps	6
		Total Packets per sec	pps	
		In bytes per sec	bps	
		In packets per sec	pps	
		Out Bytes per sec	bps	
		Out packets per sec	pps	
4	netflow_device_matrix	Total Bytes per sec	bps	2
		Total Packets per sec	pps	
5	netflow_device_protocol	Total Bytes per sec	bps	6
		Total Packets per sec	pps	

		In bytes per sec	bps	
		In packets per sec	pps	
		Out Bytes per sec	bps	
		Out packets per sec	pps	
6	netflow_device_protocol_matrix	Total Bytes per sec	bps	2
		Total Packets per sec	pps	
7	netflow_device_tos_matrix	Total Bytes per sec	bps	2
		Total Packets per sec	pps	
8	netflow_segment	Total Bytes per sec	bps	6
		Total Packets per sec	pps	
		In bytes per sec	bps	
		In packets per sec	pps	
		Out Bytes per sec	bps	
		Out packets per sec	pps	
9	netflow_segment_matrix	Total Bytes per sec	bps	2
		Total Packets per sec	pps	
10	netflow_segment_protocol	Total Bytes per sec	bps	6
		Total Packets per sec	pps	
		In bytes per sec	bps	
		In packets per sec	pps	
		Out Bytes per sec	bps	
		Out packets per sec	pps	
11	netflow_segment_protocol_matrix	Total Bytes per sec	bps	2
		Total Packets per sec	pps	
12	netflow_segment_tos_matrix	Total Bytes per sec	bps	2
		Total Packets per sec	pps	
13	netflow_top_n_sites	Name of Top 1 Site Visited		20
		Top 1 Site visited per day		
		Name of Top 2 Site Visited		
		Top 2 Site visited per day		
		Name of Top 3 Site Visited		
		Top 3 Site visited per day		
		Name of Top 4 Site Visited		
		Top 4 Site visited per day		
		Name of Top 5 Site Visited		
		Top 5 Site visited per day		
		Name of Top 6 Site Visited		
		Top 6 Site visited per day		
		Name of Top 7 Site Visited		
		Top 7 Site visited per day		
		Name of Top 8 Site Visited		
		Top 8 Site visited per day		
		Name of Top 9 Site Visited		
		Top 9 Site visited per day		
		Name of Top 10 Site Visited		

		Top 10 Site visited per day		
14	rmonhost	Total Inbound packets per sec	pps	5
		Total Outbound packets per sec	pps	
		Total Inbound bits per sec	bps	
		Total Outbound bits per sec	bps	
		Total bits per sec	bps	
15	rmonNetTalkerALL	Total packets per sec	pps	4
		Total Outbound packets per sec	pps	
		Total Outbound bits per sec	bps	
		Total bits per sec	bps	
16	rmonprotocol	Availability	%	8
		Speed	bps	
		Utilization	%	
		Throughput	bps	
		Total packets per sec	pps	
		Broadcast/Multicast packets per sec	pps	
		Error Rate	%	
		Collision Rate	%	

5.4 RMON

MAX 4.3 Statistics have been polled for devices using RMON. The statistics obtained are as follows:

5.4.1 Statistics

MAX 4.3 Statistics computed have been listed along with the statistics count and the Unit of Measurement for each Computed Statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	rmonhost	Total Inbound packets per sec	pps	5
		Total Outbound packets per sec	pps	
		Total Inbound bits per sec	bps	
		Total Outbound bits per sec	bps	
		Total bits per sec	bps	
2	rmonNetTalkerALL	Total packets per sec	pps	4
		Total Outbound packets per sec	pps	
		Total Outbound bits per sec	bps	
		Total bits per sec	bps	

3	rmonprotocol	Availability	%	8
		Speed	bps	
		Utilization	%	
		Throughput	bps	
		Total packets per sec	pps	
		Broadcast/Multicast packets per sec	pps	
		Error Rate	%	
		Collision Rate	%	
4	rmonstat	Availability	%	1

5.5 MPLS

MPLS Monitoring allows learning and monitoring Cisco and Juniper MPLS POP Routers as well as the CE's (customer Edge) attached to the routers. It allows to configure the maintenance period for CE's, setting the area zone and threshold configuration for POPs . It also allows performing diagnostic tools to check proxy ping utility.

MAX 4.3 Statistics have been obtained for MPLS Monitoring. The statistics obtained are as follows:

5.5.1 Statistics from MPLS

MAX 4.3 Statistics computed have been listed along with the statistics count.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	MPLSPerfCisco.cfg	Latency	Msec	4
		Packet Success Rate	%	
		Availability	%	
		Delay variation	Msec	
2	MPLSPerfJuniper.cfg	Latency	Msec	4
		Packet Success Rate	%	
		Availability	%	
		Delay variation	Msec	

5.6 Send Mail Monitoring

MAX 4.3 Statistics have been monitored using Send Mail Monitoring. The statistics obtained are as follows:

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	Sendmail	Availability	%	9
		Health	%	
		Outage	Sec	
		Number of Mails Received		
		Size of Received Mails		
		Number of Mails in Queue		
		Size of Mails in Queue		
		Number of Mails Sent		
		Size of Mails Sent		
2	Sendmail	Availability	%	9
		Health	%	
		Outage	Sec	
		Number of Mails Received		
		Size of Received Mails		
		Number of Mails in Queue		
		Size of Mails in Queue		
		Number of Mails Sent		
		Size of Mails Sent		
3	SMS301	Availability	%	17
		TX Operational Fault		
		RX Operational Fault		
		Monitor & Control Module Fault		
		Data Interface_Overhead Module Fault		
		Battery_Clock Fault		
		Power Supply #1 Fault		
		Power Supply #2 Fault		
		Modem Communications Fault		
		A Modulator Fault		
		B Modulator Fault		
		A Demodulator Fault		
		B Demodulator Fault		
		A Modulator On-line Status		
		B Modulator On-line Status		
		A Demodulator On-line Status		
		B Demodulator On-line Status		

WMI/PDC

6.1 Using WMI Standard

MAX 4.3 Statistics have been polled for Windows System, SQL Database and Application. The statistics obtained are as follows:

6.1.1 Windows Processes

MAX 4.3 Statistics have been polled for Windows processes and the Statistics computed have been listed along with the statistics count and the Unit of Measurement for each Computed Statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	process	Availability	%	5
		Health	%	
		Outage	Sec	
		Process CPU Utilization	%	
		Elapsed Time	Hour	
2	Processor	CPU Availability	%	7
		Health	%	
		Outage	Sec	
		CPU Utilization	%	
		User mode CPU Utilization	%	
		Privileged mode CPU Utilization	%	
		Interrupts	/sec	

6.1.2 Windows System

MAX 4.3 Statistics have been polled for Windows Systems and the Statistics computed have been listed along with the statistics count and the Unit of Measurement for each Computed Statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	system	Availability	%	6
		Health	%	
		Outage	Sec	
		System Up Time	hour	
		Processes		

		Threads		
2	SystemNT	Availability	%	6
		Health	%	
		Outage	Sec	
		System Up Time	hour	
		Processes		
		Threads		
3	w_ActiveServerPages	Availability	%	7
		Health	%	
		Outage	Sec	
		Memory Allocated		
		Request Bytes In Total		
		Request Wait Time		
		Requests Queued		
4	w_IISGlobal	Availability	%	5
		Health	%	
		Outage	Sec	
		File Cache Hits		
		File Cache Misses		
5	w_LogicalDisk	Disk Utilization	%	11
		Availability	%	
		Health	%	
		Outage	Sec	
		Total Space	Mbytes	
		Free Disk Space	bytes	
		Disk Read Time	%	
		Disk Time	%	
		Disk Write Time	%	
		Disk Read Bytes	Sec	
		Disk Write Bytes	Sec	
6	w_Memory	Availability	%	10
		Health	%	
		Outage	Sec	
		Memory Utilization	%	
		Available Bytes	Mbytes	
		Commit Limit		
		Committed Bytes		
		Pages	Sec	
		System Code Total Bytes		
		Write Copies	Sec	

6.1.3 Windows Application

MAX 4.3 Statistics have been polled for Windows Application in MS Exchange Server and the Statistics computed have been listed along with the statistics count and the Unit of Measurement for each Computed Statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	MSExchange DS	Availability	%	6
		Health	%	
		Outage	Sec	
		Pending Replication Synchronization		
		Remaining Replication Updates		
		Replication Updates	/sec	
2	MSExchangeIS Private	Availability	%	8
		Health	%	
		Outage	Sec	
		Active Client Logons		
		Average Delivery Time		
		Average Local Delivery Time		
		Receive Queue Size		
		Send Queue Size		
3	MSExchangeIS Public	Availability	%	8
		Health	%	
		Outage	Sec	
		Active Client Logons		
		Average Delivery Time		
		Average Local Delivery Time		
		Receive Queue Size		
		Send Queue Size		
4	MSExchangeIS	Availability	%	7
		Health	%	
		Outage	Sec	
		Active Connection Count		
		Active User Count		
		Connection Count		
		User Count		
5	MSExchange MTA Connections	Availability	%	8
		Health	%	
		Outage	Sec	
		Queue Length		
		Receive Bytes	/sec	
		Receive Messages	/sec	
		Send Bytes	/sec	
		Send Messages	/sec	
6	MSExchange	Availability	%	8

	MTA	Health	%	
		Outage	Sec	
		Admin Connection		
		Admin Interface Receive Bytes	/sec	
		Admin Interface Transmit Bytes	/sec	
		Messages	/sec	
		Work Queue Length		
7	w_MSExchangeDS	Availability	%	6
		Health	%	
		Outage	Sec	
		Pending Replication Synchronization		
		Remaining Replication Updates		
		Replication Updates	/sec	
8	w_MSExchangeIS	Availability	%	7
		Health	%	
		Outage	Sec	
		Active Connection Count		
		Active User Count		
		Connection Count		
		User Count		
9	w_MSExchangeISPrivate	Availability	%	8
		Health	%	
		Outage	Sec	
		Active Client Logons		
		Average Delivery Time		
		Average Local Delivery Time		
		Receive Queue Size		
		Send Queue Size		
10	w_MSExchangeISPublic	Availability	%	8
		Health	%	
		Outage	Sec	
		Active Client Logons		
		Average Delivery Time		
		Average Local Delivery Time		
		Receive Queue Size		
		Send Queue Size		
11	w_MSExchangeMTA	Availability	%	8
		Health	%	
		Outage	Sec	
		Admin Connections		
		Admin Interface Receive Bytes	/sec	
		Admin Interface Transmit Bytes	/sec	
		Messages	/sec	
		Work Queue Length		
12	w_MSExchangeMTAConne	Availability	%	8
		Health	%	

	ctions	Outage	Sec	
		Queue Length		
		Receive Bytes	/sec	
		Receive Messages	/sec	
		Send Bytes	/sec	
		Send Messages	/sec	
13	w_NetworkInterface	Speed	bps	11
		Availability	%	
		Health	%	
		Outage	Sec	
		Utilization	%	
		Throughput	bps	
		Received	bps	
		Sent	bps	
		Packets Total		
		Packets Received		
		Packets Sent		
14	w_System	Availability	%	10
		Health	%	
		Outage	Sec	
		System Up Time	Hour	
		Processes		
		Threads		
		File Control Bytes	Sec	
		File Read Bytes	Sec	
		File Write Bytes	Sec	
		System Calls	Sec	
15	w_WebService	Availability	%	7
		Health	%	
		Outage	Sec	
		Anonymous Users	/sec	
		Bytes Total	/sec	
		Current Connections		
		Current CGI Requests		

6.1.4 SQL Database

MAX 4.3 Statistics have been polled for SQL Database and the Statistics computed have been listed along with the statistics count and the Unit of Measurement for each Computed Statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	SQLServer_Backup Device	Availability	%	4
		Health	%	
		Outage	Sec	
		Device Throughput Bytes	/sec	
2	SQLServer_Buffer Manager	Availability	%	7
		Health	%	
		Outage	Sec	
		Cache Size	Pages	
		Free Buffers		
		Page Reads	/sec	
		Page Writes	/sec	
3	SQLServer_Cache Manager	Availability	%	6
		Health	%	
		Outage	Sec	
		Cache Object Counts		
		Cache Hit Ratio		
		Cache Pages		
4	SQL Server_Databases	Availability	%	14
		Health	%	
		Outage	Sec	
		Active Transactions		
		Data File(s) Size	KB	
		Transactions,sec		
		Log File(s) Size	KB	
		Log Growths		
		Log Truncations		
		Percent Log Used		
		Log Cache Hit Ratio		
		Bulk Copy Rows	/sec	
		Bulk Copy Throughput	/sec	
		DBCC Logical Scan Bytes	/sec	
5	SQLServer_General Statistics	Availability	%	6
		Health	%	
		Outage	Sec	
		Logins	/sec	
		Logouts	/sec	
		User Connections		
7	SQLServer_Memory	Availability	%	7
		Health	%	

	Manager	Outage	Sec	
		Connection Memory	KB	
		Maximum Workspace Memory	KB	
		Lock Memory	KB	
		Total Server Memory	KB	
8	SQLServer_Replication Logreader	Availability	%	6
		Health	%	
		Outage	Sec	
		Delivered Cmds	/sec	
		Delivered Trans	/sec	
		Delivery Latency		
9	SQLServer_SQL Statistics	Availability	%	6
		Health	%	
		Outage	Sec	
		Batch Requests	/sec	
		Failed Auto-Params	/sec	
		SQL Compilations	/sec	
10	w_SQLBackupDevice	Availability	%	4
		Health	%	
		Outage	Sec	
		Device Throughput Bytes	/sec	
11	w_SQLBuffer Manager	Availability	%	7
		Health	%	
		Outage	Sec	
		Cache Size	Pages	
		Free Buffers		
		Page Reads	/sec	
		Page Writes	/sec	
12	w_SQLCache Manager	Availability	%	6
		Health	%	
		Outage	Sec	
		Cache Object Counts		
		Cache Hit Ratio		
		Cache Pages		
13	w_SQLDatabases	Availability	%	14
		Health	%	
		Outage	Sec	
		Active Transactions		
		Data File(s) Size	KB	
		Transactions	Sec	
		Log File(s) Size	KB	
		Log Growths		
		Log Truncations		
		Percent Log Used		
		Log Cache Hit Ratio		
		Bulk Copy Rows	/sec	

		Bulk Copy Throughput	/sec	
		DBCC Logical Scan Bytes	/sec	
14	w_SQLGeneralStatistics	Availability	%	6
		Health	%	
		Outage	Sec	
		Logins	/sec	
		Logouts	/sec	
		User Connections		
15	w_SQLMemoryManager	Availability	%	6
		Health	%	
		Outage	Sec	
		Connection Memory		
		Maximum Workspace Memory	KB	
		Lock Memory	KB	
16	w_SQLReplicationLogreader	Availability	%	6
		Health	%	
		Outage	Sec	
		Logreader:Delivered Cmds	/sec	
		Logreader:Delivered Trans	/sec	
		Logreader:Delivery Latency		
17	w_SQLStatistics	Availability	%	6
		Health	%	
		Outage	Sec	
		Batch Requests	/sec	
		Failed Auto-Params	/sec	
		SQL Compilations	/sec	

6.1.5 Logical Disk And Memory

MAX 4.3 Statistics have been polled for Logical Disk and Memory and the Statistics computed have been listed along with the statistics count and the Unit of Measurement for each Computed Statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	Logical Disk	Availability	%	9
		Health	%	
		Outage	Sec	
		Disk Utilization	%	
		Total Free Space	Mbytes	
		Free Disk Space	Bytes	
		Disk Time	%	
		Total Megabytes	Mbytes	

		Free Megabytes	Mbytes	
2	Memory	Availability	%	6
		Health	%	
		Outage	Sec	
		Memory Utilization	%	
		Available Bytes	Mbytes	
		Overflow Rate	%	

6.2 PDC

MAX 4.3 Statistics have been polled for devices using PDC. The statistics obtained are as follows:

6.2.1 Statistics using PDC Standard

MAX 4.3 Statistics computed have been listed along with the statistics count and the Unit of Measurement for each Computed Statistics.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	SDM300	Availability	%	14
		Raw BER		
		Corrected BER		
		Eb_N0 Status	dB	
		Current Sweep Value		
		Interface Buffer Fill	%	
		Receive Signal Level	dBm	
		Interface read Error		
		Demodulator Fault		
		Modulator Fault		
		Interface Transmit Side Fault		
		Interface Receive Side Fault		
		Common Equipment Fault		
		Backward Alarms Fault		

SLA

7.1 Service Level Agreement

MAX 4.3 Statistics have been obtained for Service Level Agreement. The statistics obtained are as follows:

7.1.1 Statistics from SLA

MAX 4.3 Statistics computed have been listed along with the statistics count.

S.No	CFG File	Statistics Computed	UOM	Statistics Count
1	sla	SLA Compliance Percentage		6
		NoOfNonConformPoints		
		NoOfConformPoints		
		NoOfPointsPolled		
		NoOfPointsLeft		
		NoOfPointsUndetermined		