



Cisco WAE Release 6.2.1 System Requirements

WAN Automation Engine (WAE) requirements vary, depending on the product it is paired with and whether or not it is collecting flows. Please contact your Cisco representative if you have questions.

WAE Collector with WAE Live

Supported Operating System	Supported Software	Hardware		
		CPU	Memory	Hard Drive
Linux-x86_64	RHEL/CentOS 6 with latest patches	Intel or AMD 2+ GHz, 8+Core	Min: 32 GB Suggested: 64 GB	Min: 1 TB Suggested: 2 TB

Only English Linux is supported.
Other Red Hat Linux distributions should work, but are not officially supported.
Software has been qualified on CentOS 6.6.

WAE Live Kernel Parameters

Kernel Parameter	Value
SHMALL	4294967296
SHMMAX	4398046511104
SHMMNI	4096
SEMMNS	32000
SEMMSL	250
SEMOPM	32
Maximum number of file descriptors	65535

WAE Collector with WAE Design Archive

Supported Operating System	Supported Software	Hardware		
		CPU	Memory**	Hard Drive
Linux-x86_64	RHEL/CentOS 6 with latest patches	Intel or AMD 2+ GHz, 4+ Core Suggested: 8+ Core	Min: 32 GB Suggested: 64 GB	Min: 1 TB Suggested: 2 TB
<p>Only English Linux is supported. Other Red Hat Linux distributions should work, but are not officially supported. Software has been qualified on CentOS 6.6. ** Increase by 2 GB for each additional 5 concurrent users.</p>				

WAE Collector with Flow Collection

Supported Operating System	Supported Software	Hardware		
		CPU"	Memory**	Hard Drive
Linux-x86_64	RHEL/CentOS 6 with latest patches	Intel or AMD 2+ GHz, 8+ Core	64 GB Suggested: 96 GB	1 TB
<p>Only English Linux is supported. Other Red Hat Linux distributions should work, but are not officially supported. Software has been qualified on CentOS 6.6. Flow collection requires Linux Kernel 2.6.32 or greater. ** = Increase by 2 GB for each additional 5 concurrent users. " = One flow collection server is required per 100 Mbps of flow export bandwidth usage.</p>				

WAE Design Stand-Alone Requirements

A stand-alone WAE Design system does not require the use of WAE Collector.

WAE Design is a 64-bit installation on all supported operating systems.

A Perl installation is required for some WAE features. Please refer to the Package section for details.

A Python installation is required for some WAE features. Please refer to the Package section for details.

Supported Operating System	Supported Software	Hardware	
		CPU	Memory
Linux-x86_64	RHEL/CentOS 6 with latest patches	Intel or AMD 2+ GHz	8 GB Suggested: 16 GB
Windows (64-bit)	Windows 2008 *, 7.0*	Intel or AMD 2+ GHz	8 GB Suggested: 16 GB
Mac OS X x86_64	10.6.7+	Intel 2+ GHz	8 GB Suggested: 16 GB
Only English Linux is supported. Other Red Hat Linux distributions should work, but are not officially supported. * Recommended			

WAE Automation Host

Supported Operating System	Supported Software	Hardware		
		CPU**	Memory**	Hard Drive
Linux-x86_64	RHEL/CentOS 6 with latest patches	Intel or AMD 2+ GHz, 8+ Core	32 GB Suggested: 64 GB	1 TB
Only English Linux is supported. Other Red Hat Linux distributions should work, but are not officially supported. Software has been qualified on CentOS 6.6. **Increase 1 GB of memory for each additional core used.				

Web Browsers

Web Browser	Version
Google Chrome	43
Firefox	38
Internet Explorer	11
Other browsers should work, but are not officially supported.	

Network Services Orchestrator (NSO) Requirements

Software / Driver	Version
IOS-XR NED	ncs-3.4-cisco-iosxr-3.9.0.7_ee8d73f
JunOS NED	ncs-3.4-juniper-junos-3.0.16
Network Services Orchestrator	3.4
Traffic-Eng	Contact your Cisco representative
WAE software has been qualified with the listed versions.	

Packages

Perl Packages

Operating System	Product	Package
Linux-x86_64	WAE Collector with flow collection	5.8.8
	WAE Collector with WAE Design Archive	
	Stand-alone WAE Design	
Windows (64-bit)	Stand-alone WAE Design	5.12.3
Mac OS X x86_64	Stand-alone WAE Design	5.10

Python Packages

Operating System	Product	Package
Linux-x86_64	WAE	2.6.x
Windows (64-bit)	Stand-alone WAE Design	2.7.x
Mac OS X x86_64	Stand-alone WAE Design	2.6.x

Font Packages

Package	Description
bitstream-vera-fonts	Bitstream Vera fonts
ghostscript-fonts	Ghostscript fonts
libXft	X font library
xorg-x11-fonts-Type1	X.org Type1 fonts

Red Hat Linux-x86_64 Packages for Planning Host

Package	Description	Required by Component
ansible	Simple IT automation platform	wae-platsvcs
bash	Bourne-Again SHell	wae installer
bc	An arbitrary preciscon numeric processing language	wae-dlc
createrepo	An utility that generate a common metadata repository from a directory of rpm packages	wae installer
crontabs	An utility which specify shell commands to run periodically on a given schedule	wae installer
cyrus-sasl-lib	Shared libraries needed by applications that use Cyrus SASL	wae-dlc
db4	Berkeley DB database library (version 4) for C	wae-dlc
e2fsprogs-libs	Ext2/3 filesystem-specific static libraries and headers	wae-dlc
ed	Simple command line editor	wae-dlc
expat	A library for parsing XML	wae-dlc
fontconfig	Font configuration and customization library	wae-dlc
freetype	Free and portable font rendering engine	wae-dlc
glibc	GNU libc libraries	wae-dlc
jdk 1.7	Oracle JDK	wae-ni
keyutils-libs	Key utilities library	wae-dlc
krb5-libs	Shared libraries used by Kerberos 5	wae-dlc
libaio	Linux-native asynchronous I/O access library	wae-dlc
libdrm	libdrm Direct Rendering Manager runtime library	wae-dlc
libgcc-4.x	GCC version 4.1 shared support library	wae-dlc
libICE	X.Org X11 libICE runtime library	wae-dlc
libselinux	SELinux library and simple utilities	wae-dlc
libsepol	SELinux binary policy manipulation library	wae-dlc
libselinux-python	Python bindings for developing SELinux applications	wae-platsvcs
libSM	X.Org X11 libSM runtime library	wae-dlc
libstdc++-4.x	GNU Standard C++ Library	wae-dlc
libX11	X.Org X11 libX11 runtime library	wae-dlc
libXau	X.Org X11 libXau runtime library	wae-dlc
libXdmcp	X.Org X11 libXdmcp runtime library	wae-dlc
libXext	X.Org X11 libXext runtime library	wae-dlc
libXrender	X.Org X11 libXrender runtime library	wae-dlc
libXxf86vm	X.Org X11 libXxf86vm runtime library	wae-dlc
mesa-libGL	Mesa libGL runtime libraries and DRI drivers	wae-dlc
ncurses-5.x	Terminal handling library	wae-dlc
ntp	Network Time Protocol	wae-ni
openldap	Configuration files, libraries, and documentation for OpenLDAP	wae-dlc
pam	Security tool that provides authentication for applications	wae-dlc
redhat-lsb	Linux standard base library	FlexNet Publisher license server
rsync	Utility to keep copies of a file on two computer systems the same	wae-platsvcs
screen	Full-screen window manager that multiplexes a physical terminal between several processes, typically interactive shells	wae-dlc
sshpas	Tool for non-interactively performing password authentication with SSH	wae-platsvcs
zlib	zlib compression and decompression library	wae-dlc

Red Hat Linux-x86_64 Packages for Automation Host

Package	Description	Required by Component
coreutils	GNU core utilities	wae-db
glibc	GNU libc libraries	wae-messaging
jdk 1.7	Oracle JDK	wae-core
net-snmp	Simple Network Management Protocol (SNMP) application suite	wae-demo
net-snmp-utils	Simple Network Management Protocol (SNMP) utilities	wae-demo
ntp	Network Time Protocol	wae-core

Planning Host Port Usage

Port	Protocol	Description	Use by Service
9088	TCP/UDP	MLD SQL Interface	wae-mls
9089	TCP/UDP	MLD SQL Interface (Encrypted)	wae-mls
123	UDP	Network Time Protocol	wae-ni
1199	TCP	Remote Method Invocation (RMI) registry port	wae-ni
2181	TCP	Centralized service for configuration management	wae-ni
5006	TCP	Debug	wae-ni
8086	TCP	Representational State Transfer (ReST) interface (Port for accessing northbound WAE NI server)	wae-ni
8102	TCP	Console SSH port	wae-ni
8182	TCP	Web console	wae-ni
8185	TCP	RESTCONF port	wae-ni
9092 - 9094	TCP	Message broker	wae-ni
44445	TCP	Remote Method Invocation (RMI) server port	wae-ni
61617	TCP	Java Message Service (JMS) (Port that WAE NI server uses to receive plan files)	wae-ni
179	TCP	Border Gateway Protocol	wae-ni
2812	TCP	Service monitoring communication port	wae-svcs-client
7070	TCP	Log agent communication port	wae-svcs-client
5601	TCP	Analytics and search dashboard communication port	wae-svcs-server
8843	TCP	Hypertext Transfer Protocol Secure	wae-svcs-server
9200 9300	TCP	Search server communication port	wae-svcs-server
25826	TCP	Log manager communication port	wae-svcs-server
8005	TCP	Collector sever shutdown port	wae-web-server
8009	TCP	AJP connector for Collector server	wae-web-server
8080	TCP	Hypertext Transfer Protocol	wae-web-server
8443	TCP	Hypertext Transfer Protocol Secure	wae-web-server
9090	TCP	Java Management Extension (JMX) monitoring port	wae-web-server

Automation Host Port Usage

Port	Protocol	Description	Use by Service
1499	TCP	Remote Method Invocation (RMI) registry port	wae-appenginecore
8104	TCP	Console SSH port	wae-appenginecore
8186	TCP	Web console	wae-appenginecore
44447	TCP	Remote Method Invocation (RMI) server port	wae-appenginecore
123	UDP	Network Time Protocol	wae-core
1299	TCP	Remote Method Invocation (RMI) registry port	wae-core
2022	TCP	Network Configuration Protocol (NETCONF)	wae-core
5007	TCP	Debug	wae-core
5701-5720	TCP	Communication between memory cache member and client	wae-core
7776	TCP	Jetty engine port	wae-core
7777	TCP	Representational State Transfer (ReST) interface	wae-core
8103	TCP	Console SSH port	wae-core
8183	TCP	Web console	wae-core
9898	TCP	Thrift interface	wae-core
44446	TCP	Remote Method Invocation (RMI) server port	wae-core
56017	TCP	Communication between memory cache members	wae-core
7000	TCP	Intra-node port non-TLS port	wae-db
7001	TCP	Intra-node TLS port	wae-db
7199	TCP	Java Management Extension (JMX) monitoring port	wae-db
9042	TCP	Query Language Native Transport port	wae-db
9160	TCP	Thrift interface	wae-db
8008	TCP	Web console	wae-demo
27017	TCP	Database web status	wae-demo
28017	TCP	Database daemon and database shard	wae-demo
1599	TCP	Remote Method Invocation (RMI) registry port	wae-designapiserver
8105	TCP	Console SSH port	wae-designapiserver
8187	TCP	Web console	wae-designapiserver
44448	TCP	Remote Method Invocation (RMI) server port	wae-designapiserver
8161	TCP	Web console	wae-messaging
11099	TCP	Java Management Extension (JMX) monitoring port	wae-messaging
61610	TCP	Java Message Service (JMS) New I/O (NIO)	wae-messaging
61614	TCP	Java Message Service (JMS) web socket	wae-messaging
61615	TCP	Java Message Service (JMS) message queue transport	wae-messaging
61616	TCP	Java Message Service (JMS) openwire transport	wae-messaging
179	TCP	Border Gateway Protocol	wae-osc
4189	TCP	Path Computation Element Communication Protocol (PCEP)	wae-osc
8101	TCP	Console SSH port	wae-osc
8181	TCP	Web console	wae-osc
44444	TCP	Remote Method Invocation (RMI) server port	wae-osc
2812	TCP	Service monitoring communication port	wae-svcs-client
7070	TCP	Log agent communication port	wae-svcs-client

For further details, please visit www.cisco.com/go/wae.

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