



System Requirements

Cisco WAE Release 6.3 – 6.3.11 System Requirements

Modification Date: 11/06/2017

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
macOS x86_64	10.8.5 - 10.13	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	5.10.1
	WAE Collector with WAE Design Archive	
	Stand-alone WAE Design	
Windows (64-bit)	Stand-alone WAE Design	5.12.3
macOS x86_64	Stand-alone WAE Design	5.12.3 – 5.18.2

Python Packages

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

Package	Required by Component
ansible 1.9 (ansible1.9-1.9.6-2.el6.1.noarch.rpm) Note: If Ansible 2.0+ exists on the system, it must be uninstalled prior to installation.	wae-platsvcs
bc	wae-dlc
coreutils	wae-db
createrepo	wae installer
cronie	wae installer
cronie-anacron	wae installer
crontabs	wae installer
cvs	wae-ni
cyrus-sasl	wae-dlc
cyrus-sasl-lib	wae-dlc
db4	wae-dlc
db4-utils	wae-dlc
deltarpm	wae installer
e2fsprogs-libs	wae-dlc
ed	wae-dlc
epel-release	general centos EPEL repo
expat	wae-dlc
fipscheck	wae installer
fipscheck-lib	wae installer
fontconfig	wae-dlc
freetype	wae-dlc
gettext	wae-ni
glibc	wae-dlc wae-messaging
gpg-pubkey	wae-installer
jdk 1.7	wae-ni wae-core
keyutils-libs	wae-dlc
krb5-libs	wae-dlc
libaio	wae-dlc
libdrm	wae-dlc
libedit	wae-installer
libgcc-4.x	wae-dlc
libgomp	wae-ni
libICE	wae-dlc
libselinux	wae-dlc
libselinux-python	wae-platsvcs
libSM	wae-dlc
libstdc++-4.x	wae-dlc
libX11	wae-dlc

Package	Required by Component
libXau	wae-dlc
libXdmcpc	wae-dlc
libXext	wae-dlc
libXfixes	wae-dlc
libXfont	wae-dlc
libxml2	wae-platsvcs
libxml2-python	wae-platsvcs
libXrender	wae-dlc
libXxf86vm	wae-dlc
libyaml	wae-installer
lm_sensors-libs	wae-demo
logrotate	wae-platsvcs
lsof	wae-platsvcs
mesa-dri1-drivers	wae-dlc
mesa-dri-drivers	wae-dlc
mesa-dri-filesystem	wae-dlc
mesa-libGL	wae-dlc
mesa-private-llvm	wae-dlc
ncurses-5.x	wae-dlc
net-snmp	wae-demo
net-snmp-libs	wae-demo
ntp	wae-ni wae-core
openldap	wae-dlc
openssh-5x	wae-installer
openssh-clients	wae-installer
openssh-server	wae-installer
pam	wae-dlc
perl	wae-demo
perl-libs	wae-demo
perl-Module-Pluggable	wae-demo
perl-Pod-Escapes	wae-demo
perl-Pod-Simple	wae-demo
perl-version-0.77	wae-demo
python	wae-platsvcs
python-argparse	wae-platsvcs
python-babel	wae-platsvcs
python-crypto	wae-platsvcs
python-crypto2.6	wae-platsvcs
python-deltarpm	wae-platsvcs
python-httplib2	wae-platsvcs

Package	Required by Component
python-jinja2	wae-platsvcs
python-libs	wae-platsvcs
python-paramiko	wae-platsvcs
python-pyasn1	wae-platsvcs
python-setuptools	wae-platsvcs
python-simplejson	wae-platsvcs
PyYAML	wae-platsvcs
rsync	wae-platsvcs
rsyslog	wae-platsvcs
screen	wae-dlc
sshpas	wae-platsvcs
sudo	wae-installer
tar	wae-installer
tcp_wrappers	wae-demo
ttmkfdir	wae-dlc
which	wae-installer
xorg-x11-fonts-Type1	wae-dlc
xorg-x11-font-utils	wae-dlc
yum-utils	wae-platsvcs

Planning Host Port Usage

Port	Protocol	Description	Use by Service
9088	TCP/UDP	MLD SQL Interface	wae-mlid
9089	TCP/UDP	MLD SQL Interface (Encrypted)	wae-mlid
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

Port	Protocol	Description	Use by Service
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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