McAfee Advanced Threat Defense 4.14.x Installation Guide

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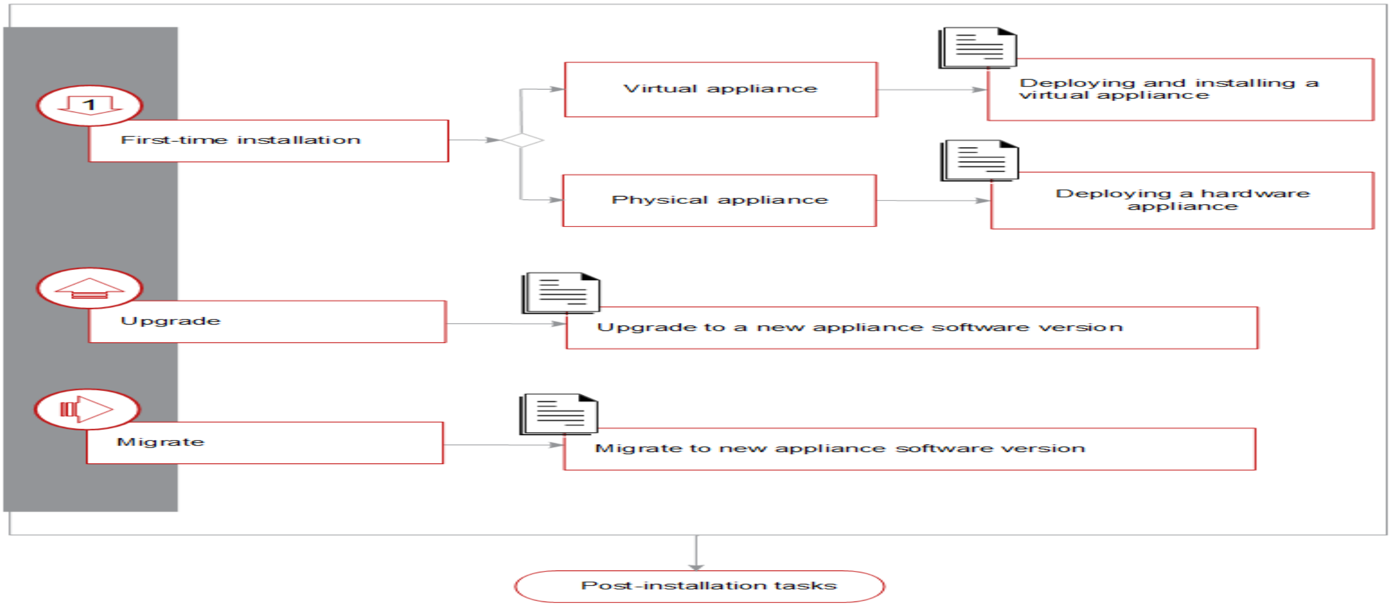
Installation overview

Which type of installation do you need?

McAfee Advanced Threat Defense is available in two form factors—On-premises physical appliance and Virtual.

Both on-premises and virtual McAfee Advanced Threat Defense come pre-installed. While on-premise come pre-installed on your new physical appliance, for virtual form factor, you are provided with an OVA file which you can deploy in your environment.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For more details about Installer package, see Installer package details.

Plan your deployment

You can deploy McAfee Advanced Threat Defense as standalone or integrated with other products.

- Standalone deployment — This is a simple way of deploying McAfee Advanced Threat Defense. In this case, it is not integrated with other externally installed McAfee products. When deployed as a standalone Appliance, you can manually submit the suspicious files using the McAfee Advanced Threat Defense web application. Or, you can submit the samples using an FTP client. This deployment option is used, for example, during the testing and evaluation phase, to fine-tune configuration, and to analyze suspicious files in an isolated network segment. Also, research engineers might use the standalone deployment option for detailed analysis of malware.
- Integration with Network Security Platform — This deployment involves integrating McAfee Advanced Threat Defense with Network Security Platform Sensor and Manager.

Based on how you have configured the corresponding Advanced Malware policy, an inline Sensor detects a file download and sends a copy of the file to McAfee Advanced Threat Defense for analysis. If McAfee Advanced Threat Defense detects a malware within a few seconds, the Sensor can block the download. The Manager displays the results of the analysis from McAfee Advanced Threat Defense.

If McAfee Advanced Threat Defense requires more time for analysis, the Sensor allows the file to be downloaded. If McAfee Advanced Threat Defense detects a malware after the file has been downloaded, it informs Network Security Platform, and you can use the Sensor to quarantine the host until it is cleaned and remediated. You can configure the Manager to update all Sensors about this malicious file. So, if that file is downloaded again anywhere in your network, your Sensors might block it.

For information about how to integrate Network Security Platform and McAfee Advanced Threat Defense, see the latest *Network Security Platform Integration Guide.*

- Integration with McAfee® Web Gateway — You can configure McAfee Advanced Threat Defense as another engine for antimalware protection. When your network user downloads a file, the native McAfee Gateway antimalware Engine on McAfee® Web Gateway scans the file and determines a malware score. Based on this score and the file type, McAfee® Web Gateway sends a copy of the file to McAfee Advanced Threat Defense for deeper inspection and dynamic analysis. A progress page informs your users that the requested file is being analyzed for malware. Based on the malware severity level reported by McAfee Advanced Threat Defense, McAfee® Web Gateway determines if the file is allowed or blocked. If it is blocked, the reasons are displayed for your users. You can view the details of the malware that was detected in the log file.

This design makes sure that only those files that require an in-depth analysis are sent to McAfee Advanced Threat Defense. This balances your users' experience in terms of download speed and security. For information about how to integrate McAfee Advanced Threat Defense and McAfee® Web Gateway, see the *McAfee® Web Gateway Product Guide,* version 7.4.

- Integration with McAfee® ePolicy Orchestrator (McAfee ePO) — This integration enables McAfee Advanced Threat Defense to retrieve information regarding the target host. Knowing the operating system on the target host, enables it to select a similar virtual environment for dynamic analysis.
  - Dynamic analysis requires the suspicious file to be executed for a specific time period. During this time, the malware is likely to have reached the intended target. You can then take the needed remedial steps to clean the affected host.
  - This integration also enables you to identify the other hosts detected by the same malware and take the appropriate remedial steps.

How the deployment options address the four major aspects of antimalware process cycle:

- Detection of file download: When a user accesses a file, the inline Network Security Platform Sensor or McAfee® Web Gateway detects this and sends a copy of the file to McAfee Advanced Threat Defense for analysis.
- Analysis of the file for malware: Even before the user fully downloads the file, McAfee Advanced Threat Defense can detect a known malware using sources that are local to it or on the cloud.
- Block future downloads of the same file: Every time McAfee Advanced Threat Defense detects a medium, high, or high severity malware, it updates its local black list.
- Identify and remediate affected hosts: Integration with Network Security Platform enables you to quarantine the host until it is cleaned up and remediated.

System requirements

Virtual system requirements

To ensure that your deployment is successful, your virtual systems must meet the minimum requirements.

Total number of virtual CPU and memory requirement depends on the number of deployments on the ESXi or Hyper-V servers.

Note

These are minimum resource requirements. Make sure that there is enough resource available when multiple virtual machines are running at the same time.

Requirement	Details
Hypervisor support	• VMware ESXi 5.5 server • VMware ESXi 6.0 server • VMware ESXi 6.5 server • VMware ESXi 6.7 server • VMware ESXi 7 server • Windows Server 2016 Standard (Server with GUI) • Windows Server 2016 Datacenter (Server with GUI)
VM file format	• Open Virtualization Appliance (OVA) • Hyper-V Virtual Hard disk (VHDX)
Virtual CPUs	per vATD — 16
Virtual Memory	Default 48 GB RAM
Virtual Disk	per vATD — 750 GB (VMware ESXi), 400 GB (Hyper-V)
Physical Network Interface	1 (E1000); You can configure 2 interfaces for a separate malware interface.
Virtual Network Interfaces	1 Management interface. You need to add a second virtual network interface manually, if a separate malware interface is required.

Requirement	Details
Physical system setting	Enable Virtualization Technology option in BIOS.

Note

To change the RAM allocated for existing vATD deployments from 32 GB to 48 GB, see KB94639. For new 4.12.0 OVA deployments, the memory allocated is 32 GB. To allocate additional memory, see KB94639.

Physical server requirements

To deploy McAfee Virtual Advanced Threat Defense (vATD) on explicit servers, make sure that your server meets these requirements.

Important

When CPU Hyper-threading is available, for each physical processor core, the operating system addresses two virtual (logical) cores and shares the workload between them. For example, the minimum core requirement for vATD is 16, with Hyper-threading, the 8 physical cores of the CPU is treated as 16 by the operating system.

On ESXi Servers

This is the minimum requirement for one vATD on VMware ESXi.

Number of vATD deployment	Number of physical CPU cores	RAM	Disc space	Network interfaces
1	8	48 GB	1 TB	2

Examples:

Number of vATD deployments	Number of physical CPU cores	RAM	Disc space	Network interfaces
2	16	96 GB	2 TB	2
4	32	192 GB	3.5 TB	2
8	64	384 GB	6.5 TB	2

On Hyper-V

This is the minimum requirement for one vATD on Microsoft Hyper-V.

Number of vATD deployment	Number of physical CPU cores	RAM	Disc space	Network interfaces
1	8	48 GB	1 TB	2

Examples:

Number of vATD deployments	Number of physical CPU cores	RAM	Disc space	Network interfaces
2	16	96 GB	2 TB	2
4	32	192 GB	3.5 TB	2
8	64	384 GB	6.5 TB	2

Web interface client requirements

To log on to the Advanced Threat Defense web interface, make sure that your client meets the requirements.

Supported operating systems

Operating system	Version
Microsoft Windows	• 7 32-bit Service Pack 1 • 7 64-bit Service Pack 1 • 8.0 Professional 32-bit • 8.0 Professional 64-bit • 8.1 • 10
Microsoft Windows Server	• 2003 32-bit Service Pack 1 and 2

Operating system	Version
	Note: The 2003 32-bit Service Pack 1 and 2 are not tested with ESXi 7. • 2008 R2 Service Pack 1 • 2012 • 2016

Supported browsers

Browser	Version
Internet Explorer	version 6 to 11.
Google Chrome	version 81.
Mozilla Firefox	version 54.0 to 76.

Cluster requirements

To create clusters of one or more Advanced Threat Defense Appliances, make sure your environment meets the requirements.

- Use the Advanced Threat Defense Appliance eth-0 interfaces, or management ports.
- For optimal performance, node eth-0 interfaces must be in the same layer-2 network of the OSI reference model.

Note

> When you set up a Virtual Advanced Threat Defense cluster, the Primary and Backup nodes must reside on same VMware EXSi server. The Secondary nodes can be on same or a different VMware EXSi server.

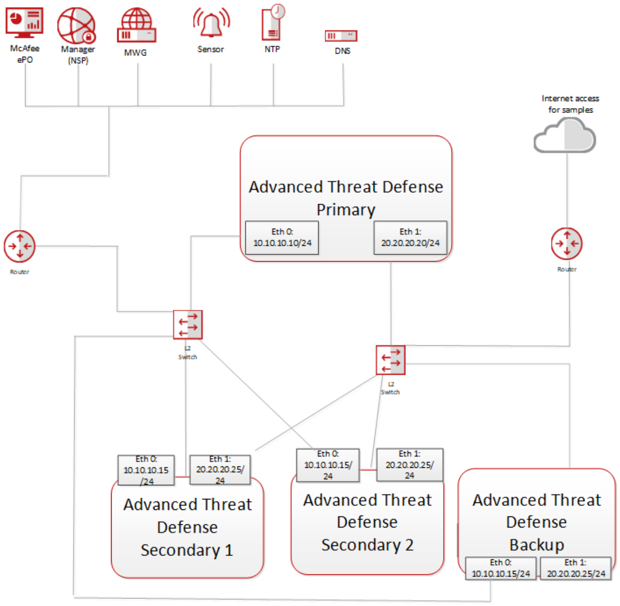
- All nodes must have the same:
  - Advanced Threat Defense software version
  - Analyzer VMs
  - McAfee Anti-Malware Engine DAT and engine versions
  - McAfee Gateway Anti-Malware Engine DAT and engine versions

Advanced Threat Defense cluster network connections

Eth-0 interface of the primary acts as the management interface of the cluster whereas the eth-0 of the secondary and backup node are used to exchange information with the primary.

The Backup node acts as a secondary node till the time the Primary node goes down for some reason and the Backup node takes the role of the primary node. The primary node load balances the files received on the eth-0 interface among the secondary nodes based on the number of files submitted to a node. A highly burdened node receives lesser number of samples for processing as opposed to a less burdened node. The primary node transfers files to be analyzed by the secondary node through the eth-0 interface and uses the same to retrieve results. When cluster configuration changes are made using the primary node, they are synchronized across the secondary nodes and the backup node through the eth-0 interface.

An example Advanced Threat Defense cluster deployment



In this example, eth-1 is used to provide network access to malware running on the analyzer VMs. This isolates the network traffic generated by malware from the production network to which eth-0 interfaces are connected.

A local database is maintained at the Primary node which lists the MD5 hash value along with corresponding node-id of the samples blacklisted by Advanced Threat Defense cluster node. Node-id is the primary identifier of a node that processes a particular sample. Whenever a sample is submitted to Advanced Threat Defense, the Primary node looks for an existing entry of this sample in its newly created database. If the MD5 hash value of a sample matches with an existing one in the database, this previously blacklisted sample is sent to the node based on the corresponding node-id of the sample. This approach ensures that every previously submitted, blacklisted sample reaches the node that analyzed it earlier, hence avoiding re-analysis of the blacklisted samples by any other node in the cluster.

Advanced Threat Defense determines the wait time for a submitted sample before it gets picked for analysis. The wait time is calculated based on the current sample analysis rate of the nodes. For samples submitted through MEG, a default threshold wait time of 780 seconds is allotted. Advanced Threat Defense rejects all the incoming samples from MEG until the wait time drops below this threshold value.

Analyzer VM requirements

McAfee Advanced Threat Defense uses secure virtual machines, or analyzer VMs, for dynamic analysis. During dynamic analysis, McAfee Advanced Threat Defense executes suspicious files in the analyzer VM, then monitors the file behavior for malicious activities.

To create the analyzer VM and VM profile, review the recommended requirements.

Note

- If you already have a VMDK or VHDX file, it must be a single file that contains all files required to create the VM.
- The platforms and other specifications listed here are based on McAfee test results.

Recommended RAM size

Operating system	RAM size (MB)
Microsoft Windows XP 32-bit (Service Pack 2 and 3)	512
Microsoft Windows 7 32-bit (Service Pack 1)	1024
Microsoft Windows 7 64-bit (Service Pack 1)	2048
Microsoft Windows 8 Professional 32-bit	2048
Microsoft Windows 8 Professional 64-bit	2048
Microsoft Windows 8.1 64-bit Enterprise (Update 1 version 6.3 build 9600)	2048
Microsoft Windows 8.1 64-bit Professional (Update 1 version 6.3 build 9600)	2048
Microsoft Windows 10 Enterprise 64-bit version 1511,1607,1703, 1909.18363.418 to 1909.18363.778, 20h2(19042.508 - 19042.746), and 21h1 (19043.1052 - 19043.1165)	3072
Microsoft Windows 10 Professional version 1607, 1803, 1809, 1903, 1909.18363.418 to 1909.18363.778 and 20h2(19042.508 - 19042.746), and 21h1 (19043.928 - 19043.1165)	3072
Microsoft Windows Server 2003 32-bit (Service Pack 1 and 2)	2048

Operating system	RAM size (MB)
Microsoft Windows Server 2008 R2 (Service Pack 1) Datacenter	2048
Microsoft Windows Server 2012 Datacenter	2048
Microsoft Windows Server 2012 R2 Standard	2048
Microsoft Windows Server 2012 R2 Datacenter	2048
Microsoft Windows Server 2016 Standard	2048
Microsoft Windows Server 2019 Standard	3072

Supported operating systems

To create an ISO image, Advanced Threat Defense supports the following operating systems.

Operating system	Version
Microsoft Windows	• XP 32-bit Service Pack 2 and 3 • 7 32-bit Service Pack 1 • 7 64-bit Service Pack 1 • 8 Professional 32-bit • 8 Professional 64-bit • 8.1 Enterprise (Update 1 version 6.3 build 9600) • 8.1 Professional (Update 1 version 6.3 build 9600) • 10 Enterprise 64-bit version 1511, 1607, 1703 ,1909.18363.418 to 1909.18363.778, and 20h2(19042.508 October, 2020 release 19042.746 January, 2021 release), and 21h1(19043.1052 - 19043.1165) • 10 Professional version 1607, 1803, 1809, 1903.18362.356, 1909.18363.418 to 1909.18363.778, and 20h2(19042.508 October, 2020 release19042.746 January, 2021 release), and 21h1(19043.928 - 19043.1165)

Operating system	Version
	Note: Win 10 1903, 1909 and 20h2(19042.508 - 19042.746), and 21h1 with mentioned build numbers have been validated. Make sure you use the supported versions for deployment. If you use the latest build of these versions, it is advised you validate them first as in case of major changes latest build may not work.
Microsoft Windows Server	• 2003 32-bit Service Pack 1 and 2 • 2008 R2 Service Pack 1 Datacenter • 2012 Standard • 2012 Datacenter • 2012 R2 Datacenter • 2012 R2 Standard • 2016 Standard • 2019 Standard
Android	• 2.3 • 4.3 • 5.2 **Note:** Android 2.3 or 4.3 are preinstalled on the Advanced Threat Defense Appliance.

If you are using a Microsoft Windows operating system, you must have the license key, and it must come in one of these languages:

- English
- Chinese Simplified
- Japanese
- German
- Italian
- Spanish
- French

Supported applications

Required applications

Application	Supported version	Supported languages
Internet Explorer	6, 7, 8, 9, 10, and 11	English, Chinese-Simplified, Japanese, German, and Italian.
Mozilla Firefox	all versions until 63.0	English, Chinese-Simplified, Japanese, German, and Italian.
Google Chrome	all versions until 70.0	All languages
Microsoft Office	2003, 2007, 2010, 2013, and 2016	English, Japanese
Microsoft Outlook	2010	English
Microsoft Edge	79 - 93 **Note:** Advanced Threat Defense supports Microsoft Edge only on Windows 10 OS.	English
JustSystems Ichitaro word processor	Government 8 and Pro 3 Recommended operating system: Microsoft Windows 7	Japanese
Adobe Flash Player software and plug-in	13	English
Adobe Flash Player plug-in only	32.0.0.238	English
Adobe Reader	• 9 • 10 • 11.0.23 • DC	English

Application	Supported version	Supported languages
jdk-7u25	• 32-bit on all 32-bit operating systems • 64-bit on all 64-bit operating systems	English
jre-7u25	• 32-bit on all 32-bit operating systems • 64-bit on all 64-bit operating systems	English
jdk-8u101	• 32-bit on all 32-bit operating systems • 64-bit on all 64-bit operating systems	English
jre-8u101	• 32-bit on all 32-bit operating systems • 64-bit on all 64-bit operating systems	English

Disk space

The minimum available disk space must be 200 MB. The maximum used total disk space must not exceed 30 GB.

The disk space affects the maximum number of VMs you can create.

Maximum VMs

The following table specifies the maximum number of VMs that you can create for each Microsoft Windows operating system. The number of VMs listed in the table is based on the assumption that the disk space occupied by Windows is not more than 22 GB.

Operating system	Minimum disk space occupied	ATD-3000 (Number of VMs)	ATD-6000 (Number of VMs)	ATD-3100 (Number of VMs)	ATD-6100 (Number of VMs)	ATD-3200 (Number of VMs)	ATD-6200 (Number of VMs)
Microsoft Windows 7 32-bit	12 GB	29	59	29	59	29	59
Microsoft Windows 7 64-bit	14 GB	29	59	29	59	29	59
Microsoft Windows 8	25–30 GB	29	59	29	59	29	59

Operating system	Minimum disk space occupied	ATD-3000 (Number of VMs)	ATD-6000 (Number of VMs)	ATD-3100 (Number of VMs)	ATD-6100 (Number of VMs)	ATD-3200 (Number of VMs)	ATD-6200 (Number of VMs)
Professional 32-bit							
Microsoft Windows 8 Professional 64-bit	25–30 GB	29	59	29	59	29	59
Microsoft Windows 8.1 Enterprise and Professional (Update 1 version 6.3 build 9600)	25–30 GB	29	59	29	59	29	59
Microsoft Windows 10 Enterprise 64-bit (version 1507, 1511, 1607, 1703, 1909.18363.418 to 1909.18363.778, 20h2(19042.508 - 19042.746), and 21h1(19043.1052 - 19043.1165))	25–30 GB	29	59	29	59	29	59
Microsoft Windows 10 Professional 64-bit (version 1607, 1803, 1809, 1903, 1909.18363.418	25–30 GB	29	59	29	59	29	59

Operating system	Minimum disk space occupied	ATD-3000 (Number of VMs)	ATD-6000 (Number of VMs)	ATD-3100 (Number of VMs)	ATD-6100 (Number of VMs)	ATD-3200 (Number of VMs)	ATD-6200 (Number of VMs)
to 1909.18363.778, 20h2(19042.508 - 19042.746), and 21h1(19043.928 - 19043.1165))							
Microsoft Windows Server 2008 64-bit Service Pack 1 Datacenter	14 GB	29	59	29	59	29	59
Microsoft Windows 2012 R2 Datacenter and Standard 64-bit	25–30 GB	29	59	29	59	29	59
Microsoft Windows 2016 Standard	25–30 GB	29	59	29	59	29	59
Microsoft Windows 2019 Standard	25–30 GB	29	59	29	59	29	59

Note

For better detection during bulk submission in Windows 10 20h2 (19042.xxx) and Windows 10 21h1 OS ,we recommend not to exceed number of VM licenses beyond 20 (for ATD-3000) and 15 (for ATD-3100).

Supported VM Provisioner Tool operating systems

To use the VM Provisioner Tool, you must use a supported operating system.

- Microsoft Windows 7 32-bit and 64-bit (Service Pack 1)
- Microsoft Windows 8 Professional 32-bit and 64-bit

- Microsoft Windows 8.1 64-bit Enterprise (Update 1 version 6.3 build 9600)
- Microsoft Windows 8.1 64-bit Professional (Update 1 version 6.3 build 9600)
- Microsoft Windows 10 Enterprise 64-bit version 1511, 1607, 1703 and 1909.18363.418 to 1909.18363.778, 20h2(19042.508 - 19042.746) and 21h1(19043.1052 - 19043.1165)
- Microsoft Windows 10 Professional 64-bit version 1607, 1803, 1809, 1903 and 1909.18363.418 to 1909.18363.778, 20h2(19042.508 - 19042.746), and 21h1(19043.928 - 19043.1165)
- Microsoft Windows Server 2008 R2 (Service Pack 1) Datacenter
- Microsoft Windows Server 2012 Datacenter
- Microsoft Windows Server 2012 R2 Datacenter
- Microsoft Windows Server 2012 R2 Standard
- Microsoft Windows Server 2016 Standard
- Microsoft Windows Server 2019 Standard

Plan your deployment

Before you set up the Advanced Threat Defense Appliance, verify that you have everything you need, and that your environment meets the minimum system requirements.

Hardware specifications

Before you set up the Advanced Threat Defense Appliance, review the hardware specifications.

Specification	ATD-3200	ATD-6200
Packaging Dimension	Length = 38", Width = 24", Height = 8"	Length = 38", Width = 24", Height = 8"
Chassis	Intel R1208WFTYSR (Wolf Pass)	Intel R1208WFTYSR (Wolf Pass)
Chassis Dimension	Length = 28", Width = 17.3", Height = 1.8"	Length = 28", Width = 17.3", Height = 1.8"
Packaged Weight	21 Kg (46.5 lbs)	22 Kg (48.5 lbs)
Form Factor	1U rack mountable; fits 19-inch rack	1U rack mountable; fits 19-inch rack
Motherboard	S2600WFTR	S2600WFTR
CPU	2 x Xeon Scalable Silver 4210, 2.20 GHz Base, 13.75MB cache, 10 Cores	2 x Xeon Scalable Gold 6230, 2.10 GHz Base, 27.5MB cache, 20 Cores

Specification	ATD-3200	ATD-6200
Storage	• Disk space HDD: 4 x 1.2 TB, SAS, 12 GB/s, 10K RPM, 2.5", Raid-5 • SSD: 2 x Enterprise grade 480 GB, SATA, 2.5", Raid-0	• Disk space HDD: 6 x 1.2 TB, SAS, 12GB/s, 10K RPM, 2.5", Raid-5 • SSD: 2 x Enterprise grade 960 GB, SATA, 2.5", Raid-0
Memory	16 x 16 GB DDR4 2933 MHz ECC	16 x 32 GB DDR4 2933 MHz ECC
Remote Management	RMM4LITE2	RMM4LITE2
Power Supply	1100 W redundant	1100 W redundant
Network Interfaces (Copper)	Dual Integrated 10 GB/1 GB/100 MB and Dual 10 GB/1 GB/100 MB Module	Dual Integrated 10 GB/1 GB/100 MB and Dual 10 GB/1 GB/100 MB Module

Specification	ATD-3100	ATD-6100
Packaging Dimension	Length = 38", Width = 24", Height = 7"	Length = 38", Width = 24", Height = 7"
Chassis	Intel R1208WTTGSR (Wildcat Pass)	Intel R1208WTTGSR (Wildcat Pass)
Chassis Dimension	Length = 28", Width = 17.3", Height = 1.7"	Length = 28", Width = 17.3", Height = 1.7"
Packaged Weight	22.7 Kg (50 lbs)	22.7 Kg (50 lbs)
Form Factor	1U rack mountable; fits 19-inch rack	1U rack mountable; fits 19-inch rack
Motherboard	S2600WTT	S2600WTT
CPU	2 x E5-2609v4, 1.7 GHz, 20M cache, 8 Cores	2 x E5-2695v4, 2.1 GHz, 45M cache, 18 Cores
Storage	• Disk space HDD: 4 x 1.2 TB, SAS, 12 GB/s, 10K RPM, 2.5", Raid-5	• Disk space HDD: 6 x 1.2 TB, SAS, 12GB/s, 10K RPM, 2.5", Raid-5

Specification	ATD-3100	ATD-6100
	- SSD: 2 x Enterprise grade 400 GB, 2.5", Raid-0	- SSD: 2 x Enterprise grade 800 GB, 2.5", Raid-0
Memory	16 x 16 GB DDR4 2400 MHz ECC	16 x 32 GB DDR4 2400 MHz ECC
Remote Management	RMM4LITE2	RMM4LITE2
Power Supply	750 W redundant	750 W redundant
Network Interfaces (Copper)	Dual Integrated 10 GB/1 GB/100 MB and Dual 10 GB/1 GB/100 MB Module	Dual Integrated 10 GB/1 GB/100 MB and Dual 10 GB/1 GB/100 MB Module

Specification	ATD-3000	ATD-6000
Packaging Dimension	Length = 38", Width = 24", Height = 7"	Length = 36", Width = 24", Height = 7"
Chassis	R1304GZ4GC	R2304LH2HKC
Chassis Dimension	Length = 29", Width = 17.25", Height = 1.7"	Length = 29", Width = 17.25", Height = 3.43"
Packaged Weight	15 Kg (33 lbs)	22.7 Kg (50 lbs.)
Form Factor	1U rack mountable; fits 19-inch rack	2U rack mountable; fits 19-inch rack
Motherboard	S2600GZ4	S4600LH2
CPU	2 x E5-2658, 2.10 GHz, 20M Cache, 8 Cores	4 x E5-4640, 2.40 GHz, 20M Cache, 8 Cores
Storage	- Disk space HDD: 2 x 4 TB - SSD: 2 x 400 GB	- Disk space HDD: 4 x 4 TB - SSD: 2 x 800 GB
Memory	192 GB	256 GB

Specification	ATD-3000	ATD-6000
Remote Management	RMM4R	RMM4
Power Supply	2x 750 W, AC redundant, hot swappable	2x 1600 W, AC redundant, hot swappable
Network Interfaces (Copper)	Dual Integrated 10 GB/1 GB/100 MB and Dual 10 GB/1 GB/100 MB Module	Dual Integrated 10 GB/1 GB/100 MB and Dual 10 GB/1 GB/100 MB Module

System environmental limits

These are the system environmental limits for the Advanced Threat Defense Appliance.

Parameter	State or category	ATD-3200 and ATD 6200	ATD-3100 and ATD 6100	ATD-3000	ATD-6000
Temperature	**Operating**	• **ASHRAE Class A2** — Continuous Operation, 10º C to 35º C (50º F to 95º F) with the maximum rate of change not to exceed 10 C per hour • **ASHRAE Class A3** — Includes operation up to 40º C for up to 900 hours per year • **ASHRAE Class A4** — Includes operation up to 45º C for up	• **ASHRAE Class A2** — Continuous Operation, 10º C to 35º C (50º F to 95º F) with the maximum rate of change not to exceed 10 C per hour • **ASHRAE Class A3** — Includes operation up to 40º C for up to 900 hours per year • **ASHRAE Class A4** — Includes operation up to 45º C for up	+10°C to +35° C (+50°F to + 95°F) with the maximum rate of change not to exceed 10°C per hour	+10º C to +35º C (+50ºF to +95ºF) with the maximum rate of change not to exceed 10°C per hour

Parameter	State or category	ATD-3200 and ATD 6200	ATD-3100 and ATD 6100	ATD-3000	ATD-6000
		to 90 hours per year	to 90 hours per year		
	Shipping	-40º C to 70º C (-40º F to 158º F)	-40º C to 70º C (-40º F to 158º F)	-40°C to +70°C (-40°F to +158°F)	-40°C to +70°C (-40°F to +158°F)
Altitude	**Operating**	Support operation up to 3050 meters (10,000 feet) with ASHRAE class deratings	Support operation up to 3050 meters (10,000 feet) with ASHRAE class deratings	Support operation up to 3050 meters (10,000 feet)	Support operation up to 3050 meters (10,000 feet)
Humidity	**Shipping**	50% to 90%, non-condensing with a maximum wet bulb of 28°C (at temperatures from 25°C to 35°C)	50% to 90%, non-condensing with a maximum wet bulb of 28°C (at temperatures from 25°C to 35°C)	• **Operational** — 10% to 90% • **Non-operational** — 90% at 35°C	• **Operational** — 10% to 90% • **Non-operational** — 50% to 90% with a maximum wet bulb of 28°C (at temperatures from 25°C to 35°C)
Shock	**Operating**	Half sine, 2 g peak, 11 milliseconds	Half sine, 2 g peak, 11 milliseconds	Half sine, 2 g peak, 11 milliseconds	Half sine, 2 g peak, 11 milliseconds
	Unpackaged	Trapezoidal, 25 g, velocity change is based on packaged weight	Trapezoidal, 25 g, velocity change is based on packaged weight	Trapezoidal, 25 g, velocity change 136 inches/ second (□40 lbs to < 80 lbs)	Trapezoidal, 25 g, velocity change is based on packaged weight
	Packaged	International Safe Transit Association (ISTA) Test	International Safe Transit Association (ISTA) Test	Non-palletized free fall in height 24 inches (□40 lbs to < 80 lbs)	• Product Weight: ≥ 40 to < 80

Parameter	State or category	ATD-3200 and ATD 6200	ATD-3100 and ATD 6100	ATD-3000	ATD-6000
		Procedure 3A 2008	Procedure 3A 2008		• Non-palletized Free Fall Height = 18 inches • Palletized (single product) Free Fall Height = NA
Vibration	**Unpackaged**	5 Hz to 500 Hz, 2.20 g RMS random	5 Hz to 500 Hz, 2.20 g RMS random	5 Hz to 500 Hz, 2.20 g RMS random	5 Hz to 500 Hz, 2.20 g RMS random
	Packaged	International Safe Transit Association (ISTA) Test Procedure 3A 2008	International Safe Transit Association (ISTA) Test Procedure 3A 2008		5 Hz to 500 Hz, 1.09 g RMS random
AC-DC	**Voltage**	ATD-3200 • 115V - 5.4 Amps • 220V - 2.7 Amps ATD-6200 • 115V -6.7 Amps • 220V -3.4 Amps	ATD-3100 • 115V - 5.4 Amps • 220V - 2.7 Amps ATD-6100 • 115V -6.7 Amps • 220V -3.4 Amps	100 - 240 V at 5.8 Amps	100 - 240 V. 8.5 Amps
	Frequency	47 Hz to 63 Hz	47 Hz to 63 Hz	50 - 60 Hz	50 - 60 Hz
	Source Interrupt	No Loss of data for power line	No Loss of data for power line drop-out of 12 milliseconds		

Parameter	State or category	ATD-3200 and ATD 6200	ATD-3100 and ATD 6100	ATD-3000	ATD-6000
		drop-out of 12 milliseconds			
	Surge (Operating and non-operating)	Unidirectional	Unidirectional		
	Line to earth Only	• AC Leads — 2.0 kV • I/O Leads — 1.0 kV • DC Leads — 0.5 kV	• AC Leads — 2.0 kV • I/O Leads — 1.0 kV • DC Leads — 0.5 kV		
ESD	**Air Discharged**	12.0 kV	12.0 kV	+/-12 KV except I/O port +/- 8 KV per Intel® Environmental test specification	12.0 kV
	Contact Discharge	8.0 kV	8.0 kV		8.0 kV
Acoustic noise	**Power level <300 W**	7.0 BA	7.0 BA	Sound power: 7.0 BA in operating conditions at typical office ambient temperature (23 +/- 2 degrees C)	Sound power: 7.0 BA in operating conditions at typical office ambient temperature (23 +/- 2 degrees °C)
	Power level >300 W				
	Power level >600 W				
	Power level >1000 W				

Parameter	State or category	ATD-3200 and ATD 6200	ATD-3100 and ATD 6100	ATD-3000	ATD-6000
Certifications	**Safety certification**			UL 1950, CSA-C22.2 No. 950, EN-60950, IEC 950, EN 60825, 21CFR1040 CB license and report covering all national country deviations	UL 1950, CSA-C22.2 No. 950, EN-60950, IEC 950, EN 60825, 21CFR1040 CB license and report covering all national country deviations
	EMI certification			FCC Part 15, Class A (CFR 47) (USA) ICES-003 Class A (Canada), EN55022 Class A (Europe), CISPR22 Class A (Int'l)	FCC Part 15, Class A (CFR 47) (USA) ICES-003 Class A (Canada), EN55022 Class A (Europe), CISPR22 Class A (Int'l)

Default ports used in Advanced Threat Defense communication

The Advanced Threat Defense Appliance uses many ports for network communications.

Client	Server	Default port	Configurable	Description
Any (desktop and REST API client)	Advanced Threat Defense	TCP 443 (HTTPS)	No	Access the Advanced Threat Defense web interface and REST API client.
Any (desktop)	Advanced Threat Defense	TCP 6080 (HTTPS)	No	For VM activation process and X-mode.

Client	Server	Default port	Configurable	Description
Any (FTP client)	Advanced Threat Defense	TCP 21 (FTP)	No	Access the FTP servers on Advanced Threat Defense.
Any (SFTP client)	Advanced Threat Defense	TCP 22 (SFTP)	No	Access the SFTP servers on Advanced Threat Defense.
Sensor	Advanced Threat Defense	TCP 8505	No	Communication channel between a Sensor and Advanced Threat Defense.
Manager	Advanced Threat Defense	TCP 443 (HTTPS)	No	Communication between the Manager and Advanced Threat Defense through the RESTful APIs.
Advanced Threat Defense	McAfee ePO	TCP 8443	Yes	Host information queries.
Advanced Threat Defense	tunnel.web.trustedsource.org	TCP 443 (HTTPS)	No	File Reputation queries.
Advanced Threat Defense	List.smartfilter.com	TCP 80 (HTTP)	No	URL updates.
Advanced Threat Defense	All DXL Brokers in your environment	TCP 8883 (HTTP)	No	DXL connection from ATD to DXL broker
Advanced Threat Defense	All McAfee ePO in your environment	TCP 443 (HTTP)	No	McAfee Agent on ATD gets DXL certificates from McAfee ePO

Client	Server	Default port	Configurable	Description
Advanced Threat Defense (DAT updates)	wpm.webwasher.com wpm1-2.webwasher.com wpm1-3.webwasher.com wpm1-4.webwasher.com wpm-usa.webwasher.com wpm-usa1.webwasher.com wpm-usa2.webwasher.com wpm-asia.webwasher.com tau.mcafee.com tau1-2.mcafee.com tau1-3.mcafee.com tau1-4.mcafee.com tau-usa.mcafee.com tau-usa1.mcafee.com tau-usa2.mcafee.com tau-manual.mcafee.com tau-ldv1.securelabs.webwasher.com tau-ldv2.securelabs.webwasher.com tau-ldv3.securelabs.webwasher.com tau-europe.mcafee.com tau-dnv1.securelabs.webwasher.com tau-dnv2.securelabs.webwasher.com tau-dnv3.securelabs.webwasher.com tau-asia.mcafee.com tau-asia1.mcafee.com rpns.mcafee.com	TCP 443 (HTTPS)	No	Updates for McAfee Gateway Anti-Malware Engine and McAfee Anti-Malware Engine.

Client	Server	Default port	Configurable	Description
	mwg-update.mcafee.com asia.tau.mcafee-cloud.com europe.tau.mcafee-cloud.com usa.tau.mcafee-cloud.com			
Advanced Threat Defense (Software updates)	atdupdate.mcafee.com	TCP 443 (HTTPS)	No	Updates for the Advanced Threat Defense software. The update includes new detection and application package.
Advanced Threat Defense (Telemetry)	atd.rest.gti.mcafee.com	TCP 443 (HTTPS)	No	Sends telemetry data to McAfee. For information on what data is sent, see Configure telemetry in *McAfee Advanced Threat Defense Installation Guide*.
Any (SSH client)	Advanced Threat Defense	TCP 2222 (SSH)	No	CLI access.

Warnings and cautions

Read and follow these safety warnings when you install the Advanced Threat Defense Appliance.

⚠ **Caution**

Failure to observe these safety warnings could result in serious physical injury.

Power Supply

- The push-button on/off power switch on the front panel of the Advanced Threat Defense Appliance does not turn off the AC power. To remove AC power from the Advanced Threat Defense Appliance, you must unplug the AC power cord from either the power supply or wall outlet for both the power supplies.
- If you press the push-button on/off power switch on the front panel of the Advanced Threat Defense Appliance while the appliance is running, it shuts down. If you want to power off the appliance, use CLI command — shutdown, then after the system halts—press the power button until the appliance turns off.

- The power supplies in your system might produce high voltages and energy hazards, which can cause bodily harm. Only trained service technicians are authorized to remove the covers and access any of the components inside the system.
- Hazardous electrical conditions might be present on power, telephone, and communication cables. Turn off the Advanced Threat Defense Appliance and disconnect telecommunications systems, networks, modems, and both the power cords attached to the Advanced Threat Defense Appliance before opening it. Otherwise, personal injury or equipment damage can result.
- This equipment is intended to be grounded. Ensure that the host is connected to earth ground during normal use.
- To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables.

Avoid Injuries

Lifting the Advanced Threat Defense Appliance and attaching it to the rack is a two-person job.

Appliance outer shell

- Do not remove the outer shell of the Advanced Threat Defense Appliance. Doing so invalidates your warranty.
- Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place. The faceplates and cover panels prevent exposure to hazardous voltages and currents inside the chassis. The components might produce high electromagnetic interference (EMI) that might disrupt other nearby equipment.
- Ensure that the appliance is placed in such a manner that flow of cooling air through the chassis is not blocked.

Deployment checklist

To make sure that your network is ready to set up Advanced Threat Defense, review the deployment checklist.

Determine...	Verified
If you environment meets all of the minimum requirements	
The location that you want to install the Advanced Threat Defense Appliance and familiarized yourself with the network access card ports and connectors	
That you have the following information to configure the Advanced Threat Defense Appliance: • IPv4 address that you want to assign to the Advanced Threat Defense Appliance • Network mask • Default gateway address	
The type of installation that is best for your network: • Standalone	

Determine...	Verified
• Virtual • Cluster	
Which users you want to assign administrator permissions	
If you plan to use Advanced Threat Defense with any compatible McAfee product	

Pre-installation tasks

Installing the OS, software, and Email Connector

Your Advanced Threat Defense Appliance comes pre-installed with an operating system and Advanced Threat Defense software. Email Connector is not pre-installed and you need to install it separately.

Operating system and Advanced Threat Defense software for your appliance

You can install Advanced Threat Defense or Virtual Advanced Threat Defense 4.14.0 through:

- **A clean install**—Installs Operating system and Advanced Threat Defense 4.14.0 software. You'd use ATD_installer. 4.14.0.xxxxx.x86_64.iso.

Note

> - For Virtual Advanced Threat Defense, you can download the appliance installation files for your respective hypervisor from the download site.
> - If you are using an Advanced Threat Defense version 4.8.x or older, you need to upgrade to 4.10.x and then upgrade to 4.14.x using migration 4.14.x.x.xxxxxx.msu.

These are the possible upgrade paths from your current version of the McAfee Advanced Threat Defense software to the latest version.

Starting McAfee Advanced Threat Defense version	Upgrade Path
4.6.x	4.6.x » 4.10.0 » 4.14.0
4.8.x	4.8.x » 4.12.0 » 4.14.0
4.10.x	4.10.x » 4.14.0
4.12.x	4.12.x » 4.14.0

Email Connector

Email Connector protects you from email borne threats by analyzing email attachments through Advanced Threat Defense.

Important

> Email Connector is not installed by-default when you install Advanced Threat Defense.

To install Email connector:

- Download the Email connector installer from the download site.
- SFTP the installer to your appliance.
- Install Email connector.

Download the product files

Download the Advanced Threat Defense product files from McAfee Downloads page.

Task

1. Go to the McAfee Downloads page.
2. Enter the **Grant Number**, the letters or numbers displayed, then click **Submit**.
3. Click **Network Security Reseller Support** → **Advanced Threat Defense Software**.
4. Click and download the installation files to your client computer.

Installer package details

Review and identify the packages you would use while installing the Operating system, Advanced Threat Defense software, and Email Connector.

Installer package name	Description
migration-4.14.x.xx.xxxxx.msu	Advanced Threat Defense migration package. This package installs the Advanced Threat Defense software on your **ATD-3000/3100/3200** or **ATD-6000/6100/6200** appliances or virtual appliance. **Note:** • This package does not install Email Connector by-default. • Advanced Threat Defense 4.14 is not available for Microsoft Azure. The latest version of Advanced Threat Defense on Azure is 4.2.x. For more information, refer the migration guide.
ATD_installer.4.14.x.xxxxx.x86_64.iso	Operating System installation package. This package does a clean install of the Operating System for your appliance followed by System.msu upgrade to bring Advanced Threat Defense in 4.14.0.

Installer package name	Description
	For more information, see: • For on-premises or direct install – *Install the OS to your appliance* • For install using RMM – *Install the OS to your appliance remotely using RMM*
vATD-MIO- 4.14_x_xx-xxxxx-xxxxx.ova	Virtual Advanced Threat Defense installation package for VMWare ESXi. Use this package to deploy a new Virtual Advanced Threat Defense 4.14 on your VMWare ESXi server. **Note:** This package does not install Email Connector by-default.
hvATD-MIH- 4.14_x_xx-xxxxx-xxxxx.zip	Virtual Advanced Threat Defense installation package for HyperV. Use this package to deploy a new Virtual Advanced Threat Defense 4.14 on your HyperV server. **Note:** This package does not install Email Connector by-default.

Upgrade the software

Upgrade the Advanced Threat Defense software and Android analzyer VM to the latest versions.

When you upgrade the Advanced Threat Defense software:

- You are unable to use the system.msu files to downgrade the Advanced Threat Defense software.
- OpenSSL automatically upgrades.

Upgrade your Advanced Threat Defense software

With every new release, Advanced Threat Defense is optimized for improved performance. Upgrade your Advanced Threat Defense software to the latest version.

Note

Advanced Threat Defense 4.14 is not available for Microsoft Azure.

For more information, refer the migration guide.

Upgrade your Advanced Threat Defense using Web-Interface or Command Line Interface.

Web-Interface

Task

1. Use an SFTP client, such as Filezilla, to log on to the Advanced Threat Defense Appliance.
   Log on as the atdadmin user.
2. Upload migration-4.14.x.x.xxxxxx.msu to the Advanced Threat Defense root directory:
   Make sure that the transfer mode is binary.
3. Use the following to upgrade the Advanced Threat Defense software, then repeat these steps to upgrade the Android analyzer VM.
   a. Log on to the Advanced Threat Defense web interface as the administrator.
   b. Click **Manage** → **Image & Software** → **Software**.
   c. From the **System Software** drop-down list, select the file.
   d. Make sure that **Reset Database** is deselected, then click **Install**.
   e. On the installation **Status** message, click **OK**.
      If you are unable to view the installation **Status** message, delete the browser cache.
      The installation takes a minimum of 20 minutes. It can take more than 20 minutes depending upon the number of sample analysis records present in Advanced Threat Defense and it should not be interrupted.

      When the installation completes, the Advanced Threat Defense Appliance restarts.

   f. On the reboot **Status** message, click **OK**.

If you are unable to view the reboot **Status** message, delete the browser cache.

4. When the Advanced Threat Defense Appliance starts, log on to the CLI and verify the software version.
5. Log on to the Advanced Threat Defense web interface and verify the following.
    - Software version
    - All data and configuration settings are transferred from the previous Advanced Threat Defense installation
6. Click **Dashboard**, then verify that the **VM Creation** status is **Successful** on the **VM Status** monitor.
   Advanced Threat Defense automatically re-creates all analyzer VMs. The amount of time it takes to re-create the analyzer VMs depends on the number of analyzer VMs configured in Advanced Threat Defense.

Command Line Interface

You can upgrade Advanced Threat Defense from CLI using the below command as well:

```
install msu <migration-4.14.x.x.msu> <dbreset>
```

`DBreset=1` : Database will be reset.

`DBreset=0` : Database will be preserved.

Note

You may use this command to observe the progress of installation until it is completed and device goes for reboot.

Upgrade the software incrementally

Upgrade the Advanced Threat Defense software to an available patch version.

This application software upgrade option provides an incremental upgrade of the software to an available patch version. For a complete upgrade of the software, you need to download the software from the **McAfee Downloads** page. See the respective sections for detailed instructions on the tasks.

Note

Upgrading the application software also upgrades the detection packages. You would not see any previously installed detection packages after this upgrade. Also, the system services and system might restart during the application software upgrade process.

When updates are available for the application software and detection software package, notification messages appear in the toolbar of the Advanced Threat Defense interface.

Automatically download the latest application software package

Automatically download and install the latest content updates in Advanced Threat Defense Appliance.

Task

1. Log on to the Advanced Threat Defense web interface, then do one of these to access the **Content Updates** page.
    - Click **Click to Update Software** from the header.

      Note

      When multiple notifications are available, select **Click to Update Software** from the list of notifications.

    - Click **Manage** → **Image & Software** → **Content Update**.
2. Under **Automatic Update**, select **Application Software**, then click **Apply**.
3. Select the **Application Software** tab, then click **Install** against the available software version.
   A confirmation message appears before the installation starts. All Advanced Threat Defense services are restarted. Once the process is complete, a status message appears that provides information about a successful upgrade and a suggestion to log on again to the Advanced Threat Defense interface.
4. Log on to the Advanced Threat Defense interface again, then validate whether the upgrade was successful.
    - From the header on Advanced Threat Defense interface, .
    - Verify that the version is listed as **Current**: Click **Manage** → **Image & Software** → **Content updates**, then click the **Application Software** tab.

   In case of any issues with the upgrade, click **Revert** to reverse the software to the previous backed-up version. You won't see the **Revert** option if Advanced Threat Defense software has been upgraded using system.msu.

Manually upload the latest application software package

Manually upload and install the latest content updates in Advanced Threat Defense.

Advanced Threat Defense allows you to import a maximum of two versions of the application software. The latest uploaded version is the **Current** upload by default, and renders the previous upload as **Backup**.

Task

1. Log on to the Advanced Threat Defense web interface.
2. Click **Manage** → **Image & Software** → **Content Update**.
3. To download the application software package, contact Support.

4. On the **Content Updates** page, click **Browse**, then select the application software package.
5. Click **Upload**.

   To reinstate the **Backup** file as the **Current** file, click **Revert**.

Upgrade the Android analyzer VM

Using the Advanced Threat Defense web application, you can upgrade the Android analyzer VM.

Task

1. Log on to the Advanced Threat Defense Appliance using an SFTP client such as FileZilla.

   Log on as the atdadmin user.
2. Using SFTP, upload the Android MSU file to the root directory of Advanced Threat Defense.

   Tip

   Make sure that the transfer mode is binary.

3. After the file is uploaded, log on to the Advanced Threat Defense web application as the admin user and select **Manage** → **Software Management**.
4. Under System Software, select the Android MSU file, then click **Install**.

   Note

   Ensure that **Reset Database** is not selected.

5. Click **OK** on the confirmation message.

   Advanced Threat Defense web application closes logs out automatically and the status of the installation is displayed in the browser.

   - It takes a minimum of 20 minutes for the system software installation to complete.
   - If you are not able to view these messages, clear the browser cache.
   - When you upgrade Android, the default Android analyzer VM is automatically re-created. This process might take a few minutes to complete.
6. Log on to the web application, and select **Manage** → **System Log.**
7. In the **System Log** page, verify that the vmcreator task is successfully completed for the Android analyzer VM.

View the Upgrade log

To upgrade the McAfee Advanced Threat Defense software version, view the upgrade path and version history logs.

Sample upgrade log

The upgrade log displays details such as the current software version, the previous software version, and system details.

```
Application package     [4.14.0.1]      installed on    [2021-11-03T07:29:42+0000]
Detection package       [4.14.0.201030]         installed on    [2020-11-03T07:29:59+0000]
---------------------------------------------------
Tue Nov  3 07:34:43 UTC 2020 Following version of software are installed
amas build version: 4.14.0.1.908cef
buildscript version: 4.14.0.1.908cef-4.12.0
avlabS-xp-v3-4.14.0.1.908cef.msi
avlabS-64-v3-4.14.0.1.908cef.msi
---------------------------------------------------
```

To view the Upgrade logs, log on to the McAfee Advanced Threat Defense and go to **Manage** → **Logs** → **Upgrade.**.

Install the software

Fresh installation of Advanced Threat Defense

Install the Operating system and ATD software to your appliance

You can do a clean install of Advanced Threat Defense on your appliance. The clean install begins with installing the operating system.

Before you begin

Ensure that all previous ISOs and MSUs are removed from the SFTP directory of your Advanced Threat Defense. Use an FTP client to log on to your Advanced Threat Defense to remove these legacy files.

Task

1. Download the operating system installer and transfer it to a USB storage device. To download the installer, follow these steps:
    a. Log on to https://secure.mcafee.com/apps/downloads/my-products/login.aspx?region=us.
    b. Enter your grant number and the captcha, then click **Submit**.
    c. Download the Installer which will do both Operating system and Advanced Threat Defense software installation.
    ATD Installer: **ATD_installer. 4.14.x.xxxxx.x86_64.iso**
2. Make the USB storage device bootable and connect it the Advanced Threat Defense Appliance. To make your USB storage device bootable, follow these steps:
    a. Connect your USB storage device to your Linux system.

    Tip

    - Minimum required capacity of the USB Storage Device is 4 GB.
    - Recommended Linux distributions are CentOS Linux 6.5 or Red Hat Enterprise Linux 7.

    b. Identify your USB storage device. Use the `dmesg` command to identify your USB storage device.

    ```
    dmesg | grep sd
    ```

    The command returns a list of all connected devices on your system.
    c. Format your USB storage device. Use the `dd` command to format your USB storage device.

    ```
    dd if=/dev/zero of=/dev/sdX count=1234
    ```

Note

Replace `/dev/sdX` with the device name as reported by the `dmesg` command earlier.

d. Copy the operating system ISO image to your Linux system.

e. Write the operating system ISO image to your USB storage device. Use the `dd` command to write the image to your USB storage device.

```
dd if=<OS Installer Location> of=/dev/sdX bs=4M && sync
```

Replace `<OS Installer Location>` with the full path to the ISO image file you downloaded, `sdX` with the device name as reported by the `dmesg` command earlier.

3. Connect the USB Storage Device to your Advanced Threat Defense appliance. Connect your RMM terminal or Advanced Threat Defense Monitor Console and keyboard to your Advanced Threat Defense appliance, then reboot your appliance using the `reboot` command.
4. At the time of reboot, press **F6** on the keyboard to enter the boot menu.
5. From the boot device selection prompt, use the up or down arrow keys on the keyboard to select your USB storage device, then press **Enter**.

   The operating system installation begins from the USB storage device.

   Important

   Installer prompts you to take backup of your data or to proceed with a clean install. Since this is a clean install, any inputs to back up your data will fail. If you want to back up your data, we recommend you follow the migration procedure. For more information, see *McAfee Advanced Thereat Defense Migration Guide*.

6. Click **Cancel** to cancel the backup prompt, then click **Yes** to confirm to proceed with a clean install.

   Note

   The backup prompt screen times out in 120 seconds. If you do not provide any inputs with in the given time, the backup is initiated by default.

Results

The operating system installation now begins. Your appliance will reboot during the course of installation.

Once the operating system installation is complete, system.msu installation will begin automatically. Once the installation is complete, user will see Log on screen in the appliance.

Note

You should refrain from interacting with Console until you see the logon prompt. This is applicable for both USB and RMM methods.

Setting up Advanced Threat Defense IP

Once the Operating system and system.msu installations are complete, you can assign the IP to your appliance.

Task

1. Log on to the Advanced Threat Defense Command-line Interface using the default username: `cliadmin` and password: `atdadmin`.
2. If you have not configured your IP address and Gateway, set them for you appliance with these commands:
    - To set the IP Address

    ```
    set appliance ip <xxx.xxx.xxx.xxx> <xxx.xxx.xxx.xxx.>
    ```

    - To set the gateway

    ```
    set appliance gateway <xxx.xxx.xxx.xxx>
    ```

    For more information on these commands, see *McAfee Advanced Threat Defense Product Guide*.
3. Post IP assignment, log on to your Advanced Threat Defense web interface to verify the software version.

Install the operating system to your appliance remotely using RMM

You can choose to install the operating system remotely to your appliance using RMM.

Before you begin

Ensure that all previous ISOs and MSUs are removed from the SFTP directory of your Advanced Threat Defense. Use an FTP client to log on to your Advanced Threat Defense to remove these legacy files.

Task

1. Download the operating system installer. To download the installer, follow these steps:
    a. Log on to https://secure.mcafee.com/apps/downloads/my-products/login.aspx?region=us.
    b. Enter your grant number and the captcha, then click **Submit**.
    c. Download the installer which will do both Operating system and Advanced Threat Defense software installation. ATD Installer: ATD_installer. 4.14.x.xxxxx.x86_64.iso
2. On your web browser, log on to the Advanced Threat Defense RMM IP address (http://<ATD RMM IP> or https://<ATD RMM IP>) and open the Advanced Threat Defense RMM console. If security setting of browser is blocking the page, do the following:
    - Disable pop-up blocker for this webpage.

- Add the ATD RMM URL to **Local Windows Machine**. Goto **Control panel** → **Java** → **Security**, then add your ATD RMM URL (for example: http://<ATD RMM IP> or https://<ATD RMM IP>) to the **Exception Site List**.

3. From the Remote Control tab, then click **Launch Console**.

   Accept the **JViewer Launcher** security warning and the RMM console for your Advanced Threat Defense appliance is open.
4. On the RMM Console screen click the **Device** tab, then select **Redirect ISO**.
5. Browse and select to the operating system installer file on your local windows system.
6. Log on to your Advanced Threat Defense console as `cliadmin`.
7. Reboot the appliance using the `reboot` command.
8. During start, press **F6** to enter the boot menu.
9. From the boot device selection prompt, use the up or down arrow keys on the keyboard to select **Virtual CDROM 1.00**, then press **Enter**.
10. The operating system installation begins from the ISO image file.

    ⓘ **Important**

    During the installation, the installer prompts you to take backup of your data or to continue with a clean install. Since this is a clean install, any input to back up your data fails. If you want to back up your data, we recommend you follow the migration procedure. For more information, see *McAfee Advanced Threat Defense Migration Guide*.
11. Click **Cancel** on backup notification, then click **Yes** to continue for clean install.

Results

The operating system installation now begins. Your appliance reboots during installation. Once the operating system installation is complete, system.msu installation will begin automatically.Once the system.msu installation is complete, you will see the Log-on screen to your appliance. You can configure IP to your appliance now.

Installing Virtual Advanced Threat Defense

McAfee Virtual Advanced Threat Defense appliance can be installed and deployed on VMWare ESXi and Microsoft Hyper-V virtual machine environment.

ⓘ **Important**

After a successful installation, take a snapshot of the McAfee Virtual Advanced Threat Defense instance in power off state. You might need that later to recover an erroneous installation. There is no USB recovery stick or Remote Management Module available with McAfee Virtual Advanced Threat Defense.

Install a Virtual Advanced Threat Defense instance

Place an order, download the software, then deploy it on the ESXi server.

Before you begin

- Enable the nested virtualization on the VMware ESXi server. In an SSH session of ESXi server, add this property to the configuration file at /etc/vmware/config.

```
vhv.enable = "TRUE"
```

Note

> Updating `vhv.enable = "TRUE"` in /etc/vmware/config is a global change on ESXi host. This change can be done at VM level from vSphere 5.5 and above version. For vATD, edit VM settings and enable the CPU flag for Hardware Virtualization as **Expose hardware assisted virtualization to the guest OS**. From ESXi host, it then adds `vhv.enable = "TRUE"` in VM's vmx file.

- Disable EVC mode before creating VMs on VMware ESXi.
- Deploy vATD always on Sandy Bridge or on updated processor architecture.
-

Note

> vATD is not supported on Haswell, Nehalem, and older version processors. For Example, VM creation fails if vATD is deployed on a processor architecture which is of an older version than Nehalem.

- From the ESX Web GUI or VCenter VM settings, enable **Expose hardware assisted virtualization to the guest OS**.

Note

> Power off your VM before you change the VM settings.

-

Attention

> Virtual Advanced Threat Defense does not support Dynamic MAC address. Make sure that you set a static MAC address for your Virtual Advanced Threat Defense.

To upgrade from an existing version of McAfee Virtual Advanced Threat Defense, see the *Upgrade the software and Android analyzer VM* topic in the *McAfee Advanced Threat Defense product guide*. If you upgrade from a trial version of the software, obtain the license key and grant number from the McAfee order fulfillment team at licensing@mcafee.com again and activate it.

Task

1. Place a Purchase Order (PO) for McAfee Virtual Advanced Threat Defense, and receive an email with your grant number and license key.

2. Log on to https://secure.mcafee.com/apps/downloads/my-products/login.aspx?region=us with the grant number and download the software.
   Package name format: vATD-MIO-4_x_x_xx-xxxxx-xxxxx.ova
3. Deploy the software on an ESXi server.
   a. From a vSphere client, select **File** → **Deploy OVF Template**.
   b. Click **Browse**, locate and select the McAfee Virtual Advanced Threat Defense software, click **Open**, then click **Next**.
   c. Type a name the OVF template, then click **Next**.
   d. On **Disk Format**, select **Thin Provision**, then click **Next**.
   e. On **Network Mapping**, select a network, then click **Next**.
   f. Review the deployment settings, select **Power on after deployment**, then click **Finish**.

What to do next

For multiple McAfee Virtual Advanced Threat Defense instances, deploy the OVA again.

Install Virtual Advanced Threat Defense on Hyper-V using the automated script

Place an order, download the software, then use the downloaded script to easily deploy Virtual Advanced Threat Defense on the Hyper-V server.

Before you begin

- Enable Hyper-V (including **Hyper-V Management Tools** and **Hyper-V Platform**) from **Control Panel** → **Programs and Features** → **Turn Windows features on or off** → **Hyper-V**.
- Disable Hyper-V compatibility mode on your Hyper-V server.

Virtual Advanced Threat Defense for Hyper-V is supported on the following platforms:

- Windows Server 2016 Standard (Server with GUI)
- Windows Server 2016 Datacenter (Server with GUI)

Requirements:

- Disk size: 400 GB
- RAM size: 48 GB
- Virtual CPU Cores: 16

Note

- The Hyper-V host and guest must both be on the supported platforms.
- For nested virtualization, ensure that you have Hyper-V 2016.

Your downloaded package consists of two scripts. This gives you three methods to install Virtual Advanced Threat Defense on Hyper-V.

- Using setup.exe – Run this file as an administrator to create an instance of Virtual Advanced Threat Defense on Hyper-V.

Note

This VM creation method requires Visual C++ runtime package.

- Using deploy_hvatd.ps1 – Run this PowerShell script to create an instance of Virtual Advanced Threat Defense on Hyper-V.
- Using your own changed deploy_hvatd.ps1 – You can change this PowerShell script according to your needs, then run it to create an instance of Virtual Advanced Threat Defense on Hyper-V.

Note

deploy_hvatd.ps1 is signed by McAfee. If you change the script, it loses the McAfee signature.

Task

1. Place a Purchase Order (PO) for McAfee Virtual Advanced Threat Defense, and receive an email with your grant number and license key.
2. Log on to https://secure.mcafee.com/apps/downloads/my-products/login.aspx?region=us with the grant number and download the software package.
   Package name format: hvATD_MIH_4_x_x_xx_xxxxx_xxxxx.zip
3. Unzip the .zip file to any location on your system.
4. Do one of the following:
   - Run setup.exe as an Administrator.

     The setup automatically creates one instance of Virtual Advanced Threat Defense. The first instance is named hvatd1. You can run setup.exe multiple times depending on the number of Virtual Advanced Threat Defense instances that you require.

   - Run deploy_hvatd.ps1 to create an instance of Virtual Advanced Threat Defense on Hyper-V.
     The script automatically creates one instance of Virtual Advanced Threat Defense. The first instance is named hvatd1. To create multiple instances of Virtual Advanced Threat Defense, create a deploy_hvatd.ps1 for each instance, and run them sequentially.

     Note

     You might have to set the execution policy using `Set-ExecutionPolicy RemoteSigned`.

- Change deploy_hvatd.ps1 according to your needs, then run it to create an instance of Virtual Advanced Threat Defense on Hyper-V. You can run the changed deploy_hvatd.ps1 multiple times depending on the number of Virtual Advanced Threat Defense instances that you require.

Note

> - deploy_hvatd.ps1 is signed by Mcafee. If you change the script, it loses the McAfee signature.
> - If you are running the changed script, you need to enabled nested virtualization. Run the following cmdlet to enable nested virtualization:
>
> ```
> Set-VMProcessor -VMName <VMName> -ExposeVirtualizationExtensions $true
> ```
>
> Replace <VMName> with the name of your Hyper-V virtual machine.

5. Add a network interface for the VMs.
   a. Open Hyper-V Manager, then select a Virtual Advanced Threat Defense instance.
   b. Right-click on the VM, then click **Settings**.
   c. In the navigation pane, click **Add Hardware**, then choose a network adapter.
   d. Click **Add**, then under Network, select the virtual network you want to connect to.
   e. Click **OK**.

Install Virtual Advanced Threat Defense on Hyper-V manually

Place an order, download the software, then deploy it on Hyper-V server.

Before you begin

- Ensure that you have enabled Hyper-V (including **Hyper-V Management Tools** and **Hyper-V Platform**) from **Control Panel** → **Programs and Features** → **Turn Windows features on or off** → **Hyper-V**.
- Unzip the Virtual Advanced Threat Defense package that you purchased from McAfee. The package includes hvATD.vhdx. This is the disk image of Virtual Advanced Threat Defense.
- Disable Hyper-V compatibility mode on your Hyper-V server.
-

Attention

> Virtual Advanced Threat Defense does not support Dynamic MAC address. Make sure that you set a static MAC address for your Virtual Advanced Threat Defense.

Task

1. Open Hyper-V Manager, then from the **Actions** pane, select **New** → **Virtual Machine...**.
2. Type a name for your virtual machine, then click **Next**.

   You can also choose to store your virtual machine at an alternate location.
3. In the Specify Generation section, choose **Generation 1**.
4. In the Assign Memory section, set 48 GB.
5. In the Configure Networking section, choose a virtual switch.
6. In the Connect Virtual Hard Disk section, select **Use an existing virtual hard disk**.
7. Click **Browse**, then select **hvATD.vhdx**, and then click **Finish**.

   Note

   > If you plan to deploy multiple instances of Virtual Advanced Threat Defense, make a copy of hvATD.vhdx.
8. Right click on the VM, then select **Settings** → **Memory** → **Processor**, then set the processor core to **16**.
9. Open PowerShell. Enable nested virtualization using the following command:

   ```
   Set-VMProcessor -VMName <Target VM's name > -ExposeVirtualizationExtensions $true
   ```

   In <Target VM's name>, enter the name of the VM that you created.
10. Set Static IP address and Gateway to the VM using Advanced Threat Defense console.

Prepare your sandbox virtual machine

Prepare your Windows environment to capture malware behaviors in the sandbox.

Task

1. Connect to your VM using Remote Desktop Connection and log on to your VM.
2. Open Local Users and Groups from the Control Panel.
3. In the left page, click Users.
4. In the right page, select a user and rename it to **Administrator**.
5. Set the Administrator password to **cr@cker42**.
6. Restart your VM.
7. Log on to your VM, then open **Control Panel** → **System** → **Advanced system settings**.
8. In the Advanced Tab of the System Properties window, under Performance, select **Settings...**.
9. In the Performance Options windows, select **Advanced** → **Change...**.
10. In the Virtual Memory windows, select **Automatically manage paging file size for all drives**, then click **OK**.
11. Install and configure Adobe Reader.
    a. To analyze PDF files, download Adobe Reader to the native host and install it to the VM.

   b. In Adobe reader, if Adobe Reader Protected Mode message appears, click **Open with Protected Mode disabled**, then click OK.
   c. If Accessibility Setup Assistance message appears, click Cancel.
   d. Select **Edit** → **Preferences** → **Updater**, select **Do not download or install updated automatically**, select **OK**, then select **Yes** to confirm the changes.

12. Install and configure Java.
    a. Open Registry Editor.
    b. Navigate to `HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\JavaSoft\Java Update\Policy\EnableJavaUpdate`.
    c. Set its value to 0.
    d. Close the Registry Editor.
13. Install and configure Adobe Flash Player.
    a. Run the command prompt as an Administrator.
    b. Execute the following command:

    ```
    dism.exe /online /add-package /packagepath:"<Adobe-Flash-For-Windows-Package>.mum"
    ```

    Note

    > Replace <Adobe-Flash-For-Windows-Package> with the name and path of the Adobe Flash for Windows package MUM file.

14. Run the VM Provisioner Tool.
15. Shrink the volume to about between 20 GB and 30 GB and leave the rest unallocated.
16. Download Disk2vhd and extract it on your VM.
    You can download Disk2vhd from:

    https://docs.microsoft.com/en-%20us/sysinternals/downloads/disk2vhd

17. Run the extracted **disk2vhd.exe** file.
18. Select your primary drive, then click **Create**.
19. After, the VHDX file is created reduce its virtual size.
    a. Open PowerShell.
    b. Run the following command:

    ```
    Resize-VHD -Path <path to your vhdx file> -ToMinimumSize
    ```

    Note

    > `Resize-VHD` command is available only on systems with the Hyper-V module.

20. Convert your VHDX file to an image file.
    For details about how to convert your VHDX file to an image file, see *McAfee Advanced Threat Defense Product Guide*

Activate the product

Activate your McAfee Virtual Advanced Threat Defense software using a temporary or permanent license key.

Before you begin

Obtain the license key and grant number from the McAfee order fulfillment team at licensing@mcafee.com.

McAfee Virtual Advanced Threat Defense supports these license key types:

- **30-days trial key** — A temporary license valid for 30 days is obtained on the initial purchase of the product. This license is based on the version of the McAfee Virtual Advanced Threat Defense software that you install.
- **Permanent license key** — A permanent license is purchased for a certain period. At the time of purchase, you can provide the end date of the permanent license. This license is based on the system ID of the McAfee Virtual Advanced Threat Defense instance.

You also need the grant number to activate your product.

Activate the product using the temporary key

Activate your McAfee Virtual Advanced Threat Defense software using the temporary license key.

Task

1. Save temporary license key file to desktop and make a note of grant number from the grant email.
2. Log on to the McAfee Virtual Advanced Threat Defense interface.
   When you log on for the first time, you would see a message box requesting to activate Advanced Threat Defense instance with a license. Click **OK** to close the box or click **Help** for further assistance.
3. Select **Manage** → **ATD Configuration** → **Licensing**.
4. Click **Browse**, locate and select the temporary license file, then click **Open**.
5. Type the grant number, then click **Activate**.
   Once the process is complete, the license details appear in the **License Information** section.
6. Check whether:
   a. The license status is **Activated**.
   b. The validity date is correct.

   Note

   > ATD-3200/ ATD-6200 does not require license after upgrade to Advanced Threat Defense version 4.12.

Activate the product using the permanent key

Obtain a permanent license key and activate your McAfee Virtual Advanced Threat Defense software.

Task

1. Obtain the system ID from the command line interface or web-interface of the McAfee Virtual Advanced Threat Defense software instance.

   Command line interface

   a. Log on to the command line interface with a valid user name.

      The default user name is `cliadmin` and password is `atdadmin`.

   b. Run `show system id`.
   c. From the result, make a note of the System ID from the result.

   Web-interface

   a. Log on to the McAfee Virtual Advanced Threat Defense interface.
   b. Select **Manage** → **ATD Configuration** → **Licensing** → **Licensing**
   c. From the **License Information** section, make a note of the **Device System ID**.
2. Send an email with the System ID to the McAfee order fulfillment team at licensing@mcafee.com.
   You can send System IDs of all McAfee Virtual Advanced Threat Defense instances.
3. After you receive an email with the grant number and license key, register your product on the **Manage** → **ATD Configuration** → **Licensing** page.
4. Click **Browse**, locate and select the permanent license file, then click **Open**.
5. Type the grant number, then click **Activate**.
   Once the process is complete, the license details appear in the **License Information** section.
6. Check whether:
   a. The license status is **Activated**.
   b. The validity date is correct.
   c. The system ID is correct.

Install Email Connector

Email connector is not installed with the Advanced Threat Defense software. You need to install this feature separately, then configure your email gateway to send emails to Advanced Threat Defense for analysis.

Before you begin

- Ensure that your appliance does not have an existing `atdec` user account. This user account is dedicated for Email Connector to communicate with Advanced Threat Defense.
- Configure **eth0** as the management interface. Email traffic on any other interface will not be redirected to the Email Connector.

Task

1. Download systemex-4.x.x.xx.xxxxx.msu from the McAfee download portal.
2. Upload the package to the appliance using SFTP with the `atdadmin` account.
3. Log on to the Advanced Threat Defense web interface.
4. On the right pane, select **Image & Software** → **Software**.
5. In the **Manage** tab, under **System Software** section, from the drop-down select systemex-4.x.x.xx.xxxxx.msu.
6. Click **Install**, then follow the on-screen instructions to complete the installation.

Results

Note

- If you have configured a cluster, ensure that you install Email connector in your primary as well as the back up nodes.
- The Advanced Threat Defense dashboard shows the systemex version number under the **System information** monitor. To configure email connector, see *McAfee Advanced Threat Defense Product Guide*.

Post-installation tasks

Creating analyzer VMs

Advanced Threat Defense uses secure virtual machines, or analyzer VMs, for dynamic analysis. During dynamic analysis, Advanced Threat Defense executes suspicious files in the analyzer VM, then monitors the file behavior for malicious activities.

Note

The number of analyzer VMs you can create is limited by the following conditions:

- The available Advanced Threat Defense Appliance disk space.
- The disk space occupied by the operating system.

Advanced Threat Defense limits the maximum number of analyzer VMs you can use for analysis.

- ATD-3000 — 29 analyzer VMs
- ATD-6000 — 59 analyzer VMs
- ATD-3100 — 29 analyzer VMs
- ATD-6100 — 59 analyzer VMs
- ATD 3200 — 29 analyzer VMs
- ATD-6200 — 59 analyzer VMs

The number of concurrent licenses that you specify affects the number of concurrent active analyzer VMs.

Any security software or low-level utility tool on an analyzer VM can interfere with the dynamic analysis of the sample file. The sample-file execution can be closed during dynamic analysis. As a result, the reports might not capture the full behavior of the sample file. If you need to find out the complete behavior of the sample file, do not update the operating system of the analyzer VM or install any security software on it.

Important

- Make sure that you upload the VMDK to your Advanced Threat Defense before activating your Microsoft Windows and Office. Use the Activation feature available in the Advanced Threat Defense Web interface. For more information, see *Create VM profiles*.
- If you activate your Microsoft Windows and Microsoft Office on VMware Workstation, VMware ESXI Server, or Microsoft Hyper-V, your licenses are lost due to change in hardware.

Create a VM using the VM Builder

The VM Builder tool makes it easier for you to create VMs for VMware ESXi. The tool allows you to include all needed installers and OS ISO, then seamlessly create VMs for you. The tool supports operating systems configured only for the English language.

Before you begin

- Enable SSH on ESXi 6.0 Server.
- Add the following USB Pass-through and reboot ESXi:
  - C600/X79 series chipset USB2 Enhanced Host Controller #1
  - C600/X79 series chipset USB2 Enhanced Host Controller #2
- Copy the following installers to a USB drive. Ensure that the USB driver is formatted with NTFS file system.
  - Adobe Reader
  - Adobe Flash Player
  - Java
  - Microsoft Office
  - Microsoft Visual C++ Redistributable
  - Web browser - Internet Explorer, Chrome, Firefox, and Microsoft Edge (we support Microsoft Edge only on Windows 10 OS)
- Upload the Windows ISO to the ESXi Datastore.
- Download and install Visual C++ 2012 Redistributable (x86) on your local system.

Task

1. Download the VM Builder tool:
   a. Log on to Advanced Threat Defense.
   b. Click **Manage** → **Image & Software** → **Image**, then click Download **VM Builder Tool**.
2. Run the VM Builder Tool as an Administrator.
3. Type the IP address, user name, password, and port of your ESXi, then select the checkbox.
4. Click **Test SSH Connection**, and then click **Next**.

   If you are prompted to store the RSA2 key fingerprints, type 'y' and press enter.
5. From the drop-down, select the Datastore from the list, then click **Fetch ISO**.

   The tool fetches all datastore from $/vmfs/volumes/ on ESXi.
6. From the list of Windows ISO, select an ISO for your Windows VM.
7. From the drop-down, select the OS corresponding to the ISO that you have selected, then click **Select OS**.
8. Change the VM name if needed, then click **Check Availability**, click **Next**.
9. Use the browse icon to select the USB drive where you have copied the installer files.
10. Choose the installer for the corresponding software.

    Note

    - Visual C++ 2012 Redistributable (x86) must be installed.
    - All installers must be offline installers.
    - All installers must be compatible with the respective operating systems.

If you do not want to install any of the other software except VC++, you can leave the respective field blank.

11. Click **Next** to continue.
12. Type the License key for Microsoft Windows and Office, then click **Next**.

Note

- License key for Windows 10 and Windows Server Edition is mandatory.
- Office is activated automatically only if you enter the license key. An Internet connection is required for activation.

13. Review the Summary, click **Create VM**.

Important

Ensure that you connect your USB to the VM in 10 seconds of the VM creation.

14. Open vSphere Client, and select the VM that you create using VM Builder.
15. From the toolbar, click the USB icon, and select your USB drive.
16. Once the USB is connected, your Windows OS automatically begins installation.

    If you could not connect the USB drive to the VM in 10 Sec, the VM Builder prompts you to reset the VM. Click **Yes** and the VM gets reset. Now connect the USB in 10 secs.

Results

- Once the virtual machine is created, the VM Provisioner tool executes automatically. After the VM Provisioner tool completes the checks, review the VM Provisioner log on the C drive of the virtual machine. If you see any issues, correct them and run VM Provisioner tool again.
- If the network is disconnected while the USB is connected to VM, the USB might crash.

Solution: Restart your local system. You might lose some settings on your VM.

- vSphere Client takes a long time to connect the USB drive.

Solution: Log on again to vSphere Client, then connect the USB, and reset the VM.

Create a virtual machine on VMware Workstation

To create the virtual machine, you must complete the **New Virtual Machine Wizard**.

Task

1. Make sure you have your operating system ISO image and license key.
2. Download and install VMware Workstation 9.0 or later.
3. Start the VMware Workstation.

4. On the VMware Workstation page, select **File** → **New Virtual Machine.**
5. To complete the **New Virtual Machine Wizard**, configure the following options, then click **Next** on each page.

Note

These steps are documented based on VMware Workstation 12 Pro.

Window name	Configuration options
Welcome to the New Virtual Machine Wizard	Select **Custom (Advanced)**.
Choose the Virtual Machine Hardware Compatibility	From the **Hardware** drop-down list, choose the Workstation version based on the following criteria: • For Windows 10 or Windows Server 2016 Standard, select **Workstation 11.x** • For other platforms, select **Workstation 9.x**. For all other fields, use the default values.
Guest Operating System Installation	Select one of these options: • **Installer disc** — Choose a DVD or CD drive from the drop-down list. • **Installer disc image file (iso)**, then click **Browse** and select the ISO image
Select a guest Operating System Installation **Note:** This page appears only if VMware is unable to detect the operating system (OS) from your OS image file.	• From the Guest operating system list, choose **Microsoft Windows**. • From the Version drop-down list, select the Windows version.
Easy Install Information	Enter the following: • **Windows product key** — License key of the Windows operating system where you want to create the VMDK file • **Full name** — `administrator`

Window name	Configuration options
Note: This page appears only if VMware detects the operating system (OS) from your OS image file.	• **Password** — `cr@cker42`, which is the password that Advanced Threat Defense uses to log on to the VM • **Confirm** — `cr@cker42` • **Log on automatically (requires a password)** — Deselect this option. If the **VMware Workstation** message displays, click **Yes**.
Name the Virtual Machine	Enter the following: • **Virtual Machine name** • **Location** — Click **Browse**, then select the folder where you want to create the VMDK file
Firmware type	Select **BIOS** .
Processor Configuration	Use the default values.
Memory for the Virtual Machine	Enter the amount of RAM for your operating system. See *Analyzer VM requirements* to know the RAM size required for your operating system.
Network Type	Use the default value.
Select I/O Controller Types	Use the default value.
Select a Disk Type	Select **IDE**. **Note:** SCSI disks are not compatible with Advanced Threat Defense.
Select a Disk	Select **Create a new virtual disk**.
Specify Disk Capacity	Enter the **Maximum disk size (GB)**, then select these options: • **Allocate all disk space now**. • **Store virtual disk as a single file**.
Specify Disk file	Make sure that the <virtual machine image name.vmdk> appears in the field.

Window name	Configuration options
Ready to Create Virtual Machine	Click **Finish**. This step can take up to 30 minutes to complete.

Note

The sandbox VMs will be updated to multi processors during VM profile creation process on ATD.

Create a virtual machine on VMWare ESXi

To create the virtual machine, you must complete the **New Virtual Machine Wizard**.

Task

1. Make sure you have your operating system ISO image and license key.
2. Download and install VMware ESXi.
3. Start the VMware ESXi.
4. On the VMware ESXi page, select **File** → **New** → **New Virtual Machine**.
5. Configure the following options, then click **Next** on each page.

Section name	Configuration options
Configuration	Select **Custom**.
Name and Location	Type a name for your virtual machine.
Resource Pool	Select a resource pool within which you wish to run your virtual machine.
Storage	Select a location where you'd want to store your virtual machine.
Virtual Machine Version	Select a virtual machine version to use. • For Windows 10 and Windows Server 2016 Standard, choose **Virtual Machine Version: 11** • For the other platforms choose **Virtual Machine Version: 9**.
Guest Operating System	Select the operating system and its version that you plan to install on this virtual machine.

Section name	Configuration options
CPUs	Select the number of CPUs for your virtual machine. We recommend you use the default values.
Memory	Select an appropriate RAM size for your virtual machine.
Network	Select the number of network cards for the virtual machine and choose what network it can connect to. We recommend you choose **E1000** virtual NIC.
SCSI Controller	Select **LSI Logic SAS**.
Select a Disk	Select **Create a new virtual disk**.
Create a disk	Set an appropriate disk space, then select **Thin Provision**.
Advanced Options	In Virtual Device Node, select **IDE (0:0)**.
Ready to Complete	Review the settings you of your new virtual machine. Select **Edit the virtual machine settings before**, then click **Continue**.

6. Select your new virtual machine, then click **Edit virtual machine settings**.
7. In the Virtual Machine Properties page, do the following:
   - Select **CD/DVD Drive1**.
   - In Device Status, enable **Connect at power on**.
   - In Datastore ISO File, use **Browse** to provide the location of the operating system you plan to install in your virtual machnie.
   - In Virtual Machine Node, select **IDE (1:0)**.
8. Click **Finish**.

Note

The sandbox VMs will be updated to multi processors during VM profile creation process on ATD.

Create a virtual machine on Hyper-V Manager

This topic explains how to create a virtual machine in Microsoft Hyper-V Manager.

Before you begin

Ensure that you have enabled Hyper-V (including **Hyper-V Management Tools** and **Hyper-V Platform**) from **Control Panel** → **Programs and Features** → **Turn Windows features on or off** → **Hyper-V**.

Note

Advanced Threat Defense does not support the following operating systems on Hyper-V:

- Microsoft Windows XP
- Microsoft Windows Server 2003
- Microsoft Windows 8 32-bit

Task

1. Open Hyper-V Manager, then from the **Actions** pane, select **New** → **Virtual Machine...**.
2. Type a name for your virtual machine, then click **Next**.
   You can also choose to store your virtual machine at an alternate location.
3. In the Specify Generation section, choose **Generation 1**.
4. In the Assign Memory section, type the appropriate RAM size.
5. In the Configure Networking section, choose a virtual switch.
6. In the Connect Virtual Hard Disk section, select Create a virtual hard disk.
   a. Type a name for the hard disk.
   b. Specify the location where you want to save the VHDX file.
   c. Type an appropriate size for the hard disk, then click **Next**.
7. In the Installation Options section, select **Install an operating system from a bootable CD/DVD-ROM**.
8. Select **Image file (.iso)**, then browse and select the image file, then click **Next**.
9. In the Summary page, review the settings, then click **Finish**.

   Note

   The sandbox VMs will be updated to multi processors during VM profile creation process on ATD.

Create a virtual disk file

Create a virtual disk file of the ISO image on VMWare or Hyper-V.

Create a virtual disk file for Windows XP

If you are using Windows XP, use the following steps to create the virtual disk file.

Task

1. Complete the Windows XP setup.
    a. On the **Setup cannot continue until you enter your name. Administrator and Guest are not allowable names to use** message, click **OK**.
    b. In the **Windows XP Professional Setup** window, enter the following, then click **Next**.
        - **Name** — `root`
        - **Organization** — Leave blank.
    c. If prompted, log on to virtual machine image with the following credentials.
        - **User** — `administrator`
        - **Password** — `cr@cker42`
2. In the **Virtual Machine Settings** window, select **CD/DVD (IDE)**.
3. Next to the **Use ISO image file** field, click **Browse**, locate the ISO file, then click **OK**.
4. Download and install the following Redistributable Packages and .NET Framework.
    - Microsoft Visual C++ 2005 Redistributable Package (x86)
    - Microsoft Visual C++ 2008 Redistributable Package (x86)
    - Microsoft Visual C++ 2010 Redistributable Package (x86)
    - Microsoft .NET Framework 3.5 Service Pack 1 (x86)
5. Run the VM Provisioner tool as an administrator or prepare the image for analysis manually.

Note

The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

Create a virtual disk file for Windows Server 2003

If you are using Windows Server 2003, use the following steps to create the virtual disk file.

Task

1. In the VMware ESXi, turn on the virtual machine, then install Windows Server 2003.
    - This step can take up to 30 minutes.
    - To format the partition during installation, you can use the NTFS file system.
2. For each Windows setup window, configure the options, then click **Next**.

Window name	Configuration options
Regional and Language Options	Configure the settings for your environment.

Window name	Configuration options
Windows Setup	Enter the following credentials: • **Name** — `root` • **Organization** — Leave blank
Your Product Key	Enter the product key.
Licensing Modes	Select **Per Server**, then enter the number of concurrent connections.
Computer Name and Administrator Password	Configure the following options: • **Computer name** — Use the default value • **Administrator password** — `cr@cker42` • **Confirm password** — `cr@cker42`
Date and Time Settings	Use the default values.
Network Settings	Use the default values.
Workgroup or Computer Domain	Use the default values.

3. To log on to the virtual machine, use these credentials:
    - **User** — `administrator`
    - **Password** — `cr@cker42`
4. In the **Windows Server Post-Setup Security Updates** window, click **Finish.**
5. If you are using Windows Server 2003 SP1, complete the following.
    a. Install the hotfix for Microsoft Windows Server 2003.
    b. Restart your computer.
    c. On the command prompt, enter `tlntsvr /service`, then press **Enter**.
6. Download and install the following Redistributable Packages and .NET Framework.
    - Microsoft Visual C++ 2005 Redistributable Package (x86)
    - Microsoft Visual C++ 2008 Redistributable Package (x86)
    - Microsoft Visual C++ 2010 Redistributable Package (x86)
    - Microsoft .NET Framework 3.5 Service Pack 1 (x86)
7. Run the VM Provisioner tool as an administrator or prepare the image for analysis manually.

Note

The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

Create a virtual disk file for Windows 7

If you are using Windows 7, use the following steps to create the virtual disk file.

Task

1. From the installation wizard, select the language, time and currency format, keyboard or input method, then click **Next**.
2. Click **Install Now**, then click **Next**.
3. Accept the license terms, then click **Next**.
4. On the Windows Setup page, select **Custom: Install Windows only (advanced)**, leave the default disk space settings, then click **Next**.
5. Use the following credentials to create an account:
    - **User name** — administrator
    - **Password** — cr@cker42
6. In the **Removable Devices** window, select **Do not show this hint again**, then click **OK**.
   The Windows installation can take up to 15 minutes.
7. In the **Set Network Location** window, select **Public Network**, then close the window.
8. Download and install Microsoft .NET Framework 4.6.1.
9. Run the VM Provisioner tool as an administrator or prepare the image for analysis manually.

   Note

   The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

Create a virtual disk file for Windows 8

If you are using Windows 8, use these steps to create the virtual disk file.

Task

1. From the installation wizard, select the language, time and currency format, keyboard or input method, then click **Next**.
2. Click **Install Now**, then click **Next**.
3. Accept the license terms, then click **Next**.
4. On the Windows Setup page, select **Custom: Install Windows only (advanced)**, leave the default disk space settings, then click **Next**.
5. In the Settings window, select **Use Express settings**.
6. In sign in to your PC, select **Sign in without a Microsoft Account**, then select **Local Account**.

7. Use the following credentials to create an account:
   - **User name** — administrator
   - **Password** — cr@cker42
8. Configure Adobe Reader as the default application to open PDF files.
   a. Open the **Control Panel**, then select **Programs** → **Default Programs** → **Associate a file type or protocol with a program**.
   b. Double-click **.pdf**, then select **Adobe Reader**.
   c. Click **Close**.
9. In the **Removable Devices** window, select **Do not show this hint again**, then click **OK**.
   The Windows installation can take up to 15 minutes.
10. To log on to the virtual machine Image, use these credentials:
    - Administrator
    - cr@cker42
11. To switch to desktop mode, click the desktop tile.
12. Download and install Microsoft .NET Framework 4.6.1 and above.
13. Run the VM Provisioner tool as an administrator or prepare the image for analysis manually.

Note

> The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

Create a virtual disk file for Windows Server 2008

If you are using Windows Server 2008, use the following steps to create the virtual disk file.

Task

1. From the installation wizard, select the language, time and currency format, keyboard or input method, then click **Next**.
2. Click **Install Now**, then click **Next**.
3. Accept the license terms, then click **Next**.
4. On the Windows Setup page, select **Custom (advanced)**, leave the default disk space settings, then click **Next**.
5. Set password for administrator account.
6. In the **Removable Devices** window, select **Do not show this hint again**, then click **OK**.
   The Windows installation can take up to 15 minutes.
7. In the **Initial Configuration Tasks** window, select **Do not show this window at logon**, then click **Close.**
8. Log on to the computer, then download the following packages:
   - Microsoft Visual C++ 2005 Redistributable Package (x86)
   - Microsoft Visual C++ 2008 Redistributable Package (x86)
   - Microsoft Visual C++ 2010 Redistributable Package (x86)
   - Microsoft .NET Framework 4.6.1

9. Run the VM Provisioner tool as an administrator or prepare the image for analysis manually.

   Note

   The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

Create a virtual disk file for Windows 8.1

If you are using Windows 8.1, use these steps to create the virtual disk file.

Task

1. From the installation wizard, select the language, time and currency format, keyboard or input method, then click **Next**.
2. Click **Install Now**, then click **Next**.
   Installation process is completed in various stages. The setup is first initialized.
3. On the Activate Windows page, enter your Windows product key, or select **I don't have a product key** to activate it later, then click **Next**.
4. Accept the license terms, then click **Next**.
5. On the Windows Setup page, select **Custom: Install Windows only (advanced)**, use the default disk space settings, then click **Next**.
   The step is completed in five stages. Wait for all stages to complete.
6. In the Settings window, select **Use Express settings**.
7. For the type of owner, select **I own it**, then click **Next**.
8. Asked to enter your Microsoft Account Details, select **Skip this step**.
9. Asked to create an account, use these credentials, then click **Next**.
   - **User name** — `administrator`
   - **Password** — `cr@cker42`
10. Asked about Cortana, select **Not now**.
11. Wait until the installation is complete, then install the required software.
12. Check that these redistributable packages are installed.
    - Microsoft Visual C++ 2005 Redistributable Package (x86)
    - Microsoft Visual C++ 2008 Redistributable Package (x86)
    - Microsoft Visual C++ 2010 Redistributable Package (x86)
    - Microsoft .NET Framework 4.6.1 and above
13. Run the VM Provisioner tool as an administrator or prepare the image for analysis manually.

    Note

    The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

Create a virtual disk file for Windows 10

If you are using Windows 10, use these steps to create the virtual disk file.

Task

1. From the installation wizard, select the language, time and currency format, keyboard or input method, then click **Next**.
2. Click **Install Now**, then click **Next**.

   Installation process is completed in various stages. The setup is first initialized.
3. On the Activate Windows page, enter your Windows product key, or select **I don't have a product key** to activate it later, then click **Next**.
4. Accept the license terms, then click **Next**.
5. On the Windows Setup page, select **Custom: Install Windows only (advanced)**, use the default disk space settings, then click **Next**.

   The step is completed in five stages. Wait for all stages to complete.
6. Choose **United States** in region, and in primary keyboard, select **English (United States)**.
7. In the Settings window, select **Use Express settings**.
8. For the type of owner, select **I do**, then click **Next**.
9. In the Make it yours window, select **Skip this step**.
10. In the Meet Cortana windows, select **Not now**.
11. In the Choose how you'll connect' window, select **Join a local Active Directory domain**.
12. In the Create an account for this PC window, use these credentials, then click **Next**.

    - **User name** — `admin`
    - **Password** — `cr@cker42`
13. In the Choose Privacy settings window, keep the default settings, then click **Next**.
14. Wait until the installation is complete, then install the required software.
15. Run the VM Provisioner tool as an administrator or prepare the image for analysis. On Windows 10, Administrator account is disabled by default. To enable, do the following:

    a. Run VM Provisioner Tool as a non-administrator user.

    b. Restart the virtual machine.

       The Administrator account is enabled once the virtual machine is started.

    c. Log on to Windows as the Administrator user.

       Note

       `admin` and Administrator user accounts are not the same.

    d. Run VM Provisioner Tool again.
16. Check that these redistributable packages are installed.

    - Microsoft Visual C++ 2005 Redistributable Package (x86)
    - Microsoft Visual C++ 2008 Redistributable Package (x86)
    - Microsoft Visual C++ 2010 Redistributable Package (x86)

- Microsoft Visual C++ 2012 Redistributable Package (x86)
- Microsoft .NET Framework 4.7 and above

Note

The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

Note

If you are using any later build/version of win 10 1909.18363.418, its required to switch off tamper protection manually inside win 10VMs for better detection.

Following are the steps to turn off Tamper Settings:

a. Click on the **Start** button.
b. Click on **Settings**.
c. Go to **Updates and Security**
d. Select **Windows Security**
e. Switch to **Virus and Threat Protection**
f. Select **Manage Settings**
g. Scroll a bit to find **Tamper Protection**
h. **Toggle Off**

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Create a virtual disk file for Windows 2012

If you are using Windows 2012, use these steps to create the virtual disk file.

Task

1. From the installation wizard, select the language, time and currency format, keyboard or input method, then click **Next**.
2. Click **Install Now**, accept the license terms, then click **Next**.
3. Select **Custom Install Windows**, **Windows Server 2012 Datacenter**, use the default disk space settings, then click **Next**.
   Installation process is completed in various stages.
4. Set password for administrator account.
5. Log on to the computer, then download and install the following redistributable packages and .NET framework.
   - Microsoft Visual C++ 2005 Redistributable Package (x86)
   - Microsoft Visual C++ 2008 Redistributable Package (x86)
   - Microsoft Visual C++ 2010 Redistributable Package (x86)
   - Microsoft .NET Framework 4.6.1
6. Run the VM Provisioner tool as an administrator or prepare the image for analysis manually.

Create a virtual disk file for Windows 2012 R2

If you are using Windows 2012 R2, use these steps to create the virtual disk file.

Task

1. From the installation wizard, select the language, time and currency format, keyboard or input method, then click **Next**.
2. Click **Install Now**, accept the license terms, then click **Next**.
3. Select **Custom Install Windows**, **Windows Server R2 2012 Datacenter**, use the default disk space settings, then click **Next**.
   Installation process is completed in various stages.
4. Set password for administrator account.
5. Log on to the computer, then download and install the following redistributable packages and .NET framework.
    - Microsoft Visual C++ 2005 Redistributable Package (x86)
    - Microsoft Visual C++ 2008 Redistributable Package (x86)
    - Microsoft Visual C++ 2010 Redistributable Package (x86)
    - Microsoft .NET Framework 4.6.1
6. Run the VM Provisioner tool as an administrator or prepare the image for analysis manually.

Create a virtual disk file for Windows Server 2016 Standard

If you are using Windows Server 2016 Standard, use these steps to create the virtual disk file.

Task

1. From the installation wizard, select the language, time and currency format, keyboard or input method, then click **Next**.
2. Click **Install Now**, accept the license terms, then click **Next**.
3. Select **Custom Install Windows**, **Windows Server 2016 Standard**, use the default disk space settings, then click **Next**.
   Installation process is completed in various stages.
4. Set password for administrator account.
5. Log on to the computer, then download and install the following redistributable packages and .NET framework.
    - Microsoft Visual C++ 2005 Redistributable Package (x86)
    - Microsoft Visual C++ 2008 Redistributable Package (x86)
    - Microsoft Visual C++ 2010 Redistributable Package (x86)
    - Microsoft Visual C++ 2012 Redistributable Package (x86)
    - Microsoft .NET Framework 4.6.2
6. Run the VM Provisioner tool as an administrator or prepare the image for analysis manually.

Install Microsoft Office on the virtual machine

To install Microsoft Office on the virtual machine, you must download the compatibility pack from Microsoft.

Task

1. In the **Microsoft Office Setup** window, select the following options, then click **Next**.
    - Microsoft Word
    - Microsoft Excel
    - Microsoft PowerPoint
2. To open Microsoft Office files created in a newer version of Microsoft Office, install the compatibility pack.
    a. Download the required Microsoft Office compatibility pack for Word, Excel, and PowerPoint file formats.
    b. Install the compatibility pack on the virtual machine.
3. In the **Compatibility Pack for the 2007 Office system** window, select **Click here to accept the Microsoft Software License Terms**, then click **OK.**

Enable PDF file analysis

To analyze PDF files, download Adobe Reader to the native host and copy it to the VM.

Task

1. Install Adobe Reader on the virtual machine.
2. Open Adobe Reader, then click **Accept** on the **License Agreement** window.

Enable JAR file analysis

To analyze JAR files, download and install Java Runtime Environment (JRE).

By default, Advanced Threat Defense supports JRE version 7.

Task

1. Download and install the Java SE Development Kit for your computer.
2. On your computer, click **Start** → **Java** → **Configure Java**.
3. On the **Java Control Panel**, click the **Security** tab.
4. Change the **Security Level** to **Medium**, then click **OK**.

    Note

    If you are using Java 8 or above, change the security level to **High**.

Enable Flash file analysis

To dynamically analyze Flash files, install Adobe Flash Player or the Flash plug-in.

Task

1. Make sure that Internet Explorer is your default browser.
2. Install Adobe Flash Player or the Flash plug-in on your computer.
    - Download and install Adobe Flash Player, then verify that it is the default flash extension.
    - Download and install Adobe Flash plug-in, then verify that Shockwave Flash Object is enabled.

Complete the VMDK and VHDX file creation process

Task

1. Restart the virtual machine.
2. To shut down virtualMachineImage, select **Start** → **Shut down**.
3. Make sure there are not any stale lock files (.lck) associated with the virtual machine.
   The .lck files are located in the same folder as the .vmdk or .vhdx file.
4. Locate the virtualMachineImage-flat.vmdk or virtualMachineImage.vhdx file.

Prepare the virtual disk image for analysis

Prepare your VMDK or VHDX images to capture malware behaviors in the sandbox environment.

We recommend that you run the VM Provisioner Tool that's available in the Advanced Threat Defense interface. However, if the tool doesn't work in your environment, you could also prepare your sandbox environment manually.

Run the VM Provisioner Tool

Download the VM Provisioner Tool from the Advanced Threat Defense interface, then run the tool to prepare your virtual disk images to capture malware behaviors in the sandbox environment.

Run the VM Provisioner Tool after installing all required software on all Windows VM images that you create. The VM Provisioner Tool supports operating systems configured for the supported languages: English, Spanish, Japanese, Chinese (Simplified), German, French, Italian.

Task

1. Log on to the Advanced Threat Defense interface.
2. Click **Manage** → **Image & Software** → **Image**.

3. Click **Download VM Provisioner Tool**.
4. Save the **VM Provisioner Tool** .exe file on your virtual machine.
5. Make sure that the Visual Studio 2012 C++ Redistributable is installed on the VM.

   Download the x86 version of the Visual Studio 2012 C++ Redistributable for your corresponding operating system language from https://www.microsoft.com/EN-US/DOWNLOAD/DETAILS.ASPX?ID=30679.
6. Open and run the **VM Provisioner Tool** .exe file as Administrator.
   a. Run VM Provisioner Tool as a non-administrator user.
   b. Restart the virtual machine.

      The Administrator account is enabled once the virtual machine is started.
   c. Log on to Windows as the Administrator user.

      Note

      `admin` and Administrator user accounts are not the same.
   d. Run VM Provisioner Tool again.

Results

- To view the log file that contains all executed commands and changed registries, go to C:\VM_Provi.log.
- Before you shut down the virtual machine, copy the log file to another system (outside of the VM) for later reference, then remove the log file.

Prepare your VMDK or VHDX image for analysis manually

Prepare your environment manually to capture malware behaviors in the sandbox environment.

Prepare a Windows XP image for analysis

Configure your Windows XP virtual system for analysis.

Task

1. Configure the virtual machine in VMware ESXi or Microsoft Hyper-V:
   a. Right-click on the Windows XP image, then select **Settings**.
   b. In the Virtual Machine Settings window, select **CD/DVD (IDE)**.
   c. In **Use ISO image file**, browse to the ISO file that you used and click **OK**.
   d. In the **Welcome to Microsoft Windows XP** page, click **Exit**.
2. Log on to the virtual machine as administrator.
3. Turn off the firewall in the virtual image: Select **Start** → **Control Panel** → **Security Center** → **Windows Firewall** → **OFF**.
4. Start the telnet service in the virtual image:

   a. Click **Start** and right-click **My Computer**.
   b. Select **Manage** → **Services and Applications** → **Services**, then double-click **Telnet**.
   c. In the **Telnet Properties (Local Computer)** page, select **Automatic** for the Startup type, then select **Apply** → **Start** → **OK**.

5. Enable FTP in the virtual image:
   a. Select **Start** → **Control Panel** → **Add or remove Programs** → **Add or remove Windows components**.
   b. In the Windows Components wizard, double-click **Internet Information Services(IIS)**.
   c. In the Internet Information Services(IIS) pop-up window, select these entries:

      - **File Transfer Protocol (FTP) Service**
      - **Common Files**
      - **Internet Information Services Snap-In**

   d. Click **OK**, then click **Next**.
   e. In the Windows Components wizard, click Finish to finish installing FTP.
   f. In the **Insert Disk** message, click **Cancel**.
   g. In the **Windows XP Setup** message, select **OK**.
6. Configure FTP settings in the virtual image:
   a. Select **Start** → **Control Panel** → **Switch to Classic View** → **Administrative Tools**, then double-click **Internet Information Services**.
   b. In the Internet Information Services page, expand the entry under **Internet Information Services**, then expand **FTP Sites**.
   c. Right-click on **Default FTP Site**, select **Properties** → **Home Directory**.
   d. Browse to the C:\ drive, select **Read**, **Write**, and **Log visits**.
   e. Click **Apply**, then **OK**.
7. Set automatic logon:
   a. Select **Start** → **Run**, type `rundll32 netplwiz.dll,UsersRunDll`, then press `Enter`.
   b. In the User Accounts window, deselect `Users must enter a user name and password to use this computer` and click `Apply`.
   c. In the **Automatically log on** page, provide these credentials.

      - **User name** — `Administrator`
      - **Password** — `cr@cker42`
      - **Confirm Password** — `cr@cker42`

8. Run the MergeIDE batch file on the virtual machine:
   a. Download MergeIDE.zip from the following URL on the native computer and then copy it to the virtual machine. https://www.virtualbox.org/raw-attachment/wiki/Migrate_Windows/MergeIDE.zip
   b. Extract MergeIDE.zip and run the MergeIDE batch file in the VM.
9. Disable Windows updates:
   a. Select **Start** → **Settings** → **Control Panel**.
   b. Open System.
   c. In the Automatic Updates tab, deselect **Keep my computer up to date**.
   d. Click **Apply** and then **OK**.
10. Configure Microsoft Office:

a. To analyze Microsoft Word, Excel, and PowerPoint files, install Microsoft Office 2003 on the virtual machine.

b. Lower the security to run macros for the Office applications. In Microsoft Word 2003 and select **Tools** → **Macro** → **Security**, select **Low**, then click **OK**. Do the same for other applications such as Microsoft Excel and PowerPoint.

c. Go to http://www.microsoft.com/en-us/download/details.aspx?id=3 and download the required Microsoft Office compatibility pack for Word, Excel, and PowerPoint File Formats, then install them on the virtual machine.
You need the compatibility pack to open Microsoft Office files that were created in a newer version of Microsoft Office. For example, to open a .docx file using Office 2003, you need the corresponding compatibility pack installed.

d. In the Compatibility Pack for the 2007 Office system dialog, select **Click here to accept the Microsoft Software License Terms**, then click **OK**.

11. Configure Adobe Reader:
    a. To analyze PDF files, download Adobe Reader to the native host and copy it to the VM.
    b. Open Adobe Reader and click **Accept**.
    c. In Adobe Reader, select **Edit** → **Preferences** → **General**, then remove **Check for updates**.
    d. In Adobe Reader, select **Help** → **Check for updates** → **Preferences**, then deselect **Adobe Updates**.
12. Configure Java:
    a. Open Java in the Control Panel.
    b. In the Update tab, deselect **Check for Updates Automatically**.
    c. In the Java Update Warning message, select **Do Not Check** and then click **OK**.
13. Configure system startup:
    a. Run the `msconfig` command.
    b. From the Startup tab, deselect **reader_sl** and **jusched**, then click **OK**.

    Note

    reader_sl is available only when Adobe Reader is installed.

    c. In the System Configuration message, select `Restart`.
    d. In the System Configuration Utility message, select **Don't show this message or launch the System Configuration Utility when Windows start**, then click **OK**.
14. Configure the default browser:
    a. In Internet Explorer, select **Tools** → **Internet Options**.
    b. In **Home page** select **Use Blank** or **Use new tab** based on the version of Internet Explorer.
    c. From the Privacy tab, uncheck **Turn on Pop-up Blocker**.
    d. Go to the Advanced tab of the Internet Options and locate **Security**, then select **Allow active content to run in files on My Computer**.

Note

The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

Prepare a Windows Server 2003 image for analysis

Configure your Windows Server 2003 virtual system for analysis.

Task

1. Log on to the virtual machine as administrator.
2. If the Windows Server Post-Setup Security Updates page appears, select **Finish**.
3. If the Manage Your Server window page appears, select **Don't Display the page at logon** and close the page.
4. Disable the shutdown event tracker:
   a. Select **Start** → **Run**, type `gpedit.msc`, then click **OK**.
   b. In the Group policy object editor page, select **Computer Configuration** → **Administrative Templates** → **System**, then double-click **Display Shutdown Event Tracker**.
   c. Select **Disabled**, then click **OK**.
   d. Close the **Group policy object editor** page.
5. Install the hotfix for Windows Server 2003 Service Pack 1 (if applicable).

   Note

   Skip this step if you have Windows Server 2003 Service Pack 2.

   a. Go to http://support.microsoft.com/hotfix/KBHotfix.aspx? kbnum=899260&kbln=en-us and install the hotfix corresponding to your version of Windows Server 2003.
   b. Restart the virtual machine.
   c. In the Windows command prompt, run the `tlntsvr /service` command.
6. Turn off the firewall in the virtual image: Select **Start** → **Control Panel** → **Windows Firewall** → **OFF**.
7. Start the telnet service in the virtual image:
   a. Click **Start** and right-click **My Computer**.
   b. Select **Manage** → **Services and Applications** → **Services**, then double-click **Telnet**.
   c. In the **Telnet Properties (Local Computer)** page, select **Automatic** for the Startup type, then select **Apply** → **Start** → **OK**.
8. Run the MergeIDE batch file on the virtual machine:
   a. Download MergeIDE.zip from the following URL on the native computer and then copy it to the virtual machine. https://www.virtualbox.org/raw-attachment/wiki/Migrate_Windows/MergeIDE.zip
   b. Extract MergeIDE.zip and run the MergeIDE batch file in the VM.
9. Enable FTP in the virtual image:
   a. Select **Start** → **Control Panel** → **Add or remove Programs** → **Add or remove Windows components**.
   b. In the Windows Components wizard, double-click **Application Server**, then double-click **Internet Information Services(IIS)**.
   c. In the Internet Information Services(IIS) pop-up window, select these entries:
      - **File Transfer Protocol (FTP) Service**
      - **Common Files**
      - **Internet Information Services Manager**

   d. Click **OK**, then click **Next**.
   e. In the Windows Components wizard, click **Finish** when the FTP installation is complete.
   f. In the **Insert Disk** message, click **Cancel**.
   g. In the **Windows XP Setup** message, select **OK**.

10. Configure FTP settings in the virtual image:
    a. Select **Start** → **Control Panel** → **Switch to Classic View** → **Administrative Tools**, then double-click **Internet Information Services**.
    b. In the Internet Information Services page, expand the entry under **Internet Information Services**, then expand **FTP Sites**.
    c. Right-click on **Default FTP Site**, select **Properties** → **Home Directory**.
    d. Browse to the C:\ drive, select **Read**, **Write**, and **Log visits**.
    e. Click **Apply**, then click **OK**.
11. Set automatic logon:
    a. Select **Start** → **Run**, type `rundll32 netplwiz.dll,UsersRunDll`, then press `Enter`.
    b. In the User Accounts window, deselect `Users must enter a user name and password to use this computer` and click `Apply`.
    c. In the **Automatically log on** page, provide these credentials.
       - **User name** — `Administrator`
       - **Password** — `cr@cker42`
       - **Confirm Password** — `cr@cker42`
12. Disable Windows updates:
    a. Select **Start** → **Control Panel** → **System** → **Automatic Updates**.
    b. Select **Turn off Automatic Updates**.
    c. Click **Apply** and then click **OK**.
13. Configure Microsoft Office:
    a. To analyze Microsoft Word, Excel, and PowerPoint files, install Microsoft Office 2003 on the virtual machine.
    b. Lower the security to run macros for the Office applications. In Microsoft Word 2003 and select **Tools** → **Macro** → **Security**, select **Low**, then click **OK**. Do the same for other applications such as Microsoft Excel and PowerPoint.
    c. Go to http://www.microsoft.com/en-us/download/details.aspx?id=3 and download the required Microsoft Office compatibility pack for Word, Excel, and PowerPoint File Formats, then install them on the virtual machine.
       You need the compatibility pack to open Microsoft Office files that were created in a newer version of Microsoft Office. For example, to open a .docx file using Office 2003, you need the corresponding compatibility pack installed.
    d. In the Compatibility Pack for the 2007 Office system dialog, select **Click here to accept the Microsoft Software License Terms**, then click **OK**.
14. Configure Adobe Reader:
    a. To analyze PDF files, download Adobe Reader to the native host and copy it to the VM.
    b. Open Adobe Reader and click **Accept**.
    c. In Adobe Reader, select **Edit** → **Preferences** → **General**, then remove **Check for updates**.
    d. In Adobe Reader, select **Help** → **Check for updates** → **Preferences**, then deselect **Adobe Updates**.
15. Configure Java:
    a. Open Java in the Control Panel.
    b. In the Update tab, deselect **Check for Updates Automatically**.

   c. In the Java Update Warning message, select **Do Not Check** and then click **OK**.

16. Configure system startup:
    a. Run the `msconfig` command.
    b. From the Startup tab, deselect **reader_sl** and **jusched**, then click **OK**.

    Note

    reader_sl is available only when Adobe Reader is installed.

    c. In the System Configuration message, select `Restart`.
    d. In the System Configuration Utility message, select **Don't show this message or launch the System Configuration Utility when Windows start**, then click **OK**.
17. Configure the default browser:
    a. In Internet Explorer, select **Tools** → **Internet Options**.
    b. In **Home page** select **Use Blank** or **Use new tab** based on the version of Internet Explorer.
    c. From the Privacy tab, uncheck **Turn on Pop-up Blocker**.
    d. Go to the Advanced tab of the Internet Options and locate **Security**, then select **Allow active content to run in files on My Computer**.

Note

The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

Prepare a Windows 7 image for analysis

Configure your Windows 7 virtual system for analysis.

Task

1. Log on to the virtual machine as administrator.
2. Turn off the firewall in the virtual image:
   a. Select **Start** → **Control Panel** → **System and Security** → **Turn on Windows Firewall On or Off**.
   b. Select **Turn off Windows Firewall (not recommended) for both Home or work(private) network location settings** and **Public network location settings**, then click **OK**.
3. Enable required Windows features.
   a. Select **Start** → **Control Panel** → **Programs** → **Programs and Features** → **Turn Windows feature on or off**.
   b. Select **Internet Information Services** → **FTP server** → **FTP Extensibility**.
   c. Select **Internet Information Services** → **Web Management Tools** → **IIS Management Service**.
   d. Select **Telnet Server**, then click **OK**.
      This operation might take around 5 minutes to complete.
4. Start the telnet service in the virtual image:

   a. Click **Start** and right-click **My Computer**.
   b. Select **Manage** → **Services and Applications** → **Services**, then double-click **Telnet**.
   c. In the **Telnet Properties (Local Computer)** page, select **Automatic** for the Startup type, then select **Apply** → **Start** → **OK**.

5. Configure FTP settings in the virtual image:
   a. Select **Start** → **Control Panel** → **System and Security** → **Administrative Tools**, then double-click **Internet Information Services**.
   b. In the Internet Information Services page, expand the entry under **Internet Information Services(IIS) Manager**, then expand the tree under host name.
   c. Select **Sites**, right-click on **Default FTP Site**, select **Remove**, then click **Yes** to confirm.
   d. Right-click **Sites**, select **Add FTP Site**, then do the following.
      - Provide the **FTP site name** as `root` and **Physical path** as `C:\`, then click **Next**.
      - For **Bindings and SSL Settings**, select **No SSL**, then click **Next**.
      - For Authentication and Authorization Information, select **Basic** under **Authentication**, select **All Users** under **Allow access to**, select both **Read** and **Write** under **Permissions**.
      - Click **Finish**.
   e. Close the Internet Information Services (IIS) Manager page.
6. Set automatic logon:
   a. Select **Start** → **Run**, type `netplwiz`, then press `Enter`.
   b. In the User Accounts window, deselect `Users must enter a user name and password to use this computer`, then click **Apply**.
   c. In the **Automatically log on** page, provide these credentials.
      - **User name** — `Administrator`
      - **Password** — `cr@cker42`
      - **Confirm Password** — `cr@cker42`
7. Disable Windows updates:
   a. Select **Start** → **Control Panel** → **Windows Update** → **Change settings**.
   b. Under **Important updates**, select **Never check for updates (not recommended)**.
   c. Deselect all options under **Recommended updates**, **Who can install updates**, **Microsoft update**, **Software notifications**.
   d. Click **OK**.
8. Configure Microsoft Office:
   a. To analyze Microsoft Word, Excel, and PowerPoint files, install Microsoft Office 2003 on the virtual machine.
   b. Lower the security to run macros for the Office applications. In Microsoft Word 2003 and select **Tools** → **Macro** → **Security**, select **Low**, then click **OK**. Do the same for other applications such as Microsoft Excel and PowerPoint.
   c. Go to http://www.microsoft.com/en-us/download/details.aspx?id=3 and download the required Microsoft Office compatibility pack for Word, Excel, and PowerPoint File Formats, then install them on the virtual machine.
      You need the compatibility pack to open Microsoft Office files that were created in a newer version of Microsoft Office. For example, to open a .docx file using Office 2003, you need the corresponding compatibility pack installed.
   d. In the Compatibility Pack for the 2007 Office system dialog, select **Click here to accept the Microsoft Software License Terms**, then click **OK**.

9. Configure JustSystems Ichitaro word processing software:
    a. To analyze JTD and JTDC files, install Ichitaro word processing software.

       Recommended versions Govt8 or Pro3.
    b. Disable automatic updates.
    c. If you want analyze Microsoft Office files using Ichitaro, manually change the file association.
10. Configure Adobe Reader:
    a. To analyze PDF files, download Adobe Reader to the native host and copy it to the VM.
    b. Open Adobe Reader and click **Accept**.
    c. In Adobe Reader, select **Edit** → **Preferences** → **General**, then remove **Check for updates**.
    d. In Adobe Reader, select **Help** → **Check for updates** → **Preferences**, then deselect **Adobe Updates**.
11. Configure Java:
    a. Open Java in the Control Panel.
    b. In the Update tab, deselect **Check for Updates Automatically**.
    c. In the Java Update Warning message, select **Do Not Check** and then click **OK**.
12. Configure system startup:
    a. Run the `msconfig` command.
    b. From the Startup tab, deselect **reader_sl** and **jusched**, then click **OK**.

       Note

       reader_sl is available only when Adobe Reader is installed.
    c. In the System Configuration message, select **Restart**.
    d. In the System Configuration Utility message, select **Don't show this message or launch the System Configuration Utility when Windows start**, then click **OK**.
13. Configure the default browser:
    a. In Internet Explorer, select **Tools** → **Internet Options**.
    b. In **Home page** select **Use Blank** or **Use new tab** based on the version of Internet Explorer.
    c. From the Privacy tab, uncheck **Turn on Pop-up Blocker**.
    d. Go to the Advanced tab of the Internet Options and locate **Security**, then select **Allow active content to run in files on My Computer**.
14. Disable the HTTP auto proxy server: Open command prompt with administrator privilege, then run these commands.
    - `Net stop WinHttpAutoProxySvc`
    - `Sc config WinHttpAutoProxySvc start= disabled`

    Note

    The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

Prepare a Windows Server 2008 image

Configure your Windows Server 2008 virtual system for analysis.

Task

1. Log on to the virtual machine as administrator.
2. If the Manage Your Server window page appears, select **Don't Display the page at logon** and close the page.
3. Disable the shutdown event tracker:
   1. Select **Start** → **Run**, type `gpedit.msc`, then click **OK**.
   2. In the Local Group Policy Editor page, select **Computer Configuration** → **Administrative Templates** → **System**, then double-click **Display Shutdown Event Tracker**.
   3. Select **Disabled**, then click **OK**.
   4. Close the Local Group Policy Editor page.
4. Turn off the firewall in the virtual image:
   1. Select **Start** → **Control Panel** → **Windows Firewall** → **Turn on Windows Firewall On or Off**.
   2. Select **Off**, then click **OK**.
5. Install telnet in the virtual image:
   1. Select **Start** → **Administrative Tools** → **Server Manager**.
   2. In the Server Manager window, right-click **Features** and select **Add Features**.
   3. In the **Add Features Wizard**, select **Telnet Server**.
   4. Click **Next**, then **Install**.
   5. Click **Close** after the installation succeeds.
6. Start the telnet service in the virtual image:
   1. Select **Start** → **Administrative Tools** → **Services**, then double-click **Telnet**.
   2. In the **Telnet Properties (Local Computer)** page, select **Automatic** for the Startup type, then select **Apply** → **Start** → **OK**.
7. Configure FTP settings in the virtual image:
   1. Select **Start** → **Administrative Tools** → **Internet Information Services(IIS) Manager**.
   2. In the Internet Information Services Manager page, select **Sites**, select **Add FTP Site**
   3. In the **Add FTP Site** wizard, do the following.
      - Provide the **FTP site name** as `root` and **Physical path** as `C:\`, then click **Next**.
      - For **Bindings and SSL Settings**, select **No SSL**, then click **Next**.
      - For Authentication and Authorization Information, select **Basic** under **Authentication**, select **All Users** under **Allow access to**, select both **Read** and **Write** under **Permissions**.
      - Click **Finish**.
8. Set automatic logon:
   1. Select **Start** → **Run**, type `netplwiz`, then press `Enter`.
   2. In the User Accounts window, deselect `Users must enter a user name and password to use this computer`, then click **Apply**.
   3. In the **Automatically log on** page, provide these credentials.
      - **User name** — `Administrator`
      - **Password** — `cr@cker42`
      - **Confirm Password** — `cr@cker42`

9. Disable Windows updates:
    a. Select **Start** → **Control Panel** → **Windows Update** → **Change settings**.
    b. Under **Important updates**, select **Never check for updates (not recommended)**.
    c. Deselect **Recommended updates when downloading, installing, or notifying me about updates**.
    d. Click **OK**.
10. Configure Microsoft Office:
    a. To analyze Microsoft Word, Excel, and PowerPoint files, install Microsoft Office 2003 on the virtual machine.
    b. Lower the security to run macros for the Office applications. In Microsoft Word 2003 and select **Tools** → **Macro** → **Security**, select **Low**, then click **OK**. Do the same for other applications such as Microsoft Excel and PowerPoint.
    c. Go to http://www.microsoft.com/en-us/download/details.aspx?id=3 and download the required Microsoft Office compatibility pack for Word, Excel, and PowerPoint File Formats, then install them on the virtual machine.
    You need the compatibility pack to open Microsoft Office files that were created in a newer version of Microsoft Office. For example, to open a .docx file using Office 2003, you need the corresponding compatibility pack installed.
    d. In the Compatibility Pack for the 2007 Office system dialog, select **Click here to accept the Microsoft Software License Terms**, then click **OK**.
11. Configure Adobe Reader:
    a. To analyze PDF files, download Adobe Reader to the native host and copy it to the VM.
    b. Open Adobe Reader and click **Accept**.
    c. In Adobe Reader, select **Edit** → **Preferences** → **General**, then remove **Check for updates**.
    d. In Adobe Reader, select **Help** → **Check for updates** → **Preferences**, then deselect **Adobe Updates**.
12. Configure Java:
    a. Open Java in the Control Panel.
    b. In the Update tab, deselect **Check for Updates Automatically**.
    c. In the Java Update Warning message, select **Do Not Check** and then click **OK**.
13. Configure system startup:
    a. Run the `msconfig` command.
    b. From the Startup tab, deselect **reader_sl** and **jusched**, then click **OK**.

    Note

    reader_sl is available only when Adobe Reader is installed.

    c. In the System Configuration message, select `Restart`.
    d. In the System Configuration Utility message, select **Don't show this message or launch the System Configuration Utility when Windows start**, then click **OK**.
14. Configure the default browser:
    a. In Internet Explorer, select **Tools** → **Internet Options**.
    b. In **Home page** select **Use Blank** or **Use new tab** based on the version of Internet Explorer.
    c. From the Privacy tab, uncheck **Turn on Pop-up Blocker**.
    d. Go to the Advanced tab of the Internet Options and locate **Security**, then select **Allow active content to run in files on My Computer**.

Note

The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

Prepare a Windows 8 image for analysis

Configure your Windows 8 virtual system for analysis.

Task

1. From the native system, set up Windows 8 to display in the Desktop mode instead of the default Metro UI mode when it starts.
    a. Press the `Windows` and `R` keys simultaneously, which is the shortcut to open the Run dialog box.
    b. In the Run dialog box, type `regedit`, then press `Enter`.
    c. In Registry Editor, select **HKEY_LOCAL_MACHINE** → **SOFTWARE** → **Microsoft** → **Windows NT** → **CurrentVersion** → **Winlogon**, then double-click on **Shell**.
    d. Change **Value data** to `explorer.exe, explorer.exe` (instead of the default value of `explorer.exe`), then click **OK**.
2. Log on to the virtual machine as administrator.
3. Turn off the firewall in the virtual image:
    a. Press the `Windows` and `X` keys simultaneously, then select **Control Panel** → **System and Security** → **Turn on Windows Firewall On or Off**.
    b. Select **Turn off Windows Firewall (not recommended) for both Home or work(private) network location settings** and **Public network location settings**, then click **OK**.
4. Disable Windows Defender:
    a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
    b. Select **Windows Defender** → **Settings** → **Administrators**, deselect **Turn on Windows Defender**, then click **Save changes**.
    c. Close the Windows Defender message box.
5. Disable first log on animation:
    a. Press the `Windows` and `X` keys simultaneously.
    b. In the Run dialog box, type `gpedit.msc`, then press `Enter`.
    c. In the Local Group Policy Editor page, select **Computer Configuration** → **Administrative Templates** → **System** → **Logon**.
    d. Double-click **Show first sign-in animation**, select **Disabled**, then click **OK**.
6. Enable required Windows features.
    a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
    b. Select **Programs** → **Programs and Features** → **Turn Windows feature on or off**.
    c. Select **Internet Information Services** → **FTP server** → **FTP Extensibility**.
    d. Select **Internet Information Services** → **Web Management Tools** → **IIS Management Service**.
    e. Select **Telnet Server**.
    f. Select **.NET Framework 3.5(includes .NET 2.0 and 3.0)** and then select **Windows Communication Foundation HTTP Activation** and **Windows Communication Foundation Non-HTP Activation** options, then press `OK`.

   g. If the **Windows needs files from Windows Update to finish installing some features** message appears, select **Download files from Windows Update**.

      This operation might take around 5 minutes to complete. A confirmation message is displayed when the operation completes.

7. Edit the power options:
   a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
   b. Select **Power Options** → **Choose when to turn off the display**, select **Never** for both **Turn off the display** and **Put the computer to sleep** options, then click **Save changes**.
   c. Select **Power Options** → **Choose what the power buttons do**, select **Change Settings that are currently unavailable** for both **Turn off the display** and **Put the computer to sleep** options, then click **Save changes**.
   d. For shutdown settings, deselect **Turn on fast startup** and **Hibernate** options, then click **Save changes**.
8. Start the telnet service in the virtual image:
   a. Press the `Windows` and `X` keys simultaneously, select **Computer Management** → **Services and Applications** → **Services**, then double-click **Telnet**.
   b. In the **Telnet Properties (Local Computer)** page, select **Automatic** for the Startup type, then select **Apply** → **Start** → **OK**.
9. Configure FTP settings in the virtual image:
   a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
   b. Select **Administrative Tools**, then double-click **Internet Information Services**.
   c. In the Internet Information Services page, expand the entry under **Internet Information Services(IIS) Manager**, then expand the tree under host name.
   d. If you see the **Do you want to get started with Microsoft Web Platform to stay connected with latest Web Platform Components?** message, select **Do not show this message**, then click **Cancel**.
   e. Select **Sites**, right-click on **Default Web Site**, select **Remove**, then click **Yes** to confirm.
   f. Right-click **Sites**, select **Add FTP Site**, then do the following.
      - Provide the **FTP site name** as `root` and **Physical path** as `C:\`, then click **Next**.
      - For **Bindings and SSL Settings**, select **No SSL**, then click **Next**.
      - For Authentication and Authorization Information, select **Basic** under **Authentication**, select **All Users** under **Allow access to**, select both **Read** and **Write** under **Permissions**.
      - Click **Finish**.
   g. Close the Internet Information Services (IIS) Manager page.
10. Turn off automatic updating for Windows:
   a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
   b. Select **Windows Update** → **Change**.
   c. Select **Never check for updates (not recommended)**, then click **OK**
11. Configure Telnet clients
   a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
   b. Select **Administrator Tools** → **Computer Management**.
   c. Select **Computer Management (Local)** → **System Tools** → **Local Users and Groups** → **Groups**.
   d. Double-click **TelnetClients**.
   e. Click **Add**, type `Administrator`, click **Check Names**, then click **OK**.
12. Set automatic logon:

   a. Press the `Windows` and `R` keys simultaneously, type `netplwiz`, then press `Enter`.
   b. In the User Accounts window, deselect `Users must enter a user name and password to use this computer`, then click **Apply**.
   c. In the **Automatically log on** page, provide these credentials.
      - **User name** — `Administrator`
      - **Password** — `cr@cker42`
      - **Confirm Password** — `cr@cker42`

13. Configure Microsoft Office:
    a. To analyze Microsoft Word, Excel, and PowerPoint files, install Microsoft Office 2003 on the virtual machine.
    b. Lower the security to run macros for the Office applications. In Microsoft Word 2003 and select **Tools** → **Macro** → **Security**, select **Low**, then click **OK**. Do the same for other applications such as Microsoft Excel and PowerPoint.
    c. Go to http://www.microsoft.com/en-us/download/details.aspx?id=3 and download the required Microsoft Office compatibility pack for Word, Excel, and PowerPoint File Formats, then install them on the virtual machine.
       You need the compatibility pack to open Microsoft Office files that were created in a newer version of Microsoft Office. For example, to open a .docx file using Office 2003, you need the corresponding compatibility pack installed.
    d. In the Compatibility Pack for the 2007 Office system dialog, select **Click here to accept the Microsoft Software License Terms**, then click **OK**.
14. Configure Adobe Reader:
    a. To analyze PDF files, download Adobe Reader to the native host and copy it to the VM.
    b. Open Adobe Reader and click **Accept**.
    c. In Adobe Reader, select **Edit** → **Preferences** → **General**, then remove **Check for updates**.
    d. In Adobe Reader, select **Help** → **Check for updates** → **Preferences**, then deselect **Adobe Updates**.
15. Configure Java:
    a. Open Java in the Control Panel.
    b. In the Update tab, deselect **Check for Updates Automatically**.
    c. In the Java Update Warning message, select **Do Not Check** and then click **OK**.
16. Configure system startup:
    a. Run the `msconfig` command.
    b. From the Startup tab, then click **Open Task Manager**.
    c. Select **Java(TM) Update Scheduler (jusched)** (if listed), then click **Disable**.
    d. Select **Adobe Acrobat SpeedLauncher (reader_sl)** (if listed), then click **Disable**.
    e. In the System Configuration message, select **Restart**.
    f. In the System Configuration Utility message, select **Don't show this message or launch the System Configuration Utility when Windows start**, then click **OK**.
17. Configure the default browser:
    a. In Internet Explorer, select **Tools** → **Internet Options**.
    b. In **Home page** select **Use Blank** or **Use new tab** based on the version of Internet Explorer.
    c. From the Privacy tab, uncheck **Turn on Pop-up Blocker**.
    d. Go to the Advanced tab of the Internet Options and locate **Security**, then select **Allow active content to run in files on My Computer**.
18. Disable the HTTP auto proxy server: Open command prompt with administrator privilege, then run these commands.

- `Net stop WinHttpAutoProxySvc`
- `Sc config WinHttpAutoProxySvc start= disabled`

Note

The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

Prepare a Windows 8.1 image for analysis

Configure your Windows 8.1 virtual system for analysis.

Task

1. From the native system, set up Windows 8.1 to display in the Desktop mode instead of the default Metro UI mode when it starts.
   a. Press the `Windows` and `R` keys simultaneously, which is the shortcut to open the Run dialog box.
   b. In the Run dialog box, type `regedit`, then press `Enter`.
   c. In Registry Editor, select **HKEY_LOCAL_MACHINE** → **SOFTWARE** → **Microsoft** → **Windows NT** → **CurrentVersion** → **Winlogon**, then double-click on **Shell**.
   d. Change **Value data** to `explorer.exe, explorer.exe` (instead of the default value of `explorer.exe`), then click **OK**.
2. Log on to the virtual machine as administrator.
3. Turn off the firewall in the virtual image:
   a. Press the `Windows` and `X` keys simultaneously, then select **Control Panel** → **System and Security** → **Turn on Windows Firewall On or Off**.
   b. Select **Turn off Windows Firewall (not recommended) for both Home or work(private) network location settings** and **Public network location settings**, then click **OK**.
4. Disable Windows Defender:
   a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
   b. Select **Windows Defender** → **Settings** → **Administrators**, deselect **Turn on this app**, then click **Save changes**.
   c. If a Windows Defender message appears, close the message screen.
5. Disable first log on animation:
   a. Press the `Windows` and `R` keys simultaneously, type `gpedit.msc`, then press `Enter`.
   b. In the Local Group Policy Editor page, select **Computer Configuration** → **Administrative Templates** → **System** → **Logon**.
   c. Double-click **Show first sign-in animation**, select **Disabled**, then click **OK**.
6. Enable required Windows features.
   a. Press the `Windows` and `X` keys simultaneously, then select **Control Panel** → **Programs** → **Programs and Features** → **Turn Windows feature on or off**.
   b. Select **Internet Information Services** → **FTP server** → **FTP Extensibility**.
   c. Select **Internet Information Services** → **Web Management Tools** → **IIS Management Service**.

   d. Select **Telnet Server**.
   e. Select **.NET Framework 3.5(includes .NET 2.0 and 3.0)** and then select **Windows Communication Foundation HTTP Activation** and **Windows Communication Foundation Non-HTP Activation** options, then press `OK`.
   f. If the **Windows needs files from Windows Update to finish installing some features** message appears, select **Download files from Windows Update**.

      This operation might take around 5 minutes to complete. A confirmation message is displayed when the operation completes.

7. Download and install the .NET Framework 4.6 on the VM image.

   If a Blocking Issues message appears, install the suggested components, then select **Continue**.
8. Edit the power options:
   a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
   b. Select **Power Options** → **Choose when to turn off the display**, select **Never** for both **Turn off the display**, and **Put the computer to sleep** options, then click **Save changes**.
   c. For shutdown settings, deselect **Turn on fast startup** and **Hibernate** options, then click **Save changes**.
9. Start the telnet service in the virtual image:
   a. Press the `Windows` and `X` keys simultaneously, select **Computer Management** → **Services and Applications** → **Services**, then double-click **Telnet**.
   b. In the **Telnet Properties (Local Computer)** page, select **Automatic** for the Startup type, then select **Apply** → **Start** → **OK**.
10. Configure FTP settings in the virtual image:
    a. Press the `Windows` and `X` keys simultaneously, select **Control Panel** → **System and Security** → **Administrative Tools**, then double-click **Internet Information Services**.
    b. In the Internet Information Services page, expand the entry under **Internet Information Services(IIS) Manager**, then expand the tree under host name.
    c. If you see the **Do you want to get started with Microsoft Web Platform to stay connected with latest Web Platform Components?** message, select **Do not show this message**, then click **Cancel**.
    d. Select **Sites**, right-click on **Default Web Site**, select **Remove**, then click **Yes** to confirm.
    e. Right-click **Sites**, select **Add FTP Site**, then do the following.

       - Provide the **FTP site name** as `root` and **Physical path** as `C:\`, then click **Next**.
       - For **Bindings and SSL Settings**, select **No SSL**, then click **Next**.
       - For Authentication and Authorization Information, select **Basic** under **Authentication**, select **All Users** under **Allow access to**, select both **Read**, and **Write** under **Permissions**.
       - Click **Finish**.

    f. Close the Internet Information Services (IIS) Manager page.
11. Turn off automatic updating for Windows:
    a. Press the `Windows` and `X` keys simultaneously, then select **Control Panel** → **Windows Update** → **Change**.
    b. Select **Never check for updates (not recommended)**, then click **OK**
12. Configure Telnet clients.
    a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
    b. Select **Administrative tools** → **Computer Management**.
    c. Select **Computer Management (Local)** → **System Tools** → **Local Users and Groups** → **Groups**.
    d. Double-click **TelnetClients**.

   e. Click **Add**, type `Administrator`, click **Check Names**, then click **OK**.

13. Set automatic logon:
    a. Press the `Windows` and `R` keys simultaneously, type `netplwiz`, then press `Enter`.
    b. In the User Accounts window, deselect `Users must enter a user name and password to use this computer`, then click **Apply**.
    c. In the **Automatically log on** page, provide these credentials.
       - **User name** — `Administrator`
       - **Password** — `cr@cker42`
       - **Confirm Password** — `cr@cker42`
14. Configure Microsoft Office:
    a. To analyze Microsoft Word, Excel, and PowerPoint files, install Microsoft Office 2007 on the virtual machine.
    b. Lower the security to run macros for the Office applications. In Microsoft Word 2007, select the Microsoft Office option on the top left corner, then select **Word options** → **Trust Center** → **Trust Center Settings** → **Macro Settings**, then select **Enable all macros (not recommended potentially dangerous code can run)**. Do the same for other applications such as Microsoft Excel and PowerPoint.
    c. On the Welcome to Microsoft Office 2007 page, click **Next** button.
    d. On the Sign-up for Microsoft Update page, select **I don't want to use Microsoft Update**, then click **Finish**.
15. Configure Adobe Reader:
    a. To analyze PDF files, download Adobe Reader to the native host and install it to the VM.
    b. In Adobe reader, if Adobe Reader Protected Mode message appears, select **Open with Protected Mode disabled**, then select **OK**.
    c. If Accessibility Setup Assistance message appears, select **Cancel**.
    d. Select **Edit** → **Preferences** → **Updater**, select **Do not download or install updated automatically**, select **OK**, then select **Yes** to confirm the changes.
16. Configure Java:
    a. Open Java in the Control Panel.
    b. In the Update tab, deselect **Check for Updates Automatically**.
    c. In the Java Update Warning message, select **Do Not Check** and then click **OK**.
17. Configure system startup:
    a. Run the `msconfig` command.
    b. From the Startup tab, then click **Open Task Manager**.
    c. Select **Java(TM) Update Scheduler (jusched)** (if listed), then click **Disable**.
    d. Select **Adobe Acrobat SpeedLauncher (reader_sl)** (if listed), then click **Disable**.
    e. In the System Configuration dialog, select **Don't show this message again**, then select **Restart**.
18. Configure the default browser:
    a. In Internet Explorer, select **Tools** → **Internet Options**.
    b. In **Home page** select **Use Blank** or **Use new tab** based on the version of Internet Explorer.
    c. From the Privacy tab, uncheck **Turn on Pop-up Blocker**.
    d. Go to the Advanced tab of the Internet Options and locate **Security**, then select **Allow active content to run in files on My Computer**.
19. Disable the HTTP auto proxy server: Open command prompt with administrator privilege, then run these commands.

- `Net stop WinHttpAutoProxySvc`
- `Sc config WinHttpAutoProxySvc start= disabled`

Note

The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

Prepare a Windows 10 image for analysis

Configure your Windows 10 virtual system for analysis.

Task

1. Log on to the virtual machine, then run the VM Provisioner Tool.

   Note

   VM Provisioner Tool enables the Administrator account, which is disabled by default on Windows 10.

   Note

   The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

2. Restart the virtual machine.
3. Turn off the firewall in the virtual image:
   a. Press the `Windows` and `X` keys simultaneously, then select **Control Panel** → **System and Security** → **Turn on Windows Firewall On or Off**.
   b. Select **Turn off Windows Firewall (not recommended) for both Home or work(private) network location settings** and **Public network location settings**, then click **OK**.
4. Disable Windows Defender:
   a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
   b. Select **Windows Defender**, then turn off all features on the Windows Defender Settings page.
   c. If a Windows Defender message appears, close the message screen.
5. Disable first log on animation:
   a. Press the `Windows` and `R` keys simultaneously.
   b. In the Run dialog box, type `gpedit.msc`, then press `Enter`.
   c. In the Local Group Policy Editor page, select **Computer Configuration** → **Administrative Templates** → **System** → **Logon**.
   d. Double-click **Show first sign-in animation**, select **Disabled**, then click **OK**.
6. Enable required Windows features.
   a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
   b. Select **Programs** → **Programs and Features** → **Turn Windows feature on or off**.

  c. Select **Internet Information Services → FTP server → FTP Extensibility**.
  d. Select **Internet Information Services → Web Management Tools → IIS Management Service**.
  e. Select **.NET Framework 4.6** Advanced Services, and ensure that **ASP.NET 4.6** is enabled.
  f. Select **WCF Service Library**, ensure that **TCP Port Sharing** is enabled, then select **OK**.
  g. If the **Windows needs files from Windows Update to finish installing some features** message appears, select **Download files from Windows Update**.

     This operation might take around 5 minutes to complete. A confirmation message is displayed when the operation completes.

7. Edit the power options:
   a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
   b. Select **Power Options → Choose when to turn off the display**, select **Never** for **Turn off the display**, then click **Save changes**.
8. Configure FTP settings in the virtual image:
   a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
   b. Select **Administrative Tools**, then double-click **Internet Information Services**.
   c. In the Internet Information Services page, expand the entry under **Internet Information Services(IIS) Manager**, then expand the tree under host name.
   d. If you see the **Do you want to get started with Microsoft Web Platform to stay connected with latest Web Platform Components?** message, select **Do not show this message**, then click **Cancel**.
   e. Select **Sites**, right-click on **Default Web Site**, select **Remove**, then click **Yes** to confirm.
   f. Right-click **Sites**, select **Add FTP Site**, then do the following.
      - Provide the **FTP site name** as `root` and **Physical path** as `C:\`, then click **Next**.
      - For **Bindings and SSL Settings**, select **No SSL**, then click **Next**.
      - For Authentication and Authorization Information, select **Basic** under **Authentication**, select **All Users** under **Allow access to**, select both **Read**, and **Write** under **Permissions**.
      - Click **Finish**.
   g. Close the Internet Information Services (IIS) Manager page.
9. Turn off automatic updating for Windows:
   a. Press the `Windows` and `X` keys simultaneously, select **Control Panel**, then select **Small Icons** under **View by**.
   b. Select **Administrative Tools → Services**, then double-click **Windows Update**.
   c. Select **Startup type** as **Disabled**.
   d. Stop the service if the service is running.
   e. Press the `Windows` and `R` keys simultaneously, type `gpedit.msc`, then click **OK**.
   f. In Local Group Policy Editor, select **Computer Configuration → Administrative Templates → Windows Components → Windows Update**.
   g. On the right-pane, double-click **Configure Automatic Updates**.
   h. Select **Disabled**, then click **OK**.
10. Set automatic logon:
    a. Press the `Windows` and `R` keys simultaneously, type `netplwiz`, then press `Enter`.
    b. In the User Accounts window, deselect `Users must enter a user name and password to use this computer`, then click **Apply**.
    c. In the **Automatically log on** page, provide these credentials.

- **User name** — `admin`
- **Password** — `cr@cker42`
- **Confirm Password** — `cr@cker42`

11. Configure Microsoft Office:
    a. To analyze Microsoft Word, Excel, and PowerPoint files, install Microsoft Office 2007 on the virtual machine.
    b. From any Microsoft Office software, select **File** → **Options** → **Advanced**, then under the Display section, enable the following options:
       - **Disable hardware graphics acceleration**
       - **Disable Slide Show hardware graphics acceleration**

    c. Lower the security to run macros for the Office applications. In Microsoft Word 2007, select the Microsoft Office option on the top left corner, then select **Word options** → **Trust Center** → **Trust Center Settings** → **Macro Settings**, then select **Enable all macros (not recommended potentially dangerous code can run)**. Do the same for other applications such as Microsoft Excel and PowerPoint.
    d. Lower the security to run ActiveX for the Office applications. In Microsoft Word 2007, select the Microsoft Office option on the top left corner, then select **Word options** → **Trust Center** → **Trust Center Settings** → **ActiveX Settings**, then select **Enable all controls without restrictions and without prompting (not recommended potentially dangerous code can run)**. Do the same for other applications such as Microsoft Excel and PowerPoint.
    e. Select **Word options** → **Trust Center** → **Trusted Center Settings** → **Trusted Locations**, then use the **Add new location...** button to add **C:\** under **User Locations**. Once added, double-click on the entry for **C:\**, then in the pop-up, select **Subfolders of this location are also trusted**, then click **OK**.
    f. On the Welcome to Microsoft Office 2007 page, click **Next** button.
    g. On the Sign-up for Microsoft Update page, select **I don't want to use Microsoft Update**, then click **Finish**.
    h. When you open any of the Microsoft Office 2007 software, you would see the Help Protect and Improve Microsoft Office pop-up. From the pop-up select **Don't make changes**, then click **OK**.
12. Configure Adobe Reader:
    a. To analyze PDF files, download Adobe Reader to the native host and install it to the VM.
    b. In Adobe reader, if Adobe Reader Protected Mode message appears, select **Open with Protected Mode disabled**, then select **OK**.
    c. If Accessibility Setup Assistance message appears, select **Cancel**.
    d. Select **Edit** → **Preferences** → **Updater**, select **Do not download or install updated automatically**, select **OK**, then select **Yes** to confirm the changes.
13. Configure Java:
    a. Open Java in the Control Panel.
    b. In the Update tab, deselect **Check for Updates Automatically**.
    c. In the Java Update Warning message, select **Do Not Check** and then click **OK**.
14. Configure system startup:
    a. Run the `msconfig` command.
    b. From the Startup tab, then click **Open Task Manager**.
    c. Select **Java(TM) Update Scheduler (jusched)** (if listed), then click **Disable**.
    d. Select **Adobe Acrobat SpeedLauncher (reader_sl)** (if listed), then click **Disable**.
    e. In the System Configuration dialog, select **Don't show this message again**, then select **Restart**.

15. Configure the default browser:
    a. In Internet Explorer, select **Tools** → **Internet Options**.
    b. In **Home page**, select **Use Blank** or **Use new tab** based on the version of Internet Explorer.
    c. From the Privacy tab, deselect **Turn on Pop-up Blocker**.
    d. Go to the Advanced tab of the Internet Options and locate **Security**, then select **Allow active content to run in files on My Computer**.
16. Disable the HTTP auto proxy server: Open command prompt with administrator privilege, then run these commands.
    - `Net stop WinHttpAutoProxySvc`
    - `Sc config WinHttpAutoProxySvc start= disabled`
17. Enable .NET framework: Open command prompt with administrator privilege, then run one of these commands.
    - Using DISM with Internet connectivity

```
DISM /Online /Enable-Feature /FeatureName:NetFx3 /All
```

    - Using DISM with no Internet connectivity

```
DISM /Image:<driveletter:\test\offline /Enable-Feature /FeatureName:NetFx3 /All /Source:<driveletter>:
\sources\sxs
```

Replace `<driveletter>:\sources\sxs` with the path of the installation media.

Replace `<driverletter>:\test\offline` with the path where the image is mounted.

18. Disable the Windows Defender Application Guard.

Note

This step is applicable only on Windows 10 Creators Update (Build v1703) and above.

    a. Go to **Run**, then type `gpedit.msc`, and then click **OK**. This opens the Local Group Policy Editor.
    b. Navigate to **Computer Configuration** → **Administrative Templates** → **Windows Components** → **Windows Defender Application Guard**.
    c. In the right-pane, edit **Turn on Windows Defender Application Guard in Enterprise Mode**.
    d. Select **Disabled**, then click **OK**.

Prepare a Windows 2012 R2 image for analysis

Configure your Windows Server 2012 R2 virtual system for analysis.

Task

1. Log on to the virtual machine as administrator.

Note

> The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

2. If the Manage Your Server window page appears, select **Don't Display the page at logon** and close the page.
3. If the Server Manager windows is displayed, select **Manage** → **Server Manager Properties**, select **Do not start Server Manager automatically at logon**, then select **OK**.
4. Disable the shutdown event tracker:
   a. Select **Start** → **Run**, type `gpedit.msc`, then click **OK**.
   b. In the Local Group Policy Editor page, select **Computer Configuration** → **Administrative Templates** → **System**, then double-click **Display Shutdown Event Tracker**.
   c. Select **Disabled**, then click **OK**.
   d. Close the Local Group Policy Editor page.
5. Turn off the firewall in the virtual image:
   a. Select **Start** → **Control Panel** → **Windows Firewall** → **Turn on Windows Firewall On or Off**.
   b. Select **Off**, then click **OK**.
6. Install telnet in the virtual image:
   a. Select **Start** → **Administrative Tools** → **Server Manager**.
   b. In the Server Manager window, select **Add Roles and Features**.
   c. In **Add Roles and Features Wizard**, select **Telnet Server**.
   d. Click **Next**, then **Install**.
   e. Click **Close** after the installation succeeds.
7. Start the telnet service in the virtual image:
   a. Select **Start** → **Administrative Tools** → **Services**, then double-click **Telnet**.
   b. In the **Telnet Properties (Local Computer)** page, select **Automatic** for the Startup type, then select **Apply** → **Start** → **OK**.
8. Configure FTP settings in the virtual image:
   a. Install IIS Manager if not already present and make sure you check the FTP Server checkbox when installing IIS Manager.
      i. From Server Manager page, select **Add Roles and Features**, then click **Next**.
      ii. In the Installation type page, select **Role-based or feature-based installation**, then click **Next**.
      iii. In the Server selection page, select **Select a server from the server pool**, then click **Next**.
      iv. In the Server Roles page, expand the **Web Server (IIS)** node, expand the **FTP Server** node, select **FTP Server**, select **FTP Service**, then click **Next**.
      v. In the Select features page, click **Next**, then click **Install**.
   b. Select **Start** → **Administrative Tools** → **Internet Information Services(IIS) Manager**.
   c. In the Internet Information Services Manager page, select **Sites**, select **Add FTP Site**
   d. In the **Add FTP Site** wizard, do the following.
      - Provide the **FTP site name** as `root` and **Physical path** as `C:\`, then click **Next**.
      - For **Bindings and SSL Settings**, select **No SSL**, then click **Next**.
      - For Authentication and Authorization Information, select **Basic** under **Authentication**, select **All Users** under **Allow access to**, select both **Read** and **Write** under **Permissions**.

    - Click **Finish**.

9. Download and install the .NET Framework 4.6 on the VM image.

   If a Blocking Issues message appears, install the suggested components, then select **Continue**.
10. Set automatic logon:
    1. Select **Start** → **Run**, type `netplwiz`, then press `Enter`.
    2. In the User Accounts window, deselect `Users must enter a user name and password to use this computer`, then click **Apply**.
    3. In the **Automatically log on** page, provide these credentials.
        - **User name** — `Administrator`
        - **Password** — `cr@cker42`
        - **Confirm Password** — `cr@cker42`
11. Disable Windows updates:
    1. Select **Start** → **Control Panel** → **Windows Update** → **Change settings**.
    2. Under **Important updates**, select **Never check for updates (not recommended)**.
    3. Deselect **Recommended updates when downloading, installing, or notifying me about updates**.
    4. Click **OK**.
12. Configure Microsoft Office:
    1. To analyze Microsoft Word, Excel, and PowerPoint files, install Microsoft Office 2007 on the virtual machine.
    2. Lower the security to run macros for the Office applications. In Microsoft Word 2007, select the Microsoft Office option on the top left corner, then select **Word options** → **Trust Center** → **Trust Center Settings** → **Macro Settings**, then select **Enable all macros (not recommended potentially dangerous code can run)**. Do the same for other applications such as Microsoft Excel and PowerPoint.
    3. Lower the security to run ActiveX for the Office applications. In Microsoft Word 2007, select the Microsoft Office option on the top left corner, then select **Word options** → **Trust Center** → **Trust Center Settings** → **ActiveX Settings**, then select **Enable all controls without restrictions and without prompting (not recommended potentially dangerous code can run)**. Do the same for other applications such as Microsoft Excel and PowerPoint.
    4. On the Welcome to Microsoft Office 2007 page, click **Next** button.
    5. On the Sign-up for Microsoft Update page, select **I don't want to use Microsoft Update**, then click **Finish**.
13. Configure Adobe Reader:
    1. To analyze PDF files, download Adobe Reader to the native host and install it to the VM.
    2. In Adobe reader, if Adobe Reader Protected Mode message appears, select **Open with Protected Mode disabled**, then select **OK**.
    3. If Accessibility Setup Assistance message appears, select **Cancel**.
    4. Select **Edit** → **Preferences** → **Updater**, select **Do not download or install updated automatically**, select **OK**, then select **Yes** to confirm the changes.
14. Configure Java:
    1. Open Java in the Control Panel.
    2. In the Update tab, deselect **Check for Updates Automatically**.
    3. In the Java Update Warning message, select **Do Not Check** and then click **OK**.
15. Configure system startup:
    1. Run the `msconfig` command.

   b. From the Startup tab, deselect **reader_sl** and **jusched**, then click **OK**.

      Note

      reader_sl is available only when Adobe Reader is installed.

   c. In the System Configuration dialog, select **Don't show this message again**, then select **Restart**.

16. Configure the default browser:
    a. In Internet Explorer, select **Tools** → **Internet Options**.
    b. In **Home page** select **Use Blank** or **Use new tab** based on the version of Internet Explorer.
    c. From the Privacy tab, uncheck **Turn on Pop-up Blocker**.
    d. Go to the Advanced tab of the Internet Options and locate **Security**, then select **Allow active content to run in files on My Computer**.

Prepare a Windows Server 2016 Standard image for analysis

Configure your Windows Server 2016 Standard virtual system for analysis.

Task

1. Log on to the virtual machine as administrator.

   Note

   The VM administrator password `cr@cker42` is required for VM profile creation. ATD system updates it to a random string as a part of VM creation. The running sandbox VM will have a random password.

2. If the Manage Your Server window page appears, select **Don't Display the page at logon** and close the page.
3. If the Server Manager windows is displayed, select **Manage** → **Server Manager Properties**, select **Do not start Server Manager automatically at logon**, then select **OK**.
4. Disable the shutdown event tracker:
   a. Select **Start** → **Run**, type `gpedit.msc`, then click **OK**.
   b. In the Local Group Policy Editor page, select **Computer Configuration** → **Administrative Templates** → **System**, then double-click **Display Shutdown Event Tracker**.
   c. Select **Disabled**, then click **OK**.
   d. Close the Local Group Policy Editor page.
5. Turn off the firewall in the virtual image:
   a. Select **Start** → **Control Panel** → **Windows Firewall** → **Turn on Windows Firewall On or Off**.
   b. Select **Turn off Windows Firewall (not recommended)**, for the following, then click **OK**.

      - **Home or work (private) networks**
      - **Public networks**

6. Configure FTP settings in the virtual image:

   a. Install IIS Manager if not already present and make sure you check the FTP Server checkbox when installing IIS Manager.
      i. From Server Manager page, select **Add Roles and Features**, then click **Next**.
      ii. In the Installation type page, select **Role-based or feature-based installation**, then click **Next**.
      iii. In the Server selection page, select **Select a server from the server pool**, then click **Next**.
      iv. In the Server Roles page, expand the **Web Server (IIS)** node, expand the **FTP Server** node, select **FTP Server**, select **FTP Service**, then click **Next**.
      v. In the Select features page, click **Next**, then click **Install**.
   b. Select **Start** → **Administrative Tools** → **Internet Information Services(IIS) Manager**.
   c. In the Internet Information Services Manager page, select **ADMINISTRATOR** → **Sites**, then right-click on **Sites** and select **Add FTP Site**.
   d. In the **Add FTP Site** wizard, do the following.

      - Provide the **FTP site name** as `root` and **Physical path** as `C:\`, then click **Next**.
      - For **Bindings and SSL Settings**, select **No SSL**, then click **Next**.
      - For Authentication and Authorization Information, select **Basic** under **Authentication**, select **All Users** under **Allow access to**, select both **Read** and **Write** under **Permissions**.
      - Click **Finish**.

7. Ensure that .NET Framework 4.6.2 is installed.
8. Set automatic logon:
   a. Select **Start** → **Run**, type `netplwiz`, then press `Enter`.
   b. In the User Accounts window, deselect `Users must enter a user name and password to use this computer`, then click **Apply**.
   c. In the **Automatically log on** page, provide these credentials.

      - **User name** — `Administrator`
      - **Password** — `cr@cker42`
      - **Confirm Password** — `cr@cker42`

9. Disable Windows updates and Windows Defender:
   a. Select **Start** → **Run**, type `gpedit.msc`, then press `Enter`.
   b. Select **Computer Configuration** → **Administrative Templates** → **Windows Components** → **Windows update**.
   c. On the right pane, double click **Configure Automatic Updates**, then select **Disable**.
   d. Click **OK**.
   e. Select **Computer Configuration** → **Administrative Templates** → **Windows Components** → **Windows Defender**.
   f. On the right pane, double click **Turn off Windows Defender** , then select **Enable**.
   g. Click **OK**.
10. Configure Microsoft Office 2016:
   a. To analyze Microsoft Word, Excel, and PowerPoint files, install Microsoft Office 2016 on the virtual machine.
   b. Lower the security to run macros for the Office applications. In Microsoft Word , select the Microsoft Office 2016 option on the top left corner, then select **Word options** → **Trust Center** → **Trust Center Settings** → **Macro Settings**, then select **Enable all macros (not recommended potentially dangerous code can run)**. Do the same for other applications such as Microsoft Excel and PowerPoint.

   c. Lower the security to run ActiveX for the Office applications. In Microsoft Word 2007, select the Microsoft Office option on the top left corner, then select **Word options** → **Trust Center** → **Trust Center Settings** → **ActiveX Settings**, then select **Enable all controls without restrictions and without prompting (not recommended potentially dangerous code can run)**. Do the same for other applications such as Microsoft Excel and PowerPoint.
   d. On the Welcome to Microsoft Office 2016 page, click **Next** button.
   e. On the Sign-up for Microsoft Update page, select **I don't want to use Microsoft Update**, then click **Finish**.

11. Configure Adobe Reader:
    a. To analyze PDF files, download Adobe Reader to the native host and install it to the VM.
    b. In Adobe reader, if Adobe Reader Protected Mode message appears, select **Open with Protected Mode disabled**, then select **OK**.
    c. If Accessibility Setup Assistance message appears, select **Cancel**.
    d. Select **Edit** → **Preferences** → **Updater**, select **Do not download or install updated automatically**, select **OK**, then select **Yes** to confirm the changes.
12. Configure Java:
    a. Open Registry Editor
    b. Navigate to HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\JavaSoft\Java Update\Policy\EnableJavaUpdate.
    c. Set its value to **0**.
    d. Close the Registry Editor.
13. Configure Adobe flash player:
    a. Run the command prompt as an Administrator.
    b. Execute the following command:

```
dism.exe /online /add-package /packagepath:"<Adobe-Flash-For-Windows-Package>.mum"
```

Note

Replace `<Adobe-Flash-For-Windows-Package>` with the name and path of the Adobe Flash for Windows package MUM file.

    c. Restart the VM.

14. Configure system startup:
    a. Select **Start** → **Run**, type `msconfig`, then click **OK**.
    b. From the Startup tab, deselect **reader_sl** and **jusched**, then click **OK**.

Note

reader_sl is available only when Adobe Reader is installed.

    c. In the System Configuration dialog, select **Don't show this message again**, then select **Restart**.

15. Configure the default browser:
    a. In Internet Explorer, select **Tools** → **Internet Options**.
    b. In **Home page** select **Use Blank** or **Use new tab** based on the version of Internet Explorer.
    c. From the Privacy tab, uncheck **Turn on Pop-up Blocker**.

d. Go to the Advanced tab of the Internet Options and locate **Security**, then select **Allow active content to run in files on My Computer**.
e. Open Registry Editor.
f. Navigate to HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Active Setup\Installed Components\{A509B1A7-37EF-4b3f-8CFC-4F3A74704073}.
g. Set its value to **0**.
h. Close the Registry Editor.

Import the virtual disk file

To create an analyzer VM, you must import the corresponding virtual disk file into Advanced Threat Defense.

Task

1. Click **Start** → **Shut down**.
2. Make sure there are no stale lock files (.lck) associated with the virtual machine.
   The .lck files are located in the same folder as the .vmdk or .vhdx file.
3. Locate the virtual disk file.
   Make sure the virtual disk file name does not contain any spaces or unsupported characters. If it contains any spaces or unsupported characters, the image file conversion fails.
4. To enable FTP, use the `set ftp enable` CLI command.
   FTP transfer is faster than SFTP, but less secure. If your Advanced Threat Defense Appliance is in an unsecured network, such as an external network, use SFTP.
5. Open the FTP client.
   For example, you can use WinSCP or FileZilla.
6. To connect to the FTP server on Advanced Threat Defense, use the following credentials.
   - Host — IP address of Advanced Threat Defense
   - Username — atdadmin
   - Password — atdadmin
   - Port — The corresponding port number based on the protocol you want to use.
7. Upload the virtual disk file from the local machine to Advanced Threat Defense.

Convert the VMDK and VHDX file to an image file

To create an analyzer VM, you must convert the VMDK and VHDX file to an image file.

For malware analysis, you can create multiple VMs that run on the same operating system, but with different applications. For example, you can create a Windows 7 SP1 analyzer VM for Internet Explorer 10 and another Windows 7 SP1 analyzer VM for Internet Explorer 9.

Users without administrator permissions are able to convert VMDK and VHDX files to image files.

Task

1. Log on to the Advanced Threat Defense web interface.
2. Click **Manage** → **Image & Software** → **Image**.
3. From the **VMDK and VHDX Image** drop-down list, select the imported VMDK or VHDX file.
4. In the **Image Name** field, enter the image name that corresponds to your operating system.

Note

Image Name must not contain a space or any special characters. Accepted special characters are hypens (-) or underscores (_).

Image names

Operating system	Image name
Microsoft Windows 7 32-bit Service Pack 1	win7sp1.img
Microsoft Windows 7 64-bit Service Pack 1	win7x64sp1.img
Microsoft Windows 8 Professional 32-bit	win8p0x32.img
Microsoft Windows 8 Professional 64-bit	win8p0x64.img
Windows 8.1 Enterprise Update 1 version 6.3 build 9600 64-bit	win8p1x64.img
Windows 10 Enterprise (Redstone 1 and 2, Threshold 2) 64-bit	win10p0x64.img
Microsoft Windows Server 2008 R2 Service Pack 1	win2k8sp1.img
Windows 2012 Datacenter 64-bit	win2k12.img
Windows 2012 R2 Datacenter 64-bit	win2k12r2.img

Note

Ensure that you specify whether the OS is a 32-bit or a 64-bit in the **Image Name** field, else the samples will fail submission.

McAfee ePO and OS profiling work only when you use the default name.

5. Select the **Operating System**.

   Advanced Threat Defense attaches the name that you provide to the default name.

   Example: You select **Microsoft Windows 7 32-bit Service Pack 1**, then enter with_PDF in the **Image Name** field.

   The image file name is *win7sp1_with_PDF*.

   Note

   > The image file name must be an alphabet, number, or underscore (_).

6. Click **Convert**.
7. On the **Info** window, click **OK**.
8. View the image conversion logs.
   a. From the **Select Log** drop-down list, select the image name.
   b. Click **View**.

Accessing the Advanced Threat Defense web interface

The Advanced Threat Defense web interface is hosted on the Advanced Threat Defense Appliance. You can access the Advanced Threat Defense web interface from a remote machine using a supported browser.

McAfee Advanced Threat Defense web UI requirements and preparation

Before you access the web UI, ensure that you make changes to your browser settings. Also, make sure that your system meets the necessary requirements. For a complete list of system requirements for client systems, see KB87121.

Browser settings for HTML5 support

User-interactive mode (XMode) is used for activation of VM images and manual submission of files. This mode works with any browser that support HTML5 Canvas. You do not need to install Java to use the XMode feature.

Chrome version 44.0.2403 and higher and Mozilla Firefox version 40.0.3 and higher are supported. Microsoft Internet Explorer is not supported.

You need to modify Firefox settings to use the HTML5 feature.

1. From the Firefox homepage, click **Options** → **Advanced** → **Certificates** → **View Certificates**.
2. From the Certificate Manager window, click **Servers**.
3. Click **Add Exception...** and type `https://<Host ATD IP address>:6080` and click **Get Certificate**.
4. Click **Confirm Security Exception** and then **OK**.
5. Click **Activation** or **XMode**.

Security settings for Internet Explorer

When you try to access the web application, you might see the *ActiveX control unsafe* pop-up dialog box. Perform these steps to resolve this issue.

1. On your system, search for **Edit Group Policy**. The Local Group Policy Editor window is displayed.
2. From the **Local Computer Policy** tree, go to **Computer Configuration** → **Administrative Templates** → **Windows Components** and click **Internet Explorer**.
3. In the right window options, double-click **Turn off the Security Settings Check feature** and select **Enabled**.
4. Click **Apply** and then **OK**.

Security settings for Microsoft Edge

Before installing Microsoft Edge, you must make these changes on the Windows Registry.

1. On your system, open the Registry Editor.
2. Go to **HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\EdgeUpdate** key.

   Note

   You must create this key if it is not available.

3. Enter this information:
   - DWORD name: Allowsxs
   - DWORD value: 1

Group Policy change for Microsoft Edge

You can modify a group policy to configure Microsoft Edge.

1. Open the Group Policy Editor.
2. Go to **Computer Configuration** → **Administrative Templates** → **Microsoft Edge Update** → **Applications** and select **Allow Microsoft Edge Side by Side browser experience.**.
3. Click **Edit Policy Setting** and select **Enabled**.
4. Click **OK**.

Accessing Web UI using a URL

You can access the McAfee Advanced Threat Defense Web UI using a URL. For this, you need to set the appliance name and add it to your DNS server.

Set the appliance name using the set appliance name command. Then add this newly created appliance name to your DNS server. This allows you to access McAfee Advanced Threat Defense using a URL within your domain.

For example:

Set your appliance name to *myatd*. Add *myatd* to your DNS server.

If the domain name of your organization is *www.example.com*. You can access McAfee Advanced Threat Defense Web UI using *myatd.example.com*.

For more information about `set appliance name`, see *McAfee Advanced Threat Defense CLI Reference Guide*.

Log on to the Advanced Threat Defense web interface

To log on to the Advanced Threat Defense web interface for the first time, use the default credentials.

Before you begin

Set the appliance name using the set appliance name command. Then add the appliance name to your DNS server. This allows you to access McAfee Advanced Threat Defense using a URL within your domain.

Task

1. Open your Internet browser, then use the following to log on to the Advanced Threat Defense web interface:
   - **URL** — https://<Advanced Threat Defense Appliance host name or IP address>
   - **Login ID** — admin
   - **Password** — admin
2. Click **Log In**.
3. Change the default password.

Copy existing image files from one Advanced Threat Defense Appliance to others on the same network

Any image file available can be concurrently copied to multiple Advanced Threat Defense Appliance on the same network. This helps reduce the additional effort of preparing image files for each individual standalone appliance.

Before you begin

- When copying the IMG file to an Advanced Threat Defense cluster, make sure that you copy it to the primary node and follow-up with **VM Sync** to propagate the image to all nodes.

  Note

  > We do not recommend copying images to backup or secondary nodes in a cluster directly.

- Avoid copying into more than five destination Advanced Threat Defense Appliance concurrently.

Task

1. Log on to the Advanced Threat Defenseweb interface.
2. Click **Manage** → **Image & Software** → **Software**.
3. In **Destination IP**, enter the IP addresses of all devices where the IMG file needs to be copied, separated by semicolons (;).

   Note

   Invalid or unavailable IP addresses are ignored.

4. In **VM Image**, select the image to be copied.
5. Click **Copy VM**.

   Note

   This button is disabled if previous instances of Image copy are running.

What to do next

Verify that the image copied at the destination is same as the source. To do this, compare their hashes available under VM Profiles page.

Note

If Image Copy is in progress and either the source or destination Advanced Threat Defense goes offline, a partial image might appear in the destination Advanced Threat Defense which would be unusable.

Restart the Image Copy instance when both devices are online to fix the issue.

Managing VM profiles

After you convert the imported VMDK or VHDX file to an image file, you create a VM profile for that image file.

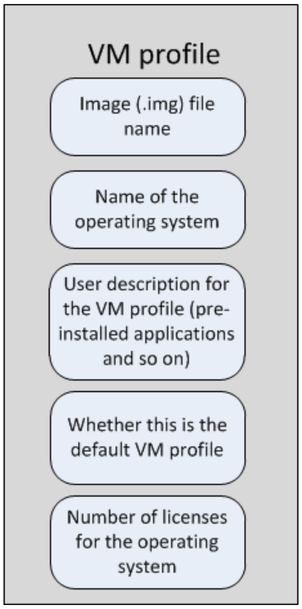
Note

You cannot associate this VM profile with any other image file. Similarly, once associated, you cannot change the VM profile for an image file.

VM profiles contain the operating system and applications in an image file. This enables you to identify the images that you uploaded to Advanced Threat Defense and then use the appropriate image for dynamically analyzing a file. You can also specify the number of licenses that you possess for the operating system and the applications. Advanced Threat Defense factors this in when creating concurrent analyzer VMs from the corresponding image file.

You use the Advanced Threat Defense web application to manage VM profiles.

Configurations in a VM profile


VM profile
Image (.img) file name
Name of the operating system
User description for the VM profile (pre-installed applications and so on)
Whether this is the default VM profile
Number of licenses for the operating system

Create VM profiles

You must configure each image file that you convert with a single, unused VM profile. You can convert the same virtual disk file image files multiple times. This enables you to create multiple image files from one virtual disk file.

VM profiles contain the operating system and applications in an image file. This enables you to identify the images that you uploaded to Advanced Threat Defense and then use the appropriate image to dynamically analyze files. You can also specify the number of licenses that you possess for the operating system and the applications. Advanced Threat Defense factors this in when creating concurrent analyzer VMs from the corresponding image file.

Task

1. Log on to the Advanced Threat Defense web interface, then select **Policy** → **VM Profile** → **New**.
2. From the **Image** drop-down list, select the image, then click **Activate**.
   Based on your browser settings, the activation window opens in a new tab or window.

Note

- Ensure the pop-up blocker for your browser is not blocking the pop-up window. Add the ATD appliance IP under your pop-up blocker exceptions.
-

  Ensure that ports 6000 and higher (port 6000–6000 + number of VMs existing on ATD appliance) are open between the ATD Client and ATD Appliance. Check that the client's firewall allows connections on these ports. All firewalls between ATD and the client must allow connections through these ports.

3. Activate Windows on the VM.
   a. Click **Start** → **Control Panel** → **Windows Activation** → **Activate Windows now**.
   b. Open Microsoft Word, then click **Activate**.
   c. On the **Microsoft Office Activation Wizard**, follow the on-screen prompts.
   d. Shut down the VM, then click **Disconnect**.
4. On the Advanced Threat Defense web interface, click **Validate**.
5. Close the **5n. flash not exist OK** message.
6. Download Flash Player.
   a. To run the original virtual disk image, use VMware ESXi or Microsoft Hyper-V.
   b. On the running VM, download Flash Player.
   c. Unzip the file.
   d. From the command line, run the following commands, then press **Enter**.
      - flashplayerX_X_X_win.exe
      - flashplayerX_X_X_win_debug.exe
      - flashplayerX_X_X_win_sa_debug.exe

   e. Close the Flash Player window.
   f. Stop the VM, then copy the virtual disk image to the Advanced Threat Defense Appliance.

   If the validation fails, create a new virtual disk file with the correct settings, then create the analyzer VM.
7. Click **Check Status**, then verify that the following validation tests are successful on the **Image Validation Log** window.
   - FTP connect to <VM IP address> OK
   - FTP login OK
   - FTP file upload OK
   - Telnet login successful
   - OS winxp
   - Multiprocessing OK
   - FTP OK
   - TELNET OK
   - AUTOLOGON OK
   - ADMINISTRATOR OK
   - FIREWALL OK
   - Sigcheck OK
   - Scan Complete

If the validation tests fail, create a new virtual disk file, then create the analyzer VM.

8. Create the VM profile.
   1. Enter a name and short description for the VM profile.
   2. Select **Default Profile**, to set this as your default VM profile.
   3. In **VM Login**, enter the log on credential for the VM image.
      If you want to log on as an Administrator, leave this field blank.
   4. In **Maximum Licenses**, enter the number of licenses you have for the operating system that you are using for this VM profile.
   5. Click **Save**.
9. On the **Information** window, click **OK**.
   - To monitor the VM creation progress, click **Dashboard**. The VM creation progress appears on the **VM Status** monitor.
   - To view the VM creation logs, click **Manage** → **System**.

Configuring Advanced Threat Defense for malware analysis

To configure Advanced Threat Defense or Virtual Advanced Threat Defense for malware analysis, log on to the Advanced Threat Defense web interface.

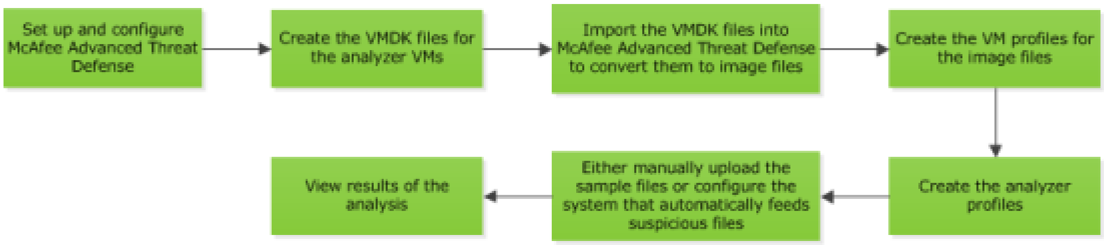
Important

Ensure that you change the password for `cliadmin` from the Command-line interface and `atdadmin` from the web interface for the configurations to be successful. Some of the configurations might fail if you continue using the default password.

High-level steps to configure malware analysis

This section provides the high-level steps on how to configure Advanced Threat Defense for malware analysis and reporting

Summarized steps for configuring malware analysis


Set up and configure McAfee Advanced Threat Defense
Create the VMDK files for the analyzer VMs
Import the VMDK files into McAfee Advanced Threat Defense to convert them to image files
Create the VM profiles for the image files
Create the analyzer profiles
Either manually upload the sample files or configure the system that automatically feeds suspicious files
View results of the analysis

1. Set up the Advanced Threat Defense Appliance and ensure that it is up and running.
   - Based on your deployment option, make sure the Advanced Threat Defense Appliance has the required network connections. For example, if you integrate it with Network Security Platform, make sure the Sensor, Manager, and the Advanced Threat Defense Appliance are able to communicate with each other.
   - Make sure the required static analysis modules, such as the McAfee Gateway Anti-Malware Engine are up-to-date.

2. Create the analyzer VMs and the VM profiles.
3. Create the analyzer profiles that you need.
4. If you want Advanced Threat Defense to upload the results to an FTP server, configure it and have the details with you before you create the profiles for the corresponding users.
5. Create the required user profiles.
6. Log on to Advanced Threat Defense web application using the credentials of a user you created and upload a sample file for analysis. This is to check if you have configured Advanced Threat Defense as required.
7. In the **Analysis Status** page, monitor the status of the analysis.
8. After the analysis is complete, view the report in the **Analysis Results** page.

Configure the McAfee Virtual Advanced Threat Defense network information

Manage the McAfee Virtual Advanced Threat Defense from virtual machine manager.

Task

1. From your client virtual machine, access the virtual machine console with these credentials.
   - User name — `cliadmin`
   - Password — `atdadmin`
2. Change your password: Provide the old password as `atdadmin`, followed by the new password, then re-enter the new password to confirm.
3. In the command prompt, configure the McAfee Virtual Advanced Threat Defense:
   a. Set a name for McAfee Virtual Advanced Threat Defense.
   For example, `set appliance name matd_appliance_1`.
   The password must be an alphanumeric character string up to 25 characters. The string must begin with a letter, and can include hyphens, underscores, and periods, but not spaces.
   b. Set the McAfee Virtual Advanced Threat Defense management port IP address and subnet mask.
   For example, `set appliance IP xx.xx.x.x 255.255.255.0`.
   Do not assign this class C network IP addresses: 192.168.55.0/24
   c. Set the default gateway IP address.
   For example, `set appliance gateway xx.xx.x.x`.
   d. Set the management port speed and duplex settings using one of the following commands:
      - `set mgmtport auto` — Sets the management port in auto mode for speed and duplex.
      - `set mgmtport speed (10|100) duplex (full|half)` — Sets the speed to 10 Mbps or 100 Mbps in full or half-duplex mode.

   e. Verify the configuration.
      - To view the configuration details, run the `show` command.
      - To check the network connectivity, run the `ping <IP address>` command.

One of these messages appears:

- **host <ip address> is alive** — When the server is reachable.
- **failed to talk to <ip address>** — When the host server is not reachable.

4. Restart the McAfee Virtual Advanced Threat Defense.

Configure the security and performance options

To ensure that Advanced Threat Defense runs securely and efficiently, configure the **Global Settings**.

Task

1. Log on to the Advanced Threat Defense web interface.
2. Click **Manage** → **ATD Configuration** → **Global Settings**.
3. Configure the following settings.

Option	Definition
Prevent unsupported file types	When selected, prevents Sensors from sending unsupported file types to Advanced Threat Defense for analysis.
Accept files based on extensions	When selected, allows Advanced Threat Defense to accept the file based on the file extension, instead of only the file header, before it is sent for dynamic analysis.
GTI lookup for links embedded inside PDF files	When selected, allows Advanced Threat Defense to complete the McAfee GTI lookup of links that are embedded in PDF files during dynamic analysis.
Generate STIX report	When selected, allows Advanced Threat Defense to generate the STIX report, which displays the activities that malware has performed on the sandbox environment.
MEG Wait-Time Threshold in Seconds	Specifies the maximum wait time that Advanced Threat Defense uses to analyze samples from your configured secure gateway.
X-Mode Maximum Time	Specifies the maximum time that users can access the sandbox environment.
Apply Custom Behavioral Rules	When selected, allows you to use your own YARA rules to identify and classify malware.

Option	Definition
File Sizes	Allows you to set the minimum and maximum file size of the supported file type. Click the minimum or maximum size of the respective file type to edit.

4. Click **Save**.

Note

To return the settings to the default configuration, click **Reset Settings to Default**.

Configure proxy servers for Internet connectivity

Advanced Threat Defense connects to different proxy servers for Internet connectivity. Based on the source of the traffic, Advanced Threat Defense determines the proxy server on which the Internet access requests from the traffic have to be routed.

These proxy servers can be configured on Advanced Threat Defense to handle Internet access requests:

- **GTI HTTP Proxy** — This setting is relevant for those analyzer profiles which have *GTI Reputation* enabled in their Analyzing Options. Advanced Threat Defense sends a query to a McAfee GTI server to fetch McAfee GTI score for the suspicious file being analyzed. If the customer network is protected under proxy, specify the proxy server details here so that the McAfee GTI queries can be sent out.
- **Malware Site Proxy** — This setting is applicable when samples being analyzed at analyzer VMs request Internet access. The proxy server specified under **Malware Site Proxy** handles the request. Because the traffic from an analyzer VM might be malicious, you might want to segregate this traffic from your production network.

Configure Advanced Threat Defense to communicate with McAfee GTI

To use McAfee GTI with Advanced Threat Defense, configure the options.

Task

1. Log on the Advanced Threat Defense web interface.
2. Verify that the **GTI File Reputation** option is enabled.
   a. Click **Policy** → **Analyzer Profile**.
   b. Select the analyzer profile, then click **Edit**.
   c. Select **GTI File Reputation**.
3. Click **Manage** → **ATD Configuration** → **Proxy**.
4. Configure the **GTI HTTP Proxy** options, then click **Test**.

5. Click **Submit**.

Enable the malware site proxy

Allow analyzer VMs to connect to the internet for sample analysis.

Task

1. Log on the Advanced Threat Defense web interface.
2. Click **Manage** → **ATD Configuration** → **Proxy**.
3. Configure the **Malware Site Proxy** options, then click **Test**.
4. Click **Submit**.

Configure DNS setting

When you execute files, the files can send DNS queries to resolve names. DNS queries are an attempt by malware to determine if they are being run in a sandbox environment. If the DNS query fails, the file might take an alternate path. When Advanced Threat Defense dynamically analyzes such a file, you might want to provide a proxy DNS service in order to bring out the actual behavior of the file.

Before you begin

- The DNS server is required to have access to a public domain or the internet.
- Ensure that the IP configured for DNS should be resolved by the DNS server using reverse lookup.

Note

Malware DNS is used during VM activation, and also for any name resolution requests originating from the analyzer VM.

Task

1. Log on to the Advanced Threat Defense web interface.
2. Click **Manage** → **ATD Configuration** → **DNS**.
3. In **DNS Setting**, complete these settings, then click **Apply**.
   - **Domain** — Type your domain name.
   - **Preferred DNS Server** — Type IP address of the primary DNS server.
   - **Alternate DNS Server** — Type IP address of the secondary DNS server.
4. In **Malware DNS Setting**, type IP address of the DNS server to resolve name resolution queries originated from the sandbox environment, then click **Apply**.

Configure the syslog settings

The syslog mechanism transfers the Advanced Threat Defense events over the syslog channel to Security Information and Event Management (SIEM) or a logging server.

You can configure up to two external syslog server to which the following information are sent based on your configuration:

- **Analysis Results** (**Malicious** only or **All**)
- **CPU Utilization** (above a threshold percentage)
- **Memory Utilization** (above a threshold percentage)
- **HDD Utilization** (above a threshold percentage)
- **Interface Status**
- **User Login/Logout**
- **Audit Log**
- **HTTPS Session Log**

Once the user-defined threshold limit exceeds for CPU Utilization, Memory Utilization and HDD Utilization, syslog events are generated and sent to SIEM receiver. Minimum threshold level supported is 30%. Maximum threshold level supported is 90%. By default, the threshold percentage displayed under **Syslog Setting** page is 75%.

Whenever the interface link goes down or comes up, syslog events are generated and sent to SIEM receiver.

Analysis results and logon/logoff events are sent to the SIEM receiver.

Note

After syslog events are generated and sent to SIEM receiver, the information are parsed and sent to ESM. The summary is then displayed on the ESM user interface.

Note

The SIEM receiver and ESM can be on separate appliances or can be together in a virtual environment.

Task

1. Log on to the Advanced Threat Defense web interface.
2. Click **Manage** → **ATD Configuration** → **Syslog**, then select **Enable Logging**.
3. In the **Statistic to Log** section, make these selections and entries as per requirement.
   - Select **Analysis Results**, then select a level from the **Severity Level** drop-down list.
   - Select **CPU Utilization** and specify the threshold level in the respective **Threshold** drop-down.
   - Select **Memory Utilization** and specify the threshold level in the respective **Threshold** drop-down.
   - Select **HDD Utilization** and specify the threshold level in the respective **Threshold** drop-down.
   - Select **Interface Status** to receive information regarding interface link status.
   - If you want to store the logon/logoff information with a time stamp, select **User Login/Logout**.

- Select **Audit Log** to view logs for administrative actions performed on Advanced Threat Defense. **Audit Log** is selected by default.
- Select **HTTPS Session Log** to view logs for every session established or terminated.

This option is only available when **Common Criteria Mode** is enabled in **Advanced Security Settings**.

Note

When **HTTPS Session Log** is enabled, Advanced Threat Defense web performance is impacted.

4. From the drop-down, select the communication protocol between your Syslog server and Advanced Threat Defense.

   Note

   If you select **TCP/TLS Encryption**, then ensure that you upload a valid root CA certificate. You can upload the certificate from **Manage** → **Security** → **Manage Certificates** → **Trusted CA certificate**. For more information see the *Upload certificates* topic.

5. You can configure up to two syslog servers on Advanced Threat Defense. To configure the **System Log Server** options, do the following:
   a. Enable Syslog.
   b. Type the IP address or hostname of the logging server.

      Note

      In CC mode, hostname validation is done based on the logging server certificates. The communication will fail if there is a discrepancy between the hostname of the logging server and the certificate.

   c. Type the port number on which the logging server is listening.
   d. Enable **Validate Syslog Server Certificate**, to perform security checks on the syslog server certificates.

      Note

      - This checkbox is available only if you chose **TCP/TLS Encryption** in the communication protocol.
      - This option must be enabled to run Advanced Threat Defense in CC mode. Advanced Threat Defense validates your syslog server certificate before it starts communicating with your syslog server. Advanced Threat Defense will notify you if there was a validation failure.

6. Click **Test Connection**. When the "Test connection successful" message appears, click **OK**.

   Note

   When you select **UDP** as the **Protocol** from the drop-down list then **Test Connection** tab is disabled as UDP uses a simple connectionless transmission model rendering the connection status, unverifiable.

7. Click **Submit**.

Configuring the TAXII settings

Trusted Automated eXchange of Indicator Information (TAXII™) is a transport mechanism which allows you to automate the exchange of threat information. The information is shared in the form of a STIX report to the TAXII server.

Advanced Threat Defense generates STIX report when malicious files are detected and then the report sent to your TAXII server. For Advanced Threat Defense to do so, you need to configure your TAXII server information on Advanced Threat Defense.

Supported versions

STIX - version 1.2

TAXII - version 1.x

Note

Advanced Threat Defense only supports HTTPS while communicating with the TAXII server.

Enable and configure TAXII settings

Advanced Threat Defense generates the STIX report which is then sent to the TAXII server.

Before you begin

Ensure that you have configured an inbox service and set a data collection name on the TAXII server.

Task

1. Log on to the Advanced Threat Defense interface, then click **Manage** → **ATD Configuration** → **Global Settings** and select **Generate STIX report**.
2. Click **Manage** → **ATD Configuration** → **TAXII**, then select **Enable TAXII Communication**.
3. In **URL**, type the address of your TAXII server.
4. Choose **None** or **Basic** based on the authentication requirement set for your server.
   If you choose **Basic**, type the user name and password for authentication.
5. If your TAXII server requires TAXII client authentication, select **Certificate Authentication Required**.
6. Use **Browse** to select a certificate, then click **Upload**.

   Note

   - The certificate must be in PEM format.
   - Merge the private key with your certificate.
   - Ensure that the certificate key-length is 2048 bytes or above.

7. Select **Enable Discovery** and do the following:
   a. In **Discover Service URL**, type the URL for the discover service.
      This allows Advanced Threat Defense to check for available TAXII services on the TAXII server.
   b. In **Collection URL**, type the URL for the data collection service.
      This allows Advanced Threat Defense to request information about available Data Collections on the TAXII server.
8. In **Inbox Path**, type the path of the managed inbox of your TAXII server.
   Inbox Path can be read from response obtained from Discover Services.
9. In **Collection Name**, type the name of the collection where the STIX reports are delivered.
   Collection Name can be read from response obtained from Discover Collection.
10. Click **Test Connection** to check the status of the connection between Advanced Threat Defense and the TAXII server.
    The check returns the status of the following:
    - Inbox service on collection name.
    - Discovery service (if enabled)
    - Collection Service (if enabled)
11. Click **Apply** to save your configuration.

Results

Once Advanced Threat Defense starts communicating with the TAXII server, the **TAXII Status** changes to the following:

- **UP** – Last attempt to send STIX report to the TAXII server was successful.
- **DOWN** – Last attempt to send STIX report to the TAXII server was unsuccessful. This status can also appear if the TAXII settings are not configured or incorrect.
- **UNKNOWN** – Connection status is not yet verified by Advanced Threat Defense.

Configuring date and time settings

Advanced Threat Defense uses the date and time that you configure for all its functional and display purposes. The date and time displays on the Advanced Threat Defense web interface, reports, log files, and CLI.

You have two ways to configure the date and time:

- Manually specify the date and time
- Configure Network Time Protocol (NTP) servers

If you configure Network Time Protocol (NTP) servers as the time source, Advanced Threat Defense acts as an NTP client and synchronizes with the highest priority NTP server that is available. You can configure up to 3 Network Time Protocol (NTP) servers. In this case,

- By default, synchronization with NTP servers is enabled in Advanced Threat Defense. Also, pool.ntp.org is configured as the default NTP server. The default time zone is Pacific Standard Time (UTC-8).

- When you upgrade from a previous version without selecting the **Reset Database** option, the date and time settings from the previously installed version are preserved. If you upgrade with the **Reset Database** option selected, the default date and time settings as described above are set.
- At any point in time, there must be at least one valid NTP server specified in the **Date and Time Settings** page of Advanced Threat Defense. You can add, edit, or delete the list of NTP servers specified in Advanced Threat Defense.
- Based on the access available to Advanced Threat Defense, you can specify public NTP servers or the ones locally on your network.
- You can specify the domain name or the IPv4 address of NTP servers. If you specify the domain names, then you must have configured DNS settings in Advanced Threat Defense.

Note

> If you specify public NTP servers, then using the domain names instead of IP addresses is recommended. The domain of a public NTP server might resolve to different IP addresses based on various factors.

- Whether you enable NTP server synchronization or manually set the date and time, you must select the required time zone in the **Date and Time Settings** page. If you configure an NTP server, Advanced Threat Defense considers only the date and time from the NTP server. But for the time zone, it relies on what is specified in the Date and Time Settings page.
- The date and time on a Advanced Threat Defense client has no impact on the timestamps that are displayed. Consider that the current time on the Advanced Threat Defense Appliance is 10 am PST (UTC-8). Regardless of the time zone from which you access this Advanced Threat Defense Appliance, all the timestamps are displayed in PST only. That is, the timestamps are not converted based on a client's date and time.
- When the current date and time settings are changed, the timestamp for all the older records are also changed accordingly. Consider that the current time zone is PST (UTC-8) and you change it to Japan Standard Time (UTC+9). Then the timestamp for the older records are all converted as per Japan Standard Time (JST). For example, if the timestamp displayed for a record in the **Analysis Status** page was 0100 hours (1 am) PST before you changed the time zone. After you change the time zone to JST, the timestamp for the same record is 1800 hours JST.
- The date and time settings of all the analyzer VMs are immediately synchronized to the date and time on the Advanced Threat Defense Appliance.

To use the Network Security Protocol server domain names, make sure you have configured the DNS servers.

Configure a Network Time Protocol server

Configure Network Time Protocol (NTP) servers as the time source. After you configure, Advanced Threat Defense acts as an NTP client and synchronizes with the highest priority NTP server that is available. You can configure up to 3 Network Time Protocol (NTP) servers.

Before you begin

To use the Network Security Protocol server domain names, make sure you have configured the DNS servers.

You can choose between NTP and Secure NTP while configuring the NTP servers. If you choose Secure NTP, ensure that you configure with a symmetric key authentication.

Task

1. Log on to the Advanced Threat Defense web interface.
2. Click **Manage** → **ATD Configuration** → **Date & Time**.
3. In the Network Time Protocol section, select **Enable Network Time Protocol**.
4. Enter the NTP Server Name. If you choose to enable Secure NTP, select the checkbox in the Secure column, then do the following:
    a. Set the polling interval.
        - Polling interval can be from 3 to 17.
        - Polling interval is calculated in the powers of 2 (2^n). For example, if you set the polling interval value as 3, the client connect to the server every 2^3 i.e., 8 seconds.

    b. In Authentication ID, enter the Secure NTP server key.
    Authentication ID can be from 1 to 65534.

    Note

    > Ensure that Authentication ID of two NTP servers are not the same.

    c. Select one of the following authentication key type as configured in your Secure NTP server.
        - **SHA-1**
        - **MD5**

    d. In authentication key, enter your Secure NTP password.
5. Click **Submit**.

Configure the date and time manually

You can configure the date and time by manually entering them in the settings.

Task

1. Log on to the Advanced Threat Defense web interface.
2. Click **Manage** → **ATD Configuration** → **Date & Time**.
3. In the Date and Time Settings section, enter the date and time, then click **Submit**.

Add the Advanced Threat Defense logon banner

Upload custom text to the Advanced Threat Defense logon page.

Task

1. Log on to the Advanced Threat Defense web interface.
2. Click **Manage** → **Security** → **Advanced Security Settings**.
3. Select **Display Login Banner**.
4. In the **Banner Message** field, enter the logon message.

   Note

   You can only use the ASCII character set. The maximum number of characters you can use is 1024.

5. Click **Save**.

Configure telemetry

Telemetry allows Advanced Threat Defense to collect data about malware and the Advanced Threat Defense Appliance.

The data contains useful information about threat trends and product feature usage. The data is retained for 6 months, then deleted. Metadata, such as summary of the threat trends and feature usage, are maintained indefinitely. McAfee Advanced Threat Defense Telemetry data is collected and aggregated in the USA, then stored with our research team in India.

Note

The data collected do not include personally identifiable information (PII) of the customer or end user.

Advanced Threat Defense captures these two categories of data.

Category definitions

Category	Definition
Telemetry data that Advanced Threat Defense uses for the Advanced Threat Defense Appliance.	Advanced Threat Defense collects Advanced Threat Defense Appliance telemetry data to: • Improve Advanced Threat Defense • Understand how the Advanced Threat Defense Appliance is used The system data that Advanced Threat Defense collects includes: • Serial number • Software version • System type • System uptime • Status of the network interfaces • Whether Syslog is enabled

Category	Definition
	• Whether LDAP is enabled • Whether McAfee ePO is enabled • Whether SNMP is enabled • Whether proxy settings are configured • Whether Load Balancing (LB) is enabled • The role held by a node in an LB cluster • Whether DXL is enabled • Whether McAfee GTI is enabled • Whether TAXII is enabled • Whether Email Connector is enabled • Number of Portable Executable (PE) samples submitted • Number of Flash files submitted • Number of Microsoft Word files submitted • Number of PDF files submitted • Number of files scanned by McAfee Gateway Anti-Malware • Number of files scanned by McAfee GTI • Number of files scanned by McAfee Anti-virus • Number of files scanned by YARA • Number of files analyzed by the sandbox • Number of files submitted to the sandbox • Number of files submitted by each default user • Details of analyzer profile • Details of VM profile • Count of the number of samples of each severity level. • List of the top 10 malware that is determined through the analysis • Version of the Detection Package downloaded
Telemetry data for: • McAfee GTI • McAfee Labs	McAfee Labs require the analysis results from Advanced Threat Defense telemetry data to: • Update the McAfee Labs databases • Categorize the samples and malware that Advanced Threat Defense analyzes Telemetry data contains information about the analyzed samples, and includes: • Type of the sample • Final severity of the sample • Detected YARA rule IDs • SHA-1 of sample • SHA-256 of sample • MD5 hash value of sample • Advanced Threat Defense detection score • Digital signature data from sample

Category	Definition
	• Parent metadata corresponding to dropped files • Advanced Threat Defense product information • Advanced Threat Defense analyzing option scores • URL visited by file • IPv4 address visited by file • Product version that the sample belongs to • Publisher name of the sample • Product name that the sample belongs to • File version of the sample, operating system name, and operating system version on which the file was found on

Enable telemetry

Advanced Threat Defense sends system telemetry data only when you allow automatic updates.

Task

1. Log on to the Advanced Threat Defense interface.
2. Click **Manage** → **Image & Software** → **Content Update**.
3. Under **Allow Automatic Update**, click **Apply**, then click **OK**.
4. Click **Manage** → **ATD Configuration** → **Telemetry**.
5. Ensure that the following options are selected, then click **Submit**.
   - **Send feedback to McAfee about system information in order to improve the product**.
   - **Send feedback to McAfee about potential malicious files and urls**.

   Note

   These options are enabled by default.

Configure Common Settings

Configure the **Max Wait-Time Threshold** for analyzing samples received from Email Gateway.

Configure maximum threshold wait time

Advanced Threat Defense allows you to configure the maximum wait time for analyzing samples received from McAfee Email Gateway. If the average analysis time of samples in Advanced Threat Defense is more than the threshold set, the samples submitted by McAfee Email Gateway are rejected.

Note

In a load-balancing scenario, the threshold wait time is 3 hours.

Follow the steps below to configure the maximum wait time for analyzing samples received from McAfee Email.

1. Go to **Manage** → **ATD Configuration** → **Global Settings**.
2. In the **Performance Tuning** area, set the threshold wait time.

Enable Common Criteria (CC) mode

You can enable **Common Criteria (CC)** mode in Advanced Threat Defense. On enabling the CC mode, you might see various security warnings which you can either accept or fix the security warning by reviewing the **Security Logs**.

Before you begin

From the Syslog settings page:

- Enable logging.
- Choose TCP/TLS in communication protocol
- Enable **Validate Syslog Server Certificate**.

Note

In Common Criteria (CC) mode:

- The minimum TLS version is set to 1.2.
- FTP Access, HTTP, and SSH access are disabled.

Due to the SSH being disabled, Advanced Threat Defense cluster is not available in CC mode.

- Advanced Threat Defense uses only SSL connections with NSP.
- Web server and Syslog server certificates are strictly validated. Ensure the following:
  - Root CA certificate for Web server and syslog server is uploaded in Trusted CA certificate. The root CA should be trusted by Advanced Threat Defense for any communication with syslog server and web server, else the communication fails.
  - Certificate validation checks for valid certificate validity, key length, signature algorithm, chain validation, extended purpose, and revocation.
  - Syslog server, Web server, and all intermediate certificates must have either OCSP or CRL (only HTTP URL is supported) information included, else the chain validation fails.
  - Syslog server, Web server, and all intermediate certificate have Authority Information Access extension information of issuer CA (only HTTP URL is supported).

Task

1. Log on to the Advanced Threat Defense web interface.
2. Click **Manage** → **ATD Configuration** → **Syslog**, then select **Enable Logging**.
3. Configure the **System Log Server** options, then click **Test connection** to test the connection.
4. In the **Statistics to Log** area, make sure **Audit Log** is checked. By default **Audit Log** is enabled.
5. Click **Submit**.
6. Go to **Manage** → **Security** → **Advanced Security Settings**, select **Common Criteria Mode**.
   Audit function starts as Advanced Threat Defense boots up and stops with Advanced Threat Defense shutdown. The function restarts in the following two scenarios.
   - Change in Syslog certificate
   - Manual change in Date and Time information

Use SSL encryption while communicating with Network Security Platform

Setting up a secure communication with Network Security Platform is done from the Advanced Settings page of the Advanced Threat Defense web UI. This allows you to establish a secure SSL channel while communicating with Network Security Platform. Disabling this sets the channel to use TCP connection.

Note

In Advanced Threat Defense 4.12.x, all connections to Network Security Platform are set to use SSL by default.

Task

1. Log on to your Advanced Threat Defense web UI.
2. Navigate to **Manage** → **Security** → **Advanced Security Settings**.
3. In the Advanced Security Settings section, select **Use SSL for NSP**.

Enable account lock out

You can configure Advanced Threat Defense to lock accounts after a defined number of invalid logon attempts. You can also define the time period the account remains locked. During this time, the user cannot log on to Advanced Threat Defense until the lock out period is elapsed.

Task

1. Log on to the Advanced Threat Defense web interface.
2. Click **Manage** → **Security** → **Advanced Security Settings**.
3. Select Enabled Account Lock Out, then set the lock out duration and the number of allowed incorrect logon attempts.
    - **Duration of Lock Out in Minutes** – Set the duration of the lock out period in minutes.
    - **Maximum Login Retries** – Set the number of allowed incorrect logon attempts, after which the account is locked.

Configuring Email Connector

Email Connector protects you from email borne threats by analyzing email attachments and URLs starting with http, https and ftp in the body of the email, through Advanced Threat Defense.

Note

- Email Connector is not installed with Advanced Threat Defense. You need to install Email connector separately using systemex-4.x.x.xx.xxxxx.msu. For more information on installing Email Connector, see *Install Email Connector*.
- If you have configured a cluster, ensure that you install Email connector in your primary as well as the backup nodes.
- Ensure that you have reset your `cliadmin` password. If you continue using the default password, the configurations will fail.
- In order to utilize the URL scanning option, as a prerequisite,
  - Install the latest systemex provided for 4.14 release.
  - Enable the **Enable Malware Internet Access** checkbox in the analyzer profile associated with atdec user.
- Advanced Threat Defense accepts up to 100 URLs per email for analysis.
- Email Connector URL scanning is configurable from 4.12.2 release. Refer the below procedure to enable/disable this in Advanced Threat Defense:
  - In 4.12.0, URL scanning is enabled by default.
  - Install the latest systemex provided for 4.14 release.
  - Post upgrade, URL scanning gets disabled.
  - From ATD UI Page, Go to **Manage** | **Email Connector** | under **Scanning Email** | **Configuration**.
  - Check the **URL Analysis** checkbox.
  - Click **Apply** to enable it again.

Advanced Threat Defense receives emails from a secure email gateway, performs an analysis on the email attachments and URLs in the body of the email, adds a verdict in the email header and sends it back to the email server.

You need to configure your email gateway to send emails to the Advanced Threat Defense for analysis. You can add filters such as send the ones with attachment only and so on. We recommend you configure your SEG to send emails for analysis to Advanced Threat Defense only when your SEG's AV analysis have returned an inconclusive result.

Troubleshooting email connector

You can also view the conversation log for each email report when you click under the **Log** column. The HTML or PDF reports for a sample now displays the Received Time in UTC time zone. Previously the HTML or PDF reports displayed the time stamp in the local time-zone.

Note

- While you view the reports, the maximum number of reports you can navigate to are one million. If you want to view the reports beyond one million, use the search filter to reduce the result of the number of reports.
- The updated time might take few minutes to reflect in the reports page post migration. This is dependent on the size of the reports database.

Enable and configure Email Connector

Enable Email Connector and configure options for the Secure Email Gateway (SEG) from where the emails are received, file analysis settings, and destination SEG or relay hosts to which the emails with analysis headers are forwarded.

Task

1. Log on to the Advanced Threat Defense interface, then click **Manage** → **Email Connector** → **Configuration**.
2. In Email Connector Configuration, select **Enable Email Connector**, and then choose:

   - **Inline Mode (hold email until decision made)** – Emails are delivered to an onward SEG or MTA after Advanced Threat Defense scan.
   - **Offline Mode (send copy of email to ATD for analysis)** – Emails are discarded from Advanced Threat Defense after a scan. The email and analysis reports are maintained on Advanced Threat Defense.

   Note

   Relay host need not be configured if you choose **Offline Mode**.

3. In Receiving Email, complete these settings.

   - **Listen Port** — Type the port number to use for receiving emails. The default port number is 25.
   - **Use TLS Connection** — Select the level of security in TLS communication between ATD and the SEG that sends the emails. Choose from the three options to use TLS-secured communication, for receiving emails.
   - **Permitted Hosts** — From the drop-down, select the **Host type** as **IP address**, **Hostname**, or **Network**, then enter the IP addresses, host name, or network address of the source SEG for Advanced Threat Defense to receive emails. Click **Add** to add a Permitted host.

4. In Sending Email, complete these settings.
   You can configure multiple relay hosts—where with multiple domains, you can configure a specific relay host for each domain.
   a. In **Use TLS Connection**, select when to use TLS-secured communication for all outbound emails.
   b. In **Relay Host Value**, type the IP address or hostname of the destination email server.
   c. In **Port**, type the port number of the destination email server.
   d. In **Domain**, type the domain name of the domain that you want this host to handle.

   Note

   - If you want to configure a default relay host, enter * for the domain name.
   - Ensure that the default relay host is the last relay host you add. This keeps it as the last item of the list. If the default relay host is on the top of the list, all emails are sent to this relay host, and the remaining relay hosts in the list are ignored.
   - Ensure that you have configured a DNS server that can resolve this domain name and the hostname (if set) that is set in Relay Host Value..

   e. Click **Add**, to add the relay host.
   The relay host would now appear in the list. Repeat Steps b, c, and d to add more relay hosts.
5. In Scanning Email, complete these settings.

- **Maximum time per email to wait for all scans to complete** — The maximum time (in seconds) within which the analysis must complete. The analysis times-out when the time exceeds the time specified and the email is queued in the SEG. Default is 600.
- **Scan these file types** — Select the file types of the email attachments to scan.
- **Skip Protected Files** — Ignores protected files during the scan.
- **Action when system is overloaded** — Choose whether to deliver emails without scanning or drop SMTP connections when the system is overloaded.

Note

> If you have selected **Deliver emails unscanned**, then the emails are delivered with the X-ATD-VERDICT as -8.

- **URL Analysis** — By default, this setting is disabled. When enabled, the URLs in the email are detected and sent to ATD for analysis. The URL's severity plays an important role in determining the overall severity of the email.
- **Sandbox all URLs** — This checkbox is available for configuration only if the URL Analysis setting is enabled. URLs that are classified as clean by GTI URL are sent to sandbox for analysis only when this check box is enabled. For the URLs detected in the email, the value of this check box takes precedence over the **Continue to run all engines even after file is found malicious** check box in the analyzer profile associated with 'atdec' user. When the **Continue to run all engines even after file is found malicious** check box is enabled and the **Sandbox all URLs** check box is disabled, the URL, if clean, is not sent to sandbox for analysis.

6. In Attachment Profiling, complete these settings.

- **Enable Profiling Mode (Attachments and URLs will not be scanned in this mode)** – Enables email profiling. This option disables scanning the email attachments and URLs. Only email count is incremented and sent to the transporting email server.

Note

> If you enable this option, the header X-ATD-VERDICT -7 is added to the emails.

- **Document Format** – Select the format in which you want your profiling report to get generated.
- **Reporting Period** – Select the period for which you want the emails to be profiled.
- **Granularity** – Select the period in a granular level.
- **Download Report** – Downloads the email profiling report. This option is available only if you have enabled email profiling mode.

7. Click **Apply**.

Results

You can view the total number of emails and attachments/URLs analyzed in the **Email Counter** monitor from the **Dashboard**.

Configuring your Secure Email Gateway for Email Connector

For optimal performance, it is important that you configure your Secure Email Gateway.

Setting up SEG timeout

When attachments/URLs need to run through a full sandbox scan, emails sent to Advanced Threat Defense could take several minutes for analysis.

Setting the right timeout on your SEG is important, so that it waits until the Advanced Threat Defense scan is complete. A suitable value for timeout depends on the settings for the analyzer profile configured for your Email Connector.

Setting Advanced Threat Defense as a permitted host in your SEG

Depending on your SEG and its configuration, you might be required to include the IP address of the Advanced Threat Defense appliance to your SEG. This allows Advanced Threat Defense to deliver the scanned messages to your SEG.

Setting up SEG functions

Your SEG is expected to perform all anti-spam, anti-virus, or other blocking and filtering functions. Advanced Threat Defense does not perform any of these SEG functions. Messages to Advanced Threat Defense must be redirected only when the SEG:

- is not sure about the content of the email
- requires an Advanced Threat Defense verdict to enforce a policy accordingly.

Configure Email Connector filtering rules

Create rules to exclude email attachments from analysis.

Task

1. Log on to the Advanced Threat Defense interface, then click **Manage** → **Email Connector** → **Filtering Rules**.
2. Type a name for the rule, then select one or a combination of these filtering options:
    - **Name Filtering** — Enter file names separated by semi-colons (;). You can use asterisk (*) and question mark (?) as wildcard characters.
    - **Size Filtering** — Select less than or greater than criteria, type the file size, then select the unit.
    - **Catagory Filtering** — Select the file types to exclude.
3. Click **Add Rule**.
   The rule is added in the Filtering Rules table.

Recommended concurrent SMTP sessions for Email Connector

Review the number of concurrent sessions supported by Advanced Threat Defense and configure your email connector accordingly.

Appliance type	Standalone	Cluster
Virtual Advanced Threat Defense appliance	50	300
Advanced Threat Defense appliance	200	500

Note

The Standalone and Cluster number shows up by submitting 1 mail per session.

The recommended number of VM licenses to be created are:

Appliance model	For Windows 10 or later OS	For other OS
Virtual Advanced Threat Defense	6	7
ATD-3000/ATD-3100/ATD-3200	18	25
ATD-6000/ATD-6100/ATD-6200	55	55

Note

The number of licenses supported by Windows 10 OS are less compared to other windows OS because of higher resource consumption.

Understanding Email Headers with analysis status

After analyzing the email attachment/URL for threats, Advanced Threat Defense updates adds these headers of the respective emails with the observations, and sends the emails to the configured relay host.

Header	Values
`X-ATD-FILENAMES`	Lists the names of all attachments/URLs of the email separated by comma(,).
`X-ATD-ALTFILENAMES`	Lists the alternate names of scanned attachments that have the same hash value as determined during the earlier scans. For example, if after scanning a file (file1), another attachment with the

Header	Values
	same hash but a different file name (file2) is detected, the X-ATD-ALTFILENAMES header is added with the value file1, file 2.
X-ATD-FILEHASHES	Adds the hashes of all email attachments/URLs. For example, MD5 , SHA-256.
X-ATD-FILEVERDICTS	Adds the verdict for each email attachment/URL that was submitted for analysis. • 5 — Very high (risk) • 4 — Malicious • 3 — Likely to be malicious • 2 — Low activities • 1 — Very low activity • 0 — Informational • -1 — Clean • -2 — Failed to scan (because of unsupported file type) • -3 — Scan Timed out • -4 — Filtered by the File Type Configuration • -5 — Filtered by File Filtering Rules
X-ATD-VERDICT	Adds the overall verdict for an email. • 5 — Very high (risk) • 4 — Malicious • 3 — Likely to be malicious • 2 — Low activities • 1 — Very low activity • 0 — Informational • -1 — Clean • -2 — Failed to scan (because of unsupported file type) • -3 — Scan timed out • -6 — No file attachments were scanned • -7 — Silent Mode (When Advanced Threat Defense is set to disable file scanning, where the emails attachments are not scanned and only email count is incremented for every email) • -8 — Advanced Threat Defense is too busy to service new scanning requests. At least one attachment has not been scanned and does not have a cached result (see X-ATD-TOOBUSY) • -100 — Advanced Threat Defense failed to receive or deliver the emails
X-ATD-SILENTMODE	Adds the value of 1 if an email was scanned in silent mode. Otherwise this header is not added.
X-ATD-TOOBUSY	Adds this header to all messages that pass through Advanced Threat Defense while it is:

Header	Values
	• processing new attachments/URLs for scanning • configured in Email pass-through mode.

Uploading certificates

For authentication, Advanced Threat Defense requires you to upload trusted CA and web certificates.

Ensure that you remember these guidelines before generating and uploading any certificate to Advanced Threat Defense:

- First, add root CA certificate to trusted CA bundle of Advanced Threat Defense. The Intermediate CA certificates are optional.
- CA flag must be set for CA certificates.
- Uploading chain certificates is not supported. Upload certificates one by one.
- Advanced Threat Defense validates expiry dates of certificates.
- Advanced Threat Defense checks for certificate revocation using OCSP or CRL. Certificate must have either OCSP or CRL URL. Ensure that the URLs are HTTP.
- Advanced Threat Defense checks for certificate chain validation. For the validation, Advanced Threat Defense uses Authority information Access (AIA) issuer URL for creating full chain. Certificate chain validation fails if this field is not present.
- Advanced Threat Defense checks for host name validation. Then, it compares presented identifier with SAN or CN field of certificate. In case SAN field is present then CN is not checked as part of host name validation. Wildcard certificates are accepted and are validated as part of host name check.
- Minimum key size accepted by Advanced Threat Defense is 2048 for end certificate.
- Minimum signature algorithm should be SHA256 with RSA encryption for end certificate.

When you upload a certificate for the web server, Advanced Threat Defense checks for the certificate and key in the same PEM file (certificate and private key concatenation), then validates the metadata. Post validation, you might see security warnings as a result of the validation which you can accept or fix.

Trusted CA Certificates

Upload all trusted root and intermediate CA (optional) certificates in the Trusted CA Certificates section. Certificate chain validation passes only if the root CA is in the trusted CA certificates.

⚠ **Caution**

Ensure that you first upload the root CA certificate first, before you upload any intermediate CA certificates.

Web Certificates

Upload all web server certificates in the Web Certificates section. Certificate is validated for basic checks in non-CC mode and strict checks in CC mode.

Caution

Ensure that you have uploaded all root CA certificates before you upload the web server certificates.

Upload trusted CA certificates

Upload trusted root and intermediate CA certificates.

Task

1. Log on to the Advanced Threat Defense web interface.
2. Click **Manage** → **Security** → **Manage Certificate**.
3. In the Trusted CA Certificate Upload section, click **Browse**.

   Note

   You can only upload one certificate at a time.

4. Locate and select the certificate, then click **Open**, and then click **Upload**.

Upload web certificates

For web server authentication, Advanced Threat Defense requires you to upload web server certificates in PEM format.

Before you begin

- Ensure that you have uploaded the root CA certificate before uploading the web server certificate.
- If you haven't generated a CSR using Advanced Threat Defense, then ensure that you append the private key to web server certificate, in PEM format, before uploading to Advanced Threat Defense.

Task

1. Log on to the Advanced Threat Defense web interface.
2. Click **Manage** → **Security** → **Manage Certificate**.
3. Under Web Certificate Upload, click **Browse**.
4. Locate and select the certificate, then click **Open**.
5. Click **Upload**.

   Note

   In non-CC mode, the certificates are validated for basic check. In CC mode, the certificates are validated strictly.

Manage users and performance

Manage users

Create McAfee Advanced Threat Defense users accounts that assign specific permissions and configuration settings to users in your network.

Add users

Create accounts for users on your network, then assign them permissions.

Task

1. Log on to the Advanced Threat Defense web interface.
2. Click **Manage** → **ATD Configuration** → **ATD Users**, then click **New**.
3. Configure the user options, then click **Save**.

Note

- You can create upto 512 users from Advanced Threat Defense 4.14.2.x and above.
- By default, you can create upto 128 users. To increase the limit, use `set maxusers` command on CLI.
- We have tested with limited active sessions for the users. We recommend users to have the limited active sessions and close the session once done.

Types of users

To manage Advanced Threat Defense and its integrated products, Advanced Threat Defense uses different user accounts . These user accounts have different sets of administrator responsibilities. For example, the Super administrator user is responsible to configure the Advanced Threat Defense web interface, manage user accounts, and perform software upgrades. The Network Security Platform user is responsible to integrate Network Security Platform with Advanced Threat Defense.

Note

You cannot change the username for these accounts.

Command-line Interface user

To use the Command-line Interface (CLI), you need to log on to CLI using the user cliadmin credentials.

Command-line Interface administrator uses the following credentials:

- username — cliadmin
- default password — atdadmin

Super Administrator

You create the Super Administrator account when you install Advanced Threat Defense and log on to the web interface.

The Super Administrator manages the following:

- Initially configure the Advanced Threat Defense web interface
- View and edit all Advanced Threat Defense user accounts
- Schedule database backups
- Software upgrades

Super Administrator uses the following credentials:

- username — admin
- default password — admin

Network Security Platform user

The Network Security Platform user has access to integrate Network Security Platform with Advanced Threat Defense.

Network Security Platform user uses these credentials:

- User name — nsp
- Password — admin

Upload Administrator

The Upload Administrator accesses the Advanced Threat Defense FTP server.

Upload Administrator uses the following credentials:

- User name — atdadmin
- Password — atdadmin

Web Gateway user

Web Gateway users integrate Web Gateway with Advanced Threat Defense.

Web Gateway user uses the following credentials:

- username — mwg

- default password — admin

Email Gateway user

Email Gateway users integrate McAfee Email Gateway with Advanced Threat Defense.

As the McAfee Email Gateway user, you can view and edit the user account.

To edit other accounts, contact your administrator.

Email Gateway user uses the following credentials:

- username — meg
- default password — admin

TIE user

TIE users integrate TIE with Advanced Threat Defense.

TIE user uses the following credentials:

- username — tie
- default password — admin

Virtual Network Security Platform user

Virtual Network Security Platform user integrates Virtual Network Security Platform user with Advanced Threat Defense.

Network Security Platform user uses the following credentials:

- username — vnsp
- password — admin

Email connector user

The Email Connector user `atdec` is used by the Advanced Threat Defense software to communication with Email Connector and analyze email attachments. As an Advanced Threat Defense user, you do not have to use `atdec` for any configuration or access.

Bro Network Sensor user

Bro user integrates Advanced Threat Defense with one or more Bro Network Sensors. The users are also responsible for submitting files for analysis.

Note

- While you create a Bro user, ensure that you select **BRO** is user type.
- In a scenario where your Advanced Threat Defense is communicating with multiple Bro Network Sensors, we recommend you create separate Bro users for each Bro Network Sensor.

Bro users can use the following default user credentials or create new users with the **BRO** user type.

- username—bro
- password–admin

Administrator permissions

You can give permissions to administrators that enable them to access different settings.

Admin User

Administrators with **Admin User** permissions have access to all of the settings on the Advanced Threat Defense web interface.

- Create and manage users
- Grant users access to the FTP server
- Access the Advanced Threat Defense web interface RESTful APIs
- Upgrade the Advanced Threat Defense software
- Upgrade the Android analyzer VM
- Convert VMDK or VHDX files to images files
- Manage image files
- View all of the analyzer profiles in the database
- Enable Internet access to samples
- LDAP authentication
- Configure date and time settings
- View the status of all submitted files

Web Access

Administrators with the Web Access permission have access to the malware analysis capabilities.

- Submit files for analysis only for the analyzer profiles that the Web Access role administrators create
- View the analysis results
- Edit the **Web Access** Administrator accounts
- Create analyzer profiles

Restful Access

Administrators with **Restful Access** permissions have access to the RESTful APIs.

- Upload files using the RESTful APIs
- Edit the **Restful Access** account

For more information, see the *McAfee Advanced Threat Defense RESTful APIs Reference Guide.*

FTP Access permission

Administrators with **FTP Access** permissions upload the files to the FTP server hosted on the Advanced Threat Defense Appliance.

For **FTP Access**, logon to your Advanced Threat Defense Appliance as `atdadmin`.

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