TREND MICRO™

Intrusion Defense Firewall 1.2

for OfficeScan Client/Server Edition

Deployment Guide

Endpoint Security

Document part number: OSEM84075/90422
Release Date: January 2010

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About Intrusion Defense Firewall

Intrusion Defense Firewall for OfficeScan Client/Server Edition provides earlier, stronger endpoint protection by supplementing highly effective OfficeScan client-level security with network-level Host Intrusion Defense.

Intrusion Defense Firewall enables you to create and enforce security policies that protect sensitive data, applications, computers, or network segments. The server component ("Server Plug-in") is installed on the OfficeScan server. It deploys and manages the client component ("Client Plug-in") on OfficeScan clients.

Server Plug-in

The Server Plug-in is a management system embedded within the OfficeScan Web console. It allows administrators to create and manage comprehensive intrusion defense security policies, track threats, and log preventive actions taken in response to these threats.

Dashboard

The Server Plug-in Dashboard provides:

- Extensive system, event and computer reporting, with drill-down capabilities.
- Graphs of key metrics with trends, with drill-down.
- Detailed event logs, with drill-down.
- Ability to save multiple dashboard layouts.

Monitoring Tools

Monitoring tools include event viewers for Firewall, Deep Packet Inspection (DPI), and System Events as well as a selection of reports summarizing recent activity.

List of Computers

The client tree structure on the **Computers** screen and on the OfficeScan Web console's **Networked Computers** screen are the same. The list displayed in the Server Plug-in is the list used to apply the various rules, filters, and stateful configurations of Intrusion Defense Firewall.

Security Profiles

Security profiles are policy templates that let you configure and specify the security rules that are applied to one or more computers. These compact, manageable rule sets make it simple to provide comprehensive security without the need to manage thousands of rules. Default security profiles provide the necessary rules for a range of common computer configurations, ensuring rapid deployment.

Firewall Rules

A sophisticated, bi-directional stateful firewall provides complete support for all network protocols, including TCP, UDP and ICMP. Firewall Rules are fully configurable to allow or deny traffic on a per-interface basis, and restrict communication to allowed IP or MAC addresses.

DPI (Deep Packet Inspection) Rules

Deep-packet inspection, which examines application data to and from the computer, shields software vulnerabilities from attack. DPI Rules allow, block, log, or edit data based on its content. DPI Rules protect vulnerabilities from known and unknown attacks by defining expected application data, and blocking malicious data based on its content.

Security Updates: Ongoing DPI Rule updates automatically provide the most current, comprehensive protection against known and unknown attacks.

Stateful Configurations

Intrusion Defense Firewall's Stateful Configuration mechanism analyzes each packet in the context of traffic history, correctness of TCP and IP header values, and TCP connection state transitions. In the case of stateless protocols like UDP and ICMP, Intrusion Defense Firewall implements a pseudo-stateful mechanism based on historical traffic analysis. The stateful mechanism handles packets as follows:

- A packet is passed to the stateful routine if it has been allowed through by the static Firewall Rule conditions,
- The packet is examined to determine whether it belongs to an existing connection by checking a connection table created by the stateful mechanism for matching end points, and
- The TCP header is examined for correctness (for example, sequence numbers and flag combinations.)

Reusable Components

Intrusion Defense Firewall makes use of independent sets of Application Types, IP Lists, MAC Address Lists, and Port Lists. These components can be used by multiple elements of the Intrusion Defense Firewall system (Firewall Rules, IPS Filters, Security Profiles, and so on) so that the same information does not have to be entered each time a new rule, filter, or profile is created.

Location Awareness

Rule Contexts are a powerful way of implementing different security policies depending on the Computer's network environment. Intrusion Defense Firewall uses Rule Contexts to create Security Profiles which apply different Firewall Rules to Computers (usually mobile laptops) depending on whether that Computer is in or away from the office.

Bridging Attack Protection

The Restricted Interfaces feature allows you to force a Computer to use only one network interface at any one time. This feature gives you the ability to prevent attackers from bridging between a wireless and a wired VPN connection and tunneling into your enterprise.

Client Plug-in

The Client Plug-in is a high performance, small footprint, software component installed on a Computer that has OfficeScan client installed. It applies the Security Profile (deployed by the Server Plug-in) to incoming and outgoing network traffic and monitors for protocol deviations or contents that might signal an attack. When necessary, the Client Plug-in intervenes and neutralizes the threat by either blocking or correcting the traffic.

System Requirements

Server Plug-in

- **Memory:** 1GB (2 GB recommended)
- **Disk Space:** 1.5GB (6GB recommended)
- **Web Browser:** Microsoft™ Internet Explorer™ 6+ (cookies enabled)
- **Operating System:** Microsoft Windows Server 2008™ (32- and 64-bit), Microsoft Windows Server 2003™ (SP2 or higher) (32- and 64-bit), Microsoft Storage Server 2003™ (SP2 or higher) (32- and 64-bit), Microsoft Windows 2000 Server™ (SP4 or higher) (32-bit)
- **Pre-requisites:**
  - **Trend Micro Officescan Server™ Corporate Edition 8.0+**
  - **Trend Micro™ Officescan Plug-in Server Plug-in™** 1.0 Patch 2 (build 1.0.3151) or later
  - **Windows 2008:** Microsoft .NET Framework™ 2.0 or higher (Required for Microsoft SQL Server 2005 Express™ Installation)
  - **Windows 2003:** Microsoft .NET Framework 2.0 or higher (Required for SQL Server 2005 Express Installation)
  - **Windows 2000:** MDAC 2.81, Windows Installer™ 3.1 and Microsoft .NET Framework 2.0 or higher (Required for SQL Server 2005 Express Installation)
  - **Adobe™ Acrobat Reader™ 5+** (Required to read deployment guide)

Note: The Server Plug-in automatically installs the Microsoft SQL Server 2005 Express provided within OfficeScan.

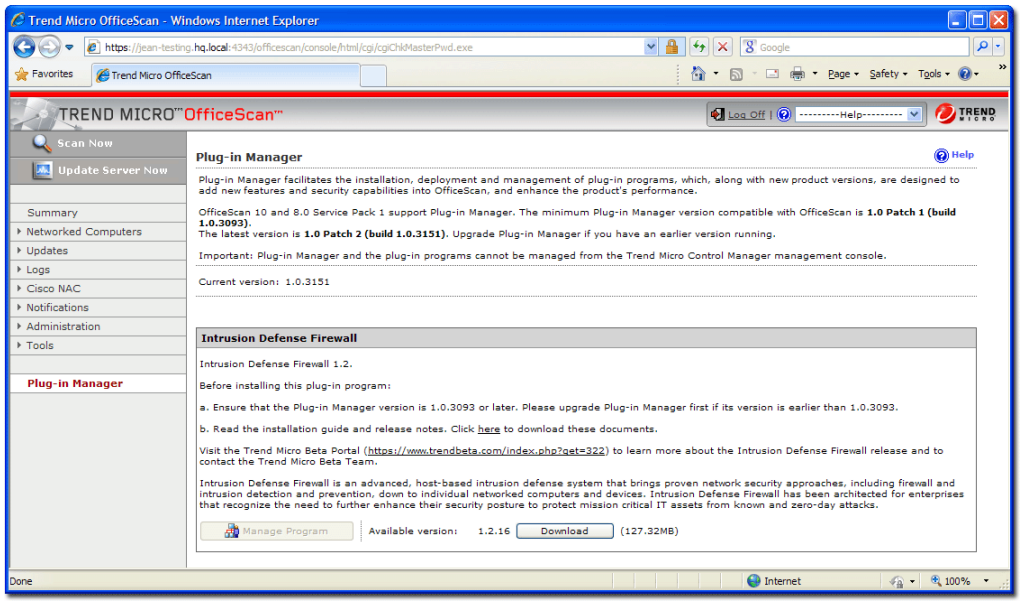
Note: Ports 4119 and 4120 must be open on the Server Plug-in machine.

Client Plug-in

- **Memory:** 128MB
- **Disk Space:** 100MB (200MB recommended, primarily for logging)
- **Operating System:** Microsoft™ Windows 7™ (32- and 64-bit), Windows 2008™ (32- and 64-bit), Vista™ (32- and 64-bit), Windows 2003™ (32- and 64-bit), Windows XP™ (32- and 64-bit), Windows 2000™ (32-bit)

Installation

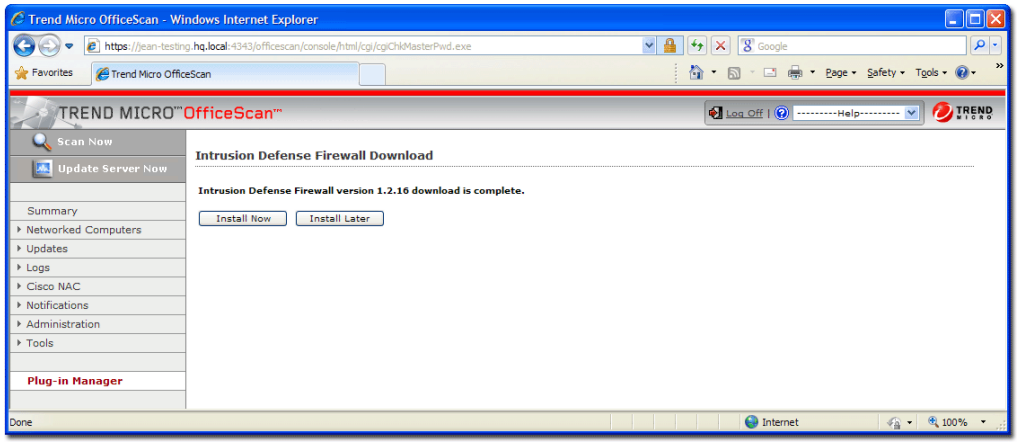
1. Download Intrusion Defense Firewall



From the OfficeScan Plug-In Manager, select **Intrusion Defense Firewall** and click **Download**.

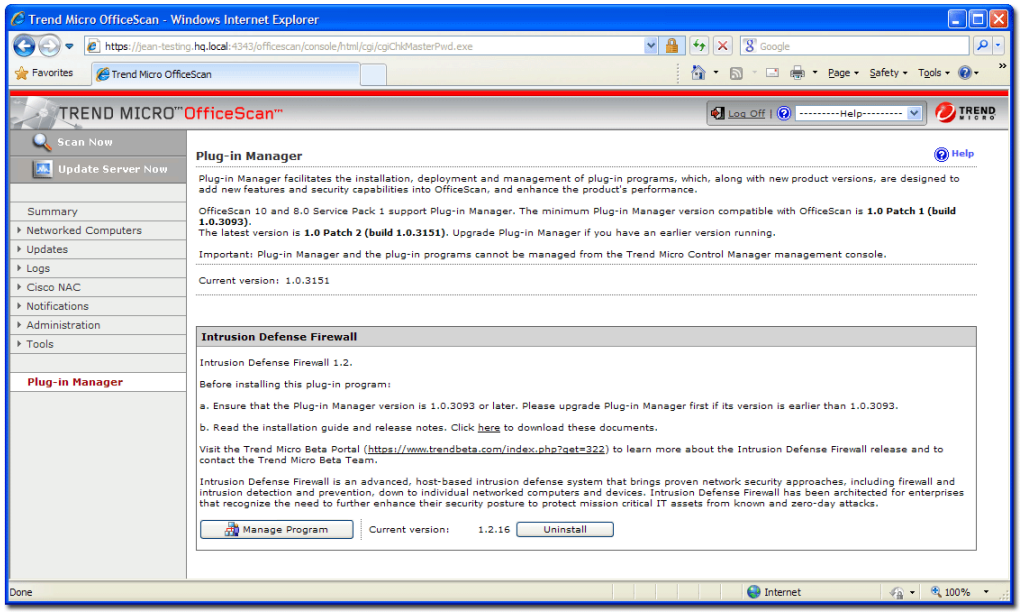
In the dialog box, click **OK** to confirm the download, and wait for the download to complete.

2. Install Intrusion Defense Firewall



Click **Install Now**. If you are performing a fresh install or renewing your license with a new Activation Code, you will be asked to accept the license agreement. Read and accept the license agreement to continue.

Note: The installation will take several minutes.



When the installation of Intrusion Defense Firewall Server Plug-in is complete, click **Manage Program** to activate Intrusion Defense Firewall.

Note: The first time you run the Intrusion Defense Firewall Server Plug-in, you may receive a certificate warning. This is because the Server Plug-in runs on a different Web server than the OfficeScan server. It is safe to accept this certificate. When the warning appears, click the **Install Certificate...** button and install to the default location.

Upgrading the Server Plug-in

The **Plug-in Manager** screen will inform you if a new version of the Intrusion Defense Firewall Server Plug-in is available. The new version will be listed above the current version. To upgrade to the new version, click the **Download** button. When the new version has finished downloading, the button will change to **Upgrade**. Click **Upgrade** to upgrade your Server Plug-in.

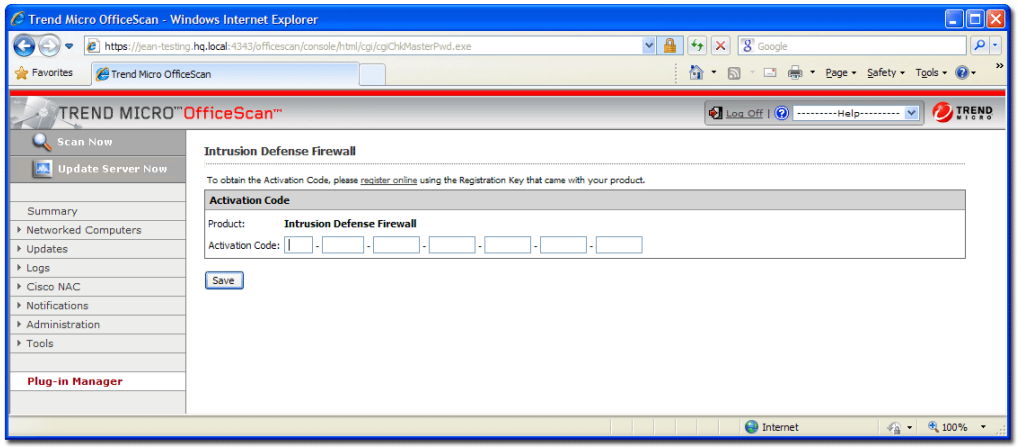
Activating the Intrusion Defense Firewall Server Plug-in

1. Install Security Certificates

The first time that you activate the Intrusion Defense Firewall Server Plug-in, you may see a Microsoft Security certificate alert.

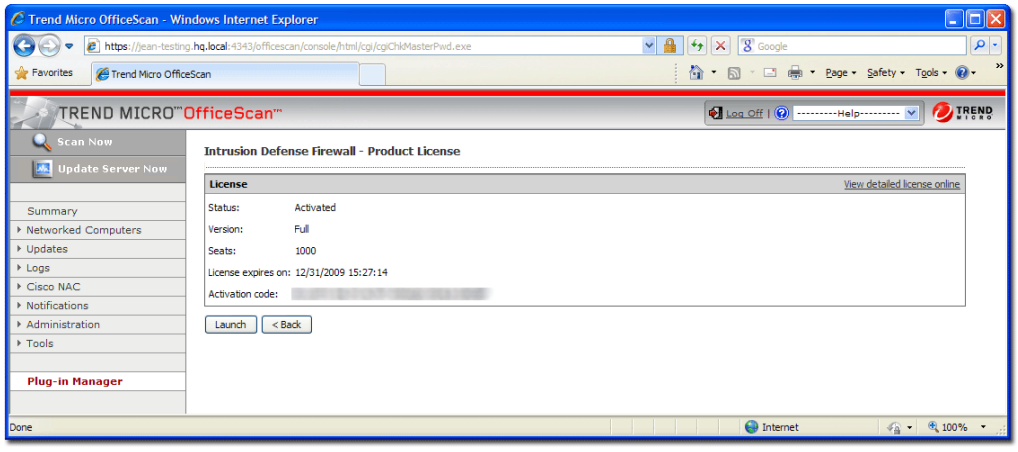
Click **View Certificate**, and then on the Certificate Information screen, click **Install Certificate**. In the Certificate Import Wizard, follow the instructions to import the certificate into the certificate store.

2. Type Your Activation Code



Type the Intrusion Defense Firewall Activation Code and click **Save** to complete the registration.

Note: To enter your complete Activation Code quickly, right-click in the first code entry box, then paste your full Activation Code. If you do not have an Activation Code, please contact your Trend Micro representative or support provider.



Click **Launch** to start Intrusion Defense Firewall.

Installing the Intrusion Defense Firewall Server Components with a Local Update Source

If the OfficeScan server is unable to connect to the Internet, you need to install the Intrusion Defense Firewall components on the OfficeScan server (localhost) and specify local update sources for OfficeScan.

Note: Before you continue, obtain the installation package from Trend Micro. The installation package will contain the setup files for Intrusion Defense Firewall components.

To install Intrusion Defense Firewall with a local update source:

1. On the OfficeScan server, create a virtual directory "IDF".
   - If you are using IIS Web server, open the **Internet Information Services (IIS) Manager** screen and right-click **Default Web Site**. Then click **New > Virtual Directory**.
   - If you are using Apache Web server, specify the new virtual directory in the `httpd.conf` file and restart the Apache service. The following shows an example of the virtual directory section for "IDF" in the `httpd.conf` file

```
#IDF Plug-in Active Update
Alias /IDF "C:/TmUpdate/IDF/"
<Directory "C:/TmUpdate/IDF">
    Options None
    AllowOverride None
    Order allow,deny
    Allow from all
</Directory>
```

2. Extract the installation package from Trend Micro.
3. Copy the folders "`activeupdate`" to the virtual directory. If prompted, accept to overwrite any existing folders in the directory.

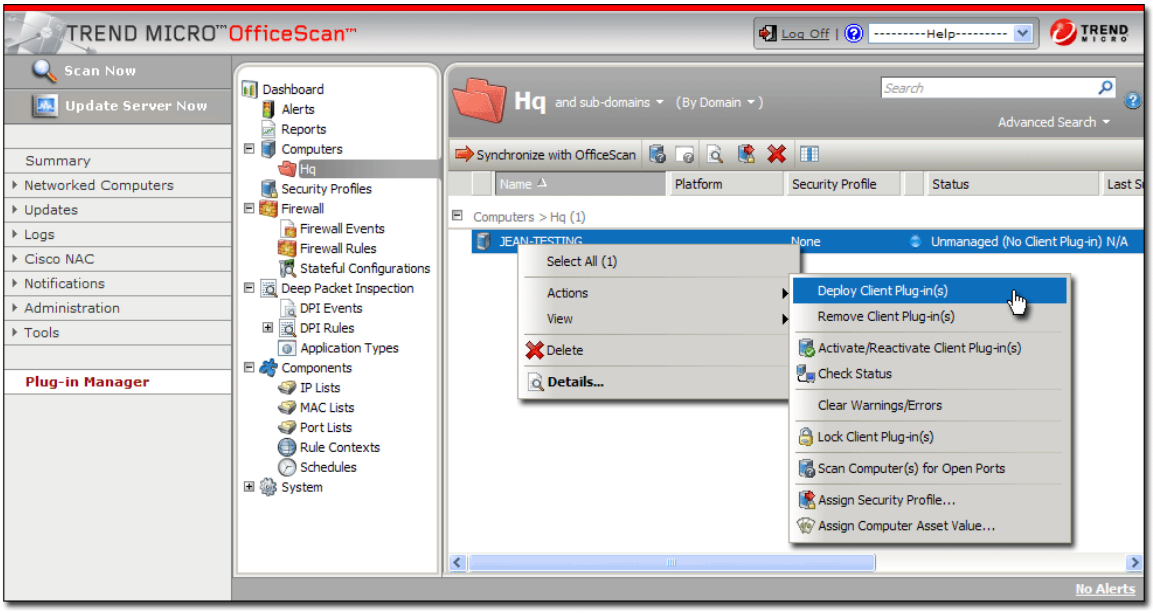
To specify a local update source for OfficeScan:

1. Log on to the OfficeScan Web console and click **Updates > Update Source**. The Server Update Source screen displays.
2. Select **Other update source** and type `"http://localhost:8080/IDF/activeupdate"` in the field provided. Click **Save**.
3. Restart the OfficeScan Plug-in Manager service to make the changes take effect.
4. Log on to the OfficeScan Web console again and click **Plug-in Manager**.
5. Follow the on-screen instruction to download and install the Intrusion Defense Firewall Server Plug-in on the OfficeScan server.
6. After the installation is completed, click **Manage Program** to access Intrusion Defense Firewall's configuration screens.
7. Type the Activation Code to register the product. After product registration is completed successfully, the Getting Started Page for the Intrusion Defense Firewall Server Plug-in is displayed

Installing the Intrusion Defense Firewall Client Plug-in

Deploy the Client Plug-in

From the Intrusion Defense Firewall Server Plug-in interface, go to **Computers** and right-click the computer (or Domain) to which you want to install the Client Plug-in(s). From the **Actions** menu, select **Deploy Client Plug-in(s)**.



Wait while the Client Plug-in is deployed to the selected Computer(s). During this process, the Computer Status column will display messages that the Client Plug-in is being deployed.

When the Client Plug-in deployment has completed, the Computer's Status column will read "Managed (Client Plug-in Online)".

Optionally Use the Stand-alone Client Plug-in Installer

The IDF Stand-alone Client Plug-in Installer package is a self-extracting .exe file which is run on the client computer and is available from Trend Micro support upon request. The client computer must already have the OSCE client installed on it. The Client Plug-in will perform automatic agent-initiated activation after installation but Client Plug-in Initiated Activation must be enabled from the IDF Server Plug-in console for automatic activation to work. (**System > System Settings > Computers**)

The stand-alone installer uses the OSCE Client to perform the installation of the IDF Client Plug-in, and assumes that the OSCE Client is already installed in the default location:

```
C:\Program Files\Trend Micro\OfficeScan Client.
```

To use the Stand-alone Client Plug-in Installer:

1. Extract idfclient.exe from the stand-alone zip package.
2. Run `idfclient.exe` on the target computer. (The exe is a self-extracting zip file that will extract the necessary binaries and scripts to a temporary location and execute them.) It will log to `%WINDIR%\idf_standalone.log`
3. Verify the client is listed on the **Computers** screen and that its status is "Managed".

Note: Because the stand-alone installer will briefly interrupt the client's network connection, the installer **must** be run locally on the host computer.

Transitioning from the Native OfficeScan Firewall to Intrusion Defense Firewall

The Intrusion Defense Firewall firewall and the native OfficeScan Firewall are two distinct firewalls and only one should be used at a time. The following instructions tell you how to switch from the OfficeScan firewall to the Intrusion Defense Firewall firewall without leaving your computers exposed during the transition.

Note: Some users may wish to only make use of the Intrusion Defense Firewall's IPS (Intrusion Prevention System) or IDS (Intrusion Detection system) functionality and continue using the native OfficeScan firewall. In this case, the following steps must still be carried out (except the last one: disabling the OfficeScan firewall) so that the Server Plug-in can communicate with the Client Plug-in.

1. Modify OfficeScan Firewall Configuration

If you are currently using the native OfficeScan firewall with a Medium or High security level, you must open the following client ports to the Server Plug-in. This will permit the Intrusion Defense Firewall Server Plug-in to communicate with the Intrusion Defense Firewall Client Plug-in while the OfficeScan firewall is still in effect:

TCP 4118 (The port for the Client Plug-in for communication from the Server Plug-in)
TCP 4119 (The port for the Server Plug-in Web Console)
TCP 4120 (The port for the Server Plug-in for communication from the Client Plug-in)

To modify OfficeScan firewall configuration:

1. Create a new OfficeScan Firewall policy named Intrusion Defense Firewall policy. (Refer to the OfficeScan online help for details about creating OfficeScan firewall policy and profile.)
2. Add a new exception to the policy:
   Name: Intrusion Defense Firewall exception
   Action: Allow network traffic
   Direction: Inbound and Outbound
   Protocol: TCP
   Port(s): Specific port numbers:
   - **4118** (The port for the Client Plug-in for communication from the Server Plug-in)
   - **4119** (The port for the Server Plug-in Web Console)
   - **4120** (The port for the Server Plug-in for communication from the Client Plug-in)

   IP Address: The IP address of the OfficeScan Server
3. Create a new OfficeScan firewall profile named Intrusion Defense Firewall policy
   - Set the policy to *Intrusion Defense Firewall profile*
   - The profile should apply to all computers that will be switched over to Intrusion Defense Firewall

2. Assign Appropriate Security Profiles to the Computers

Intrusion Defense Firewall comes with pre-defined Security Profiles including: Windows Laptop Profile, Windows Workstation Profile, and OfficeScan Server Profile.

Note: Security Profiles are composed of sets of Firewall Rules, DPI Rules, and Stateful Configurations (see "About Intrusion Defense Firewall", above). You can examine a Security Profile's properties by double clicking on a Security Profile in the **Security Profiles** screen. By clicking on the available tabs, you can see which rules, configurations etc. the Security Profile is applying.

Security Profiles are designed to be re-used by multiple computers with similar needs. The example Security Profiles can be duplicated (right-click on a Security Profile and select "Duplicate") and then customized to meet the needs of your organization. Intrusion Defense Firewall comes with example Security Profiles as a secure starting point.

Now go through your list of Computers and assign appropriate Security Profiles (Using the **Actions > Assign Security Profile...** function in the right-click menu).

3. Edit the Domain Controllers IP List

If you are using a Windows domain, you must edit the properties of the **Domain Controller(s)** IP List to include the IP addresses of all of your domain controllers. Go to **Components > IP Lists** and double-click on the **Domain Controllers** IP List. Add the IP addresses of your domain controllers.

4. Disable the native OfficeScan Firewall

You can now safely disable the native OfficeScan firewall.

To disable the OfficeScan firewall:

1. Open the OfficeScan Web console.
2. Go to **Administration > Product License**.
3. Under **Additional Services**, click the **Disable** button.
4. Log off and then log on to the OfficeScan Web console to view the correct firewall status.

Uninstalling Intrusion Defense Firewall

Note: Neither the IDF Server Plug-in nor the IDF Client Plug-in can be uninstalled using the Control Panel Add or Remove Programs applet.

Client Plug-in

To uninstall the IDF Client Plug-in:

1. Using the IDF Server Plug-in, go to the **Computers** screen.
2. Right-click on the Computer from which you want to remove the Client Plug-in.
3. Select **Actions > Remove Client Plug-in**.

If you cannot use the Server Plug-in to communicate with the Client Plug-in, use the following procedure.
To manually uninstall the Client Plug-in.

1. On the client machine, open a command prompt window (**Start > Run > cmd.exe**)
2. For 32-bit Windows, type the following and press **Enter**:

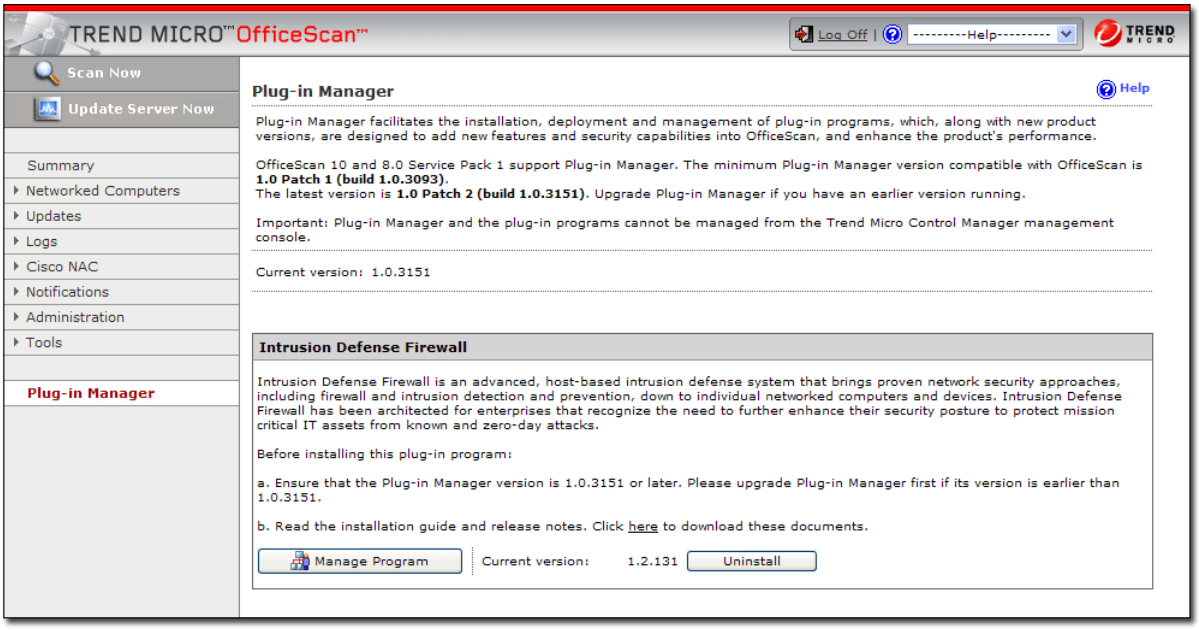
   ```
   rundll32 "C:\Program Files\Trend Micro\IDF Client\IdfClientAgent.dll",Uninstall
   ```

3. For 64-bit Windows, type the following and press **Enter**:

   ```
   rundll32 "C:\Program Files (x86)\Trend Micro\IDF Client\IdfClientAgent.dll",Uninstall
   ```

Server Plug-in

To uninstall the IDF Server Plug-in, go to the OfficeScan Plug-In Manager and click “Uninstall” in the “Intrusion Defense Firewall” panel.



Troubleshooting

Server Plug-in

Error Message: "Unable to proceed. The Trend Micro Plug-in Manager must be version 1.0.3151 or greater."
Solution: Check the version of Trend Micro Plug-in Manager and contact support if you are unable to download and install version 1.0.3151 or higher. The Plug-in Manager must be upgraded before Intrusion Defense Firewall is installed.

Error Message: "Unable to proceed. A minimum of 1500 MB of free disk space is required and only ? MB is available."
Solution: Free up additional disk space and re-try the installation. (The disk space must be available on the same drive that OfficeScan Server is installed on.)

Error Message: "Windows Installer Version 3.1 or higher is required."
Solution: Run Windows Update and ensure you have the latest version of Windows Installer.

Error Message: "Microsoft Data Access Components (MDAC). Version 2.81 or higher is required."
Solution: Download and Install MDAC from Microsoft using the following location: http://www.microsoft.com/downloads/details.aspx?familyid=78CAC895-EFC2-4F8E-A9E0-3A1AFBD5922E&displaylang=en (MDAC is not installed or updated during Windows Update)

Error Message: "Microsoft .NET Framework. Version 2.0 or higher is required."
Solution: Download and Install Microsoft .NET 2.0 using Windows Update or from the following location: http://www.microsoft.com/downloads/details.aspx?familyid=0856eacb-4362-4b0d-8edd-aab15c5e04f5&displaylang=en

Error Message: "Unable to proceed. The system directory could not be located."
Solution: Please contact support. They will assist you in collecting a log that will be used to diagnose the problem.

Error Message: "Unable to write to the add-on registry key '?'. Please check the registry permissions before trying again."
Solution: Check the permissions of the Plug-in Manager service and make sure it has the privileges required to write to the registry.

Error Message: "SQL installation failed. Check the logs in C:\Program Files\Microsoft SQL Server\90\Setup Bootstrap\LOG\Files"
Solution: Ensure your system meets the hardware and software requirements for SQL Server Express 2005: http://msdn2.microsoft.com/en-us/library/ms143680.aspx
If your system meets the requirements please consult the logs referred to in the error message. If the SQLSetup?_?_Core(Local).log file contains an error similar to:

"C:\Program Files\Microsoft SQL Server\90\Setup Bootstrap\LOG\Files\SQLSetup0004_D-A-13_.NET Framework 2.0.log" to cab file : "C:\Program Files\Microsoft SQL Server\90\Setup Bootstrap\LOG\SqlSetup0004.cab" Error Code : 2"

Re-install Microsoft .NET Framework 2.0. The .NET installation is likely corrupted. If that does not remedy the situation please contact support.

For other SQL Errors contact support and send them the log files in the directory referred to in the error message.

Error Message: "Installation of Intrusion Defense Firewall failed. Check the logs in ? and ?"
Solution: A general unexpected error has occurred. Please consult the logs referred to in the error message and contact support if required.

It is possible that even though Intrusion Defense Firewall failed to install, the SQL Server Express 2005 installation completed successfully and is still installed on your system. Subsequent attempts to install Intrusion Defense Firewall will use this first instance SQL Server Express. If you do not plan to install Intrusion Defense Firewall again and would like to remove this instance of SQL, manually uninstall the database instance by executing the following command:

"C:\Program Files\Trend Micro\OfficeScan\PCCSRC\Admin\Utility\SQL\sql.exe" /qn REMOVE=SQL_Engine INSTANCENAME=IDF

After the database has been removed, verify that the following directory either has been removed or that the IDF.mdf file has been removed (If needed delete IDF.mdf and IDF_log.LDF) located in:

C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Data

Also ensure that the following directory has been removed (delete it if needed):

C:\Program Files\Trend Micro\OfficeScan\Addon\Intrusion Defense Firewall

Problem: The Server Plug-in machine is having connectivity problems.
Solution: Ports 4119 and 4120 must be open on the Server Plug-in machine to allow the Client Plug-ins to communicate with it and to allow users access to the Web based user interface.

Problem: The IDF Server Plug-in fails to start.
Solution: In some environments, various system DLLs will be loaded in such a way that they do not allow the IDF Server process to receive all the initial contiguous RAM it requests during startup (1GB). In these environments the IDF Server process can be tuned to request less contiguous RAM, and hence be able to start.

IDF Server uses a Sun Java Virtual Machine. The JVM's memory can be tuned by adding a special file into the main IDF directory. Create and add the following file to the IDF Server directory (typically `<OSCE>\AddOn\Intrusion Defense Firewall`):

```
Intrusion Defense Firewall.vmptions
```

Use a text editor to edit the file and add the exact text below:

```
-Xmx950m
```

Restart the IDF Server service. If the service still does not start, you can step down the amount of memory to the highest possible amount, and continually restart the service until a value works:

```
-Xmx950m
-Xmx900m
-Xmx850m
...
```

For the IDF Server to function properly, it is important that it has access to as much RAM as possible (up to 1GB), hence this stepping down process.

Client Plug-in

Error Message: "Update Failed" on client computer.
Solution: In rare cases an IDF Client Plug-in deployment or upgrade will succeed, but the Computer in the IDF Server Plug-in console will go into an error state of "Update Failed". This may be due to the driver being successfully installed, but having no bindings to any network adapters on the host.

If the network bindings are NOT present (i.e. the checkboxes are not checked in **Windows Control Panel > Network Connections > Properties**) during installation, then they must have been disabled in the

past, or something unexpected occurred during the upgrade/install. (The IDF Client Plug-in "preserves" the existing state bindings on upgrade.)

In order to resolve this issue locally, manually enable the bindings (make sure the checkboxes associated with "TB-IM DSA Filter Driver" of a network adapter are selected, i.e. **Local Area Connection > Properties)**. To resolve remotely, remove, and then re-deploy the Client Plug-in. The uninstall should remove the driver entirely, and the fresh install should re-instate the bindings.

Problem: Interpreting the “last error code” from a “Client Plug-in Installation Failed” message.
Solution: The **last error code** is a Windows Installer Error message.

The following error may occur if an earlier version of an IDF Client Plug-in is not completely uninstalled or has been corrupted so that it cannot be uninstalled: **Client Plug-in installation failed (reason: Install Failed state: 7, last error code: 1603).** The resolution is to install "Windows Installer Cleanup Utility" and manually uninstall the "Trend Micro Intrusion Defense Firewall" entry. (http://support.microsoft.com/kb/290301)

The following error occurs when another MSI installation is already in progress during the IDF deployment: **Client Plug-in installation failed (reason: Install Failed state: 7, last error code: 1618).** The resolution is to complete the other installation and then re-deploy the IDF Client Plug-in. If the problem still exists you may need to reboot and/or run the Windows Installer Cleanup Utility as above.

Error Message: “Unable to open engine \\.\Global\TBIMDSA” (Client Plug-in)
Solution: To install the IDF Client Plug-in driver in the Microsoft network stack you need to use tools that have been provided through the msi installer tools set.

For the installation to be successful, the msi installer (or other programs called by the msi installer) needs to be able to lock the network configuration, as well as some files that are associated with the network stack. If these files cannot be locked, then the driver cannot be installed and bound to the network interface. In some cases the driver will be installed but not bound, leading to the situation where you will see the TBIMDSA Filter driver listed in the Network Connections, Properties without a check mark. In some cases, manually checking that box will allow the driver to be bound to the network interface, but in some cases a reboot may be required.

There are three workarounds that can be tried when this error shows up:

1. Remove and redeploy the agent from the IDF console.
2. Manually check the TBIMDSA filter driver checkbox in the Network Connections, Properties for the interface in question
3. Reboot the machine.

Problem: During an IDF Client Plug-in uninstall, what should I do if the process seems to hang?
Solution: The computer sometimes loses network connection completely if IDF un-installation hangs. From process explorer, you can see that rundll32.exe is hanging. The resolution is to restart the machine and remove the IDF Client Plug-in again.

Problem: During an IDF Client Plug-in upgrade, the upgrade of the IDF driver may not have completed but the IDF Server Plug-in shows "Managed".
Solution: The IDF driver install/upgrade may need a reboot but in rare cases it does not show the Reboot Required warning message to the user. The IDF Client Plug-in continues to use the previous driver until rebooted. The resolution is to reboot the computer.

Problem: When creating a diagnostic package, I get an IE popup warning message.
Solution: The popup by IE to warn about unsafe download content is part of the default "**Trusted Site**" security level. This does NOT stop the download, only means it will prompt.

If you do not want to be prompted, go to **IE > Tools > Internet Options > Security** tab, select "**Trusted Sites**", and change to a custom level. Set "**Downloads > Automatic prompting for file downloads**" to "**Enable**". The prompt will no longer appear.

General FAQs

Which Version of Trend Micro Plug-in Manager is required for IDF 1.2?

Before installing IDF 1.2, make sure you have PLM 1.0.3151 installed. (This means you must be using OSCE 8.0 SP1 or newer).

Note that even if PLM 1.0.3151 is installed on the OSCE server, some clients may not be updated to this version. Make sure that the OfficeScan clients have been updated to this version of the PLM.

How do I update the Plug-in Manager on a client?

On OfficeScan Server, Client Management, select the client and from the **Settings** menu, select **Privileges and Other Settings**. Then, on the **Other Settings** tab, clear the "**Clients can update components but not upgrade the client program or deploy hot fixes**" option. The OfficeScan Server will push upgrades to the clients.

In the event that any clients do not get upgraded to the correct version of PLM after clearing this option, you need to update the OfficeScan client before deploying IDF. You can do this manually at the client by right-clicking the OfficeScan icon in the system tray, and selecting **Update Now** from the menu. (To confirm you have the correct version installed, the file \Program Files\Trend Micro\OfficeScan Client\CNTAoSMgr.exe lists the current version.)

Can I install IDF to a FAT32 Partition?

No, only to NTFS file systems.

Can I change the installation directory for the IDF Client Plug-in?

No. The location is fixed as <PROGRAM FILES>\Trend Micro\IDF Client.

Where the <PROGRAM FILES> folder is from Windows (typically C:\Program Files)

Can I upgrade from IDF 1.1 to IDF 1.2?

Yes - See the instructions in this Deployment Guide.

Before upgrading IDF Server Plug-in, make sure that you have already installed the required minimum version of OfficeScan and Plug-in Manager. (The required minimum PLM version is always displayed on the Intrusion Defense Firewall section of the Plug-in Manager screen.)

Is there a Stand-alone install package for IDF 1.2 Client Plug-in?

Yes. See the installation instructions in this document or in the “How To…” section of the IDF Server Plug-in online help.

Why can't I open the IDF Server console using IE7?

In some cases, the IDF Server console will not open in some installations of IE7 (typically on Vista). This is caused by a certificate error and the error will only happen on IE 7. The following are workarounds for this issue:

a) Import the IDF certificate. It is important to note that this is the IDF Server certificate, and NOT the OfficeScan certificate. To access the IDF Server certificate, the following steps need to be followed:

1. Open an IE7 browser and connect https://<hostname>:4119
2. Click “Continue to this website”
3. Click “Certificate Error"
4. Click “View certificates"
5. Install the certificate
6. Automatically select the certificate store based on the type of certificate
7. Go back to the OfficeScan console, and attempt to access IDF Server.

b) Add the OfficeScan server address to the list of IE "Trusted Sites".

1. Open IE, go to **Tools->Internet Options**
2. Select the Security tab, and click "Trusted Sites"
3. Add the OfficeScan server site to the list, for example, https://myofficescan:4343/
4. Go back to the OfficeScan console, and attempt to access IDF Server.

How long does it take to deploy IDF Client Plug-in over a large network with thousands of clients?

Multiple clients are deployed concurrently (by the OfficeScan server, not the IDF Server Plug-in). It takes a minute or two per client. The number of concurrent deployments depends on the OfficeScan Plug-in Manager but you should expect an average of approximately five clients per minute.

How long does it take to push a Security Update out to Clients?

The Server Plug-in will update up to 25 Client Plug-ins at the same time. Each update takes a few seconds to complete. You can estimate the amount of time it will take to deploy an update by multiplying 0.5 seconds * number of Client Plug-ins.

Ex: 1000 clients * 0.5 seconds = 8 minutes 20 seconds

The time required can be influenced by network congestion, the resources of the Server Plug-in's Computer, and the direction of the communication between the Client Plug-in and the Server Plug-in. (By default IDF is configured so that both the client and the server can initiate communication. This is the most efficient configuration.)

Note: The manager will update up to 25 Client Plug-ins concurrently. Each update takes 2-3 seconds to complete, however because of the time-savings of the concurrency it averages 0.5 seconds/host.

What is the maximum number of IDF Clients that can be supported from one IDF Server?

- 5000 endpoints supported per OSCE server assuming the embedded MS SQL Express database is being used.
- 10,000 endpoints supported per OSCE server assuming MS SQL Server 2005/2008 (installed on a separate machine) is being used.

Does IDF work in a NAT environment?

In the scenario where the IDF Server is outside the NAT and Clients are inside the NAT, does IDF Server/Client communication work properly?

Yes, you should set the Computer Communication Direction to Client Plug-in-initiated. See more on this topic in "Communication Direction" in the **System > System Settings > Computers** section of the on-line help.

IDF Database FAQs

Which version of SQL Server does IDF Install?

And will it conflict with other SQL Server instances already installed?

IDF installs a named instance of SQL Server 2005 Express. This should prevent it from conflicting with any other default instance or named instance on the host.

This database as installed will not conflict with any of the following:

- MSDE
- SQL Server 2000 under the default instance
- SQL Server 2000 under a named instance
- SQL Server 2005 under the default instance
- SQL Server 2005 under a named instance

The database has a limitation of 4GB, is there a way we could increase this database capacity?

It is not possible to increase the database capacity for SQL Server Express.

It is possible to migrate to a database that has no space constraints such as SQL Server database. A set of migration steps have been established, see “Migrate to a Larger Database” in the “How To...” section of the online help. Please contact your Trend Micro support provider for assistance.

How can I archive the logs for a couple of years?

This is not possible. IDF uses SQL Server Express which is capped at a maximum of 4GB of data. This makes it unsuitable for archive. For audit/compliance, it is recommended that database backups be employed. The on-line help includes information on creating scheduled backups.

How can IDF use less Database space?

IDF Server stores events in the database and automatically purges events when they reach a certain age. The maximum age of these events is fully configurable from IDF Server. This allows an administrator to tune how long they want to keep certain types of events in IDF Server, and hence allows an administrator to effectively tune how their database space is utilized.

Prune settings are configured in IDF Server by going to System->Settings, selecting the "System" tab, and then editing the settings within the "Prune" section. Changes to these settings are effective immediately, but it will take IDF Server up to an hour to do the actual pruning, as it is done every hour.

To decide what prune settings would benefit from being shortened, you can use a SQL Server database tool to inspect your database and find out which tables are taking up the majority of the space. http://www.microsoft.com/downloadS/details.aspx?familyid=C243A5AE-4BD1-4E3D-94B8-5A0F62BF7796&displaylang=en

If you use the tool mentioned above, install it on the IDF Server host, launch the tool and login to the IDF instance, expand the "IDF" database, view the tables, and then fetch the properties of the tables listed below to determine their size. Considering that SQL Server Express has a maximum size of 4GB, you should consider any table below that is over 1GB to be "too large", and its pruning settings should be lowered if possible.

The following tables are included in the "Firewall/DPI events" prune settings:

```
packetlogs
payloadlogs
payloadlogdatas
```

The following tables are included in the "system/client plug-in events" prune settings:

```
systemevents
agentevents
```

The following tables are included in the "counters" prune settings:

```
counter3s
counter3ports
counter3ips
```

Can I shrink the size of the IDF database?

The IDF Server uses a SQL Server Express database. It, by default, has a maximum size for data of 4GB, but its database log file (IDF_Log.mdf) can grow as large as needed. In some extreme cases it can grow up to the size of the main database file, so 4GB.

In some situations it may be helpful to shrink the database so it consumes less actual disk space.

The only way to perform this operation on the IDF database is by using a SQL Server tool. This can be done using the SQL Server Express Management tool, or via a similar command line tool – both tools are provided free from Microsoft:
http://www.microsoft.com/downloadS/details.aspx?familyid=C243A5AE-4BD1-4E3D-94B8-5A0F62BF7796&displaylang=en
http://www.microsoft.com/DownLoads/details.aspx?familyid=FA87E828-173F-472E-A85C-27ED01CF6B02&displaylang=en

After installing the latter tool on the IDF Server machine, the following command will shrink the database:

```
sseutil –shrink name=IDF –server .\IDF –m
```

Usually the shrink is performed on the logical logs - they grow more rapidly than the database and sometimes they are not flushed. Do the following to release logical log space:

1. Perform full backup
2. Perform logical logs backup
3. Run the following two SQL queries to release the space.

```
USE idf
GO
Checkpoint
USE idf
DBCC SHRINKFILE(idf_log, 1)
BACKUP LOG WITH TRUNCATE_ONLY
DBCC SHRINKFILE(idf_log, 1)
```

Technote: Another option that is discouraged by Microsoft, but is still technically an option to keep the files small is to turn the IDF database into "Auto-Shrink" mode. You can do this using the latter GUI tool mentioned above by selecting the Databases->IDF node, right click and select Properties, choose Options, and then configuring the "Auto Shrink" mode to be "True".

How can I migrate IDF data from the bundled SQL Server Express onto another database?

A set of migration steps have been established, see “Migrate to a Larger Database” in the “How To...” section of the online help. Please contact your Trend Micro support provider for assistance.