Juniper Networks Secure Access

Secure Virtual Workspace

Release 5.3R3
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The Secure Virtual Workspace (SVW) provides a protected desktop for Windows XP and Windows 2000 users. You can create an SVW policy when you configure your Host Checker policies, as described in the following topics:

- “Enabling the Secure Virtual Workspace” on page 200
- “Secure Virtual Workspace features” on page 200
- “Secure Virtual Workspace restrictions and defaults” on page 201
- “Configure the Secure Virtual Workspace” on page 202
- “Define Secure Virtual Workspace permissions” on page 202
- “Define a Secure Virtual Workspace application policy” on page 203
- “Define a Secure Virtual Workspace security policy” on page 204
- “Define Secure Virtual Workspace environment options” on page 205
- “Define Secure Virtual Workspace remediation policy” on page 205
Enabling the Secure Virtual Workspace

The Secure Virtual Workspace guarantees the integrity of IVE session data on a client machine running Windows 2000 or Windows XP by creating a protected workspace on the client desktop. By enabling the Secure Virtual Workspace, you ensure that any end-user signing in to your intranet must perform all interactions within a completely protected environment. If the user’s applications and interactions result in data being written to disk or to the registry, the Secure Virtual Workspace encrypts that information. When the IVE session is complete, the Secure Virtual Workspace destroys all information pertaining to itself or to the session, by default. However, you can configure the state of this type of information to suit your particular needs. For example, you might decide to allow data to persist across Secure Virtual Workspace sessions.

The IVE follows the DoD 5220.5-M cleaning and sanitization standard for securely deleting Secure Virtual Workspace data that is stored on the hard disk.

The Secure Virtual Workspace:

- Removes workspace data and resources when the session ends.
- Ensures that no browser Helper Objects latch onto an Internet Explorer process before launching IE.
- Prohibits desktop search products from intercepting Web traffic and indexing the contents.
- Enters all of its configuration and run-time operations in IVE logs.

The IVE hosts the Secure Virtual Workspace binary, which the client system downloads from the IVE whenever a user connects. The Secure Virtual Workspace creates a virtual file system and a virtual registry on the client.

You define and configure the applications that are allowed to run within the Secure Virtual Workspace. For example, you can configure the following types of application configurations:

- Restrict launching of Internet Explorer and Outlook to the Secure Virtual Workspace.
- Restrict application installations and executions within a Secure Virtual Workspace session. This ensures that even the application binaries are completely removed from the client machine after the session ends.

**Secure Virtual Workspace features**

The IVE implementation of the Secure Virtual Workspace:

- Does not require the client desktop user to have administrator privileges to download and run the Secure Virtual Workspace.
- Supports the use of the Secure Virtual Workspace in conjunction with Host Checker, which will automatically launch in the secure workspace, when initiated.

- Provides the Secure Virtual Workspace as a J.E.D.I. module, to allow you to create Secure Virtual Workspace policies in Host Checker.

**Secure Virtual Workspace restrictions and defaults**

The Secure Virtual Workspace imposes certain restrictions on its use, and establishes defaults, which you may be able to modify.

- By default, a platform-specific browser is allowed to run in the SVW, unless explicitly restricted by the administrator.

- The IVE does not allow software applications that update the HKLM registry entries on installation to operate within the SVW.

- The IVE does not support the standard J-SAM applications Outlook and Netbios file browsing through SVW, since these applications require registry key changes. However, the IVE does support the Citrix and Lotus Notes J-SAM standard applications through SVW.

- By default, the IVE does not allow access to external storage and printing devices by some applications running in SVW. You can enable access to these devices in the SVW policy, if needed.

- By default, end-users are unable to access network shares, unless you configure access to network shares in the SVW policy.

- If your end-users use firewalls or other applications that run in the kernel space, they may experience problems when trying to download IVE client components in SVW. Low-level administrative applications may display message boxes requiring user interaction. If you set the option to allow switching to the default or real desktop, the user may be able to dismiss the message boxes. If the switching option is disabled, users may be unable to fix the problem.

- SVW does not support 16-bit applications.

- Some Windows keyboard shortcuts may not work properly inside an SVW session.

- To display the Windows Task Manager while in SVW, you cannot use the standard keyboard shortcut Ctrl + Alt + Del. You must right-click on the Windows taskbar (typically on the bottom of the screen, unless you have moved it) to display a popup menu, from which you can select **Task Manager**.

- If you set the Host Checker status update interval to a value of zero (0), Host Checker will perform the status check once and then quit. If Host Checker quits, SVW also quits. As a result, the end-user is unable to initiate an SVW session. Set the Host Checker status update interval to a non-zero value.
Configure the Secure Virtual Workspace

You configure the Secure Virtual Workspace within the context of a Host Checker policy and all Secure Virtual Workspace policies you define appear in a list at Authentication > Endpoint Security > Host Checker.

NOTE: Because the Secure Virtual Workspace session data is stored on the end-user’s real desktop, you should implement the persistence feature only if each of your end-users always uses the same client machine.

NOTE: No provision has been made to ensure that you cannot configure a sign-in URL mapping to more than one realm configured with an SVW policy. If you configure multiple mappings to more than one realm, the results are unpredictable. You must explicitly configure the secure virtual desktop to allow only one SVW policy to be evaluated at the user end.

Define Secure Virtual Workspace permissions

You can specify which devices and resources the end-user can access when using the Secure Virtual Workspace.

To define a new Secure Virtual Workspace permissions policy:

1. In the Web console, choose Authentication > Endpoint Security > Host Checker.


3. Under Permissions, check the appropriate checkboxes for the items to which you want to grant permissions:

   - Printers—Select to allow end-user access to network printers.
   - Restricted View of Files—When Restricted View is set, only the directories Documents and Settings, Program Files, and the Windows system folders on the system drive (typically c:) are available within SVW.

NOTE: If you set the Restricted View of Files option, and your end-users configure partitioned drives, they will be unable to access any applications or files residing on any drive other than the system (c:) drive. If you allow your end-users to partition drives, you should not use the Restricted View.

   - Removable Drives—Select to allow end-user access to removable drives on the end-user’s client machine.

     If an end-user installs a USB removable storage device he may experience the two following behaviors, depending also on how you set this option:
If the user connects the USB device after initiating an SVW session, the device will appear to be a fixed hard drive and the user will not be able to read or write to the device during an SVW session, even when you have set the **Removable Drives** option.

If the user connects the USB device before initiating an SVW session, the device appears to be removable media and the user can access it, if you have set the **Removable Drives** option when configuring SVW.

- **Network Share Access**—Select to allow end-user access to network share drives.

- **Switch to Real Desktop**—Select to allow end-user to toggle between the Secure Virtual Workspace and the end-user’s client desktop.

- **Desktop Persistence**—Select to allow end-users to maintain a Secure Virtual Workspace across client sessions on NTFS file systems only. Desktop persistence is not supported on FAT16 or FAT32 file systems.

4. Continue to define the policy or click **Save Changes**.

**Define a Secure Virtual Workspace application policy**

You can specify which applications the end-user can install or run when using the Secure Virtual Workspace.

To define a new Secure Virtual Workspace application policy:

1. In the Web console, choose **Authentication > Endpoint Security > Host Checker**.

2. Under **Policies**, click **New Secure Virtual Workspace Policy** or click the hyperlinked name of an existing Secure Virtual Workspace policy.

3. Under **Applications**, select the checkboxes for the types of applications you want to enable:

   - **Control panel**—Select to allow the end-user to access the Windows control panel while in the Secure Virtual Workspace.

   - **Run menu**—Select to allow the end-user to access the Windows run menu while in the Secure Virtual Workspace.

   - **Registry editor**—Select to allow the end-user to access the Windows registry editor (regedt32.exe) while in the Secure Virtual Workspace.

   - **Task manager**—Select to allow the end-user to access the Windows Task Manager (taskmgr.exe) and system processes while in the Secure Virtual Workspace.

   - **Command window**—Select to allow the end-user to access the Windows Command window (cmd.exe) and execute commands while in the Secure Virtual Workspace.
Custom applications—You can identify custom applications that the end-user is allowed to run while in the Secure Virtual Workspace. For example, you might include in-house applications, non-default browsers, and other types of applications. Enter one application, including the .exe extension per line in the multiline text box. You can also use the * wildcard for an entire class of applications, and you can include an optional MD5 hash value following the executable name and a comma, for example, telnet.exe,0414ea8.

Applications to deny—You can identify applications you want to restrict from end-user use while in the Secure Virtual Workspace. Enter one application, including the extension for each executable per line in the multiline text box.

**NOTE:**
- Any custom application that is not listed in the Custom applications field is denied by default.
- If you add the same application to the Custom applications text box and to the Applications to deny text box, the deny action takes precedence and users will be denied access to the application SVW sessions. Be aware that this can happen if you use wildcards to specify applications in both lists. For example, if you specify *plore.exe in the allow list and iex*.exe in the deny list, then iexplore.exe will be denied.

4. Continue to define the policy or click **Save Changes**.

After you define one or more Virtual Workspace policies, you must enable them as Realm authentication policies at the user level, as described in “Implementing Host Checker policies” on page 240.

**Define a Secure Virtual Workspace security policy**
You can specify encryption levels and can control the use of 3rd-party extensions in Internet Explorer and Outlook.

To specify security options for a new Secure Virtual Workspace policy:

1. In the Web console, choose **Authentication > Endpoint Security > Host Checker**.

2. Under Policies, click **New Secure Virtual Workspace Policy** or click the hyperlinked name of an existing Secure Virtual Workspace policy.

3. Specify the type of AES encryption key the IVE uses to enable the Secure Virtual Workspace on the client. The available options are 128, 192, and 256-byte encryption keys.

4. Identify the IE or Outlook extensions you want to allow by including each allowable DLL on a separate line in the **IE/Outlook extensions to allow** text box. Any extension that is not listed is denied, by default.
These extensions are small applications that are passed into and out of the Secure Virtual Workspace session.

5. Continue to define the policy or click **Save Changes**.

**Define Secure Virtual Workspace environment options**

To specify environment options for a new Secure Virtual Workspace policy:

1. In the Web console, choose **Authentication > Endpoint Security > Host Checker**.

2. Under **Policies**, click **New Secure Virtual Workspace Policy** or click the hyperlinked name of an existing Secure Virtual Workspace policy.

3. Under **Options**, specify the maximum length of time (in minutes) a client’s Secure Virtual Workspace session can remain idle before the connection to the IVE times out.

4. Specify the desktop wallpaper image (Optional).

5. Specify the desktop background color (Optional).

6. Specify the sign-in URL to use to access the SVW.

   The available URLs include the default User sign-in URL and any URLs you have defined in **Authentication > Signing in > Sign-in Policies**. The first time SVW puts the user into the virtual workspace and initiates a browser, it takes the user to the IVE using a sign-in URL. By default, this sign-in URL is the same one that the user has entered to start their IVE session. You can configure a different sign-in URL through this option.

7. Continue to define the policy or click **Save Changes**.

**Define Secure Virtual Workspace remediation policy**

To specify remediation options for a new Virtual Workspace policy:

1. In the Web console, choose **Authentication > Endpoint Security > Host Checker**.

2. Under **Policies**, click **New Secure Virtual Workspace Policy** or click the hyperlinked name of an existing Secure Virtual Workspace policy.

3. Under **Remediation**, select remediation options for users whose computers do not meet the requirements specified in the policy. For instructions, see “Configure Host Checker remediation” on page 248.

**NOTE:** If you do not create remediation instructions and the policy fails, your users will not know why they cannot launch the Secure Virtual Workspace or access local resources.
- **Enable Custom Instructions**—Select to expand text box in which you can enter custom instructions, using either text or HTML, that will be presented to end-users when the Secure Virtual Workspace encounters a remediation problem.

- **Evaluate Other Policies**—Select to open list boxes that allow you to choose other existing Host Checker policies to be evaluated when initiating the Secure Virtual Workspace.

- **Remediate**—Select to apply remediation rules.

- **Kill Processes**—Select to open text box in which you enter application processes and MD5 hash values for the processes you want killed. For example:

  Application.exe
  MD5: 6A7DFAF12C3183B56C44E89B12DBEF56
  MD5: 9S3AJ912CC3183B56C44E89B12DI2AC9

- **Delete Files**—Select to open text box in which you can enter file names, one per line, of files you want deleted.

4. Click **Save Changes**.