

# USING VIRTUAL MACHINES FOR SECURE INTERNET ACCESS

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# SUMMARY

You can use free virtual machines to increase the level of security when you access the Internet from public Internet services.

## **SUMMARY (continued)**

By operating your software and data files inside virtual machines, you can avoid infecting your real host computer and you can provide yourself with redundancy and reliable recovery from equipment thefts and computer hardware failures.

# TOPICS

- Security Enhancements From Using a "Virtual Machine" To Access a Public Internet Connection
- Installing a "Virtual Machine Program"
- Installing a "Virtual Machine"

# TOPICS (continued)

- Installing a Real USB WiFi Adapter for the "Virtual Machine"
- Installing a Free "Virtual Private Network Service" for the Virtual Machine

# ADVICE ON INSTALLING "VIRTUAL MACHINES" FOR SECURE INTERNET ACCESS

- Boot up the host computer.
- Download and install a virtual machine program.
- Start up the virtual machine program.
- Create a new virtual machine.
- Install an operating system for the new virtual machine.

# **ADVICE ON INSTALLING "VIRTUAL MACHINES" FOR SECURE INTERNET ACCESS (continued)**

- Install a real USB WiFi adapter vice for the virtual machine.
- Remove the virtual network adapter that attaches the virtual machine to the network adapter of your real host computer.



**Start with a real, physical computer that is running any operating system ("Windows XP", "Windows Vista", "Windows 7", "Windows 8", "Mac OS X", or "GNU/Linux" computer):**

**Real Physical Computer With Any Operating System**

**Install the free "VMware Player"  
virtual machine program:**

**Real Physical Computer with O/S**

**"VMware Player" Virtual  
Machine Program**

**Use the free "VMware Player" program to make an empty virtual machine:**

**Real Physical Computer with O/S**

**"VMware Player" Virtual Machine Program**

**Blank Virtual Machine with no Operating System**



**Start the empty virtual machine program and install the .ISO version of "Windows 8.1 Preview" into it:**

**Real Physical Computer with O/S**

**"VMware Player" Virtual Machine Program**

**"Windows 8 Enterprise Evaluation" Virtual Machine**



**Reboot the empty virtual machine program and install a virtual private network service into it:**

**Real Physical Computer with O/S**

**"VMware Player" Virtual Machine Program**

**"Windows 8 Enterprise Evaluation" Virtual Machine**

**VPN Device provided by  
VPN Service**



**Install a real USB WiFi adapter for the virtual machine:**

**Real USB WiFi Adapter**

**Real Physical Computer with O/S**

**"VMware Player" Virtual Machine Program**

**"Windows 8 Enterprise  
Evaluation" Virtual Machine**

**VPN Virtual Network Adapter  
provided by the VPN Service**



# ADVICE ON USING "VIRTUAL MACHINES" WITH "VIRTUAL PRIVATE NETWORK SERVICES" FOR SECURE INTERNET ACCESS

Web browser inside virtual machine connects to virtual private network device connects to the virtual network adapter provided by the virtual machine program connects to a USB WiFi network adapter

# **ADVICE ON USING "VIRTUAL MACHINES" FOR SECURE INTERNET ACCESS (continued)**

connects over the insecure Internet provider  
to a virtual private network server  
(at the server farm of the virtual private network service)  
which connects to the Internet



# ADVICE ON USING "VIRTUAL MACHINES" FOR SECURE INTERNET ACCESS (continued)

- Step 1:  
Boot up the host computer.

# **ADVICE ON USING "VIRTUAL MACHINES" FOR SECURE INTERNET ACCESS (continued)**

- Step 2:  
Connect the host computer to the (public) wireless or wired Internet service.

# **ADVICE ON USING "VIRTUAL MACHINES" FOR SECURE INTERNET ACCESS (continued)**

- **Step 3:**  
Start up the "virtual machine program".

# **ADVICE ON USING "VIRTUAL MACHINES" FOR SECURE INTERNET ACCESS (continued)**

- Step 4:  
"Play" the desired virtual machine.

# **ADVICE ON USING "VIRTUAL MACHINES" FOR SECURE INTERNET ACCESS (continued)**

- **Step 5:**  
Test the virtual machine's Internet connection.

# ADVICE ON USING "VIRTUAL MACHINES" FOR SECURE INTERNET ACCESS (continued)

- Step 6:  
Activate the virtual private network service for the virtual machine.

# **ADVICE ON USING "VIRTUAL MACHINES" FOR SECURE INTERNET ACCESS (continued)**

- **Step 7:**  
Use the virtual machine to securely access the Internet: Web browsing, email, FTP, etc.