

Remote Printing

VMware ACE 2

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VMware ACE and Virtual Printer

Virtual Printer simplifies print management by enabling you to print regardless of whether the host and guest operating systems are running under Windows or Linux.

Virtual Printer also works if the host and guest operating systems are both running on a Windows machine. Printer administration is entirely eliminated. Virtual Printer is a plug-and-play solution. Configuration is not required and all printers are automatically available with the correct drivers. Users in a virtual session (guest operating system) can automatically use their locally installed (host operating system) printers.

Virtual Printer consists of a guest and host component: .print Engine and .print Client. The .print Engine sends print jobs to .print Client.

The .print Engine and .print Client are distributed to the **VMware ACE packages** by the ACE Management Server, so that they can be installed with the virtual environment. The process installs the .print Engine on the guest operating system and the .print Client on the host operating system.

To configure VMware ACE 2 virtual printer, open the Policies editor and select **Virtual Printer**. Click the **Enable Virtual Printing for instances** check box.



Using Windows as the Guest and Host Operating System

This section describes how to use Windows as the guest and host operating system with Virtual Printer.

Installation

All .print components— .print Engine, .print AutoConnect, and .print Client—are components of the VMware ACE 2 package and are included with the software.

In pure Windows environments (host and guest operating system), you can print immediately after installing the ACE package and starting the guest operating system. Also, printers can be installed onto the host operating system at any time, both before and after installation of an ACE package. Shortly afterward, these printers will appear on the guest operating system.

When installation of the VMware ACE 2 package is complete, .print Client Windows is started with the guest operating system; its icon appears in the task bar of the host operating system. The icon shows that the host operating system is ready to process .print print jobs. Configuration of the client software is not necessary.

Printing

To use the print process

- 1 Start the guest operating system.

All printers installed on the host appear in the **Printers** and **Faxes** folder on the guest operating system. This is the default setting in the .print Client.
- 2 Open a document with any application and print using one of the listed printers.

Preview

For testing in Windows environments, select Print Preview. From the preview window, you can use the following functions:

- Print to any printer that is connected to the PC or can be reached from it.
- Cancel print job reception.

- Navigate in documents with more than one page.
- Zoom.

Creating and Configuring Printers

Virtual Printer is ready to use after VMware ACE 2 package installation. The following configuration options are available for adjusting the individual features to your specific requirements.

Creating Printers on the Host Operating System

Creating virtual printers on the host operating system is no different from creating printers without Virtual Printer. Use the usual Windows options for creating new printers (the **Add Printer** option in the `Printers` and `Faxes` folder or by connecting a plug-and-play printer).

Printer Selection in the Host Operating System

If you do not want all of the printers installed on the host to be displayed on the guest operating system, you can deselect individual printers in the `.print` Client Manager.

To deselect printers

- 1 Start `.print` Client Manager on the host with **Start>Programs>.print Client Windows Configure**.
- 2 Under **Assignment**, deselect the check next to each of the individual printers.
- 3 Click **OK**.

When new printers are installed on the host, they appear after the refresh period from `.print` AutoConnect in the `Printers` and `Faxes` folder on the guest.

Printer Presettings in the Guest Operating System

You can determine the following settings for the Virtual Printer Output Gateway printer template in the guest's `Printers` and `Faxes` folder (visible with administrator permission only). A template is a printer whose properties are assigned to all guest printers created by `.print` AutoConnect (login as a user).

- 1 In the `Printers` and `Faxes` folder, right-click **Virtual Printer Output Gateway** and select **Properties** from the menu.
- 2 Select **Virtual Printer Device Setup**.
- 3 Choose an option for print data **compression**:
 - Normal lossless.
 - Optimal text lossless – Images compressed with optimal quality.
 - Maximum text lossless – Images compressed with good quality.
 - Extreme text lossless – Images compressed with maximum possible compression rate without regard to image quality.
 - No images lossless – Only text is printed.
- 4 Disable the options **duplex** and **paper sources**.
- 5 Click **Apply** to confirm and select **Advanced Printing Defaults**.
- 6 Edit page and color settings.

The values are acquired from the host printers.

If the printers installed on the host support these options, edit the following settings for double-sided printing under **Advanced: Long edge** for portrait or **Short edge** for landscape.

- 7 To preview each printout on the host, enable **Preview on client before printing**. From this preview, you can use any printer with all its available properties.
- 8 VMware recommends that you accept the default settings that are enabled for the Adjustment option. The **Adjustment** option offers options for the default procedure if documents appear displaced or smaller on the printout.
- 9 Click **Apply** or **OK** to confirm.

Printer Settings Just Before Printing

You can select certain settings on the guest operating system just before printing.

To select settings on a guest operating system

- 1 Open an application, select **Print** and **Properties**.
 Unlike the template presetting, under **Advanced** you can see all of the paper sources in the printer installed on the host.
Adjustment offers options for the default procedure if documents appear displaced or smaller on the printout. If the printouts appear small, disable the **Scale to fit** function. Disable **Adjust margins** if printouts are displaced on the page.
- 2 Click **Apply** or **OK** to confirm.

Using Linux as the Guest Operating System and Windows as the Host Operating System

All .print components— .print Engine and .print Client—are components of the VMware ACE package and included with the software.

After installation of a VMware ACE 2 package is complete, .print Client Windows is started together with the guest operating system. Its icon appears in the task bar of the host operating system. The icon shows that the host operating system is ready to process .print print jobs. Configuration of the .print components is not necessary.

Printing

The **VMware_Virtual_Printer** printer is preinstalled on the guest operating system. You can print with this printer to all printers on the host operating system.

To print to the Windows default printer

- 1 Start the guest operating system.
- 2 Open an application and print using the **VMware_Virtual_Printer**.

Changing Printers

If more than one printer is installed on the host operating system, change to Windows **default printer** the before printing.

Alternatively, you can also change to the **current printer** in the **.print Client**.

To change to the current printer

- 1 Open the .print Client Manager by double clicking its icon in the host operating system's task bar.
- 2 Change the **Current printer** and select **OK**.

Changing Printer Drivers in the Guest Operating System

If Virtual Printer does not support a specific printer driver (for example, false characters or false margins in the printout, page break in the middle of the page, or printer reacts but does not print), change the driver for the VMware_Virtual_Printer printer.

NOTE Administrator permission is required to perform this procedure.

To change printer drivers

- 1 Start the Linux guest system and in the Internet browser, open: `http://localhost:631`.
- 2 Select the **Printers** tab.
- 3 Click **Modify Printer** for the VMware_Virtual_Printer printer.
- 4 Click **Continue** to confirm the **Modify** menu.
- 5 Click **Continue** to confirm the **Device** menu.
- 6 Click **Continue** to confirm the **URI** menu.
- 7 In the next dialog box, select the printer manufacturer from the list or the printer description from a file using the **Browse** button.
- 8 Confirm by clicking **Continue** or **Modify Printer**.
- 9 Select the new printer driver from the list or the printer description from a file.

If the host system is Windows, the drivers in [Table 1](#) are recommended.

Table 1. Recommended Printer Drivers

Printer Type on the Host System	Driver Recommendation
PCL black-and-white printer	HP DeskJet 500 (dot matrix printer) or HP LaserJet 4 (laser printer)
PCL color printer	HP DeskJet 500C (dot matrix printer) or HP Color LaserJet 5 (laser printer)
PostScript black-and-white printer	HP LaserJet 4/4M PS
PostScript color printer	HP Color LaserJet 5/5M PS

- 10 Confirm with **Modify Printer**.
- 11 If you are not logged in as an administrator, enter an administrator's user name and password and click **OK** to confirm.

A confirmation message appears and the modification process is complete.

Abbreviations

ACE

Assured Computing Environment

CUPS

Common UNIX Printing System

EMF

Enhanced Metafile

gcc

GNU project C and C++ compiler

GNU

GNU not UNIX

GPL

GNU General Public License

LPD

Line Printer Daemon

LPR

Line Printer Remote

LPT

Windows Line printer Port

PCL

Printer Command Language

PPD

PostScript Printer Description (Adobe)

RAW

Standard Print Data Type

RDP

Remote Desktop Protocol (Microsoft)

RFC

Request for Comments.

SBC

Server-based Computing

TPVM:

ThinPrint's printer port

URI

Uniform Resource Identifier

VDI

Virtual Desktop Infrastructure (VMware)

VPN

Virtual Private Network

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