

Application Note

099

Known issue: Blank logon display when imaging DXM630 blades

This application note describes workarounds for a display issue that can affect the installation of a Windows 7 image on an M630 blade using PXE and LANDESK.

Specifically, this issue affects M630 blades with a PCoIP mezzanine host card that has an *NVIDIA K2200M GPU* and where *a single monitor only* is attached to the DXZ4 or DXZC zero client using video output 1.

Symptom

When the imaging process completes, the monitor attached to video output 1 on the zero client is blank. Although a mouse cursor is visible, the underlying Windows logon screen is not displayed.

Cause

Briefly, the monitor attached to video output 1 is blank because the primary display is in fact being redirected through video output 2.

This problem arises because of how the NVIDIA K2200M GPU driver interacts with the Monitor Emulation feature of the PCoIP host card. Specifically, when Monitor Emulation is enabled on all video output channels, the K2200M GPU redirects the primary display to video output 2, even a physical monitor is only attached to video output 1. This issue has been found with multiple versions of the K2200M driver.

Note: *This diagnosis can be verified by installing a base Windows 7 image without the NVIDIA K2200M GPU driver. With a generic video driver in use, the primary display is directed to video output 1 when the installation completes. But if you then install the NVIDIA K2200M GPU driver and reboot the system, the primary display switches to video output 2.*

Why is Monitor Emulation enabled?

Monitor Emulation is enabled by default for all video outputs on Amulet Hotkey PCoIP host cards. In normal deployments, this ensures a generic display is presented to allow the boot process to complete.

Monitor Emulation provides Windows with one physically connected monitor (video output 1) and additional 'emulated' monitors on the remaining video outputs. Despite only one physical monitor being connected, Windows reports four connected monitors (if using a DXZ4) or two connected monitors (if using a DXZC). This can be seen in the Control Panel > Display > Screen Resolution dialog.

This can eliminate display problems caused by, for example, GPUs that do not enable DisplayPort or DVI ports when no monitor is detected and/or which do not honour hot plug events. These display problems can occur during initial BIOS/OS boot or after a full OS boot.

Monitor Emulation for individual video output channels is configurable in the host card's Administrative Web Interface (AWI).

Workarounds

There are two possible workarounds to this display issue.

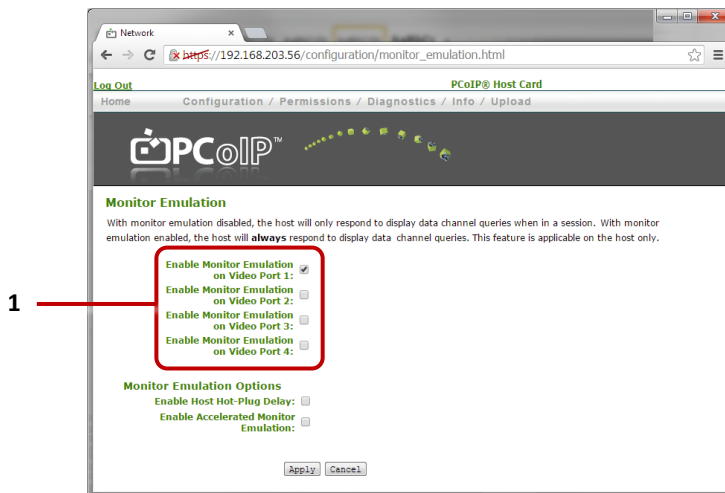
Workaround 1: Attach a monitor to video output 2

This is the simplest workaround. To ensure the Windows logon screen is visible when the imaging process completes, either attach a second monitor to video output 2 or move the existing single monitor from video output 1 to video output 2.

Workaround 2: Verify that Monitor Emulation is enabled on video output 1 only

Reconfigure Monitor Emulation on the PCoIP host card before starting the imaging process:

1. Log on to the host card's Administrative Web Interface.
2. On the Configuration > Monitor Emulation page, verify that:
 - The **Enable Monitor Emulation on Video Port 1** check box is selected.
 - All other **Enable Monitor Emulation** check boxes are *not* selected.



PCoIP Host Card AWI, Monitor Emulation page: Monitor Emulation check boxes (1)

3. Click Apply.
4. Reboot the host blade.

When the blade restarts, no additional monitors are emulated. Images are only displayed through video output 1 using the physically connected monitor. This applies to BIOS and Windows output.

Other physical monitors can subsequently be attached or removed from the zero client. These additional physical monitor connections will now be detected as normal by Windows.

Note: Monitor Emulation can also be configured from the PCoIP Management Console.

© 2015 Amulet Hotkey Ltd. All rights reserved. Information in this document is subject to change. No part of this document may be reproduced through any means including (but not limited to) electronic or mechanical, without express written permission from Amulet Hotkey Ltd. Amulet Hotkey Ltd may have patents, patent applications, trademarks or copyrights or other intellectual property rights covering subject matter in this document. "Amulet Hotkey" and "solutions you can bank on" are registered trademarks of Amulet Hotkey Ltd. Other product names and company names listed within this document may be trademarks of their respective owners.