Troubleshooting Using iDRAC7 Video Capture Features

This Dell white paper provides instructions on using the video capture feature from iDRAC7 to aid in troubleshooting.

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Executive summary

This paper provides information about the iDRAC7 video capture feature on Dell PowerEdge 12th Generation servers. This capability provides a valuable troubleshooting tool for administrators who are not physically present at the system. This is an enterprise feature, and is in *addition* to the last crash screen capture offered previously. Video capture provides a better understanding of an issue as opposed to only a screen capture.

Introduction

Using iDRAC7 for remote troubleshooting lets users diagnose potential issues. The video capture feature assists with remote debug by displaying the last screen while booting into the operating system.

This document covers:

- Minimum system requirements
- Installing Video Capture Player
- Using boot captures

Playing back the screen of the final seconds prior to an error occurring on a system is crucial information in troubleshooting the root cause of boot failures.

Setup and minimum system requirements

- Dell iDRAC7 Enterprise License
- 12G Dell PowerEdge Server Lines
 - o 200-500 Series
 - o 600-900 Series
- iDRAC7 Video Capture Player (if viewing boot capture files offline)
 - \circ $\;$ Java 5 Update 7 or later installed on the host system
- Java 6 or later installed (if viewing directly within iDRAC7 Virtual Console)

Navigating the iDRAC7 to confirm an Enterprise License is installed

A minimum requirement is the installation of an Enterprise License on the iDRAC7 to use the Video Capture Troubleshooting Feature. The easiest way to verify that the Enterprise license is installed is to look at the title bar (See Figure 1). If it specifies, Enterprise, it is installed.

Browse to the iDRAC7 GUI and verify Enterprise License is installed as seen in Figure 1:

	ATED DELL CONTRO	. REMOTE LLER 7 Enterprise			Support About Logout
System PowerEdge R620 root, Admin	Licenses		ase new licenses visit the License Self-Si	ervice Portal	
-Power / Thermal -Alerts -Setup -Troubleshooting -Licenses -Intrusion		Status Device iDRAC OK	Device Description	Device Options	
IDRAC Settings IDRAC Settings Network User Authentication IDRAC Firmware Update Sessions Hardware		Device Description Device qdl	IDRAC7 IDRAC	Device ID	52FQQV1
Batteries Fans CPU Front Panel Network Devices Power Supplies Centrol Panel Storage Physical Disks Virtual Disks Controllers Enclosures		OK Description: DRAC7 Enterprise License Entitlement ID License Type License Options: Select.	qd Perpetual	. Expiration	

Figure 1. Verifying iDRAC7 Enterprise license.

Managing and using boot captures

From the same menu where you obtained the Video Capture Player, the Boot Captures are organized for ease of access and playback.

View the video recordings of the last three boot cycles either directly from the iDRAC7 Virtual Console or offline using the video capture player. A boot cycle video logs the sequence of events for a boot cycle. When the host system is rebooted, the boot cycle video file captures up to 2 MB of booting details. The boot cycle videos are arranged in the order of latest to oldest as seen in Figure 2.

You have the ability to save any of the last three boot cycle videos for offline viewing.

Note: If iDRAC7 is reset, the boot capture video is not available as it is stored in RAM and is deleted.

	SRATED DELL REMOTE SS CONTROLLER 7 Enterprise Suppor	rt About Logout
System PowerEdge R620	Identify Diagnostics Post Code Last Crash Screen Video Capture	
root, Admin	Video Capture	• C ?
 Server Power / Thermal Alerts 	Boot Captures	
Setup Troubleshooting	Instructions: Use boot capture to play or save the last 3 boot capture recordings. To view saved videos download, the Video Capture Player (see below).	
Licenses	Boot capture 1 (latest) Fri Oct 12 09:40:19 2012 Boot capture 2 Fri Oct 12 09:40:19 2012	
 iDRAC Settings Network User Authentication 	C Boot capture 3 (oldest) Fri Oct 12 06:28:44 2012	
···iDRAC Firmware Update ···Sessions	at Save	Play
 Hardware Batteries Fans 	Crash Captures	
CPU Front Panel	User Capitures Instructions: Use crash capture to play or save the last crash capture recording. To view the saved video, download the Video Capture Player (see below).	
-Network Devices Power Supplies	No Recording Available.	
Removable Flash Media Storage Physical Disks	Download Video Capture Player	
···Virtual Disks ···Controllers	Instructions: Download the Video Capture Player to view the saved video captures. The download is a zip file containing videoplayer.exe (for windows), videoplayer sh (for Linux), and videoplayer jab the background files needed for the players.	ar containing
Enclosures	videoplayer.zip	
< >		Download

Figure 2. Managing boot captures.

Playback of the boot screens occur at a rate of 1 frame per second.





Installing the Video Capture Player for offline viewing

A prerequisite for viewing any boot capture video in an offline mode is the installation of a local video capture player. You can save a local copy of a boot capture for future use. The *Save* option prompts you to indicate the location to which to save the boot capture file (*.dvc file extension).

	CONTROLLER 7 Enterprise	Support About Lo			
System PowerEdge R620 root, Admin	Identify Diagnostics Post Code Las	Video Capture			
Cverview	Video Capture	e C (
Server Power / Thermal Addres Boot Captures					
Setup Troubleshooting	Instructions: Use boot capture to play or save t	e the last 3 boot capture recordings. To view saved videos download, the Video Capture Player (see below).			
Licenses	 Boot capture 1 (latest) 	Thu Nov 1 17:50:04 2012			
Intrusion	C Boot capture 2	Thu Nov 1 17:36:02 2012			
Network	C Boot capture 3 (oldest)	Thu Nov 1 13:30:33 2012			
 User Authentication iDRAC Firmware Upc Sessions 					
Hardware Batteries					
Fans CPU	Cidon odparod				
Front Panel	Instructions: Use crash capture to play or save	ve the last crash capture recording. To view the saved video, download the Video Capture Player (see below).			
Network Devices Power Supplies	No Recording Available.				
Removabl Do you wa	ant to open or save bootcapture_77.dvc (1.91 M	MB) from 172.31.190.21? Open Save 🔻 Cancel 🗙			

Figure 4. Saving a local copy of a boot capture file

To obtain the Video Capture Player, navigate to the troubleshooting section of the iDRAC7 GUI and click on the Video Capture Tab as seen in Figure 5. You can download the Video Capture Player from within the iDRAC7 GUI. The Video Capture Player download button provides a .zip file of the player for use on your management station.

Figure 5. Obtaining the Video Capture Player from the iDRAC7.

System PowerEdge R620	Identify Diagnostics	Post Code Last	Crash Screen Video Capture		
root, Admin Coerview Server Power / Thermal	Video Capture			×	€ C ?
Power Thermal Alerts Setup Troubleshooting Ucenses Infunction TitleRAC Settings Network User Authentication User Authentication User Authentication Batteries	Boot Captures Instructions: Use boot	2	What do you want to do with videoplayer.zip? Size: 1.08 MB From: 172.31.190.21 Open The file wont be saved automatically. Save Save Save as Cancel	apture Payer (see below).	Save Play
Baleriers Fans CPU Front Panel Network Devces Power Supplies Removable Flash Media Physical Disks Virtual Disks Controllers Enclosures	No Recording Availab	le. ture Player d the Video Capture Player	the last crash capture recording. To view the saved video, download the V rower the saved video captures. The download is a zip file containing vi		videoplayer jar containing

The .zip contains a player for Windows and Linux: videoplayer.exe (for Windows), videoplayer.sh (for Linux). Launch the respective player for your operating system.

In Figure 6, the Windows player (videoplayer.exe) is launched. Choose *Open* from the *File* menu. In the Navigation window, browse to the location of the boot capture file (*.dvc file) saved in the earlier step.

File Playback		
Open		
Exit		
7		
D Vi/tual Console		1
File Playback		_
D Playback Controls	×	
Frame:		
	0%	
D Open		
Look In:	videoplayer 🗖 🖬 🛱 🗖 🐯 🖿	
bootcaptur	re_77.dvc	
File <u>N</u> ame:		
	dvc files	
ries of <u>Type</u> .		
	Open Cancel	
		-

Figure 6. Launching the Video Capture Player to view the boot capture offline.

The Video Capture Player, as seen in Figure 7, has the necessary playback controls for the video analysis of a system boot up.

D Virtual Console	
File Playback	
	F2 = System Setup F10 = Lifecycle Controller F11 = BIOS Boot Manager F12 = PXE Boot
	Bus Speed:7.20 GT/s, L2/L3 Cache:1.5 MB/15 MB
System running at 2.50 GHz System Memory Size: 16.0 GB, System	n Memory Speed: 1333 MHz, Voltage: 1.35V
Dell Serial ATA AHCI BIOS Version 1 Copyright (c) 1988–2012 Dell Inc.	0.2
-	
	Playback Controls
	DVC 15 Frame: 23
	1%

Figure 7. Video Capture Player controls from the iDRAC7.

Summary

The Dell iDRAC7 provides remote troubleshooting capabilities that enhance the management of PowerEdge Servers. This document provides information on minimum requirements in using the Dell iDRAC7 remote video capture troubleshooting capabilities. Dell continues to listen to customer needs and to respond to customer requests by providing expanded tools to help pinpoint and remediate issues quickly with tools like iDRAC7 Video Capture.