

This document's classification is:

Public

This means: It can be freely distributed to Customers without an NDA needing to be in place

Document Analysis

Title	DisplayLink Corporate Install Guide
Document number	NR-106657-AN
Date produced	July 2014
Version	Issue 14



Contents 1

1	Conter	nts	2
2	Introdu	uction	4
3	Target	Audience	4
4	Corpor	rate Download	4
5	Deploy	/ing the DisplayLink Software	4
ł	5.1 C	Considerations	4
	5.1.1	Deploying using MSI files	4
	5.1.2	Deploying using a driver package	5
ł	5.2 S	System Compatibility check	5
6	Deploy	ving the DisplayLink Software using the MSI files	5
(6.1 A	bout the DisplayLink MSI files	6
	6.1.1	DisplayLinkCore.msi	6
	6.1.2	Setup.msi	6
	6.1.3	Installation requirements	6
(6.2 S	Setting up the GPOs and File Shares	7
	6.2.1	Setting up the File Shares	7
	6.2.2	Creating the 32-bit GPO	7
	6.2.3	Creating the 64-bit GPO	8
(6.3 T	argeting 32-bit and 64-bit Operating Systems	9



6.3.1	Targeting only 32-bit Operating Systems	9
6.3.2	2 Targeting only 64-bit Operating Systems	10
6.4	Setting up SCCM	12
6.4.1	Setting up the File Share	12
6.4.2	2 Creating the installation packages	13
6.4.3	3 Setting the deployment type	15
6.5	Testing the DisplayLink software deployment	23
6.5.1	Testing	23
6.5.2	2 Rolling out the Driver	24
6.5.3	B After installation	24
6.6	Uninstalling the MSI installed Drivers	24
7 Deplo	oying the Driver Package to the Windows driver store	26
8 Wind	lows PE support	26
8.1	Installing both Ethernet driver versions	27
9 WIFI	/ USB LAN switching	28



2 Introduction

This document is intended to give a Windows Administrator a brief overview of Deploying DisplayLink's Corporate Installer across a Windows Active Directory Domain.

DisplayLink provide the Microsoft Installer files, or a driver package to allow remote deployment of DisplayLink software. The various deployment options are described in this document.

3 Target Audience

Any IT Professional who is familiar with Windows Server, Group Policy, and deploying software companywide via Group Policy Software Installation (GPSI) or via SCCM (System Center Configuration Manager).

Corporate Download 4

DisplayLink corporate install images can be downloaded from:

http://www.displaylink.com/corporateinstall (signup required)

5 Deploying the DisplayLink Software

Considerations 5.1

DisplayLink software can be deployed by either pushing the MSI files to selected computers on the corporate network or by adding the DisplayLink software to the Windows driver store, so it is installed on when a DisplayLink is first connected to the PC. The pros and cons of these mechanisms are discussed below.

5.1.1 Deploying using MSI files

Installing using the MSI files will completely install DisplayLink software, ready to be used when the DisplayLink device is connected.

Pros:

- Allows deployment to PCs where users do not have Administrator privileges •
- Allows remote management of software install, upgrade and uninstall

Cons:

- Could be deployed to PCs that are not connected to DisplayLink devices. However DisplayLink • software will run in "minimal system impact" until a DisplayLink device is connected
- MSI installations cannot be upgraded using Windows Update



DisplayLink DisplayLink Corporate Install Guide

5.1.2 Deploying using a driver package

Deploying using the driver package will place the DisplayLink software in the Windows driver store, ready to be installed when the DisplayLink device is connected.

Pros:

- DisplayLink software is only installed once a DisplayLink device is connected to a PC. •
- Enables Windows to find the DisplayLink driver even when not connected to the Internet •
- Can be used alongside Windows Update to update drivers. •

Cons:

Requires the user to have Administrator privileges to complete the DisplayLink software installation.

5.2 System Compatibility check

From software version 7.5, DisplayLink's Setup.exe will run a compatibility check before installation. This will make no changes to your system and only checks for potential issues. The areas checked are:

- Primary Graphics card drivers are installed and up to date •
- USB 3.0 host controller drivers are up to date •
- No incompatible software drivers installed •

The compatibility check also checks the system during runtime, eg when a DisplayLink device is connected.

The MSI files will not run the check during installation, so no messages will be shown to the end user. Runtime checks are also disabled if installing from the MSI files by setting the registry key HKLM\SOFTWARE\DisplayLink\Core\DisableCompatibilityChecks to "yes".

A stand alone check application is provided by DisplayLink. This allows an IT manager to remotely run the compatibility check and obtain a log file containing any failures. The failures can then be addressed before the MSI files are deployed to the remote system. For more information, please refer to this article:

http://kb.displaylink.com/365

Deploying the DisplayLink Software using the MSI files 6

Important Note: If DisplayLink software has been deployed through MSI files, it cannot be updated through Windows Update. DisplayLink strongly recommends disabling Windows Update on computers where DisplayLink software has been deployed using the MSI files.

6.1 About the DisplayLink MSI files

Due to the nature of our Software, you'll receive a Zip file with four MSIs inside; DisplayLinkCore.msi and Setup.msi both in 32-bits and 64-bits. DisplayLink software is more than a USB driver. A virtual graphics driver and DisplayLink pixel encoder also need to be installed for DisplayLink devices to correctly function.

6.1.1 DisplayLinkCore.msi

The DisplayLink Core software provides core DisplayLink functionality. It installs the DisplayLink USB Graphics Card Driver, as well as the basic DisplayLink GUI in the system tray.

6.1.2 Setup.msi

The Setup file provides additional functionality, such as the ability to recognise hardware button presses on Docking Stations. Think of it like installing software on a freshly-installed laptop that enables the Function key buttons.

6.1.3 Installation requirements

Both files are required for proper functionality of the DisplayLink software, and must be installed in a specific order; Core first, then Setup.

To achieve this, add the Core Software to GPSI first, and then add the Setup.msi afterwards. As GPSI installs MSIs based on Timestamp, it should install the MSIs in the correct order.

In case of using SCCM, make the installation of the Setup package dependent on the installation of the Core package, this way the Core package will always be installed first.

Installing just the Core software is not supported by DisplayLink and may cause undesirable behaviour on an end-user's PC.

Note: It is not possible to install these MSI files just by double clicking them to install. If User Access Control (UAC) is enabled on the tested machine during an installation, the audio and Ethernet drivers will silently fail to install due to an "access denied" error (even if a user is prompted for elevation).

If testing without using GPO, start the installation from command line with administrative privileges. The following commands can be used to install the MSI packages using msiexec on the command line:

```
msiexec /i %SETUP%\DisplayLinkCore.msi /norestart /passive
```

```
msiexec /i %SETUP%\Setup.msi /norestart /passive
```



6.2 Setting up the GPOs and File Shares

At the time of writing, our MSIs are available in two flavours: 32-bit and 64-bit. If you have both 32-bit and 64bit Operating Systems in your organisation, you'll need to create two GPOs; one for 32-bit and one for 64-bit. For reference, the 32-bit installer will not install on a 64-bit OS.

As this guide assumes knowledge of Group Policy, this section will be brief.

6.2.1 Setting up the File Shares

- 1. Download the DisplayLink Corporate install files from here: http://www.displaylink.com/corporateinstall/
- 2. Create or use an existing file share for deploying software and drivers. The share must be accessible by the System user in order for GPSI to install the software on the target PCs
- 3. Extract the .zip that was downloaded into a DisplayLink MSI directory on your network file share.

O < → Netw	rork 🕨 🌑 🕨 NetApps 🕨 DisplayLink MSI 🕨	🕶 🗲 Search I	DisplayLink MSI		× ,2
Organize 🔻 🛛 Burn	New folder		≣≕ ▼		0
★ Favorites ■ Desktop ▶ Downloads ₩ Recent Places	Name Win32 Win64	Date modified 26/02/2010 11:42 26/02/2010 11:42	Type File folder File folder	Size	
 Libraries Documents Music 	* (m			,

a. Your extracted files should look like this:

6.2.2 Creating the 32-bit GPO

- 1. Create a new Group Policy Object (GPO) in the Group Policy Management Console (GPMC)
 - a. In this guide, we'll be calling it DisplayLink Device Driver Deployment 32-bit.
 - b. You may wish to call it something else, particularly if you're only interested in deploying the DisplayLink driver, and not extra drivers, such as Ethernet.
- 2. Put the 32-bit DisplayLinkCore.msi and Setup.msi onto a network file share.



3. Edit the GPO you just created, and go to:

Computer Configuration > Policies > Software Settings > Software installation



- 4. Right click > New > Package...
 - a. Add and Assign DisplayLinkCore.msi
 - b. Add and Assign Setup.msi

Creating the 64-bit GPO 6.2.3

- 1. Create a new Group Policy Object (GPO) in the Group Policy Management Console (GPMC)
 - a. In this guide, we'll be calling it DisplayLink Device Driver Deployment 64-bit.
 - b. You may wish to call it something else, particularly if you're only interested in deploying the DisplayLink driver, and not extra drivers, such as Ethernet.
- 2. Put the 64-bit DisplayLinkCore.msi and Setup.msi onto a network file share.



3. Edit the GPO you just created, and go to:

Computer Configuration > Policies > Software Settings > Software installation



- 4. Right click > New > Package...
 - a. Add and Assign DisplayLinkCore.msi
 - b. Add and Assign Setup.msi

6.3 Targeting 32-bit and 64-bit Operating Systems

To ensure that only the correct MSI is installed on the correct architecture, it's necessary to utilise Group Policy's WMI Filtering to target the correct OS architecture.

Targeting only 32-bit Operating Systems 6.3.1

6.3.1.1 Setting up the WMI Filter

- Open up the Group Policy Management Console (GPMC) •
- Locate WMI Filters in the left panel •





DisplayLink DisplayLink Corporate Install Guide

- Right click on WMI Filters and choose "New..." •
- Give the WMI Filter an appropriate name and description. For example, "Check for 32-bit" •
- Click Add, to add a new query
- Add the following Query: •

Select AddressWidth from Win32 Processor where (AddressWidth="32")

Description: Targets 32-bit machines only Queries: Namespace Query root/CIMv2 Select AddressWidth from Win32_Processor where (AddressWidth="32")	Add
Targets 32-bit machines only Queries: Namespace Query root/CIMv2 Select AddressWidth from Win32_Processor where (AddressWidth="32")	Add
Queries: Query root\CIMv2 Select AddressWidth from Win32_Processor where (AddressWidth="32")	Add
Namespace Quesy root\CIMv2 Select Address\Width from Win32_Processor where (Address\Width="32")	Add
root\CIMv2 Select AddressWidth from Win32_Processor where (AddressWidth="'32")	
	Remove
	Edit

Click OK, then Save •

6.3.1.2 Applying the WMI Filter to the Group Policy Object

Locate your 32-bit GPO in GPMC and click on it •

🛨 💼 Servers
🖃 📑 Group Policy Objects
🧾 DisplayLink Dock Driver Deployment - 32-bit
🧾 DisplayLink Dock Driver Deployment - 64-bit

- You should now see the GPO appear in the Right-hand pane •
- Under the Scope Tab, click on the Dropdown box underneath "WMI Filtering" and choose the 32-bit WMI filter

WMI Filtering		
This GPO is linked to the following <u>W</u> MI filter:		
Check for 32-bit	•	

This GPO will now only be applied to 32-bit Operating Systems •

6.3.2 Targeting only 64-bit Operating Systems

6.3.2.1 Setting up the WMI Filter

Open up the Group Policy Management Console (GPMC) •



Locate WMI Filters



- Right click on WMI Filters and choose "New..." •
- Give the WMI Filter an appropriate name and description. For example, "Check for 64-bit" •
- Click Add, to add a new query •
- Add the following Query: •

Select AddressWidth from Win32_Processor where (AddressWidth="64")

Check for 64-bit		×
<u>N</u> ame:		
Check for 64-bit		
Description:		
Targets 64-bit mad	chines only	
<u>Q</u> ueries:		
Namespace	Query	Add
root\CIMv2	Select AddressWidth from Win32_Processor where (AddressWidth="64")	<u>R</u> emove
		<u>E</u> dit
	Save	Cancel

Click OK, then Save •

6.3.2.2 Applying the WMI Filter to the Group Policy Object

Locate your 64-bit GPO in GPMC and click on it •

🕀 💼 Servers
🖃 📑 Group Policy Objects
🧾 DisplayLink Dock Driver Deployment - 32-bit
🧾 DisplayLink Dock Driver Deployment - 64-bit

- You should now see the GPO appear in the Right-hand pane •
- Under the Scope Tab, click on the Dropdown box underneath "WMI Filtering" and choose the 64-bit WMI filter

WMI Filtering	
This GPO is linked to the following \underline{W} MI filter:	
Check for 64-bit	•

This GPO will now only be applied to 64-bit Operating Systems



6.4 Setting up SCCM

This section will only explain how to deploy the DisplayLink Software using SCCM. A requirement for this is a working Active Directory and SCCM environment with the Configuration Manager Client installed, or being pushed, to the target machines.

6.4.1 Setting up the File Share

- 1. Download the DisplayLink Corporate install files from here: http://www.displaylink.com/corporateinstall/
- Create or use an existing file share for deploying software and drivers. The share must be accessible 2. by the "Everyone" group in order for SCCM to install the software on the target PCs.

Choose people on your network to share w	ith
Type the name of the person you want to sha or share with everyone.	re with and then click Add, or click the arrow to find peo
	Add
Name	Permission Level
& Administrator	Owner 🕶
🚨 Everyone	Reader 🔻

3. Extract the .zip that was downloaded into a DisplayLink MSI directory on your network file share. Your extracted files should look like this:





6.4.2 Creating the installation packages

1. In Software Library \ Overview \ Application Management \ Applications, create a new application:



- 2. Select "Automatically detect..." and "Type" as "Windows Installer". Browse to the network share used in 4.4.1 and select the "DisplayLinkCore.msi" file.
- 3. Process for 32-bits and 64-bits is the same, making sure that the versions don't get mixed up. For 32-bits Core, use 32-bits Setup and vice-versa.

m Create Application Wizar	rd	×
General		
General Import Information Summary Progress Completion	Specify settings for this application Applications contain software that you can deploy to users and devices in your Configuration Manager environment. Applications can contain multiple deployment types that customize the installation behavior of the application.	
	Automatically detect information about this application from installation files: Type: Windows Installer (*ms file) Location: \\ADSCCM\Sources\DisplayLink\Win64\DisplayLinkCore mai Example: \\Server\Share\File Manually specify the application information	
	Cancel Cancel Cancel	



4. If everything is correct, the following screen should appear:

Create Application wize		
Import Informat	ion	
General Import Information General Information	View imported information	
Summary Progress Completion	Application information successfully imported from the Windows Installer (* msi file) file.	
	Application name: DisplayLink Core Software Manufacturer: Software version: Deployment type name: DisplayLink Core Software - Windows Installer (*.msi file) Product Code: (EZ/EC4D-D482C-065203F12043) Installation behavior: Install for system Content location: \\ADSCCM\Sources\DisplayLink\Win64 Number of files: 2 Content files: DisplayLinkCore.msi Setup.msi	A
	To modify any details from the imported information, click Next. To exit this wizard without creating the appli click Cancel.	cation,
	Vert > Summary	Cancel

5. Give the application a name, in this case the 64-bits version is being created. The name given here will appear in the list of applications in SCCM.

General Inform	Specify information	about this application	
Import Information General Information			
Summary	Na <u>m</u> e:	DisplayLink Core Software 64 bits	
Progress Completion	Administrator comments:		*
	Manufacturer:		
	Software version:		
	Optional reference:		
	Administrative categories:	Select.	
	Specify the installation prog	gram for this application and the required installation rights.	
	Installation program:	msiexec // "DisplayLinkCore.msi" /q Browse	
	Run installation progra	m as 32-bit process on 64-bit clients.	
	Inst <u>a</u> ll behavior:	Install for system	•

6. When the creation of the application is complete, the following screen appears. The steps need to be repeated for the DisplayLink Setup MSI file, making sure not to mix up the different bit versions of the MSI packages



🛅 Create Application Wizard		×
Completion		
General Import Information General Information Summary Progress	The Create Application Wizard completed successfully	*
Completion	Success: General Information: Application name: DisplayLink Core Software 64-bits Administrator comments: Manufacturer: Software version: Optional reference: Success: Categories: Success: Deployment type name: DisplayLink Core Software - Windows Installer (*.msi file)	E
	Success: Requirement rules: Success: Content: Content location: WADSCCM/Sources/DisplayLink/Win64 Installation program: msiexee A "DisplayLinkCore.msi" /g Success: Detection Method: Product code: (EZ7EC4DD-D4FE-4804-B8CC-066203F12043)	
	To exit the wizard, click Close.	•
	< <u>Previous</u> <u>Next</u> > <u>Summary</u>	Close

6.4.3 Setting the deployment type

1. In Software Library \ Overview \ Application Management \ Applications select the previously created application and select the "Deployments Type" tab in the lower screen. Right click on "Deployment Type" and select "Properties".

Gitelesh	J 600				
unity Pracety Colette Selected Zerve Cor	ease moperates				
Deployment Type Rat	ifsuh Properties				
-> = - \ + Software Library + Owar-	vev + Application Management + Applications				*
mare Library	Applications 4 items				
© Overview	Search				X Sanch Add Otheria
Application Management	Inn Jame	Designment Types	Danisumente Statue		
Applications	DisplayLink Care Selfware 32-bits	1	0 Arthur		
Packages	DisplayLink Care Software 54-bits	1	0 Active		
Approval Requests	ChapterLink Graphics 32-bits	1	1 Active		
CC Global Conditions	ChapleyLink Graphics 64-bits	1	0 Active		
App-V Virtual Environments					
Nundows RT Sideloading Keys					
Software Updates					
Counting Sustains					
a obcould alword					
	Display lak Graphics 64-bits				
	DisplayLisk Craphics 64-bits	Disordincies Technica	gr Supravid	Greet ID	
	DisplayLisk Crapbles 64 bits Jam Farty Name 1 DisplayLisk Garden Storetter	Dependencies Tachnolo Nanducife Na 600	py Supersolid No	Grant B	
	Display link Graphics 64 bits loss lineary linear in Descala Baging - Window	Operative Technology	gy Superseded No	Grief B Griege	
	Display Lisk Graphics 64-bits Ion. [Rev] Tore 39 1 Dankok Gadria - Weber	tomotoco Sector Sector	pr Superseded No	Grier IB	
Austa and Compliance	DisplayLisk Craptics 64 bits Jam Perffy Jave B t Daintois Gasha - Webr	Dispersive Sectors	py Supersaded No	Coner B Coner,	
Austral Conflues Software Unity	Display, bak Corplex 64 Mas Im Facily Term 3 Desaulta Gardia - Hole	Dependencies Technolo Nandauf P. Na. 600 Sociale Party Science Party Comer Forty	py Supersided No	Grier B	
Austr and Compliance Software Univer	DisplayInt Crystels: 64 bits In: Party Terr B 1 Descrit Garter, Webr	Beyndrote Technol Installer as an Domar Navy Comar Navy Comar Navy Den	py Superseted No	Grier, D.	
Auch and Compliance Service Unity Wandrog	DisplayLink Corplex 64 bits In Finity Inter III International Control (International Control III) International Control (International Control III) International Control (International Control (Internat	Dopreferition Tachhold Anna Anna Margan Anna Anna Brancasa Margan Anna Anna Brancasa Margan Anna Anna Brancasa Margan Anna Anna Status Anna Anna Status Anna Anna Status Dates Dates	py Superseled No	Grane B	
Austr and Compliance Software Unity Monitoring	DisplayTak Graphics 45 Mits Ten Party 1 Denoid-1 Garden Under	Disperificient Tachteda Schoolar Hordy 60 60 60 Schoolar Hordy 50 60 75 Schoolar Hordy 5445 5445 5445	ov Supersaded No	Grant B	
Analy and Compliance Software Univy Manhaning Manhaning	DisplayInk Couples of Mis In: Party Tere 1 Devide Garter, Weitr	Oppmänning Spanna International State State Description State State	py Supersided No	Grief B	
Assets and Compleme Software University Materiality Administration	Digitagini Graphic e 6 Mis Digitagini Graphic e 6 Mis Digitagini Graphic e Misler Digitagini e Digitagini e Misler	Openeirois Solvais Mataliane Million Million Solvaise Million Million Gradie Million Fill Value Million Fill Value Deer Million Million Solvaise Solvaise	gy Superseled No	Greet D	

2. In the "Requirements" tab, add a new requirement. DisplayLink software comes in 32-bits and 64bits versions. To prevent installing the wrong version, the OS requirements needed to be declared. This can be done with a bit version rule, but it is recommended to do it on OS version rule, so non



supported OS versions can be excluded.

		-	(,	1		-	f	10
ieneral	Content	Programs	Detection Method	User Experience	Requirements	Return Codes	Dependencies	s
Specify they ca deploye	y any requi an install th ed to the d ements:	rements, suo is deployme evice.	ch as hardware feat nt type. Configuratio	ures or the operating on Manager verifies t	g system version, hat these require	that devices mu ements are met b	ust have before before content is	•
Filter								P
Requi	irement Typ	be	Operator	Values				
			i nere a	re no items to show	in this view.			
			i nere a	re no items to show	in this view.			
				re no items to show	Add	<u>E</u> dt	Delețe	

3. Select the "Device" category and the "Operating system" condition. The default operator (One of) doesn't require any changes

reate Requirement	×
Category:	
Device	•
Condition:	
Operating system	✓ Create
Active Directory site Configuration Manager site CPU speed Disk space Number of processors	
Operating system Operating system language Organizational unit (OU) Total physical memory Windows Store inactive	
Value (MB):	
	0
	OK Cancel



4. Select the OS Version(s) that are targeted. In this case all the supported 64-bits Windows versions.

Device		•
Condition:		
Operating system	▼ Create	
Rule type: Value		-
Operator:		
One of		•
Select all		
Select all		
✓ Select all ✓ All Windows 7 (64-bit) → All Windows 7 (32-bit) → ✓ Windows 7 (64-bit)		
 ✓ Select all ✓ All Windows 7 (64-bit) → All Windows 7 (32-bit) → ✓ Windows 7 (64-bit) → ✓ Windows 7 SP1 (64-bit) 		
✓ Select all ✓ All Windows 7 (64-bit) ✓ All Windows 7 (32-bit) ✓ Windows 7 (64-bit) ✓ Windows 7 SP1 (64-bit) ✓ Windows 7 SP1 (64-bit) ✓ Windows 7 (32-bit)		
 ✓ Select all ✓ All Windows 7 (64-bit) ✓ All Windows 7 (32-bit) ✓ Windows 7 (64-bit) ✓ Windows 7 SP1 (64-bit) ✓ Windows 7 (32-bit) ✓ Windows 7 SP1 (32-bit) 		
 ✓ Select all ✓ All Windows 7 (64-bit) ✓ All Windows 7 (32-bit) ✓ Windows 7 (64-bit) ✓ Windows 7 SP1 (64-bit) ✓ Windows 7 SP1 (64-bit) ✓ Windows 7 SP1 (32-bit) ✓ Windows 8 ✓ All Windows RT 		

5. In the tab" Dependencies", add a new dependency. As stated before, the Setup cannot be installed without the Core package. The required Core package needs to be added here.

	dependencies are	e deployment types that m	ust be installed before this dep	loyment type can be installed.
ioft <u>w</u> are	dependencies:			
	Name	Application	Deployment Type	Automatically Install



6. Browse in Root to the matching Core Installation application.

tion:
lechnology
INDO MISI
t

7. After setting the requirements and the dependencies, the application is ready to be deployed.

Selected Object Folder Tools	🥴 System Center 2012 Configuration Manager (Connected to D.P Displaytink Foland) (Evaluation, 188 days left)	ald a
None Deptorment Type Rolder	C III State Notes State	~ 0
+ -> · - 1 + Software Library + Over	verver + Application Veragement + Applicature	2
Software Library * Deseries	Applications & Zens South	K Si Search Add Offeria -
* 🧰 Application Management	Ion Name Dapkyment Types Depkyments Status	
G Packages G Packages G Approval Requests	Collegicula Care Software 32-bits Collegicula Care Software 32-bits Collegicula Care Software 43-bits Collegicula Care Software 4	
Control C	Image: Section of the sectio	-
Assets and Compliance		
Software Library		
Maniforing		
$\overline{\mathcal{C}_{B_{1}}^{\mathcal{D}}}$ Administration	* Sumary Dedonment Tools Dedonment	

8. Browse to the required Collection, in this case "All Systems", since we want the DisplayLink software to be deployed to every system.



➡ Deploy Software Wizard	x
General	
General Content	Specify general information for this deployment
Deployment Settings Scheduling	Software: DisplayLink Graphics 64-bits Browse
Alerts	Cglection: Browse
Progress	Use default distribution point groups associated to this collection
Completion	I Automatically distribute content for dependencies <u>Comments</u> (optional):
	×
Select Collection	X
Device Collections	Piter
Root	Name Member Count All Desktop and Server Clients 2 All Mobile Devices 0 All All Systems 5 All Unknown Computers 2
	OK Cancel



9. The software packages need to be distributed to Distribution Points or Distribution Point Groups, depending on the hierarchy of the infrastructure.

Content					
eneral	Specify the con	itent destination			
ontent					
eployment Settings					
cheduling	Distribution points or	distribution point groups that the c	content has been distribute	ed to:	
ser Experience					
lerts	Name	Туре			
mmary		There are no iten	ns to show in this view.		
ogress					
ompletion					
	Additional distribution associated with colle	n points, distribution point groups, a citions to distribute content to:	and the distribution point g	roups that are cu	urrently
	Additional distribution associated with colle	points, distribution point groups, a ctions to distribute content to:	and the distribution point \underline{c}	roups that are cu	urrently
	Additional distribution associated with colle	n points, distribution point groups, a ctions to distribute content to:	and the distribution point s	roups that are cu	urrently <u>A</u> dd v
	Additional distribution associated with colle Filter Name	points, distribution point groups, a citoris to distribute content to:	and the distribution point of Associations	proups that are cu	<u>A</u> dd ▼ <u>R</u> emove
	Addtignal distribution associated with colle Filter Name	points, distribution point groups, citions to distribute content to: Description There are no items to show	and the distribution point g	proups that are cu	<u>A</u> dd ▼ <u>R</u> emove
	Additignal distribution associated with colle Filter Name	n points, distribution point groups, a citient to distribute content to: Description There are no items to show	and the distribution point g Associations	proups that are cu	umently <u>A</u> dd ▼ <u>R</u> emove
	Additignal distribution associated with colle Filter Name	a points, distribution point groups, a ctions to distribute content to: Description There are no items to show	and the distribution point g	roups that are cu	<u>A</u> dd ▼ <u>R</u> emove
	Additional distribution associated with colle Filter: Name	n points, distribution point groups, a citions to distribute content to: Description There are no items to show	and the distribution point g	proups that are cu	<mark>Add ▼</mark> <u>R</u> emove
	Additional distribution associated with colle Filter Name	n points, distribution point groups, ctions to distribute content to: Description There are no items to show	Associations vin this view.	roups that are cu	Add ▼ <u>R</u> emove
	Additignal distribution associated with colle Filter Name	n points, distribution point groups, a ctions to distribute content to: Description There are no items to show	Associations	roups that are cu	Add ▼ <u>R</u> emove
	Additignal distribution associated with colle Filter Name	n points, distribution point groups, a ctions to distribute content to: Description There are no items to show	And the distribution point of Associations	proups that are cu	Add
	Additignal distribution associated with colle Filter Name	points, distribution point groups, a ctions to distribute content to: Description There are no items to show	Associations // Associations // Associations // Associations // In this view.	proups that are cu	Add
	Additional distribution associated with colle	a points, distribution point groups, a ctions to distribute content to: Description There are no items to show	Associations // // // // // // // // // // // // //	proups that are cu	Add Add

10. Next the action needs to be selected; Installation is the purpose of this deployment. Optional the purposes can be selected, depending on the policies.

Deploy Software Wizard		×
Deployment Settin	ngs	
General Content Deployment Settings Scheduling User Experience Alerts Summary Progress Completion	Specify settings to control how this software is deployed Action: Instal Purpose: Pre-deploy software to the user's primary gevice Send wake-up packets Allow clients on a metered internet connection to download content after the Installation deadline, which might incur additional costs	
	Cancel Cerevious Next > Summary Cancel	



11. If you do not want to deploy the software immediately, a schedule can be selected.

Scheduling		
General Content Deployment Settings Scheduling User Experience Alerts Summary Progress Completion	Specify the schedule for this deployment This application will be available as soon as it has been distributed to the content server(s) unless it is scheduled for a later time below. Specify the installation deadline if this is a required application. This deadline is when the application must be installed on the device, including a system restart if necessary. Ime based on: UTC Schedule the application to be available at: 5/17/2013 7.49 PM Ime based on: 7.49 PM	r
	As soon as possible after the available time Sghedule at: 5/1772013 749 PM	

12. When deploying DisplayLink software it is recommended to show notifications. This is because Installing DisplayLink software can cause screen flashing to occur as the graphics drivers are installed.

➡ Deploy Software Wizard	×
User Experience	
General Content Deployment Settings Scheduling User Experience Alerts Summary Progress Completion	Specify the user experience for the installation of this software on the selected devices specify user experience setting for this deployment User regifications: Deplay in Software Center and only show notifications for computer restart Deplay in Software Center and only show notifications for computer restart Deplay in Software Center and all notifications for computer restarts Hele in Software Center and all notifications Software I is software Center and all notifications Software I is software Center and all notifications Software Center and all notif
	<pre> </pre> <pre></pre>



13. SCCM can generate alerts if required:

Deploy Software Wizar	d	×
Alerts		
General Content Deployment Settings	Specify Configuration Manager and Operations Manager alert options	
Scheduling User Experience	Configuration Manager generates alerts when this application is deployed.	
Alerts	Threshold for successful deployment	
Summary	Create a deployment alert when the threshold is lower than the following:	
Progress		
Completion		
	Atter: 5/24/2013 💌 9.49 PM	
	Create a deployment alert when the threshold is higher than the following: Percent failure:	
	Enable System Center Operations Manager maintenance mode if you want Operations Manager to generate alerts when this application is deployed.	
	Enable System Center Operations Manager maintenance mode Generate System Center Operations Manager alert when a software installation fails	
	Cancel	

14. SCCM will validate all the settings and when everything is correct, the software will be deployed.





15. On the target systems the DisplayLink software should appear in the Configuration Manager Client, installing automatically, depending on the settings of the deployment.



16. Configuration Manager Client will also display the status of the installation.

Available 9	Software Installat	ion Status Installed So	ftware Options	
SHOW All	•		SEARCH	P
		THE PHONE IF	Find additional application	is from the Application Catalog
NAME Displaylink Gran	him 64 bite	Application	S/12/2013 Installed	
OVERVIEW	k Graphics 64-bits	REQUIREMENTS	DESCRIPTION	× /
Status: Version:	Installed	Restart required: Download size:	No Less than 1 MB	
Date sublished	Not specified	Estimated time:	Not specified	
owie published:	None 5/17/2013	Total components:	0	
Help document: Date Modified:				

6.5 Testing the DisplayLink software deployment

6.5.1 Testing

It's best to test the GPO works before rolling it out company-wide:

- 1. Make a Test OU and put a few Test or Lab PCs in the OU. Call it something like "DPinst Test Computers"
- 2. Apply the DPinst GPO to the Test Computer OU
- 3. If your AD DC infrastructure is large, you may need to wait a while for the new GPO to propagate around.
- 4. On the test computers, add a domain user as a Limited Account on the Test PCs
- 5. Run: gpupdate on the Test PCs
- 6. Reboot the Test PCs
- 7. Log in as the limited user and plug in the DisplayLink device. If the Drivers install successfully, everything went OK. If the drivers didn't install, wait a while and reboot again. It may be that Group Policy wasn't refreshed properly on the Test PC, or the GPO hasn't propagated fully yet. It can sometimes take two or three reboots to pick up the new Group Policy settings.



8. Once everything works as expected, it should then be safe to deploy the solution onto the corporate network.

6.5.2 Rolling out the Driver

To roll out the driver, simply link the GPO to which Computer OU you want to deploy the driver to.

6.5.3 After installation

In order for the DisplayLink-enabled hardware to function properly, a subsequent reboot may be required after GPSI has installed the DisplayLink software on the end-users machine. This is normal, as installing a graphics driver under Windows usually requires a reboot, post-installation.

6.6 Uninstalling the MSI installed Drivers

Note: These steps are only supported from v6.1 M1 onwards. Releases before this date cannot be silently uninstalled.

To uninstall the DisplayLink software, msiexec can be run in quiet mode. The following commands should be run in the following order:

To uninstall the product:

```
start /wait msiexec /qn /x \\path\to\Setup.msi DL PACKAGE ONLY=Yes
REBOOT=ReallySuppress
```

To uninstall the DisplayLink Core software:

```
start /wait msiexec /qn /x \\path\to\DisplayLinkCore.msi REBOOT=ReallySuppress
```

If the option "REBOOT=ReallySuppress" is not used, the system will automatically reboot without warning after the uninstall. This is probably not desired behaviour, therefore it is suggested this option is set, and the PC rebooted by the user later.

Note that it is not possible to uninstall the Core if there are other customer product packages installed.

To remove the DisplayLink software from SCCM:

1. In Software Library \ Overview \ Application Management \ Applications select the application that needs to be uninstalled. Make sure that Graphics application is selected. In the tab Deployments,



delete the current deployment.

tables Cole: Pagetes konver Properties Pagetes pagetes Paget	av + Application Mana Applications 4 items Search Joon Name	pement + Applications				
Oder Pagetes Annut Pagetes Images Images Images	av Application Hana Applications 4 Botts Search Scon Name	pervert > Applications				
Napadriss Napadriss	av + Application Maray Applications 4 items Search Ison Name	penant + Applications				
Apprent Properties	aw + Application Mana Applications 4 items Search Item Name	penert + Applications				
	Application Hara Applications 4 items Search Izon Name	pement > Applications				
neare Ubrary 4 © Overview Application Management Applications © Packages	Applications 4 items Search					
Application Management Application Applications Applications	Search Joon Name					
Application Management Applications Applications	Joon Name					X Search Add Only
Appleations	2001 100100	*	Conference Trans	Contracto	First a	
Packages	Cherlentaria D	re Selboare 22 hite	1	D	lata	
	DisplayLink Co	re Software 64-bita	1	0	100	
of Americal Technels	Citerierien D	ashira 32 hits	1	1	Letter	
GC Global Conditions	ChapterLink G	auhica 64-bita	1	1	kän	
Ann-V Virtual Environments						
Windows RT Sideloading Keys						
Software Unitates						
	DisplayLink Grap	ohics 64-bits	and Del Terra	Constitute N		
	Be Al Sustant	Uepky #/wa/	DITECTION Purpose	0.0		
	II. As systems	G Refresh FS	National Andrea			
		X Delete Delete				
		Properties				
room and complement						
Software Library						
Software Library Monitoring						

2. In tab Deployment types select properties.

A 1 Copy						
	a					
noresse Decrease Add	Update P	hoperties				
Phoney Pricety Conce Selected Ser	TE Corteri					
сырсутник тура	Kathan P	opatea				
🗧 🔶 * 📄 👌 🔹 Software Library	 Overview + i 	Application Management + Applications				• 2
oftware Library	4 Applica	ations 4 items				
A Craning	Search					X Search Add Online
* Application Management	low	Sama A	Danksumant Tuman	Destouments	Only .	
Appleations	57	DisplayLink Care Software 32-bits	1	0	kin	
Packages	10	DisplayLink Care Software 54-bits	1	0	Active	
Approval Requests	83	DisplayLink Graphics 32-bits	1	1	Active	
(IC Global Conditions	10	DisplayLink Graphics 64-bits	1	0	A24	
App-V Virtual Environments						
Windows RT Sideloading Keys						
Software Updates						
Constitution Sustainer						
Car opeaning aysters						
	Disp	áytink Graphics 64-bits				
	Disp	layLink Graphics 64-bits Profity Name	Depresent	logy Super	and (converte)	
	Disp	SayLink Graphics 64-bits	Disperdencies Tacher pps- function / Fac	logy Supe	add [Onder# D]	
	Disp Ion iiii	RayLink Craphics 64-bits Profity Tame 1 Displacting Organics - Wind	Desrelation Technology	logy Supr No	def [Onext D] Comm_	
_	Disp Joon B	RayLink Graphics 64-bits Postfyr Farme I Displactive Graphics - Week	Dependencies Techno lage Function / Techno Dependencies / Techno D	logy Supe No	elef Content (2) Entert	
Austa and Compliance	Disp Joon B	NayLink Graphics 64-bits Profity Reme 1 DelekJis Graphics - Web	Desrelecies Technology topo forder // Konology Dessee Proofy Dessee Proofy De	logy Supe No	ebr (over 15) Grenz,	
Assets and Compliance	Disp Jose Jak	AryLink Craphics 64-bits Period 1 Depinduk Gapter - Wed	Dependencies Techno pro Fonder / Anno Dependencies Techno Dependencies Techno Dependencie	logy Super No	ele Colortiti - Colorti - Colortiti - Colortiti - Colortiti - Colortiti - Colo	
🖉 Austs and Compliance 🕥 Software Librity	Disp Ion III	AsyLink Craphics 64-bits Pruff Terre 1 Displauti Gaphia - Wee	Deparations Technology Deparation of the second se	logy Supe No	eder (oner B.) Gener,	
Austriand Compliance Software Likery Monibuling	Disp Ion B	<mark>dayt link Graphics 64-bits</mark> Profes 1 Deplect-it Guoles - Werk 1	Dependencies Tacho per Instant Area Docum Protov Com Pr	logy Supe No	eter Contert B . Contert	
 March and Compliance Software University Maniformation Maniformation 	Disp Ion in	AnyLink Craphics 64-bits Profit Tame 1 Deplacink Graphics - Write	Deparations Technologies	logy Supe No	def [Ontert B] Deser	
Austi and Compliance Streets Universe Municipal Complete Streets	Disp Icon	Any Link Craphics 64-bits Prome I Depinduk Galeria - Wed	Dependencies Sector lan International Annaly International Dependencies Provide Dependencies Provide Depen	lagy Supe No	eter [over15] Grenz,-	
Austa and Compliance Compliance Compliance Austa and A	Disp ico il Sumo	AnyLink Craphics 64-bits Party Team 1 Departs Gastra - Wee any Descence Team Teachanners	per lucido Como Techo per lucido Como des Secono Productos Secono Productos Como des lucidos Como des lucidos Com	kgy Supe No	eler Contert B . Onert	



Deploy Software Wizard

3. Repeat the steps as above, only changing the Deployment Settings to Uninstall.

Deployment Settin	ngs
General Content Deployment Settings Scheduling User Experience Alerts Summary Progress Completion	Specify settings to control how this software is deployed Action: Puppose: Required Pre-deploy software to the user's primary gevice Sgnd wake-up packets Allow clients on a metered Internet connection to download content after the installation deadline, which might incur additional costs
	Cancel

Deploying the Driver Package to the Windows driver store 7

To deploy the driver package, it needs to be added to the Windows driver store. This can be done using the Windows command pnputil. More information on pnputil can be found here:

http://msdn.microsoft.com/en-gb/library/windows/hardware/ff550419(v=vs.85).aspx

To add the DisplayLink driver to the Windows driver store:

- 1. Extract the contents of the driver package
- 2. Open a Command Prompt window (Run as administrator).
- 3. Change directory to the extracted driver package files and execute the command:

```
pnputil.exe -i -a DisplayLinkUsb.inf
```

The "-i" option is needed to ensure the DisplayLink software is installed after the USB driver is installed.

This should show that the Driver package has been added successfully.

Windows PE support 8

DisplayLink software is not supported and cannot be installed on Windows PE. However it is possible to install the Ethernet driver under Windows PE. The Ethernet driver can be found in:

Public



C:\Program Files\DisplayLink Core Software

If using V7.1 or older software/firmware on the device, then the Ethernet driver from this directory will be required:

C:\Program Files\DisplayLink Core Software\CdcEcmDriver

For V7.2 or later, the Ethernet driver from this directory will be required:

C:\Program Files\DisplayLink Core Software\CdcNcmDriver

This driver can be installed under Windows PE with the command:

drvload dlcdcecm.inf

8.1 Installing both Ethernet driver versions

It is possible to identify the Ethernet driver required by the device by looking at the SubClass ID of the Ethernet adapter in device manager:

General	Advanced	Driver	Details	Events	Power Mana	gement	
Property	/						
Compa	tible Ids						~
Value							
	Class 028Su	bClass (d&Prot 0	0			
USBV	Class 02&Su	bClass (ld Id				-
USBV	Class_02						
					OK	Cance	el

If the device requires the ECM driver, this will be shown as "USB\Class_02&SubClass_06". If the device requires the NCM driver, this will be shown as "USB\Class_02&SubClass_0d". It should be possible to create a script to load the appropriate driver based on the SubClass ID.



9 WIFI / USB LAN switching

It may be a requirement to disable the WIFI of a laptop when connected to the USB dock, and using the corporate Ethernet connection on the USB docking station. This prevents end users creating a wireless AP to bridge to the corporate LAN, providing a potential security risk.

DisplayLink software does not have the configuration to disable WIFI when connected to the USB dock LAN. However this is supported by 3rd party applications. For example wirelessautoswitch has added support for the DisplayLink Ethernet connection in docks. This can be downloaded from:

http://www.wirelessautoswitch.com/