Installing Windows 8.1 Embedded

Prior to installing the Gorba software, Windows 8.1 embedded must be installed. Please perform these steps to install Windows 8.1 embedded on a system.

THE INSTALLATION COMPUTER MUST NOT BE ATTACHED TO THE PUBLIC INTERNET, WHILE INSTALLING. WINDOWS 8.1 EMBEDDED DEFAULTS TO DOWNLOADING UPDATES. THOSE UPDATES MAY NOT BE COMPATIBLE WITH THE GORBA SOFTWARE.

* Put a keyboard into one of the exposed USB ports on the system.
* Put the provided Windows 8.1 embedded USB flash drive in the other exposed USB port on the system. This USB flash drive has both Windows 8.1 embedded on it as well as the Gorba software. After Windows is installed, a folder with the Gorba software is copied to the D:\ drive to continue the installation process.
* Boot the system from the USB flash drive.
* When the License terms window appears, press the Tab key until there is a dotted box around the I accept the license terms text (lower left of the dialog).
* Press the space bar to accept the license, followed by pressing Alt + N.
* On the Choose a language and other preferences window, press Alt + N.
* On the Where do you want to install Windows? window, use Drive options (advanced) to create two partitions on the drive. The first partition is to be 10GB (10240 megabytes when selecting the size in the program) and the second partition is to fill any remaining space.
* Format both partitions and highlight the first partition, before pressing Alt + N. Windows will now be installed. This is a very long process (about 30 minutes).

After Windows is installed, the system reboots. As the reboot starts, remove the USB flash drive from the system. If you don’t catch it early enough and the system starts to boot from the USB flash drive, simply power cycle the system and try again.

After Windows completes some post installation steps (including a reboot or two):

* On the Personalize screen, enter InfoVision for PC name and click Next.
* On the Settings screen, click Use express settings.
* On the Sign in to your PC screen, set the User name to Gorba.
* Set the Password to Asdf1234.
* Set the Password hint to standard and click Next.

Windows will do some more post installation work and display their Start screen. At this time, remove the keyboard and re-insert the USB flash drive.

Use the mouse to run Explorer and copy the InfoVision folder from the USB flash drive to the D:\ drive. After this is done, remove the USB flash drive and re-insert the keyboard.

The system is now ready to have the Gorba software installed on it.

Installing Gorba Software

Installing the Gorba software is a two-step process. First, the software gets installed mostly taking the installation program’s default settings. Next, all the software gets configured.

# Step one – bulk software installation

* Change to the libusb-win32-bin-1.2.6.0 directory. Right-click on the file AT91\_InfoVisionPC2.inf and select Install. Any time an option is presented, take the default.
* Change to each sub-directory, within the motherboard directory, and run the installer in that directory. When requested to reboot, always choose that you will reboot at a later time. For any other presented option, take the default.
* Execute the ChromeStandaloneSetup.exe program. When this installer finishes, it starts Chrome. Exit Chrome.
* Execute the ClassicShellSetup\_4\_2\_5.exe program. When the Custom Setup dialog appears, in the area displaying a tree of features, click on the down arrow next to Classic Shell Update and choose Entire feature will be unavailable.
* Exit the directx\_Jun2010\_redist.exe program. During its execution, you are going to be asked where to un-compress its archive. Use the path D:\InfoVision\temp. After the program has finished, change to the D:\InfoVision\temp directory and execute DXSETUP.EXE. Any time an option is presented, take the default.
* Execute the NDP4610KB3102436-x86-x64-AIIOS-ENU.exe program. Any time an option is presented, take the default.
* Execute the npp.6.4.5.Installer.exe program. Any time an option is presented, take the default.
* Execute the TFTDisplayInstaller.msi program. Anytime an option is presented, take the default.
* Execute the tightvnc-2.7.10-setup-32bit.msi program. When the dialog for passwords displays, please set both passwords to “Asdf1234.” Any other option that is presented, take the default.
* Execute the vlc-2.2.2-win32.exe program. Any time an option is presented, take the default.

# Step two – configure the system

* Display

1. Right-click somewhere on the desktop and choose Screen resolution.
2. In the Resolution drop-down, select 1366 x 768.
3. Click Apply.
4. Click Keep changes.
5. Click OK.

* Chrome

1. Start the control panel by pressing Window + R and entering control panel in the dialog window.
2. In the search window at the upper right of the dialog window, enter policy.
3. In the search results, click on Edit group policy.
4. In the tree, displayed on the left window, right-click on Local Computer Policy -> Computer Configuration -> Administrative Templates and select Add/Remove Templates.
5. In the Add/Remove Templates dialog, click on Add …
6. In the Policy Templates, navigate to and select D:\InfoVision\GoogleUpdate.adm.
7. Back in the Add/Remove Templates dialog, click on Close and exit the program.
8. Start Chrome and set the startup page to about:blank and exit the program.

* Shell Classic

1. Click on the shell icon in the lower left portion of the screen.
2. Click OK.

* Notepad++

1. Go to Settings -> Preferences …
2. In the rectangle towards the left side of the dialog, click MISC.
3. Towards the middle of the dialog, just below the Smart Highlighting rectangle, un-check the Enable Notepad++ auto-updater option.
4. Click Close.
5. Go to Settings -> Style Configurator…
6. On the Style Configurator dialog, select Global Styles under Language and Global override under Style.
7. For Font Style -> Font name, select Lucinda Console. Set the Font size to 10.
8. In the settings, under the Font Style section, set the option Enable global font.
9. Click Save & Close.
10. Go to Plugins -> Plugin Manager -> Show Plugin Manager.
11. Click Settings (lower left button on the dialog).
12. Un-check the option Notify of plugin updates at startup.
13. Click OK.
14. Click Close and exit the program.

* Sound Options

1. Start the control panel by pressing Window + R and entering control panel in the dialog window.
2. Within control panel, select Hardware and Sound.
3. Within hardware and sound, select Sound.
4. Within sounds, select the Sounds tab.
5. From the Sound Scheme drop-down, choose No Sounds.
6. Click OK.

* Folder Options

1. Open Explorer by clicking on the folder icon in the lower left of the display.
2. Go to View -> Options -> Change folder and search options. This brings up a Folder Options dialog.
3. Click on the View tab.
4. In the Advanced settings list, check the box next to Show hidden files, folders or drives and make sure there is no check next to Hide extensions for known file types.
5. Click OK.

* Auto-hide the task bar.

1. Right-click on the taskbar and select Properties.
2. Within the properties dialog, make sure Lock the taskbar and Auto-hide the taskbar are both checked.
3. Click OK.

* Execute the script D:\InfoVision\zzBuildStage1.vbs. When this script runs, it will eventually give a dialog indicating the system is ready to be imaged and you must press OK for the system to shut. Wait for all DOS boxes to close, before pressing OK.

# The system will eventually shut down for imaging

Creating Windows 8.1 Embedded

USB flash drive

# Requirements

* A system running Microsoft’s Image Configuration Editor.
* The luminator.xml configuration file.
* The InfoVision.zip compressed Gorba software file.
* A blank USB flash drive at least 8GB in size. This drive is formatted, during the process.

# Steps

* Load luminator’s configuration file.

1. Within Microsoft’s Image Configuration Editor select File -> Open Configuration File.
2. Browse to find luminator.xml and open it.

* Create a Window 8.1 Embedded image.

1. Select Tools -> Create Media -> Create IBW Image From Configuration…
2. Within the Windows Embedded Media Creator dialog, luminator.xml file should be in the Select Configuration File: window. Select Next.
3. The next dialog is asking where to put the created image. Select Publish to a USB flash drive and select your drive from the drop-down list (it may be the only drive in the list). The arrow, going in a circle, next to the drop-down is to request the system rescan for drives.
4. Select Create Media.
5. A warning box, indicating the media will be erased, now displays. Select Yes to continue.

* Add Gorba’s software to the USB flash drive.

1. Unzip the InfoVision.zip file to the root of the USB flash drive.

# Notes:

The luminator.xml file, used above, is not just a collection of Windows modules. After modules were selected, some embedded variables had their value’s changed. They are as follows:

* In the ICE (image creation editor) pane titled Configuration File, select the Products folder.
* In the pane to the right of the Configuration File pane, make sure the Settings tab is selected and make sure the Filter view by: options is set to 1 WindowsPE.
* Go through the Name column, in the Settings tab and expand through User Data -> ProductKey -> Key. Click under the Value column and set it to “JRB9N-H6CVX-WYRPJ-QX98H-MBF8Y.”
* Below the Key field is one named WillShowUI. Set WillShowUI to OnError.

Building a Deployment USB flash drive

# Requirements

* A system running Microsoft’s Windows ADK (ADK system).
* A Gorba sign that has been created to be imaged (SIGN system).
* A blank USB flash drive at least 8GB in size. This drive is formatted, during the process.

# Steps

* On the ADK system, select Deployment and Imaging Tools Environment. This starts a command prompt with the necessary properties for this section.
* Insert the USB flash drive into the ADK system and note the drive letter assigned to it.
* At the command prompt, issue the commands:

copyPE x86 C:\x86

MakeMinPEMedia /UFD C:\x86 <USB flash drive letter>

* On the USB flash drive, create a file named SETDISK.TXT. Refer to appendix B for the contents.
* On the USB flash drive, create a file named SETUP.BAT. Refer to appendix C for the contents.
* Boot the SIGN system using the USB flash drive. Check for drive assignments. One needs the drive letter of what is to be the new system’s C:\ drive and D:\ drive. For this example, C:\ (Windows) and E:\ (data) are going to be used. Windows can be fickle. Make sure you confirm the drive letters!
* Delete the E:\InfoVision (rmdir E:\InfoVision /s) directory and its contents. This greatly reduces the size and time to create the D:\ drive image.
* At the command prompt, of the SIGN system, issue the following commands:

dism /capture-image /imagefile:D:\DriveC.wim /capturedir:C:\ /name:DriveC /bootable

dism /capture-image /imagefile:D:\DriveD.wim /capturedir:E:\ /name:DriveD

Populating a New Sign

# Requirements

* Blank Gorba sign.
* Keyboard and mouse.
* Deployment USB flash drive (see prior section).

# Steps

* Plug the keyboard and deployment USB flash drive into empty USB ports on the Gorba sign.
* Boot the Gorba sign from the deployment USB flash drive.
* At the command prompt, change to the USB drive (usually C:, the drive can be identified as the drive with the files DRIVEC.WIM and DRIVED.WIM) and type the command:

setup

* At the command prompt, replace the deployment USB flash drive with the mouse and type the command:

exit

* The system is now going to reboot two times. On the first reboot, a login must be done (password Asdf1234). After login, the computer is going to look as though it is not doing anything. Eventually an error message and information message will appear. Click OK on the error message, followed by clicking OK on the information message. The system now reboots.
* On the second reboot, no login should be required. The system will again look like it is not doing much. Eventually a directory window will appear, with a message indicating the system build is complete. Dismiss the directory window (red X in the upper right corner of the window) and click OK on the message window.

The system is ready for delivery

Appendix A - Contents of

zzBuildStage1-3.vbs

# zzBuildStage1.vbs

*Rem*

*Rem I need to run as Administrator. To signal that I have restarted myself*

*Rem as Administrator, I restart with a command line option.*

*Rem*

If WScript.Arguments.count < 1 Then

Set oApp = CreateObject ("Shell.Application")

oApp.ShellExecute "wscript", "D:\InfoVision\zzBuildStage1.vbs uac", "D:\InfoVision", "runas", 1

Else

User = "Gorba"

Pass = "Asdf1234"

crlf = chr (13)&chr (10)

Set oWS = WScript.CreateObject ("WScript.Shell")

Set oAU = CreateObject("Microsoft.Update.AutoUpdate")

Set oFS = CreateObject ("Scripting.FileSystemObject")

*Rem*

*Rem Create C:\Temp.*

*Rem*

oFS.CreateFolder ("C:\Temp")

*Rem*

*Rem Copy the next two stages scripts to D:\ so that the D:\InfoVision directory can*

*Rem eventually be deleted.*

*Rem*

oFS.CopyFile "D:\InfoVision\zzBuildStage2.vbs", "D:\"

oFS.CopyFile "D:\InfoVision\zzBuildStage3.vbs", "D:\"

*Rem*

*Rem Move these Windows files to their final location.*

*Rem*

oFS.CopyFile "D:\InfoVision\Windows\\*", "C:\Windows\System32"

*Rem*

*Rem Put the IIS directories in place.*

*Rem*

oWS.Run "cmd /c mkdir D:\Ftproot\Commands", 1, true

oWS.Run "cmd /c mkdir D:\Ftproot\Feedback", 1, true

oWS.Run "cmd /c mkdir D:\Resources", 1, true

oWS.Run "cmd /c mkdir D:\Data\Update\Medi\Resources", 1, true

*Rem*

*Rem Now create the site and set its options.*

*Rem*

cmd = "C:\Windows\System32\inetsrv\appcmd"

oWS.Run cmd&" delete site ""Default Web Site""", 1, true

oWS.Run cmd&" add site /name:InfoVision /bindings:ftp://\*:21 /physicalpath:D:\Ftproot", 1, true

oWS.Run cmd&" add vdir /app.name:InfoVision/ /path:/Resources /physicalPath:D:\Resources", 1, true

oWS.Run cmd&" add vdir /app.name:InfoVision/ /path:/Resources-parked /physicalPath:D:\Data\Update\Medi\Resources", 1, true

oWS.Run cmd&" set config -section:system.applicationHost/sites /[name='InfoVision'].ftpServer.security.ssl.dataChannelPolicy:SslAllow", 1, true

oWS.Run cmd&" set config -section:system.applicationHost/sites /[name='InfoVision'].ftpServer.security.ssl.controlChannelPolicy:SslAllow", 1, true

oWS.Run cmd&" set config -section:system.applicationHost/sites /[name='InfoVision'].ftpServer.security.authentication.basicAuthentication.enabled:true", 1, true

oWS.Run cmd&" set config InfoVision -section:system.ftpserver/security/authorization ""/+[accessType='Allow',users='Gorba',permissions='Read, Write']"" /commit:apphost", 1, true

*Rem*

*Rem Put a shortcut in Startup to run the stage two script.*

*Rem*

Set oLink = oWS.CreateShortcut (oWS.SpecialFolders ("Startup")&"\zzBuildStage2.lnk")

oLink.Description = "Stage two"

oLink.TargetPath = "D:\zzBuildStage2.vbs"

oLink.WorkingDirectory = "D:\"

oLink.Save

*Rem*

*Rem Add a registry key to disable asking for Administrator rights.*

*Rem*

Base = "HKLM\Software\Microsoft\Windows\CurrentVersion\Policies\System"

oWS.RegWrite Base&"\EnableLUA", 0, "REG\_DWORD"

*Rem*

*Rem Set Control Panel->System and Security->Windows Firewall.*

*Rem*

oWS.Run ("netsh advfirewall set AllProfiles state off")

*Rem*

*Rem Set Control Panel->System and Security->Windows Update.*

*Rem*

oAU.Settings.NotificationLevel = 1

oAU.Settings.Save

*Rem*

*Rem Set Control Panel->System and Security->Power Options*

*Rem*

PowerSettings

*Rem*

*Rem Create a Notepad++ "send to" option.*

*Rem*

Set oLink = oWS.CreateShortcut (oWS.SpecialFolders ("SendTo")&"\notepad++.lnk")

oLink.TargetPath = "C:\Program Files\Notepad++\notepad++.exe"

oLink.WorkingDirectory = "C:\Program Files\Notepad++"

oLink.Description = "Notepad++"

oLink.Save

*Rem*

*Rem The system is ready to be imaged. Shut the system down.*

*Rem*

MsgBox "The system is ready for imaging."&crlf&"Press OK to shutdown the system.", vbOKOnly, "Stage 1"

oWS.Run ("shutdown /s /t 1")

End If

Sub PowerSettings

scheme = ""

sleep = ""

sleepAfter = ""

display = ""

dimDisplayAfter = ""

turnOffDisplayAfter = ""

*Rem*

*Rem Setup to read all the current power setting values.*

*Rem*

Set oExec = oWS.Exec ("powercfg -query")

*Rem*

*Rem Scan the output taking the setting GUIDs we want.*

*Rem*

Do While Not oExec.StdOut.AtEndOfStream

data = oExec.StdOut.ReadLine ()

If getGUID (data, "Power Scheme GUID", "Balanced", scheme) = 0 Then

If getGUID (data, "Subgroup GUID", "Sleep", sleep) = 0 Then

If getGUID (data, "Power Setting GUID", "Sleep after", sleepAfter) = 0 Then

If getGUID (data, "Subgroup GUID", "Display", display) = 0 Then

If getGUID (data, "Power Setting GUID", "Dim display after", dimDisplayAfter) = 0 Then

Call getGUID (data, "Power Setting GUID", "Turn off display after", turnOffDisplayAfter)

End If

End If

End If

End If

End If

Loop

*Rem*

*Rem All the setting commands begin with this text.*

*Rem*

base = "powercfg -setacvalueindex "&scheme&" "

*Rem*

*Rem Set the display to never dim.*

*Rem*

oWS.Run (base&display&" "&dimDisplayAfter&" 0")

*Rem*

*Rem Set the display to never turn off.*

*Rem*

oWS.Run (base&display&" "&turnOffDisplayAfter&" 0")

*Rem*

*Rem Set the computer to never sleep.*

*Rem*

oWS.Run (base&sleep&" "&sleepAfter&" 0")

End Sub

Function getGUID (line, findLeft, findRight, guid)

getGUID = 0

If guid = "" Then

i = InStr (line, findLeft)

If i <> 0 Then

i = InStr (line, findRight)

If i <> 0 Then

f = InStr (line, ":")+2

t = InStr (line, "(")-1

guid = Mid (line, f, t-f)

getGUID = 1

End If

End If

End If

End Function

# zzBuildStage2.vbs

*Rem*

*Rem I need to run as Administrator. To signal that I have restarted myself,*

*Rem as Administrator, I restart with a command line option.*

*Rem*

If WScript.Arguments.count < 1 Then

Set oApp = CreateObject ("Shell.Application")

oApp.ShellExecute "wscript", "D:\zzBuildStage2.vbs uac", "D:\", "runas", 1

Else

User = "Gorba"

Pass = "Asdf1234"

crlf = chr (13)&chr (10)

Set oWMI = GetObject ("winmgmts:\\.\root\cimv2")

Set oWS = WScript.CreateObject ("WScript.Shell")

Set oFS = CreateObject ("Scripting.FileSystemObject")

*Rem*

*Rem Add registry keys to auto-logon when the system starts.*

*Rem*

Base = "HKLM\Software\Microsoft\Windows NT\CurrentVersion\WinLogon"

oWS.RegWrite Base&"\AutoAdminLogon" , "1" , "REG\_SZ"

oWS.RegWrite Base&"\DefaultUserName", User, "REG\_SZ"

oWS.RegWrite Base&"\DefaultPassword", Pass, "REG\_SZ"

*Rem*

*Rem Pull me out of Startup and setup for stage three.*

*Rem*

oFS.DeleteFile (oWS.SpecialFolders ("Startup")&"\zzBuildStage2.lnk")

*Rem*

*Rem Remove the stage two script.*

*Rem*

oFS.DeleteFile "D:\zzBuildStage2.vbs"

*Rem*

*Rem Create the shortcut to the stage three script.*

*Rem*

Set oLink = oWS.CreateShortcut (oWS.SpecialFolders ("Startup")&"\zzBuildStage3.lnk")

oLink.Description = "Stage three"

oLink.TargetPath = "D:\zzBuildStage3.vbs"

oLink.WorkingDirectory = "D:\"

oLink.Save

*Rem*

*Rem Get the MAC address of the first network adapter in the system. I use*

*Rem it for generating the computer's name.*

*Rem*

Comp = "TFT-000000"

For Each oNIC in oWMI.InstancesOf ("Win32\_NetworkAdapterConfiguration")

If oNIC.MACAddress <> "" Then

Comp="TFT-"&Mid (oNIC.MACAddress, 10, 2)&"-"&Mid (oNIC.MACAddress, 13, 2)&"-"&Mid (oNIC.MACAddress, 16, 2)

Exit For

End If

Next

*Rem*

*Rem Set the computer's name.*

*Rem*

For Each oComp in oWMI.InstancesOf ("Win32\_ComputerSystem")

oComp.rename Comp, Pass, Name

Next

*Rem*

*Rem Fix the extended write filter information.*

*Rem*

oWS.Run ("ewfcfg /install-configuration")

*Rem*

*Rem Shutdown for stage three.*

*Rem*

MsgBox "Extended write filtering has been enabled."&crlf&"Press OK to restart the system.", vbOKOnly, "Stage 2"

oWS.Run ("shutdown /r /t 1")

End If

# zzBuildStage3.vbs

*Rem*

*Rem I need to run as Administrator. To signal that I have restarted myself,*

*Rem as Administrator, I restart with a command line option.*

*Rem*

If WScript.Arguments.count < 1 Then

Set oApp = CreateObject ("Shell.Application")

oApp.ShellExecute "wscript", "D:\zzBuildStage3.vbs uac", "D:\", "runas", 1

Else

User = "Gorba"

Pass = "Asdf1234"

crlf = chr (13)&chr (10)

Set oWS = WScript.CreateObject ("WScript.Shell")

Set oFS = CreateObject ("Scripting.FileSystemObject")

*Rem*

*Rem Pull me out of Startup. This is the last script to run.*

*Rem*

oFS.DeleteFile (oWS.SpecialFolders ("Startup")&"\zzBuildStage3.lnk")

*Rem*

*Rem Remove the script.*

*Rem*

oFS.DeleteFile "D:\zzBuildStage3.vbs"

*Rem*

*Rem Create a shortcut to SystemManagerShell in Startup.*

*Rem*

Set oLink = oWS.CreateShortcut (oWS.SpecialFolders ("Startup")&"\SystemManagerShell.lnk")

oLink.TargetPath = "D:\Progs\SystemManager\SystemManagerShell.exe"

oLink.WorkingDirectory = "D:\Progs\SystemManagerShell"

oLink.Description = "System Manager Shell"

oLink.Save

*Rem*

*Rem Add a registry key to register this copy of Windows.*

*Rem*

Base = "HKLM\Software\Microsoft\Windows NT\CurrentVersion\RunOnce"

oWS.RegWrite Base&"\Activate", "C:\Windows\Systerm32\runone.cmd", "REG\_SZ"

*Rem*

*Rem Force a new registration on the next boot.*

*Rem*

oWS.Run ("slmgr /rearm")

*Rem*

*Rem Make C:\ read-only.*

*Rem*

oWS.Run ("ewfmgr C: -enable")

*Rem*

*Rem Shutdown for customer delivery.*

*Rem*

MsgBox "The system is complete."&crlf&"Press OK to shutdown the system.", vbOKOnly, "Stage 3"

oWS.Run ("shutdown /s /t 1")

End If

Appendix B - Contents of setdisk.txt

**select disk 0**

**clean**

**create partition primary size=10240**

**format quick fs=ntfs label="Gorba Boot"**

**active**

**assign letter="A"**

**select disk 0**

**create partition primary**

**format quick fs=ntfs label="Gorba Data"**

**assign letter="B"**

**exit**

Appendix C - Contents of setup.bat

**@rem**

**@rem This divides the disk and formats the partitions.**

**@rem**

**@diskpart /s setdisk.txt**

**@rem**

**@rem This populates the two partitions.**

**@rem**

**@dism /apply-image /imagefile:DriveC.wim /index:1 /applydir:A:\**

**@dism /apply-image /imagefile:DriveD.wim /index:1 /applydir:B:\**

**@rem**

**@rem Fix the boot information on the newly populated drive.**

**@rem**

**@bcdedit /store A:\boot\bcd /set {bootmgr} device partition=A:**

**@bcdedit /store A:\boot\bcd /set {default} device partition=A:**

**@bcdedit /store A:\boot\bcd /set {default} osdevice partition=A:**

**@rem**

**@rem Alert the world, we are done.**

**@rem**

**@echo \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**@echo \*\*\* \*\*\***

**@echo \*\*\* DONE \*\*\***

**@echo \*\*\* \*\*\***

**@echo \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***