1. Initial Windows Setup
   1. Disable Auto connect to Wireless Hotspots
   2. Create user Support with password jerich0
2. Change Computer Name restart
   1. Giada Win8.1 64bit - HS1000w
   2. Minix Win8.1 32bit - HS850
   3. Minix Win10 Home 32 bit - HS750
3. Create MediaSignage user (no password)
   1. Log in to MediaSignage account
   2. Right Click -> Personalize -> Themes -> Desktop icon settings -> Computer
   3. Rename Computer icon to be the same as computer name
   4. Control Panel -> File Explorer Settings
      1. View
         1. Display the full path in the title bar
         2. Show hidden files, folders, and drives
         3. Uncheck "Hide extensions for known file types"
   5. Execute runas for user Support to save the password
      1. runas /user:support /savecred "notepad"
4. Turn off UAC
5. Turn on System Protection for drive C:\
   1. Control Panel -> System -> System protection -> Configure -> Turn on system protection
   2. Control Panel -> System -> System protection -> Configure -> Max Usage = 5%
6. Create directory c:\Temp
7. Setup System Policy
   1. Turn off UAC
      1. HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System\EnableLUA=0
   2. Disable Fast User Switching
      1. HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System\HideFastUserSwitching=1
8. Disable IPv6
   1. Open cmd as administrator
   2. HKLM\SYSTEM\CurrentControlSet\Services\TCPIP6\Parameters\DisabledComponents=dword:ffffffff
   3. Run "netsh interface teredo set state disabled"
9. Install IIS. Use all the defaults except the following, download files from Windows Upgrade
   1. FTP Server
      1. FTP Service
   2. Web Management Tools
      1. IIS 6 Management Compatibility
         1. IIS Metabase and IIS 6 configuration compatibility
      2. IIS Management Console
   3. World Wide Web Services
      1. Application Development Features
         1. .NET Extensibility 3.5
         2. .NET Extensibility 4.6
         3. ASP
         4. ASP.NET 3.5
         5. ASP.NET 4.6
         6. CGI
         7. ISAPI Extensions
         8. ISAPI Filters
      2. Common HTTP Features
         1. Default Document
         2. Directory Browsing
         3. HTTP Errors
         4. Static Content
      3. Health and Diagnostics
         1. HTTP Logging
         2. Request Monitor
      4. Security
         1. Basic Authentication
         2. Request Filtering
10. Show Computer icon
    1. Right Click -> Personalize -> Themes -> Desktop icon settings -> Computer
    2. Rename Computer icon to HS1000W
11. Copy C:\Ruby193 Folder
12. Copy C:\cygwin Folder
13. Copy C:\Cilutions Folder
14. Copy C:\Users\MediaSignage\MediaSignage\* Folders
15. Environment Variables:
    1. Path = c:\cygwin\bin;C:\Ruby193\bin;%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\;C:\Program Files\Hughes Network Systems\PDReceiver\bin;c:\cilutions
    2. Tmp = %SystemRoot%\TEMP
    3. Temp = %SystemRoot%\TEMP
16. Set default application to open .rb file to c:\Ruby193\bin\ruby.exe:

First, find out if an association exists for .rb with the assoc command:

C:\Ruby Code>assoc .rb

File association not found for extension .rb

It's not found, so associate the .rb extension with a file type:

C:\Ruby Code>assoc .rb=rbFile

Test to see if the association exists now:

C:\Ruby Code>assoc .rb

.rb=rbFile

Test to see if the file type exists:

C:\Ruby Code>ftype rbfile

File type 'rbfile' not found or no open command associated with it.

It's not found, so create it:

C:\Ruby Code>ftype rbfile="C:\Program Files\Ruby\bin\ruby.exe" "%1" %\*

Be sure to put the correct path to the executable for the Ruby interpreter, followed by the substitution variables. %1 is a substitution variable for the file you want to run, and %\* accepts all other parameters that may appear on the command line.

Test it:

C:\Ruby Code>ftype rbfile

rbfile="C:\Program Files\Ruby\bin\ruby.exe" "%1" %\*

Finally, add .rb to the PATHEXT environment variable. Is it there already?

C:\Ruby Code>set PATHEXT

PATHEXT=.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.tcl

No. What we want isn't there, so let's add it:

C:\Ruby Code>set PATHEXT=.rb;%PATHEXT%

And then test it:

C:\Ruby Code>set PATHEXT

PATHEXT=.rb;.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.tcl

Very good. Now run a Ruby program by entering the program's filename at the command prompt, without the file extension:

C:\Ruby Code> matz

Hello, Matz!

1. Setup IIS (Computer Right click -> Manage)
   1. Add MediaSignage virtual directory as c:\Users\MediaSignage\MediaSignage
   2. Add "IIS\_IUSRS" group to C:\Users\MediaSignage\MediaSignage directory security with FULL access
   3. Add "IUSR" user to C:\Users\MediaSignage\MediaSignage directory security with FULL access
   4. Add "IIS\_IUSRS" group to C:\Users\MediaSignage\Documents\PDReceiver directory security with FULL access
   5. Enable Ruby CGI
      1. Open "Computer Management"->"Services and Applications"->IIS->"Default Web Site"->"Handler Mappings"
      2. \*.cgi - C:\Ruby193\bin\ruby.exe "%s" - CGI\_cgi
      3. \*.rb - C:\Ruby193\bin\ruby.exe "%s" - CGI\_rb
      4. Even if those entries already exist, modify them by add/delete a space and click OK.  
         Click "Yes" on the next dialog box to allow the extension.
   6. Set Anonymous Authentication on the "Default Web Site" to the user "Support"
   7. Disable IIS logging
   8. Disable IIS Caching
      1. Open "HTTP Response Headers" on MediaSignage folder, click add Action and enter the following  
          Name: Cache-control  
          Value: no-cache, no-store, must-revalidate
2. IIS Security Fixes
   1. Disable Output cache to fix KB3042553
      1. Open IIS Manager and navigate to the level you want to manage. For information about navigating to locations in the UI, see Navigation in IIS Manager (IIS 7).
      2. In Features View, double-click Output Caching.
      3. On the Output Caching page, in the Actions pane, click Edit feature settings.
      4. In the Edit Output Cache Settings dialog box, click to unselect Enable kernel cache and then click OK.
   2. Fix Click-Jacking (KB2694329)
      1. Open Internet Information Services (IIS) Manager.
      2. In the Connections pane on the left side, expand the Sites folder and select the site that you want to protect.
      3. Double-click the HTTP Response Headers icon in the feature list in the middle.
      4. In the Actions pane on the right side, click Add.
      5. In the dialog box that appears, type X-Frame-Options in the Name field and type SAMEORIGIN in the Value field.
      6. Click OK to save your changes.
3. General Settings
   1. Control Panel -> File Explorer Settings
      1. View
         1. Display the full path in the title bar
         2. Show hidden files, folders, and drives
         3. Uncheck "Hide extensions for known file types"
   2. Open Explorer, Right click in the left (folders) panel, select "Expand to current folder"
4. Internet Explorer Settings:
   1. Enable Cross-Origin Access for ALL zones
      1. Tools->Internet Options->Security->Custom Level->Miscellaneous->Access data sources across domains
   2. Disable Caching
      1. Tools->Internet Options->General->Browsing History – check checkbox “Delete browsing history on exit”
      2. Tools->Internet Options->General->Browsing History->Settings->Temporary Internet Files->Every time I visit the webpage
      3. Tools->Internet Options->General->Browsing History->Settings->Temporary Internet Files->Disk space to use=8
      4. Tools->Internet Options->General->Browsing History->Settings->History->Days to keep pages in history = 1
   3. Allow WEB caches
      1. Tools->Internet Options->General->Browsing History->Settings->Caches and databases->Allow website caches and databases
   4. Reset zoom level
      1. Tools->Internet Options->Advanced->Accessibility->Reset zoom level for new windows and tabs
   5. Disable IE 11 auto update
      1. Help->About Internet Explorer->Uncheck "Install new versions automatically"
   6. Add "http://localhost/MediaSignage/content/current.html" to Favorites Toolbar and make the Favorites Toolbar always visible
   7. Enable "Do Not Track" requests
      1. IE10
         1. Tools->Internet Options->Advanced->Settings->Security->Send Do Not Track...
      2. IE11
         1. Tools->Safety-> Send Do Not Track...
   8. Enable "Memory Protection"
      1. IE10
         1. Tools->Internet Options->Advanced->Settings->Security->Enable Memory Protection...
      2. IE11
5. Set Background to C:\Cilutions\Content\ Abstract-background\_16x9\_1920x1080.png
6. Set power settings and the screen saver to "Never" for monitor and PC  
   Run the following as support:

powercfg -SETACTIVE 8c5e7fda-e8bf-4a96-9a85-a6e23a8c635c

powercfg.exe -change -monitor-timeout-ac 0

powercfg.exe -change -monitor-timeout-dc 0

powercfg.exe -change -disk-timeout-ac 0

powercfg.exe -change -disk-timeout-dc 0

powercfg.exe -change -standby-timeout-ac 0

powercfg.exe -change -standby-timeout-dc 0

powercfg.exe -change -hibernate-timeout-ac 0

powercfg.exe -change -hibernate-timeout-dc 0

powercfg -SETACTIVE a1841308-3541-4fab-bc81-f71556f20b4a

powercfg.exe -change -monitor-timeout-ac 0

powercfg.exe -change -monitor-timeout-dc 0

powercfg.exe -change -disk-timeout-ac 0

powercfg.exe -change -disk-timeout-dc 0

powercfg.exe -change -standby-timeout-ac 0

powercfg.exe -change -standby-timeout-dc 0

powercfg.exe -change -hibernate-timeout-ac 0

powercfg.exe -change -hibernate-timeout-dc 0

powercfg -SETACTIVE 381b4222-f694-41f0-9685-ff5bb260df2e

powercfg.exe -change -monitor-timeout-ac 0

powercfg.exe -change -monitor-timeout-dc 0

powercfg.exe -change -disk-timeout-ac 0

powercfg.exe -change -disk-timeout-dc 0

powercfg.exe -change -standby-timeout-ac 0

powercfg.exe -change -standby-timeout-dc 0

powercfg.exe -change -hibernate-timeout-ac 0

powercfg.exe -change -hibernate-timeout-dc 0

reg add "HKLM\SYSTEM\CurrentControlSet\Control\Power" /v CsEnabled /t REG\_DWORD /d 0 /f

reg add "HKLM\SYSTEM\CurrentControlSet\Control\Power" /v HibernateEnabled /t REG\_DWORD /d 0 /f

shutdown -r -t 0

1. Install notepad++
   1. C:\Cilutions\npp.6.8.8.Installer.exe
2. Install PDReceiver
   1. C:\Cilutions\PDReceiver\_5.0.6.1.exe
   2. Move PDReceiver data directories to C:\Users\MediaSignage\Documents\PDReceiver\
      1. db
      2. load
      3. pdrwww
      4. temphold
      5. update
      6. wwwroot
   3. Change Registry setting
      1. SFS\_EVT=C:\Users\MediaSignage\Documents\PDReceiver\db\
      2. SFS\_SFX=C:\Users\MediaSignage\Documents\PDReceiver\db\
      3. SFS\_SFX\_DEFAULT\_DEST=C:\Users\MediaSignage\Documents\PDReceiver\load\
      4. SFS\_SFX\_LOAD=C:\Users\MediaSignage\Documents\PDReceiver\temphold\
      5. SFS\_SFX\_UPDATE\_DEST=C:\Users\MediaSignage\Documents\PDReceiver\update\
      6. SFS\_SFX\_WWW\_ROOT=C:\Users\MediaSignage\Documents\PDReceiver\wwwroot\
      7. LAUNCH\_IMMEDIATELY="1"
      8. USE\_LONG\_FILE\_NAME\_IN\_FINSTALL="1"
      9. SFS\_GET\_LOCAL\_ADDRESS="1"
      10. DISABLEPROGRESSMETER="1"
   4. Add finstall
      1. copy "C:\Cilutions\finstall.bat" to " "C:\Users\MediaSignage\Documents\PDReceiver\load\"
   5. Change EPDReceiver property to use MediaSignage account
   6. Grant MediaSignage user EPD service access
      1. install C:\Cilutions\subinacl.msi
      2. Open cmd as administrator
      3. "C:\Program Files\Windows Resource Kits\Tools\subinacl" /service EPDReceiver /grant=MediaSignage=TOP
      4. Add MediaSignage user to "HKLM\Software\Hughes Network Systems\PDReceiver" registry key with "Full Control" access.
      5. Add MediaSignage user to "C:\Program Files\Hughes Network Systems\PDReceiver" directory with "Full Control" access.
3. Install SSH server
   1. C:\Cilutions\kts119c.exe
   2. Copy C:\Cilutions\kts.ini to C:\Program Files (x86)\KTS
   3. Copy C:\Cilutions\kts\_allusers.bat to C:\Program Files (x86)\KTS\scripts\allusers.bat
   4. Enable C:\Program Files (x86)\KTS\daemon.exe in the Windows Firewall
4. Install VLC
   1. C:\Cilutions\vlc-2.1.5-win32.exe
5. Install VNC
   1. C:\Cilutions\tightvnc-2.7.10-setup-\*.msi
   2. Set password jerich0
6. Install ELO drivers
   1. C:\Cilutions\SW602281\_EloMultiTouch\_6.9.2.exe
7. Install FTDI drivers for ELO serial connection
   1. C:\Cilutions\CDM v2.12.24\_Setup.exe
8. Install Sling Software
   1. C:\Cilutions\WBSP\_IE\_Setup\_2.exe
9. Install Wireshark
   1. C:\Cilutions\Wireshark-win\*-2.0.1.exe
10. Install TreeSize
    1. C:\Cilutions\TreeSizeFreeSetup\_3.3.2.exe
11. Windows Firewall
    1. SNMP
    2. PDReceiver
    3. SSH Server
    4. VNC
    5. World Wide Web Services (HTTP)
12. Run MediaSignageHWDetect on Support login
    1. Create shortcut to C:\Users\MediaSignage\MediaSignage\MediaSignageHWDetect.exe in  
       C:\Users\Support\AppData\Roaming\Microsoft\Windows\Start Menu\Programs\Startup
13. MediaSignage auto login
    1. command line -> "control userpasswords2"
    2. Uncheck "Users must enter a user name and password to use this computer"
    3. Click Apply
    4. Make sure MediaSignage is set for auto login and click OK.
14. Disable Windows auto update
    1. Disable "Windows Update" service
15. Group Policy Editor on Windows Home
    1. C:\Cilutions\add\_gpedit\_msc\*.zip
    2. https://www.itechtics.com/enable-gpedit-windows-10-home/
    3. If you have 32-bit Windows (x86) then the setup should install smoothly without any problems and you should be able to access the Group Policy Editor through the Microsoft Management Console by going to Run –> gpedit.msc. But if you have 64-bit Windows (x64) then you will need some extra steps after running the installer. Follow the steps below after running the installer:
       1. Go to C:\Windows\SysWOW64 folder
       2. Copy the following folders and files to C:\Windows\System32
          1. GroupPolicy
          2. GroupPolicyUsers
          3. gpedit.msc.
    4. In case you are getting “MMC could not create the snap-in” error message while starting gpedit.msc, you may follow the steps below for the solution:
       1. Go to C:\Windows\Temp\gpedit\ folder and make sure it exists.
       2. C:\Cilutions\add\_gpedit\_msc\_x86x64.zip and unzip it to C:\Windows\Temp\gpedit\. This should replace two files x86.bat and x64.bat.
       3. Now run x86.bat if you are running 32-bit Operating System and x64.bat if you are running 64-bit Windows 10. Make sure you are running the batch files as Administrator.
       4. After following the above mentioned steps, you should have a working Group Policy Editor in Windows 10 Home edition.
16. Enable symlink creation for MediaSignage
    1. Open the Local Group Policy Editor (gpedit.msc)
    2. Edit the Create symbolic links policy at  
       Computer configuration -> Windows Settings -> Security Settings -> Local Policies -> User Rights Assignment -> Create symbolic links
    3. Add MediaSignage user
17. Allow use of a blank password for runas command
    1. Open the Local Group Policy Editor (gpedit.msc)
    2. Navigate to Computer Configuration -> Windows Settings -> Security Settings -> Local Policies -> Security Options
    3. Set "Accounts: Limit local account use of blank passwords to console logon only" to Disabled
18. Add "Logout" and "Network Connections" shortcuts
    1. Copy "C:\Cilutions\Logout.lnk" and "C:\Cilutions\Network Connections.lnk" to "C:\Users\Support\AppData\Roaming\Microsoft\Windows\Start Menu\Programs"
19. Use Desktop version of IE on Start screen
    1. Open the Control Panel (icons view), and click/tap on the Internet Options icon.
    2. In Internet Options, click/tap on the Programs tab.
    3. Under Opening Internet Explorer at the top, choose "Always in Internet Explorer on the desktop".
    4. Open Internet Explorer tiles on the desktop - Check or uncheck to have pinned IE10 site tiles on Start screen only open in the IE10 desktop version.
20. Disable Windows Indexing
    1. Search for "Indexing Options" (under "Control Panel"). Open it.
    2. Search "services" (or run "services.msc") and find "Windows Search". Stop the service.
    3. Delete "C:\Program Data\Microsoft\Search\Data\Applications\Windows\Windows.edb" file
    4. Uncheck all the indexing locations in the already-open "Indexing Options" panel.
    5. Click "Modify" in the already-open "Indexing Options" panel, then click "Delete and Rebuild" for the index. You can also specify a different drive to store the index on.
21. Disable Windows Defender
    1. Open Windows Defender by clicking the Start button. In the search box, type Defender, and then, in the list of results, click Windows Defender.
    2. Click Tools, and then click Options.
    3. Click Administrator, select or clear the Use this program check box, and then click Save. Administrator permission required If you're prompted for an administrator password or confirmation, type the password or provide confirmation.
    4. HKEY\_LOCAL\_MACHINE\SOFTWARE\Policies\Microsoft\Windows Defender\DisableAntiSpyware = 1
22. Make Sure Wi-Fi and Bluetooth are disabled.

Additional steps

1. Install PL2303 Windows Driver from Prolific site: http://www.prolific.com.tw/US/ShowProduct.aspx?p\_id=225&pcid=41
2. Copy following folders and files from install\ inetpub\_wwwroot.zip to c:\inetpub\wwroot: cgi-bin, images, javascripts, signagestatus, stylesheets, hughes\_logo.png, loadingScreenCapture.jpg, web.config
3. Copy h folder from other win8.1 to c:
4. To get rid of the progress bar “removing browsing history” on IE startup:

In the file c:\h\inv.vbs remove line

WshShell.Run "RunDll32.exe InetCpl.cpl,ClearMyTracksByProcess 4607", 0, True

1. To get rid of the logon Background image:

* Create DWORD DisableLogonBackgroundImage=1 in HKLM\SOFTWARE\Policies\Microsoft\Windows\System

1. configure ctrl+alt+del menu

- run gpedit.msc

- go to User Config/Admin Temp/System/Ctrl+Alt+Del and enable "Remove Change Password", "Remove Lock Comp"

1. Disable task manager for MediaSignage account:

* Find MediaSignage SID in HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\ProfileLis
* Set DWORD DisableTaskMgr=1 in HKEY\_USERS\<mediasignage-SID>\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System

1. Shell Launcher configuration

* Set string Shell=c:\windows\system32\wscript.exe \h\inv.vbs in HKEY\_USERS\<mediasignage-SID>\Software\Microsoft\Windows\CyrrentVersion\Policies\System
* To disable launcher set Shell=explorer.exe in above registry

1. To change the Computer name:

- login as support user

- disable shell launcher: set Shell=explorer.exe in HKEY\_USERS\<mediasignage-SID>\Software\Microsoft\Windows\CyrrentVersion\Policies\System

- delete all windows credentials: go to control panel/user accounts/credential manager/windows credentials and delete all credentials under Windows credentials section

- remove auto login: from admin command prompt enter "control userpasswords2", check checkbox "Users must enter a user name and password to use this computer" and press OK

- rename comp icon on desktop

- change computer name in the Control Panel\System and Security\System

- reboot

- login as MediaSignage user

- delete all windows credentials: go to control panel/user accounts/credential manager/windows credentials and delete all credentials under Windows credentials section

- rename comp icon on desktop

- open command prompt and execute: runas /user:support /savecred "notepad"

- sign out

- login as support user

- enable shell launcher: set Shell="c:\windows\system32\wscript.exe \h\inv.vbs" in HKEY\_USERS\<mediasignage-SID>\Software\Microsoft\Windows\CyrrentVersion\Policies\System

- add auto login:

from admin command prompt enter "control userpasswords2",

uncheck checkbox "Users must enter a user name and password to use this computer",

click apply,

enter MediaSignage and empty password and click OK.

- reboot

1. Configure Keyboard Filter
   1. Windows 8.1
      1. Start ELM (Embedded Lockdown Manager)
      2. Right click on "Keyboard Filter" and select Disable for Administrators
      3. Right click on "All Keys" and select "Block all keys" and unblock Alt, Ctrl and Alt+Ctrl+Del
      4. Create and block custom keys: F1, F2, ... F12, Ctrl-Alt-Left, Ctrl-Alt-Right, Ctrl-Alt-Up, Ctrl-Alt-Down
   2. Windows 10
      1. Login as support user
      2. Run "Control Panel\Programs\Programs and Features\Turn Windows features on or off"
      3. Enable checkbox "Device Lockdown/Keyboard Filter" and press OK button and reboot. Probably it is already enabled on your system because I did it already. Then you don't need to reboot.
      4. Login user support
      5. Unzip attache file and copy all files to c:\h:
         1. kbdflt.ps1 - powershell script to enable or disable keyboard filter
         2. kbdlock.bat - batch file to lock keyboard
         3. kbdunlock.bat - batch file to unlocks keyboard 6. Start command prompt as admin
      6. Execute kbdlock.bat
      7. Make sure all keyboard keys and keys combinations work
      8. Sign off and login as MediaSigange user
      9. Make sure all keys and keys combinations are locked but Ctrl+Alt+Del works.
      10. When/if you need keyboard under MediaSignage for some testing you can enable it:
          1. Unlock keyboard:
             1. Login support user
             2. Start command prompt as admin
             3. Execute kbdunlock.bat
          2. Lock keyboard again:
             1. Login support user
             2. Start command prompt as admin
             3. Execute kbdlock.bat

Embedded Windows Deployment

1. On development machine:

1.1. Install ADK - Windows Assessment and Deployment Kit - <http://www.microsoft.com/en-us/download/details.aspx?id=30652>

1.2. create WinPE using ADK:

- Start the Deployment and Imaging Tools Environment as an administrator.

- Create a working copy of the Windows PE files. Specify either x86, amd64, or arm: copype amd64 C:\WinPE\_amd64

- Install Windows PE to the USB flash drive, specifying the drive letter: MakeWinPEMedia /UFD C:\WinPE\_amd64 F:

1.3. Prepare answer file for Industry 8.1 setup

copy \sources\install.wim from usb drive with Industry 8.1 setup to hard disk

- Run SIM (System Image Manager) and select that wim file via menu file/select windows image

- in the Windows Image view rclick on packages/foundation/amd64\_Microsoft\_Windows\_Foundation\_Package and select Add to answer file

- to get rid of logon UI: in the Windows Image view rclick on components/amd64\_Microsoft\_Windows\_Embedded-EmbeddedLogon... and select add settings to pass 2, select it in the view Answer File and set following values in the properties view (top-right):

- AnimationDisabled=1

- BrandingNeutral=32

- HideAutoLogonUI=1

- NoLockScreen=1

- UIVerbosityLevel=1

- save answer file with name autounattend.xml into the root of the usb disk with Industry 8.1 setup: file/save answer file

1.4. prepare usb flash with extFAT (FAT32 doesn't work with 4G+ files)

2. On reference machine:

2.1. Install Windows Embedded 8.1 Industry Pro with prepared answer file:

- Boot Windows PE from USB flash drive and unplug it.

- plugin usb flash drive with Windows Embedded 8.1 Industry Pro and with answer file and run setup from that usb: d:\setup.exe /unattend:d:\autounattend.xml

2.2. enter product key and activate Windows.

2.3. Create administrator admin/admin and standard user with no password

2.4. Sign out from MS account and sign in to admin/admin

2.5. Delete MS account created at setup

2.6. Change common computer settings

- Disable windows updates

- Change power options: Turn off display - never; Put computer to sleep - never, shutdown on power button

- Make sure hibernate is disabled in advances settings

- Click Start, and then type cmd in the Start Search box.

- In the search results list, right-click Command Prompt, and then click

Run as Administrator.

- When you are prompted by User Account Control, click Continue.

- At the command prompt, type

powercfg.exe /hibernate off

or

powercfg -h off

and then press Enter.

- Type exit, and then press Enter to close the Command Prompt window.

- Install notepad++ (<http://notepad-plus-plus.org/download/v6.5.5.html>)

- Install ruby

- set time zone and time is needed

- Change folder options as shown in the attached images

2.7. install and configure IIS from control panel/programs/programs and features/turn windows features on or off/Internet Information Services in accordance with image from Boris

2.8. configure hdmi audio as default audio device

2.9. Install MediaSignage:

- copy MediaSignage folder to the root (c:\MediaSignage)

- start iis\_setup.bat from c:\MediaSignage from admin cmd prompt

2.10. Open "Control Panel/Programs/Programs and Features/Turn Windows features on or off", check(enable) all checkboxes under Embedded Features, Press button "Restart now" to reboot.

2.11. configure ctrl+alt+del menu

- run gpedit.msc

- go to User Config/Admin Temp/System/Ctrl+Alt+Del and enable "Remove Change Password", "Remove Lock Comp" and "Remove Task Manager"

2.12. enable task manager for admin user - it was disabled in the previous step

- open regedit and go to HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\ProfileList. It contains subkeys named by SIDs

- find admin SID by looking into ProfileImagePath of the every subkey

- go to HKEY\_USERS\<admin-SID>\Software\Microsoft\Windows\CurrentVersion\Policies\System

- set 0 to DisableTaskManager

2.13. Configure Shell Launcher

- set Shell=eshell.exe in HKLM\software\microsoft\windows nt\currentversion\winlogon

- in ELM (Embedded Lockdown Manager) set Default Shell c:\windows\explorer.exe

- in ELM set for user c:\windows\system32\wscript.exe c:\MediaSignage\h\inv.vbs

- create file c:\MediaSignage\h\inv.vbs with following content Set s = CreateObject("Wscript.Shell") s.Run "iexplore.exe -k <http://localhost/MediaSignage/content/current.html>", 0, True

2.13.2. Alternative Shell Launcher configuration Two problems are detected:

In case of quick shutdown with Shutdown.exe and login to admin the registry Shell (see 2.13.) returns to "explorer.exe"

events log contains a lot of error records for eshell.exe To resolve these issues use policy instead of ShellLauncher reboot sign off standard usser login admin user run embedded lockdown manager select Shell Launcher in left pane and delete both records in the middle pane (rclick/delete)

run regedit

set Shell=explorer.exe in HKLM\software\microsoft\windows nt\currentversion\winlogon open HKEY\_USERS and remember all SIDs to load standard user registry switch to standard user (ctrl+alr+del/Switch User/<StandardUser> and then switch to admin user and refresh regedit(F5) and see new SID key under HKEY\_USERS open HKEY\_USERS\<SID-of-standard-user>\Software\Microsoft\Windows\CyrrentVersion\Policies\System

create string value Shell = c:\windows\system32\wscript.exe c:\MediaSignage\h\inv.vbs reboot

2.14. Configure Keyboard Filter by ELM (Embedded Lockdown Manager)

- Rclick on "Keyboard Filter" and select Disable for Administrators

- Rclick on "All Keys" and select "Block all keys" and unblock Alt, Ctrl and Alt+Ctrl+Del

- Create and block custom keys: F1, F2, ... F12, Ctrl-Alt-Left, Ctrl-Alt-Right, Ctrl-Alt-Up, Ctrl-Alt-Down

2.15. Export ELM configuration to power shell script elm.ps1 and move it to usb flash

2.16. Run netplwiz and configure system to logon with user "user" on startup

2.17. Hide mouse cursor in user account:

- Sign in to user

- copy NullCursor.cur to c:\MediaSignage\h folder(or any other)

- open control panel/mouse, select pointers tab

- select "Normal Select" in Customize section, press Browse button, select NullCursor.cur and press OK

- do the same for "Waiting in Background", "Busy" and "Link Select"

- press OK

2.18. Reboot and make sure system signed in to user account and started inv.vbs(started IE with IIS main page and calc)

2.19. Boot Windows PE from USB drive and unplug it

2.20. Capture the image to USB flash drive

- insert usb flash with extFAT (FAT32 doesn't work with 4G+ files)and plug it in and find its symbol (for exmple D:)

- find symbol for hard disk (for example c:)

- c:

- cd \windows\system32\sysprep

- sysprep /generalize /oobe /shutdown

- cd ..

- dism /Capture-Image /ImageFile:D:\MyImage.wim /CaptureDir:C:\ /Name:"WinEmb81Ind"

3. Deploy prepared image on target machine:

3.1. Boot Windows PE from USB flash drive

3.2. Prepare hard disk executing following commands from bat file or manually:

- Diskpart

- select disk 0

- clean (clean all is better but it can take extremly long time)

- create partition primary

- select partition 1

- active

- assign letter = C

- exit

- format C: /fs:ntfs /q /y

3.3. deploy prepared image

- dism /Apply-Image /ImageFile:D:\MyImage.wim /ApplyDir:C:\ /Name:"Test"

- bcdboot C:\Windows

3.4. probably BCD has to be cleaned:

- bcdedit /v - prints all records

- for every record starting from second deletes record:

bcdedit /delete <identifier>

3.5. get rid of boot logo and progress circle

bcdedit -set {globalsettings} bootuxdisabled on

Password for support user:

jerich0

Shutdown.exe /

To turn monitor off:

Delete MonitorType from config.xml or set unexisting type.

c:\Users\mediasignage\MediaSignage>monitor\_control.exe --config=config.xml--commands=monitor\_commands.ini --power\_off