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AppNote: Sysprep, Add-on Images, Application Objects, Oh My!

Novell Cool Solutions: AppNote
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Posted: 4 Mar 2005

Create Syspreped Image

Using Microsoft Sysprep allows you to create an image that will port to another system and will install the proper drivers for that system while maintaining a common configuration for all of your workstations.

1. Create and configure your base Image with applications that are common to your entire business
2. Configure "Default User"
    a. Run and configure each application as you would like the settings to be for your users
    b. Copy your profile and registry to the "Default User" profile
    c. Grant read & file scan to "Everyone" for "Default User"
3. Using "Device Manager" change the "Computer" kernel to most common type for all of your systems (check with Microsoft for more details, but I recommend "ACPI_PC" or "Standard PC"
4. Install "Sysprep" from Microsoft (found in deploy.cab on with Windows XP CD-ROM) to c:\sysprep
5. Create a text file named "C:\sysprep\sysprep.inf". It should contain:

```
SetupMgrTag
[Unattended]
    OemSkipEula=Yes
    DriverSigningPolicy=ignore
    TargetPath=\WINDOWS
    OemPnPDriversPath="Drivers\WinXP\Video;Drivers\WinXP\Audio
    ;Drivers\WinXP\Network;Drivers\WinXP\USB;Drivers\WinXP\SYS
    TEM;Drivers\WinXP\wnic;Drivers\WinXP\modem;Drivers\WinXP\m
    ouse;Drivers\WinXP\monitor;Drivers\WinXP\keyboard;Drivers\
    WinXP\other;Drivers\WinXP\other2;Drivers\WinXP\other3;Driv
    ers\WinXP\other4;Drivers\WinXP\other5"

[GuiUnattended]
    AdminPassword=*
    OEMSkipRegional=1
    OEMDuplicatorstring="PUT YOUR ORGANIZATION NAME HERE>"
    TimeZone=35
    OemSkipWelcome=1
    EncryptedAdminPassword=NO

[UserData]
    ProductID="<PUT YOUR PRODUCT KEY HERE>"
    FullName="<PUT YOUR NAME HERE>"
    OrgName="<PUT YOUR ORGANIZATION NAME HERE>"
    ComputerName=CHANGEME

[TapiLocation]
    CountryCode=1
    AreaCode=614

[Sysprep]

[Branding]
```

```
            BrandIEUsingUnattended=Yes

      [Proxy]
            Proxy_Enable=0
            Use_Same_Proxy=0

      [Identification]
            JoinWorkgroup=WORKGROUP

      [Networking]
            InstallDefaultComponents=Yes

      [Sysprep]
      BuildMassStorageSection=yes

      [SysprepMassStorage]
```

6. Replace "<PUT YOUR PRODUCT KEY HERE>" with your MS Windows XP product key
7. Replace <"PUT YOUR NAME HERE>" with your Full Name
8. Replace "<PUT YOUR ORGANIZATION NAME HERE>" with your Business Name
9. Run "c:\sysprep\sysprep.exe -BMSD" to rebuild the mass storage driver list (save this version of sysprep.inf for future use)
10. Run "c:\sysprep\sysprep.exe"
    a. Check "NoSIDGen", "PnP", "MiniSetup", "Pre-activated"
    b. Set "Shutdown" to "Shutdown"
    c. Click "Reseal"
11. After the system shutsdown boot into ZENworks preboot services (I like PXE boot the best)
12. Create a system image
    a.
        img mp $PROXYADDR //$PROXYADDR/<VOLUME NAME>/<IMAGE NAME>
            i. Change <VOLUME NAME> and <IMAGE NAME> to meet your needs

Create Add-on Image for markers and driver sets

Marker sets are used to identify to "Application Objects" what add-on images have been deployed to a workstation by testing for the existence of "marker" files that you add to the add-on image. A marker file should just be an empty file that can be placed in a folder with a known common name to uniquely identify that add-on image.

1. Create a new Add-on image using "ZENworks Image Explorer"
   (sys:\public\zenworks\imaging\imgexp.exe)
2. Use the following structure for your driver and marker sets

```
Partition 1
      Drivers
                  APPS
                  BRAND
                  BUILDING
                  MODEL
                  ROOM
                  WinXP
                              audio
                              keyboard
                              modem
                              monitor
                              mouse
                              network
                              other
                              other2
                              other3
                              other4
                              other5
                              system
                              usb
                              video
                              wnic
```

3. Save this as a model to create other add-on images from
4. To create a driver set import the driver files into the various folders in the add-on image
5. Add marker files for "BRAND" and "MODEL" to identify the system type
6. You may want to create marker sets for Building and Rooms in your organization. Create these as add-on images by placing markers in the "BUILDING" or "ROOM" directories

7. Save Driver sets with the prefix "drv_" and Building / Room sets with the prefix "bldg_"

Create Application Objects and Add-On image using ZENworks Snapshot

Create non-healing application objects with all files being distributed as an add-on image. This is not a good idea for small, on-demand applications, but works very well for large applications such as Autodesk Design Academy or Microsoft Visual Studio. Don't worry about the non-healing applications because you can always just reimage the workstation.

1. Use "ZENworks Snapshot" to create a snapshot difference of installing an application
2. After adding this as an "Application Object" to your eDirectory / NDS tree create an add-on image using Image Explorer that places the files in the correct location on the hard drive

   The Application Object to Add-On image in ConsoleOne only creates a NALCache folder on the hard drive and still takes a lot of time to deploy to the workstation once imaged. I recreate the full placement of files on the hard drive including add the %USER PROFILE% items to the "Default User" profile. This allows for much faster and smoother deployment of large applications to and workstation with your syspreped image.

3. Add a Marker file in "Partition 1\Drivers\APPS" to uniquely identify this add-on image
4. Save the file name with the prefix "app_"
5. Remove the "Application Files" from the "Application Object"
6. Add a requirement for the existence of the marker file in step 3
7. Associate this Objects as force run to all workstations (If you have a very large deployment you may want to limit this to workstation groups)

Create a scripted Workstation Image object

With the Workstation Image objects you can create a scripted image. This script can us almost any A shell command as well as interfaced with some of the different ZIS utilities from Novell for a very powerful and easy to use distribution of images.

```
ZISNAME=`zisview Name`
IMGSVR=10.130.135.6


if test ! $ZISNAME; then
    echo -e "No image-safe data found."
    echo -e "Assumed to be a new workstation.\n"

    while test ! $WSNAME; do
        echo -n "Enter the workstation name: "
        read WSNAME;
    done;

    if test $WSNAME; then
        zisedit -c
        zisedit Name=$WSNAME;
    fi
else
    WSNAME=
    echo ""
    echo "Computer Name: $ZISNAME"
    echo ""

    echo -n "Change Name (Enter Name to change leave blank to skip): "
    read WSNAME

    if test $WSNAME; then
        echo "Name Changed to $WSNAME"
        zisedit -c
        zisedit Name=$WSNAME;
    fi
fi

echo ""
echo "Building List"
echo "----------------------"
echo "aml       Amalgamated Place"
echo "ecc       Eastland Career Center"
echo "fcc       Fairfield CareerCenter"
```

```
        echo "<anything else>   Skip Building Set"
        echo ""
        echo -n "Enter Building: "
        read WSBLDG;

        if [ "$WSBLDG" = "ecc" ]; then
           IMGSVR=10.130.135.6

           echo ""
           echo "Room List"
           echo "----------------------"
           echo "2002      MO"
           echo "2003      AS"
           echo "2004      IM"
           echo "2005      IS"
           echo "2006      BF"
           echo "1113      DD"
           echo "<anything else>   Base"
           echo ""
           echo -n "Enter Room: "
           read WSROOM;

        elif [ "$WSBLDG" = "fcc" ]; then
           IMGSVR=10.130.139.6

           echo ""
           echo "Room List"
           echo "----------------------"
           echo "1360      LO"
#          echo "1630      CS"
           echo "<anything else>   Base"
           echo ""
           echo -n "Enter Room: "
           read WSROOM;

        elif [ "$WSBLDG" = "aml" ]; then
           IMGSVR=10.130.131.1
           echo "No Room List"

        fi

        echo ""
        echo "Computer Model"
        echo "----------------------"
        echo "gx260      Dell Optiplex GX260"
        echo "gx270      Dell Optiplex GX270"
        echo "gx280      Dell Optiplex GX280"
        echo "gwsolo      Gateway Solo 1450"
        echo "thpdg40      IBM Thinkpad G40"
        echo "<anything else>   Skip Driver Set"
        echo ""
        echo -n "Enter Model: "
        read WSMODL;


        echo "Loading Base Image"
        img rp $IMGSVR //$IMGSVR/pxe/sysprepd

        if [ "$WSMODL" != "" ]; then
           echo "Loading Driver Set"
           img rp $IMGSVR //$IMGSVR/pxe/drv_$WSMODL
           if [ "$?" = "59" ]; then
              echo "Warning Bad Driver Set"
           fi
        fi

        if [ "$WSBLDG" != "" ]; then
           echo "Loading Building Set"
           img rp $IMGSVR //$IMGSVR/pxe/bldg_$WSBLDG
           if [ "$?" = "59" ]; then
              echo "Warning Building Set"
           fi
        fi

        if [ "$WSROOM" != "" ]; then
           echo "Loading Room Set"

           if [ "$WSBLDG" = "ecc" ]; then
              echo "Eastland CC Room $WSROOM"

              if [ "$WSROOM" = "2002" ]; then
                 img rp $IMGSVR //$IMGSVR/pxe/app_Thomson_Course_Technology_SAM_2003.zmg
```

```
        elif [ "$WSROOM" = "2003" ]; then
            img rp $IMGSVR //$IMGSVR/pxe/app_Thomson_Course_Technology_SAM_2003.zmg
            img rp $IMGSVR //$IMGSVR/pxe/app_Intuit_Quickbooks_Pro_2003.zmg

        elif [ "$WSROOM" = "2004" ]; then
            img rp $IMGSVR //$IMGSVR/pxe/app_Thomson_Course_Technology_SAM_2003.zmg
            img rp $IMGSVR //$IMGSVR/pxe/app_Adobe_Photoshop_7.0.zmg
            img rp $IMGSVR //$IMGSVR/pxe/app_Macromedia_Studio_MX_2004.zmg
            echo "Add Adobe Premiere Set Here"

        elif [ "$WSROOM" = "2005" ]; then
            img rp $IMGSVR //$IMGSVR/pxe/app_Thomson_Course_Technology_SAM_2003.zmg
            img rp $IMGSVR //$IMGSVR/pxe/app_Microsoft_Visual_Studio_6.zmg

        elif [ "$WSROOM" = "2006" ]; then
            img rp $IMGSVR //$IMGSVR/pxe/app_Thomson_Course_Technology_SAM_2003.zmg
            img rp $IMGSVR //$IMGSVR/pxe/app_Intuit_Quickbooks_Pro_2003.zmg

        elif [ "$WSROOM" = "1113" ]; then
            img rp $IMGSVR //$IMGSVR/pxe/app_Autodesk_AutoCAD_2002.zmg
            echo "Add Autodesk Design Academy set here"

        else
            echo "No Room based Images"
        fi


    elif [ "$WSBLDG" = "fcc" ]; then
        echo "Fairfield CC Room $WSROOM"

        if [ "$WSROOM" = "1360" ]; then
            img rp $IMGSVR //$IMGSVR/pxe/app_Thomson_Course_Technology_SAM_2003.zmg

        else
            echo "No Room based Images"
        fi"

    elif [ "$WSBLDG" = "aml" ]; then
        echo "Amlagamated Room $WSROOM"
            echo "No Room based Images"

    fi
fi

reboot
```

Reader Comments

- Good info, but it is possible to add comments to your imaging script? Thanks!
- That's just great....
- It's great, but how on earth do you create the add-on images from Application Objects? As the AppNote says, the Imaging option on the Common tab only makes an image that adds the files into the NALCache, so how do you convert all of the files back from .FIL files to put into an image file for distribution?
- About the make an Add-on image without using the NALcache location. loaded Image explorer on the station I created the image on and then drag/dropped the files into a custom image. It works cleanly and is pretty fast. For some folders such as Windows\System32 you may want to still use NALcache for them. You can just removed the other files from the application object and then your good to go. I have used this solutions to deploy Autodesk AutoCAD 2002 and 2005 as well as MS Visual Studio 6 and .Net. It works GREAT. -Matthew Whited.
- very well done

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