To perform Offline Servicing on a Windows Operating System Image using Microsoft's recommended method, follow these detailed steps:

**1. Prepare the Environment**

**Required Tools**:

**DISM** (Deployment Image Servicing and Management) included in Windows.

**Windows ADK** (Optional for advanced deployment tools).

**Permissions**: Run all commands in an **elevated Command Prompt** (Admin rights).

**Storage**: Ensure sufficient disk space (at least twice the size of the image).

**2. Locate the Windows Image File**

**Source**: Obtain the image (.wim or .esd) from:

Installation media (e.g., sources\install.wim).

A custom-built image.

**Example Path**: C:\images\install.wim.

**3. Gather Updates and Drivers**

**Updates**: Download cumulative updates (.msu) from [Microsoft Update Catalog](https://www.catalog.update.microsoft.com/).

**Drivers**: Collect .inf driver files from hardware vendors.

**4. Check Image Information**

List available editions in the WIM file:

powershell

DISM /Get-WimInfo /WimFile:C:\images\install.wim

Note the **index** of the image to service (e.g., Index 1 for Windows 10 Pro).

**5. Mount the Image**

**Create Mount Folder**:

powershell

mkdir C:\mount

**Mount Command**:

powershell

DISM /Mount-Wim /WimFile:C:\images\install.wim /Index:1 /MountDir:C:\mount /CheckIntegrity

/CheckIntegrity: Validates WIM integrity.

**6. Service the Image**

**A. Apply Updates**

Powershell

DISM /Image:C:\mount /Add-Package /PackagePath:C:\updates\latest\_cumulative.msu

Apply updates in chronological order if multiple.

**B. Add Drivers**

powershell

DISM /Image:C:\mount /Add-Driver /Driver:C:\drivers\ /Recurse

/Recurse: Includes subfolders.

**C. Enable/Disable Features**

powershell

DISM /Image:C:\mount /Enable-Feature /FeatureName:NetFx3

**7. Verify Changes**

**Packages**:

powershell

DISM /Image:C:\mount /Get-Packages

**Drivers**:

powershell

DISM /Image:C:\mount /Get-Drivers

**Features**:

powershell

DISM /Image:C:\mount /Get-Features

**8. Unmount and Commit Changes**

powershell

DISM /Unmount-Wim /MountDir:C:\mount /Commit

**Critical Step**: Ensures changes are saved.

**9. Optional: Export Image (if needed)**

To reduce size or split the image:

powershell

DISM /Export-Image /SourceImageFile:C:\images\install.wim /SourceIndex:1 /DestinationImageFile:C:\images\updated.wim

**10. Test the Serviced Image**

Deploy the updated image to a VM or physical machine using tools like:

**Windows Deployment Services (WDS)**

**Microsoft Deployment Toolkit (MDT)**

Validate functionality, updates, and drivers.

**Best Practices**

**Backup**: Always back up the original image.

**Space Management**: Use /ScratchDir if temporary files need more space.

**Image Health**: Check with DISM /Cleanup-Image /RestoreHealth if errors occur (online image only).

**Compatibility**: Ensure updates/drivers match the image architecture (x64/x86) and version (e.g., Windows 10 21H2).

By following these steps, you ensure a standardized, efficient process for offline image servicing, aligning with Microsoft’s recommendations for enterprise deployment.