

WINDOWS SERVER 2022

After adding language packs, feature packs, cumulative updates, and other completions, components will have new changes, such as obsolete, pending deletion, etc. status. After adding language packs and feature packs to different versions, each language pack and feature pack has its corresponding version. There are not many changes in Windows 11 and Windows 10, but there are big changes when comparing Windows Server 2022 Datacenter and Windows Server 2022 Datacenter (Desktop Experience) versions. See the component analysis report for details.

TABLE OF CONTENTS

One.

Deployment image

A.

Prerequisites

B.

Language package: Extract

C.

Customize the deployment image

D.

Generate ISO

Two.

Known issues

Three.

Component: unchanged

Four.

Component: changes after addition

ONE. DEPLOYMENT IMAGE

A. PREREQUISITES

II ISO tools

Use a software that can edit ISO files, such as: PowerISO, DAEMON Tools, ISO Workshop;

III Get related packages

Learn "[Attachment: OS](#)" and view the "[Windows Server 2022](#)",

1. System installation package

- 1.1. Prepare: [en-us_windows_server_2022_x64_dvd_620d7eac.iso](#)
- 1.2. Unzip to: [D:\en-us_windows_server_2022_x64_dvd_620d7eac](#)
- 1.3. After decompression is complete, change the directory [en-us_windows_server_2022_x64_dvd_620d7eac](#) to [D:\OS2022](#)
- 1.4. All scripts and all paths have been set to [D:\OS2022](#) by default as the image source.

2. Language Pack:

Download language pack: [20348.1.210507-1500.fe_release_amd64fre_SERVER_LOF_PACKAGES_OEM.iso](#)

II When running the PS command line:

1. Optional "Terminal" or "PowerShell ISE", if "Terminal" is not installed, please go to: <https://github.com/microsoft/terminal/releases> After downloading;

2. Open "Terminal" or "PowerShell ISE" as administrator, it is recommended to set the PowerShell execution policy: bypass, PS command line:

```
Set-ExecutionPolicy -ExecutionPolicy Bypass -Force
```

3. In this article, PS command line, green part, please copy it, paste it into the "Terminal" dialog box, press Enter and start running;
4. When there is `.ps1`, right-click the file and select Run with PowerShell, or copy the path and paste it into Terminal to run.

B. LANGUAGE PACKAGE: EXTRACT

II Prepare the language pack

Mounted `20348.1.210507-1500.fe_release_amd64fre_SERVER_LOF_PACKAGES_OEM.iso` or unzip it to any location;

III Execute the extract command

- Extraction language: `Chinese Simplified - China`
- Language tag: `zh-CN`
- Extract language packs for scopes: `Install.wim`, `Boot.wim`, `WinRE.wim`
- `Auto` = automatically search all local disks, default;
- Customize the path, for example, specify the E drive: `$ISO = "E:\"`

Copy the code or view the source file: `Extract.ps1` ([Local](#), [Github](#))

```
$ISO = "Auto"
```

```
Function Extract_Language
```

```
{
```

```
    param
```

```
    (
```

```
        $Package,
```

```
        $SaveTo,
```

```
        $NewPath
```

```
)
```

```
New-Item -Path $SaveTo -ItemType Directory -ErrorAction SilentlyContinue | Out-Null
```

```
if ($NewPath -eq "Auto") {
```

```
    Get-PSDrive -PSProvider FileSystem -ErrorAction SilentlyContinue | ForEach-Object {
```

```
        ForEach ($item in $Language) {
```

```
            $TempFilePath = Join-Path -Path $_.Root -ChildPath $item -ErrorAction SilentlyContinue
```

```
            if (Test-Path $TempFilePath -PathType Leaf) {
```

```
                Write-host "`n Find: " -NoNewLine; Write-host $TempFilePath -ForegroundColor Green
```

```
                Write-host " Copy to: " -NoNewLine; Write-host $SaveTo
```

```
                Copy-Item -Path $TempFilePath -Destination $SaveTo -Force
```

```
            }
```

```
        }
```

```
    }
```

```
} else {
```

```
    ForEach ($item in $Language) {
```

```

$TempFilePath = Join-Path -Path $NewPath -ChildPath $item -ErrorAction SilentlyContinue

Write-host "`n Find: " -NoNewLine; Write-host $TempFilePath -ForegroundColor Green
if (Test-Path $TempFilePath -PathType Leaf) {
    Write-host " Copy to: " -NoNewLine; Write-host $SaveTo
    Copy-Item -Path $TempFilePath -Destination $SaveTo -Force
} else {
    Write-host " Not found"
}
}
}

Write-host "`n Verify the language pack file"
ForEach ($item in $Package) {
    $Path = "$($SaveTo)\${[IO.Path]::GetFileName($item)}"

    if (Test-Path $Path -PathType Leaf) {
        Write-host " Discover: " -NoNewLine
        Write-host $Path -ForegroundColor Green
    } else {
        Write-host " Not found: " -NoNewLine
        Write-host $Path -ForegroundColor Red
    }
}
}

$Language = @(
    "LanguagesAndOptionalFeatures\Microsoft-Windows-LanguageFeatures-Fonts-Hans-Package~31bf3856ad364e35~amd64~~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-Server-Language-Pack_x64_zh-CN.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-LanguageFeatures-Basic-zh-CN-Package~31bf3856ad364e35~amd64~~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-LanguageFeatures-Handwriting-zh-CN-Package~31bf3856ad364e35~amd64~~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-LanguageFeatures-OCR-zh-CN-Package~31bf3856ad364e35~amd64~~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-LanguageFeatures-Speech-zh-CN-Package~31bf3856ad364e35~amd64~~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-LanguageFeatures-TextToSpeech-zh-CN-Package~31bf3856ad364e35~amd64~~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~amd64~zh-CN~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~amd64~zh-CN~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~zh-CN~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~zh-CN~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~amd64~zh-CN~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~zh-CN~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~zh-CN~.cab"
    "LanguagesAndOptionalFeatures\Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab"
)
Extract_Language -Package $Language -SaveTo "D:\OS2022_Custom\Install\Install\Language\zh-CN" -NewPath $ISO

$Language = @(
    "Windows Preinstallation Environment\x64\WinPE_OC\WinPE-FontSupport-zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\lp.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-securestartup_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-atbroker_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-audiocore_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-audiodrivers_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-enhancedstorage_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-narrator_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-scripting_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-speech-tts_zh-CN.cab"

```

```

"Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-srh_zh-CN.cab"
"Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-srt_zh-CN.cab"
"Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-wds-tools_zh-CN.cab"
"Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-wmi_zh-CN.cab"
"Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-appxpackaging_zh-CN.cab"
"Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-storagewmi_zh-CN.cab"
"Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-wifi_zh-CN.cab"
"Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-rejuv_zh-CN.cab"
"Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-opcservices_zh-CN.cab"
"Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-hta_zh-CN.cab"
)
Extract_Language -Package $Language -SaveTo "D:\OS2022_Custom\Install\WinRE\Language\zh-CN" -NewPath $ISO

$Language = @(
    "Windows Preinstallation Environment\x64\WinPE_OC\WinPE-FontSupport-zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\lp.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\WinPE-Setup_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\WINPE-SETUP-Server_zh-CN.CAB"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-securestartup_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-atbroker_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-audiocore_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-audiodrivers_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-enhancedstorage_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-narrator_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-scripting_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-speech-tts_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-srh_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-srt_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-wds-tools_zh-CN.cab"
    "Windows Preinstallation Environment\x64\WinPE_OC\zh-CN\winpe-wmi_zh-CN.cab"
)
Extract_Language -Package $Language -SaveTo "D:\OS2022_Custom\Boot\Boot\Language\zh-CN" -NewPath $ISO

```

C. Customize the deployment image

II Custom deployment image: Install.wim

1. View Install.wim details

Image name, image description, image size, architecture, version, index number, etc.;

```

$ViewFile = "D:\OS2022\Sources\Install.wim"
Get-WindowsImage -ImagePath $ViewFile | Foreach-Object {
    Get-WindowsImage -ImagePath $ViewFile -index $_.ImageIndex
}

```

2. Create a mount to path, Mount install.wim

```
New-Item -Path "D:\OS2022_Custom\Install\Install\Mount" -ItemType directory -ea SilentlyContinue
```

CYCLIC OPERATION AREA, START,

3. Start mounting Install.wim

Default index number: 1

```
$Index = "1"
```

```
Mount-WindowsImage -ImagePath "D:\OS2022\sources\install.wim" -Index $Index -Path "D:\OS2022_Custom\Install\Install\Mount"
```

PROCESS FILES INSIDE THE INSTALL.WIM IMAGE, OPTIONALLY, START

3.1. Custom deployment image: WinRE.wim

WARNING:

- WinRE.wim is a file within the Install.wim image;
- When Install.wim has multiple index numbers, only process any WinRE.wim;
- Synchronizing to all index numbers reduces the Install.wim volume; Learn "[How to bulk replace WinRE.wim in all index numbers in Install.wim](#)".

3.1.1. View WinRE.wim details

Image name, image description, image size, architecture, version, index number, etc.;

```
$ViewFile = "D:\OS2022_Custom\Install\Install\Mount\Windows\System32\Recovery\WinRE.wim"
Get-WindowsImage -ImagePath $ViewFile | Foreach-Object {
    Get-WindowsImage -ImagePath $ViewFile -index $_.ImageIndex
}
```

3.1.2. Specify the path to mount WinRE.wim

```
New-Item -Path "D:\OS2022_Custom\Install\WinRE\Mount" -ItemType directory -ea SilentlyContinue
```

3.1.3. Start mounting WinRE.wim

Default index number: 1

```
$Index = "1"
$Mount =
$FileName = "D:\OS2022_Custom\Install\Install\Mount\Windows\System32\Recovery\WinRE.wim"
Mount-WindowsImage -ImagePath $FileName -Index $Index -Path "D:\OS2022_Custom\Install\WinRE\Mount"
```

3.1.4. Language pack

Automatically install language packs: Match by component. After successful matching, install the corresponding local language pack file.

3.1.4.1. Language pack: add

Copy the code or view the source file: [WinRE.Instl.lang.ps1](#) ([Local](#), [Github](#))

```
$Mount = "D:\OS2022_Custom\Install\WinRE\Mount"
$Sources = "D:\OS2022_Custom\Install\WinRE\Language\zh-CN"

$Initl_install_Language_Component = @()
Get-WindowsPackage -Path $Mount | ForEach-Object {
    $Initl_install_Language_Component += $_.PackageName
}

Add-WindowsPackage -Path $Mount -PackagePath "$($Sources)\WinPE-FontSupport-zh-CN.cab"
```

```

$Language_List = @(
    @{ Match = "*WinPE-LanguagePack-Package*"; File = "lp.cab"; }
    @{ Match = "*SecureStartup*"; File = "winpe-securestartup_zh-CN.cab"; }
    @{ Match = "*ATBroker*"; File = "winpe-atbroker_zh-CN.cab"; }
    @{ Match = "*AudioCore*"; File = "winpe-audiocore_zh-CN.cab"; }
    @{ Match = "*AudioDrivers*"; File = "winpe-audiodrivers_zh-CN.cab"; }
    @{ Match = "*EnhancedStorage*"; File = "winpe-enhancedstorage_zh-CN.cab"; }
    @{ Match = "*Narrator*"; File = "winpe-narrator_zh-CN.cab"; }
    @{ Match = "*scripting*"; File = "winpe-scripting_zh-CN.cab"; }
    @{ Match = "*Speech-TTS*"; File = "winpe-speech-tts_zh-CN.cab"; }
    @{ Match = "*srh*"; File = "winpe-srh_zh-CN.cab"; }
    @{ Match = "*srt*"; File = "winpe-srt_zh-CN.cab"; }
    @{ Match = "*wds-tools*"; File = "winpe-wds-tools_zh-CN.cab"; }
    @{ Match = "*-WMI-Package*"; File = "winpe-wmi_zh-CN.cab"; }
    @{ Match = "*WinPE-AppxPackaging*"; File = "winpe-appxpackaging_zh-CN.cab"; }
    @{ Match = "*StorageWMI*"; File = "winpe-storagewmi_zh-CN.cab"; }
    @{ Match = "*WiFi*"; File = "winpe-wifi_zh-CN.cab"; }
    @{ Match = "*rejuv*"; File = "winpe-rejuv_zh-CN.cab"; }
    @{ Match = "*opcservices*"; File = "winpe-opcservices_zh-CN.cab"; }
    @{ Match = "*hta*"; File = "winpe-hta_zh-CN.cab"; }
)

ForEach ($Rule in $Language_List) {
    Write-host "`n Rule name: $($Rule.Match)" -ForegroundColor Yellow; Write-host "  $('-' * 80)"
    ForEach ($Component in $Initl_install_Language_Component) {
        if ($Component -like "*$($Rule.Match)*") {
            Write-host "  Component name: " -NoNewline
            Write-host $Component -ForegroundColor Green
            Write-host "  Language pack file: " -NoNewline
            Write-host $Rule.File -ForegroundColor Green

            Write-Host "  Installing ".PadRight(22) -NoNewline
            try {
                Add-WindowsPackage -Path $Mount -PackagePath "$($Sources)\$($Rule.File)" | Out-Null
                Write-host "Finish" -ForegroundColor Green
            } catch {
                Write-host "Failed" -ForegroundColor Red
            }

            break
        }
    }
}

```

3.1.4.2. Offline image language: change

3.1.4.2.1. Change default language, regional settings, and other international settings

```
Dism /Image:"D:\OS2022_Custom\Install\WinRE\Mount" /Set-AllIntl:zh-CN
```

3.1.4.2.2. View available language settings

```
Dism /Image:"D:\OS2022_Custom\Install\WinRE\Mount" /Get-Intl
```

3.1.4.3. Components

3.1.4.3.1. View

```
Get-WindowsPackage -Path "D:\OS2022_Custom\Install\WinRE\Mount" | Out-GridView
```

3.1.4.3.2. Export to Csv

```
$SaveTo = "D:\OS2022_Custom\Install\WinRE\Report.$(Get-Date -Format
"yyyyMMddHHmmss").csv"
Get-WindowsPackage -Path "D:\OS2022_Custom\Install\WinRE\Mount" | Export-CSV -
NoType -Path $SaveTo
Write-host $SaveTo -ForegroundColor Green
```

3.1.5. Update, optional

3.1.6. Driver, optional

3.1.7. Save image

```
Save-WindowsImage -Path "D:\OS2022_Custom\Install\WinRE\Mount"
```

3.1.8. Unmount image

```
Dismount-WindowsImage -Path "D:\OS2022_Custom\Install\WinRE\Mount" -Discard
```

3.1.9. After rebuilding WinRE.wim, the file size can be reduced

Copy the code or view the source file: [WinRE.Rebuild.ps1](#) ([Local](#), [Github](#))

```
$FileName = "D:\OS2022_Custom\Install\Install\Mount\Windows\System32\Recovery\WinRE.wim"
Get-WindowsImage -ImagePath $Filename -ErrorAction SilentlyContinue | ForEach-Object {
    Write-Host " Image name: " -NoNewline
    Write-Host $_.ImageName -ForegroundColor Yellow
    Write-Host " The index number: " -NoNewline
    Write-Host $_.ImageIndex -ForegroundColor Yellow

    Write-Host "`n Rebuilding ".PadRight(28) -NoNewline
    Export-WindowsImage -SourceImagePath $Filename -SourceIndex $_.ImageIndex -DestinationImagePath
"$($FileName).New" -CompressionType max
    Write-Host "Finish`n" -ForegroundColor Green
}

if (Test-Path "$($FileName).New" -PathType Leaf) {
    Remove-Item -Path $Filename
    Move-Item -Path "$($FileName).New" -Destination $Filename
    Write-Host "Finish" -ForegroundColor Green
} else {
    Write-host "Failed" -ForegroundColor Red
}
```

3.1.10. Backup WinRE.wim

Copy the code or view the source file: [WinRE.Backup.ps1](#) ([Local](#), [Github](#))

```
$WimLibPath = "D:\OS2022_Custom\Install\Install\Update\Winlib"
$FileName = "D:\OS2022_Custom\Install\Install\Mount\Windows\System32\Recovery\WinRE.wim"
```



```
New-Item -Path $WimLibPath -ItemType Directory -ea SilentlyContinue
Copy-Item -Path $FileName -Destination $WimLibPath -Force
```

3.1.11. Replace WinRE.wim within the Install.wim image

- After each installation of Install.wim, use item "[Replace the WinRE.wim](#)";
- Learning "[After obtaining all the index numbers of Install.wim and replace the old WinRE.wim](#)".

PROCESS FILES INSIDE THE INSTALL.WIM IMAGE, END

4. Language pack

Automatically install language packs: Match by component. After successful matching, install the corresponding local language pack file.

4.1. Language pack: add

Copy the code or view the source file: [Install.Instl.lang.ps1](#) ([Local](#), [Github](#))

```
$Mount = "D:\OS2022_Custom\Install\Install\Mount"
$Sources = "D:\OS2022_Custom\Install\Install\Language\zh-CN"

$Initl_install_Language_Component = @()
Get-WindowsPackage -Path $Mount | ForEach-Object {
    $Initl_install_Language_Component += $_.PackageName
}

Add-WindowsPackage -Path $Mount -PackagePath "$($Sources)\Microsoft-Windows-LanguageFeatures-Fonts-Hans-
Package~31bf3856ad364e35~amd64~~.cab"

$Language_List = @(
    @{ Match = "*Server-LanguagePack-Package*"; File = "Microsoft-Windows-Server-Language-Pack_x64_zh-CN.cab"; }
    @{ Match = "*LanguageFeatures-Basic*"; File = "Microsoft-Windows-LanguageFeatures-Basic-zh-CN-
Package~31bf3856ad364e35~amd64~~.cab"; }
    @{ Match = "*Handwriting*"; File = "Microsoft-Windows-LanguageFeatures-Handwriting-zh-CN-
Package~31bf3856ad364e35~amd64~~.cab"; }
    @{ Match = "*OCR*"; File = "Microsoft-Windows-LanguageFeatures-OCR-zh-CN-
Package~31bf3856ad364e35~amd64~~.cab"; }
    @{ Match = "*LanguageFeatures-Speech*"; File = "Microsoft-Windows-LanguageFeatures-Speech-zh-CN-
Package~31bf3856ad364e35~amd64~~.cab"; }
    @{ Match = "*TextToSpeech*"; File = "Microsoft-Windows-LanguageFeatures-TextToSpeech-zh-CN-
Package~31bf3856ad364e35~amd64~~.cab"; }
    @{ Match = "*MSPaint*amd64*"; File = "Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~amd64~zh-
CN~.cab"; }
    @{ Match = "*MSPaint*wow64*"; File = "Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~wow64~zh-
CN~.cab"; }
    @{ Match = "*Notepad*amd64*"; File = "Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~amd64~zh-
CN~.cab"; }
    @{ Match = "*Notepad*wow64*"; File = "Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~wow64~zh-
CN~.cab"; }
    @{ Match = "*PowerShell*amd64*"; File = "Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~zh-
CN~.cab"; }
    @{ Match = "*PowerShell*wow64*"; File = "Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~zh-
CN~.cab"; }
```



```

        @{ Match = "*StepsRecorder*amd64*"; File = "Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~amd64~zh-CN~.cab"; }

        @{ Match = "*StepsRecorder*wow64*"; File = "Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~zh-CN~.cab"; }

        @{ Match = "*WordPad*amd64*"; File = "Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~zh-CN~.cab"; }

        @{ Match = "*WordPad*wow64*"; File = "Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab"; }
    )

    ForEach ($Rule in $Language_List) {
        Write-host "`n Rule name: $($Rule.Match)" -ForegroundColor Yellow; Write-host "  $('-' * 80)"

        ForEach ($Component in $Initl_install_Language_Component) {
            if ($Component -like "*$($Rule.Match)*") {
                Write-host "  Component name: " -NoNewline
                Write-host $Component -ForegroundColor Green
                Write-host "  Language pack file: " -NoNewline
                Write-host $Rule.File -ForegroundColor Green

                Write-Host "  Installing ".PadRight(22) -NoNewline
                try {
                    Add-WindowsPackage -Path $Mount -PackagePath "$($Sources)\$($Rule.File)" | Out-Null
                    Write-host "Finish" -ForegroundColor Green
                    break
                } catch {
                    Write-host "Failed" -ForegroundColor Red
                }
            }
        }
    }
}

```

4.2. Offline image language: change

- Starting Windows 11, the [default System UI Language](#) set by DISM is left unaltered on all editions except for Home edition. For all [commercial editions](#) the language chosen during the Out-of-Box Experience (OOBE) is set as the [System Preferred UI language](#) and Windows will be displayed in this language and for Home edition the language chosen at OOBE will continue to be the default System UI Language.
- As of Windows 10, version 2004, if an .appx-based Language Experience Pack (LXP) backed language is passed as an argument then the language will be set as the System Preferred UI language and its parent language will be set as the Default System UI language. In prior versions only .cab based language packs were supported.

4.2.1. Change default language, regional settings, and other international settings

```
Dism /Image:"D:\OS2022_Custom\Install\Install\Mount" /Set-AllIntl:zh-CN
```

4.2.2. View available language settings

```
Dism /Image:"D:\OS2022_Custom\Install\Install\Mount" /Get-Intl
```

4.3. Components

4.3.1. View

```
Get-WindowsPackage -Path "D:\OS2022_Custom\Install\Install\Mount" | Out-GridView
```

4.3.2. Export to Csv

```
$SaveTo = "D:\OS2022_Custom\Install\Install\Report.$(Get-Date -Format "yyyyMMddHHmmss").csv"
Get-WindowsPackage -Path "D:\OS2022_Custom\Install\Install\Mount" | Export-CSV -NoType -Path $SaveTo
Write-host $SaveTo -ForegroundColor Green
```

5. Updates, optional

5.1. Download

Check the "[Windows Server 2022 Update History](#)", for example, install the cumulative update: KB5030216

Go to the download page: <https://www.catalog.update.microsoft.com/Search.aspx?q=Kb5030216> Or "[Direct download](#)" (If you cannot download, please go to the download page), save to

[D:\OS2022_Custom\Install\Install\Update\windows10.0-kb5030216-x64_cbe587155f9818548b75f65d5cd41d341ed2fc61.msu](#)

5.2. Add

```
$KBPath = "D:\OS2022_Custom\Install\Install\Update\windows10.0-kb5030216-
x64_cbe587155f9818548b75f65d5cd41d341ed2fc61.msu"
Add-WindowsPackage -Path "D:\OS2022_Custom\Install\Install\Mount" -PackagePath $KBPath
```

5.3. Solid update, optional

```
Dism /Image:"D:\OS2022_Custom\Install\Install\Mount" /cleanup-image /StartComponentCleanup
```

5.3.1. Clean up components after curing updates

Copy the code or view the source file: [Install.Update.Curing.ps1](#) ([Local](#), [Github](#))

```
$Mount = "D:\OS2022_Custom\Install\Install\Mount"
Get-WindowsPackage -Path $Mount -ErrorAction SilentlyContinue | ForEach-Object {
    if ($_.PackageState -eq "Superseded"){
        Write-Host "  $($_.PackageName)" -ForegroundColor Green
        Remove-WindowsPackage -Path $Mount -PackageName $_.PackageName | Out-Null
    }
}
```

6. Drive, optional

7. Health

Check whether there is any damage before saving. When the health status is abnormal, abort saving

```
Repair-WindowsImage -Path "D:\OS2022_Custom\Install\Install\Mount" -ScanHealth
```

8. Replace the WinRE.wim

WinRE.wim in all index numbers in Install.wim has been replaced in batches. Please skip this step.

```
$WinRE = "D:\OS2022_Custom\Install\Install\Update\Winlib\WinRE.wim"
$CopyTo = "D:\OS2022_Custom\Install\Install\Mount\Windows\System32\Recovery"
Copy-Item -Path $WinRE -Destination $CopyTo -Force
```

9. Save image

```
Save-WindowsImage -Path "D:\OS2022_Custom\Install\Install\Mount"
```

10. Unmount image

```
Dismount-WindowsImage -Path "D:\OS2022_Custom\Install\Install\Mount" -Discard
```

CYCLIC OPERATION AREA, END.

11. Replace WinRE.wim in all index numbers in Install.wim

11.1. Get WimLib

After going to the official website of <https://wimlib.net>, select a different version: [arm64](#), [x64](#), [x86](#), and extract it to: [D:Wimlib](#) after downloading.

11.2. How to extract and update WinRE.wim in Install.wim

11.2.1. Extract the WinRE.wim file from Install.wim

Copy the code or view the source file: [Install.WinRE.Extract.ps1](#) ([Local](#), [Github](#))

```
$Arguments = @(
    "extract",
    "D:\OS2022\sources\install.wim", "1",
    "\Windows\System32\Recovery\Winre.wim",
    "--dest-dir=""D:\OS2022_Custom\Install\Install\Update\Winlib""
)
```

```
New-Item -Path "D:\OS2022_Custom\Install\Install\Update\Winlib" -ItemType Directory -ea SilentlyContinue
Start-Process -FilePath "d:\wimlib\wimlib-imagex.exe" -ArgumentList $Arguments -wait -nonewwindow
```

11.2.2. After getting all index numbers of Install.wim and replacing the old WinRE.wim

Copy the code or view the source file: [Install.WinRE.Replace.wim.ps1](#) ([Local](#), [Github](#))

```
Get-WindowsImage -ImagePath "D:\OS2022\sources\install.wim" -ErrorAction SilentlyContinue | ForEach-Object {
    Write-Host " Image name: " -NoNewline
    Write-Host $_.ImageName -ForegroundColor Yellow
    Write-Host " The index number: " -NoNewline
    Write-Host $_.ImageIndex -ForegroundColor Yellow

    Write-Host "`n Replacement "
    $Arguments = @(
        "update",
        "D:\OS2022\sources\install.wim",
        $_.ImageIndex,
        "--command=""add 'D:\OS2022_Custom\Install\Install\Update\Winlib\WinRE.wim'
        '\Windows\System32\Recovery\WinRe.wim'""
    )
```

```

    )

    Start-Process -FilePath "d:\wimlib\wimlib-image.exe" -ArgumentList $Arguments -wait -nonewwindow
    Write-Host "  Finish`n" -ForegroundColor Green
  }
}

```

12. Rebuilding Install.wim reduces file size

Copy the code or view the source file: [Install.Rebuild.wim.ps1](#) ([Local](#), [Github](#))

```

$InstallWim = "D:\OS2022\sources\install.wim"
Get-WindowsImage -ImagePath $InstallWim -ErrorAction SilentlyContinue | ForEach-Object {
    Write-Host "  Image name: " -NoNewline
    Write-Host $_.ImageName -ForegroundColor Yellow
    Write-Host "  The index number: " -NoNewline
    Write-Host $_.ImageIndex -ForegroundColor Yellow

    Write-Host "`n  Rebuilding".PadRight(28) -NoNewline
    Export-WindowsImage -SourceImagePath $InstallWim -SourceIndex $_.ImageIndex -DestinationImagePath "$($InstallWim).New" -
    CompressionType max | Out-Null
    Write-Host "Finish`n" -ForegroundColor Green
}

if (Test-Path "$($InstallWim).New" -PathType Leaf) {
    Remove-Item -Path $InstallWim
    Move-Item -Path "$($InstallWim).New" -Destination $InstallWim
    Write-Host "Finish" -ForegroundColor Green
} else {
    Write-host "Failed" -ForegroundColor Red
}

```

III Custom deployment image: boot.wim

1. View Boot.wim details

Image name, image description, image size, architecture, version, index number, etc.;

```

$ViewFile = "D:\OS2022\Sources\Boot.wim"
Get-WindowsImage -ImagePath $ViewFile | Foreach-Object {
    Get-WindowsImage -ImagePath $ViewFile -index $_.ImageIndex
}

```

2. Specify the path to mount Boot.wim

```

New-Item -Path "D:\OS2022_Custom\Boot\Boot\Mount" -ItemType directory -ea SilentlyContinue

```

3. Start mounting Boot.wim

Default index number: 2

```

$Index = "2"
Mount-WindowsImage -ImagePath "D:\OS2022\sources\boot.wim" -Index $Index -Path "D:\OS2022_Custom\Boot\Boot\Mount"

```

4. Language pack

Automatically install language packs: Match by component. After successful matching, install the corresponding local language pack file.

4.1. Language pack: add

Copy the code or view the source file: [Boot.Instl.lang.ps1](#) ([Local](#), [Github](#))

```
$Mount = "D:\OS2022_Custom\Boot\Boot\Mount"
$Sources = "D:\OS2022_Custom\Boot\Boot\Language\zh-CN"

$Initl_install_Language_Component = @()
Get-WindowsPackage -Path $Mount | ForEach-Object {
    $Initl_install_Language_Component += $_.PackageName
}

Add-WindowsPackage -Path $Mount -PackagePath "$($Sources)\WinPE-FontSupport-zh-CN.cab"

$Language = @(
    @{ Match = "*WinPE*Setup*Server*Package*"; File = "WINPE-SETUP-Server_zh-CN.CAB"; }
    @{ Match = "*WinPE*Setup*Package*"; File = "WinPE-Setup_zh-CN.cab"; }
    @{ Match = "*WinPE-LanguagePack-Package*"; File = "lp.cab"; }
    @{ Match = "*SecureStartup*"; File = "winpe-securestartup_zh-CN.cab"; }
    @{ Match = "*ATBroker*"; File = "winpe-atbroker_zh-CN.cab"; }
    @{ Match = "*AudioCore*"; File = "winpe-audiocore_zh-CN.cab"; }
    @{ Match = "*AudioDrivers*"; File = "winpe-audiodrivers_zh-CN.cab"; }
    @{ Match = "*EnhancedStorage*"; File = "winpe-enhancedstorage_zh-CN.cab"; }
    @{ Match = "*Narrator*"; File = "winpe-narrator_zh-CN.cab"; }
    @{ Match = "*scripting*"; File = "winpe-scripting_zh-CN.cab"; }
    @{ Match = "*Speech-TTS*"; File = "winpe-speech-tts_zh-CN.cab"; }
    @{ Match = "*srh*"; File = "winpe-srh_zh-CN.cab"; }
    @{ Match = "*srt*"; File = "winpe-srt_zh-CN.cab"; }
    @{ Match = "*wds-tools*"; File = "winpe-wds-tools_zh-CN.cab"; }
    @{ Match = "*-WMI-Package*"; File = "winpe-wmi_zh-CN.cab"; }
)

ForEach ($Rule in $Language) {
    Write-host "`n Rule name: $($Rule.Match)" -ForegroundColor Yellow; Write-host " $('-' * 80)"
    ForEach ($Component in $Initl_install_Language_Component) {
        if ($Component -like "*$($Rule.Match)*") {
            Write-host " Component name: " -NoNewline
            Write-host $Component -ForegroundColor Green
            Write-host " Language pack file: " -NoNewline
            Write-host $Rule.File -ForegroundColor Green

            Write-Host " Installing ".PadRight(22) -NoNewline
            try{
                Add-WindowsPackage -Path $Mount -PackagePath "$($Sources)\$($Rule.File)" | Out-Null
                Write-host "Finish" -ForegroundColor Green
            } catch {
                Write-host "Failed" -ForegroundColor Red
            }
        }

        break
    }
}
}
```

4.2. Offline image language: change

4.2.1. Change default language, regional settings, and other international settings

```
Dism /Image:"D:\OS2022_Custom\Boot\Boot\Mount" /Set-AllIntl:zh-CN
```

4.2.2. View available language settings

```
Dism /Image:"D:\OS2022_Custom\Boot\Boot\Mount" /Get-Intl
```

4.3. Components

4.3.1. View

```
Get-WindowsPackage -Path "D:\OS2022_Custom\Boot\Boot\Mount" | Out-GridView
```

4.3.2. Export to Csv

```
$SaveTo = "D:\OS2022_Custom\Boot\Boot\Report.$(Get-Date -Format "yyyyMMddHHmmss").csv"
Get-WindowsPackage -Path "D:\OS2022_Custom\Boot\Boot\Mount" | Export-CSV -NoType -Path $SaveTo
Write-host $SaveTo -ForegroundColor Green
```

4.4. Language packs: sync to ISO installer

```
Copy-Item -Path "D:\OS2022_Custom\Boot\Boot\Mount\sources\zh-CN" -Destination "D:\OS2022\sources\zh-CN" -Recurse -Force
```

4.5. Regenerate Lang.ini

After regeneration, you can adjust the "Installation Interface", the order when selecting "Language", open lang.ini, the default preferred value = 3, non-default value = 2.

4.5.1. Regenerate the mounted directory lang.ini

```
Re-generated Lang.ini file location: D:\OS2022_Custom\Boot\Boot\Mount\Sources\lang.ini

Dism /image:"D:\OS2022_Custom\Boot\Boot\Mount" /gen-langini
/distribution:"D:\OS2022_Custom\Boot\Boot\Mount"
```

4.5.2. After regenerating lang.ini, synchronize to the installer

```
Re-generated Lang.ini file location: D:\OS2022\Sources\lang.ini

Dism /image:"D:\OS2022_Custom\Boot\Boot\Mount" /gen-langini /distribution:"D:\OS2022"
```

5. Updates, optional

6. Drive, optional

7. Save image

```
Save-WindowsImage -Path "D:\OS2022_Custom\Boot\Boot\Mount"
```

8. Unmount image

```
Dismount-WindowsImage -Path "D:\OS2022_Custom\Boot\Boot\Mount" -Discard
```

D. Generate ISO

II After downloading oscdimg, save it to: C:\Windows\System32 directory, save it in another path, or please enter the absolute location of OScdimg.exe;

III Use the oscdimg command line to generate an ISO file and save it to: [D:\WS2022.iso](#)

Copy the code or view the source file: [ISO.ps1](#) ([Local](#), [Github](#))

```
$ISO = "D:\Win2022"
$Volume = "Win2022"
$SaveTo = "D:\Win2022.iso"
$Arguments = @("-m", "-o", "-u2", "-udfver102", "-l" "$($Volume)", "-bootdata:2#p0,e,b" "$($ISO)\boot\etfsboot.com" "#pEF,e,b" "$($ISO)\efi\microsoft\boot\efisys.bin", $ISO, $SaveTo)
Start-Process -FilePath "OSCdimg.exe" -ArgumentList $Arguments -wait -nonewwindow
```

TWO. KNOWN ISSUES

1. Add Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~zh-CN~.cab to Windows Server 2022 Standard Core, Windows Server 2022 Datacenter Core will add Microsoft-Windows-PowerShell-ISE-FOD -Package~31bf3856ad364e35~amd64~zh-CN~10.0.20348.1, an error will be reported when deleting it, and the operation is not recommended for the time being.

THREE. COMPONENT: UNCHANGED

System installation package: en-us_windows_server_2022_x64_dvd_620d7eac.iso, different versions, component list:

SN	TYPE	WINDOWS SERVER 2022 STANDARD (DESKTOP EXPERIENCE), WINDOWS SERVER 2022 DATACENTER (DESKTOP EXPERIENCE)	WINDOWS SERVER 2022 STANDARD CORE, WINDOWS SERVER 2022 DATACENTER CORE
1		Downlevel-NLS-Sorting-Versions-Server-FoD-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Downlevel-NLS-Sorting-Versions-Server-FoD-Package~31bf3856ad364e35~amd64~~10.0.20348.1
2		Downlevel-NLS-Sorting-Versions-Server-FoD-Package~31bf3856ad364e35~wow64~~10.0.20348.1	Downlevel-NLS-Sorting-Versions-Server-FoD-Package~31bf3856ad364e35~wow64~~10.0.20348.1
3		Microsoft-OneCore-DirectX-Database-FOD-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-OneCore-DirectX-Database-FOD-Package~31bf3856ad364e35~amd64~~10.0.20348.1
4		Microsoft-OneCore-RasSstp-API-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-OneCore-RasSstp-API-Package~31bf3856ad364e35~amd64~~10.0.20348.1
5		Microsoft-Windows-FodMetadata-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-Windows-FodMetadata-Package~31bf3856ad364e35~amd64~~10.0.20348.1
6		Microsoft-Windows-Foundation-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-Windows-Foundation-Package~31bf3856ad364e35~amd64~~10.0.20348.1
7		Microsoft-Windows-InternetExplorer-Optional-Package~31bf3856ad364e35~amd64~~11.0.20348.1	
8		Microsoft-Windows-InternetExplorer-Optional-Package~31bf3856ad364e35~amd64~~11.0.20348.75	
9		Microsoft-Windows-LanguageFeatures-Basic-en-us-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-Windows-LanguageFeatures-Basic-en-us-Package~31bf3856ad364e35~amd64~~10.0.20348.1
10		Microsoft-Windows-LanguageFeatures-Handwriting-en-us-Package~31bf3856ad364e35~amd64~~10.0.20348.1	
11		Microsoft-Windows-LanguageFeatures-OCR-en-us-Package~31bf3856ad364e35~amd64~~10.0.20348.1	
12		Microsoft-Windows-LanguageFeatures-Speech-en-us-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-Windows-LanguageFeatures-Speech-en-us-Package~31bf3856ad364e35~amd64~~10.0.20348.1
13		Microsoft-Windows-LanguageFeatures-TextToSpeech-en-us-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-Windows-LanguageFeatures-TextToSpeech-en-us-Package~31bf3856ad364e35~amd64~~10.0.20348.1
14		Microsoft-Windows-MediaPlayer-Package~31bf3856ad364e35~amd64~~10.0.20348.1	
15		Microsoft-Windows-MediaPlayer-Package~31bf3856ad364e35~amd64~~10.0.20348.169	
16		Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.1	Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.1
17		Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~amd64~~10.0.20348.1	

SN	TYPE	WINDOWS SERVER 2022 STANDARD (DESKTOP EXPERIENCE), WINDOWS SERVER 2022 DATACENTER (DESKTOP EXPERIENCE)	WINDOWS SERVER 2022 STANDARD CORE, WINDOWS SERVER 2022 DATACENTER CORE
18		Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~wow64~en-US~10.0.20348.1	Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~wow64~en-US~10.0.20348.1
19		Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~wow64~~10.0.20348.1	
20		Microsoft-Windows-Networking-RemoteAccess-PowerShell-Base-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.1	Microsoft-Windows-Networking-RemoteAccess-PowerShell-Base-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.1
21		Microsoft-Windows-Networking-RemoteAccess-PowerShell-Base-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-Windows-Networking-RemoteAccess-PowerShell-Base-Package~31bf3856ad364e35~amd64~~10.0.20348.1
22		Microsoft-Windows-Networking-RemoteAccess-PowerShell-Base-Package~31bf3856ad364e35~amd64~~10.0.20348.143	Microsoft-Windows-Networking-RemoteAccess-PowerShell-Base-Package~31bf3856ad364e35~amd64~~10.0.20348.143
23		Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~amd64~~10.0.20348.1	
24		Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.1	Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.1
25		Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~wow64~~10.0.20348.1	
26		Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~wow64~en-US~10.0.20348.1	Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~wow64~en-US~10.0.20348.1
27		Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.1	
28		Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~~10.0.20348.1	
29		Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~en-US~10.0.20348.1	
30		Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~~10.0.20348.1	
31		Microsoft-Windows-Server-LanguagePack-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.1	Microsoft-Windows-Server-LanguagePack-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.1
32		Microsoft-Windows-Server-LanguagePack-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.169	Microsoft-Windows-Server-LanguagePack-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.169
33		Microsoft-Windows-ServerCore-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-Windows-ServerCore-Package~31bf3856ad364e35~amd64~~10.0.20348.1
34		Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.1	
35		Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~amd64~~10.0.20348.1	

SN	TYPE	WINDOWS SERVER 2022 STANDARD (DESKTOP EXPERIENCE), WINDOWS SERVER 2022 DATACENTER (DESKTOP EXPERIENCE)	WINDOWS SERVER 2022 STANDARD CORE, WINDOWS SERVER 2022 DATACENTER CORE
36		Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~en-US~10.0.20348.1	
37		Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~~10.0.20348.1	
38		Microsoft-Windows-TabletPCMath-Package~31bf3856ad364e35~amd64~~10.0.20348.1	
39		Microsoft-Windows-TabletPCMath-Package~31bf3856ad364e35~amd64~~10.0.20348.143	
40		Microsoft-Windows-UserExperience-Desktop-Package~31bf3856ad364e35~amd64~~10.0.20348.1	
41		Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.1	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~en-US~10.0.20348.1
42		Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~~10.0.20348.1
43		Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~en-US~10.0.20348.1	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~en-US~10.0.20348.1
44		Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~~10.0.20348.1	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~~10.0.20348.1
45		Microsoft-Windows-Xps-Xps-Viewer-Opt-Package~31bf3856ad364e35~amd64~~10.0.20348.1	
46		OpenSSH-Client-Package~31bf3856ad364e35~amd64~~10.0.20348.1	OpenSSH-Client-Package~31bf3856ad364e35~amd64~~10.0.20348.1
47		Package_for_DotNetRollup~31bf3856ad364e35~amd64~~10.0.4400.	Package_for_DotNetRollup~31bf3856ad364e35~amd64~~10.0.4400.1
48		Package_for_RollupFix~31bf3856ad364e35~amd64~~20348.169.1.7	Package_for_RollupFix~31bf3856ad364e35~amd64~~20348.169.1.7
49		Package_for_ServicingStack~31bf3856ad364e35~amd64~~20348.169.1.1	Package_for_ServicingStack~31bf3856ad364e35~amd64~~20348.169.1.1

FOUR. COMPONENT: CHANGES AFTER ADDITION

SN	TYPE	WINDOWS SERVER 2022 STANDARD (DESKTOP EXPERIENCE), WINDOWS SERVER 2022 DATACENTER (DESKTOP EXPERIENCE)	WINDOWS SERVER 2022 STANDARD CORE, WINDOWS SERVER 2022 DATACENTER CORE
1	Fonts	Microsoft-Windows-LanguageFeatures-Fonts-Hans-Package~31bf3856ad364e35~AMD64~~.cab	
		Microsoft-Windows-LanguageFeatures-Fonts-Hans-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-Windows-LanguageFeatures-Fonts-Hans-Package~31bf3856ad364e35~amd64~~10.0.20348.1
2	Language pack	Microsoft-Windows-Server-Language-Pack_x64_zh-CN.cab	
		Microsoft-Windows-Server-LanguagePack-Package~31bf3856ad364e35~amd64~zh-CN~10.0.20348.1	Microsoft-Windows-Server-LanguagePack-Package~31bf3856ad364e35~amd64~zh-CN~10.0.20348.1
3	Basic	Microsoft-Windows-LanguageFeatures-Basic-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	
		Microsoft-Windows-LanguageFeatures-Basic-zh-cn-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-Windows-LanguageFeatures-Basic-zh-cn-Package~31bf3856ad364e35~amd64~~10.0.20348.1
4	Handwriting	Microsoft-Windows-LanguageFeatures-Handwriting-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	
		Microsoft-Windows-LanguageFeatures-Handwriting-zh-cn-Package~31bf3856ad364e35~amd64~~10.0.20348.1	
5	OCR	Microsoft-Windows-LanguageFeatures-OCR-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	
		Microsoft-Windows-LanguageFeatures-OCR-zh-cn-Package~31bf3856ad364e35~amd64~~10.0.20348.1	
6	Speech	Microsoft-Windows-LanguageFeatures-Speech-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	
		Microsoft-Windows-LanguageFeatures-Speech-zh-cn-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-Windows-LanguageFeatures-Speech-zh-cn-Package~31bf3856ad364e35~amd64~~10.0.20348.1
7	Text to speech	Microsoft-Windows-LanguageFeatures-TextToSpeech-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	
		Microsoft-Windows-LanguageFeatures-TextToSpeech-zh-cn-Package~31bf3856ad364e35~amd64~~10.0.20348.1	Microsoft-Windows-LanguageFeatures-TextToSpeech-zh-cn-Package~31bf3856ad364e35~amd64~~10.0.20348.1
8	Feature pack	Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~amd64~zh-CN~.cab	
		Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.20348.1	Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.20348.1
9	Feature pack	Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab	
		Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.20348.1	Microsoft-Windows-MSPaint-FoD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.20348.1

SN	TYPE	WINDOWS SERVER 2022 STANDARD (DESKTOP EXPERIENCE), WINDOWS SERVER 2022 DATACENTER (DESKTOP EXPERIENCE)	WINDOWS SERVER 2022 STANDARD CORE, WINDOWS SERVER 2022 DATACENTER CORE
10	Feature pack	Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~amd64~zh-CN~.cab	
		Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.20348.1	Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.20348.1
11	Feature pack	Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab	
		Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.20348.1	Microsoft-Windows-Notepad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.20348.1
12	Feature pack	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~zh-CN~.cab	
		Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.20348.1	
13	Feature pack	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~zh-CN~.cab	
		Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.20348.1	
14	On demand package	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~amd64~zh-CN~.cab	
		Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~amd64~zh-CN~10.0.20348.1	
15	On demand package	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~zh-CN~.cab	
		Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~zh-CN~10.0.20348.1	
16	Feature pack	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~zh-CN~.cab	
		Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.20348.1	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.20348.1
17	Feature pack	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab	
		Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.20348.1	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.20348.1