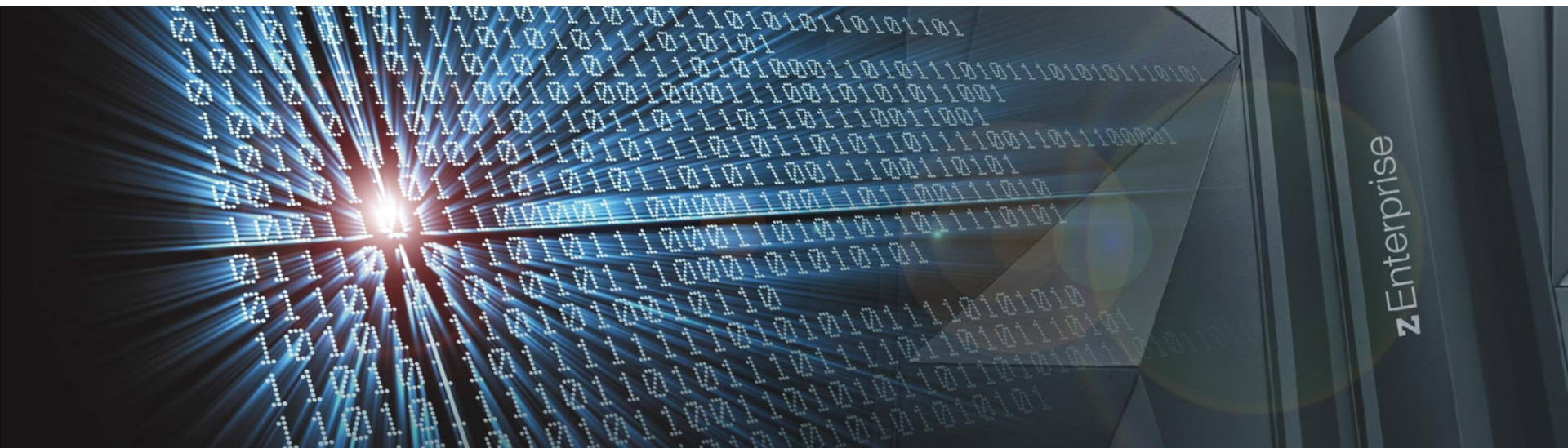


z/VSE 5.2 Tapeless Initial Installation

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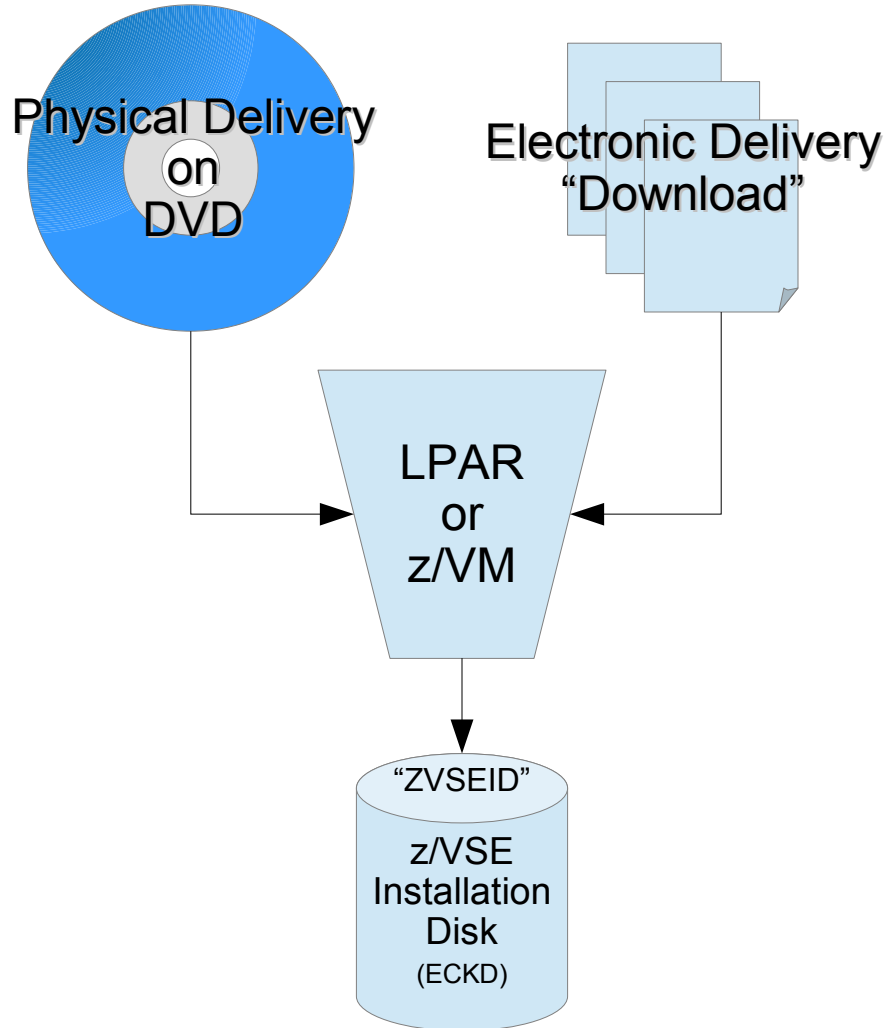


Tapeless Initial Installation Agenda

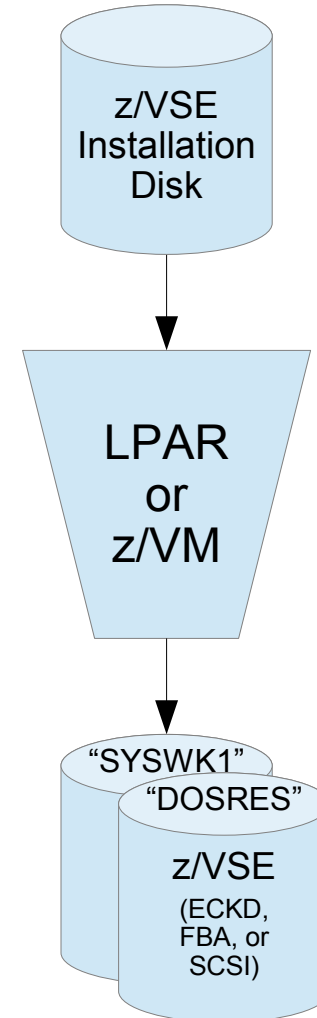
- Overview
- Creation of a z/VSE Installation Disk
 - Creation of a z/VSE Installation Disk in LPAR
 - Creation of a z/VSE Installation Disk under z/VM
- Initial Installation from z/VSE Installation Disk (LPAR and z/VM)
- Pitfalls
- Tapeless Fast Service Upgrade (FSU)

Tapeless Initial Installation Overview

Step 1: Create a z/VSE Installation Disk

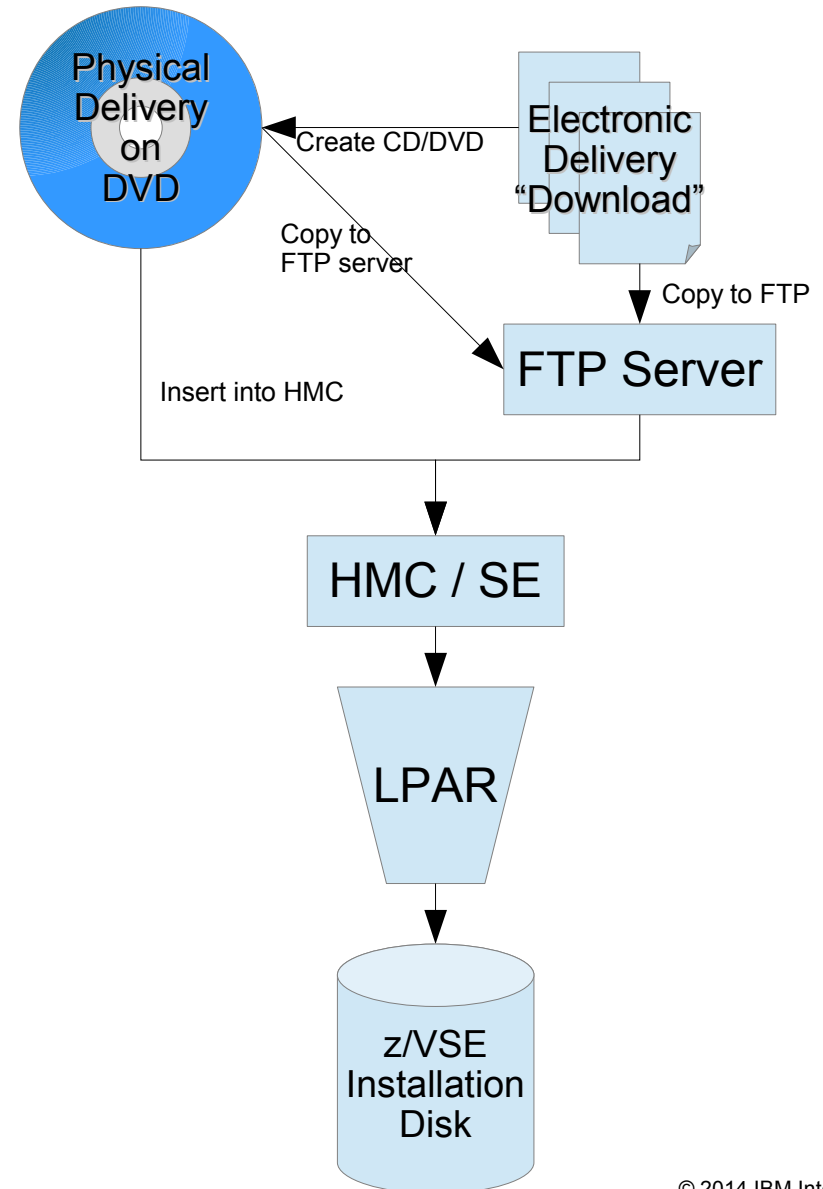


Step 2: Install from Disk



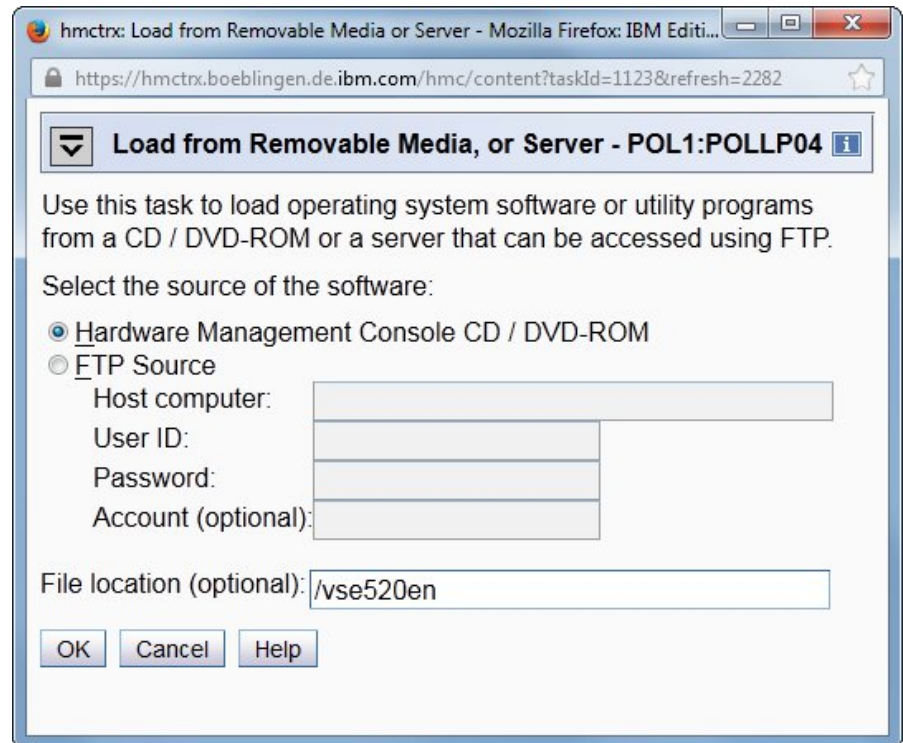
Creation of z/VSE Installation Disk in LPAR Requirements

- LPAR with at least 512 MB of central storage.
- CD/DVD with the following files in one directory (can be the root).
or
FTP server that is reachable by both the Hardware Management Console (HMC) and Service Element (SE) that has the following files in one directory (can be the root).
- Files:
 - VSE520EN[D | I | ID] . INS
Load configurations (specify which of the following files to load into central storage).
 - VSE520EN{D | I | ID} . LP
Load parameters.
 - VSE520EN . AWS
z/VSE installation tape image.
 - VSE520EN . IPL
z/VSE SA boot program.
 - VSE520EN . PSW
Initial PSW for SA boot program.



Creation of z/VSE Installation Disk in LPAR Using Removable Media (CD/DVD)

- Insert the CD/DVD into the HMC/SE optical media drive.
- Use the HMC/SE task “Load from Removable Media or Server” (on old HMC/SE: “Load from CD-ROM, DVD, or Server”) and select “Hardware Management Console CD / DVD-ROM”.
- Optionally specify the path to the files if they are not located in the root directory.
Note: Use Linux/Mac path delimiters (i.e. slash /) and not Windows ones (i.e. backslash \). The path is case-sensitive!



hmcctx: Load from Removable Media or Server - Mozilla Firefox: IBM Editi...

https://hmcctx.boeblingen.de.ibm.com/hmc/content?taskId=1123&refresh=2282

▼ Load from Removable Media, or Server - POL1:POLL04 ⓘ

Use this task to load operating system software or utility programs from a CD / DVD-ROM or a server that can be accessed using FTP.

Select the source of the software:

Hardware Management Console CD / DVD-ROM

FTP Source

Host computer:

User ID:

Password:

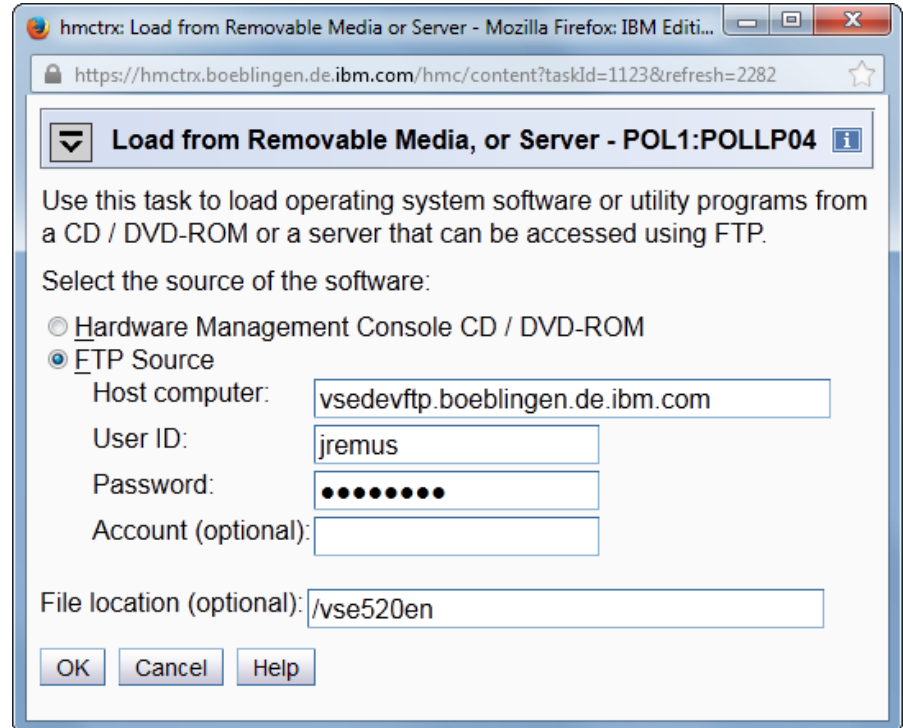
Account (optional):

File location (optional):

OK Cancel Help

Creation of z/VSE Installation Disk in LPAR Using FTP Server

- Use the HMC/SE task “Load from Removable Media or Server” (on old HMC/SE: “Load from CD-ROM, DVD, or Server”) and select “FTP Source”.
- Specify
 - the hostname or IP address of the FTP server
 - the user name and password,
 - optionally the account (deprecated), and
 - optionally the path to the files if they are not located in the root directory.**Note:** Use Linux/Mac path delimiters (i.e. slash /) and not Windows ones (i.e. backslash \). The path is case-sensitive!



hmctrx: Load from Removable Media or Server - Mozilla Firefox: IBM Editi...

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Load from Removable Media, or Server - POL1:POLL04

Use this task to load operating system software or utility programs from a CD / DVD-ROM or a server that can be accessed using FTP.

Select the source of the software:

Hardware Management Console CD / DVD-ROM

FTP Source

Host computer: vsedevftp.boeblingen.de.ibm.com

User ID: jremus

Password: ●●●●●●

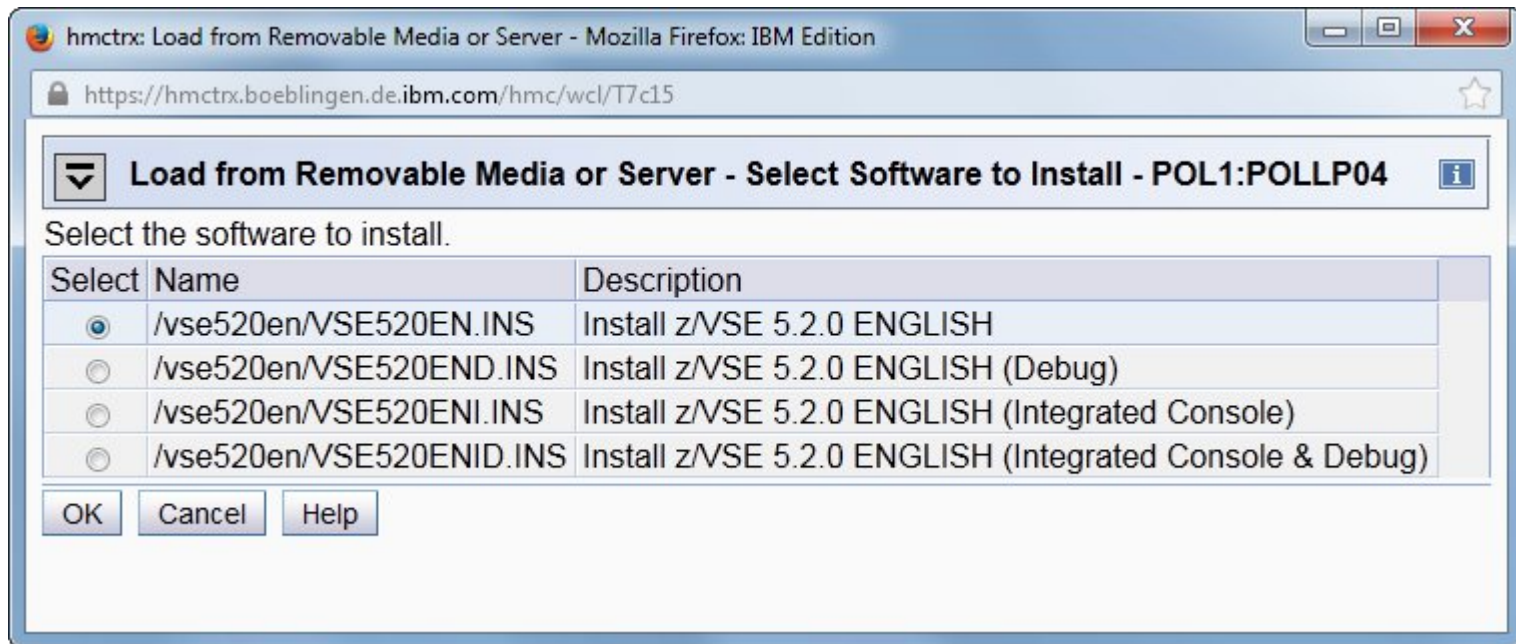
Account (optional):

File location (optional): /vse520en

OK Cancel Help

Creation of z/VSE Installation Disk in LPAR Using Removable Media (CD/DVD) or FTP Server (Cont.)

- Select the installation type to perform:
 - **“Default”** (VSEvrmxx.INS)
 - **Debug** (VSEvrmxxD.INS)
Enables additional debug messages on the console for problem analysis.
 - **Integrated Console** (VSEvrmxxI.INS)
Use the Integrated Console (i.e. HMC/SE “Operating System Messages”).
 - **Integrated Console & Debug** (VSEvrmxxID.INS)





Creation of z/VSE Installation Disk in LPAR Using Removable Media (CD/DVD) or FTP Server (Cont.)

- Continue the creation of z/VSE installation disk on the z/VSE system console:
 - SI40D: Optionally specify the volume identifier (VOLID) the installation disk shall have
 - SI41D: Specify the physical CUU (PCUU) of the installation disk
 - SI45D: Check the PCUU and its current VOLID before continuing

```
BG-0000 SI40D ENTER VOLID OF THE INSTALLATION DISK. DEFAULT IS 'ZVSEID'  
0 zvse52
```

```
BG-0000 SI41D ENTER PCUU OF ZVSE52  
0 431
```

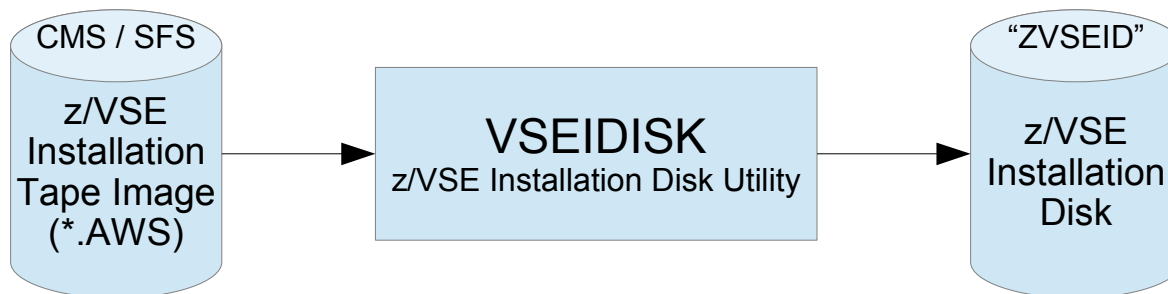
```
BG-0000 SI45D DO YOU WANT TO CONTINUE WITH CREATION OF INSTALLATION DISK  
PCUU=0431, CURRENT VOLID=MYWORK (YES/NO) ?  
0 yes
```

```
BG 0000 SI20I FORMATTING OF ZVSE52 IN PROGRESS  
BG 0000 IDSK000I Z/VSE INSTALLATION DISK TOOL 5.2.0  
BG 0000 IDSK009I VALIDATING TAPE IMAGE VERSION AND RELEASE ...  
BG 0000 IDSK009I EXTRACTING BOOT PHASE AND WRITING IT TO DISK ...  
BG 0000 IDSK009I GENERATING BOOT RECORDS AND WRITING THEM TO DISK ...  
BG 0000 IDSK009I WRITING TAPE IMAGE TO DISK ...  
BG 0000 IDSK009I Z/VSE INSTALLATION DISK CREATED SUCCESSFULLY  
BG 0000 SA17W ***** END OF STAND ALONE PROCESSING *****
```

Creation of z/VSE Installation Disk under z/VM

Overview

- Utility to create z/VSE installation disk from z/VSE installation tape image under z/VM CMS: z/VSE Installation Disk Utility (VSEIDISK)
 - VSEIDISK.EXEC
REXX script to control ICKDSF and VSEIDISK. ICKDSF is used to format/initialize the disk prior to creating the z/VSE installation disk.
 - VSEIDISK.HELPCMS
Help file in standard z/VM CMS help format. Provides short information on the parameters and options. To view enter HELP VSEIDISK or VSEIDISK HELP in CMS.
 - VSEIDISK.MODULE
Binary module that creates the z/VSE installation disk from the z/VSE installation tape image.
Note: Should not be executed directly, only through VSEIDISK.EXEC.





Creation of z/VSE Installation Disk under z/VM

Quick Start Guide

1. Upload VSEIDISK.EXEC, VSEIDISK.HELPCMS, and VSEIDISK.MODULE together with the z/VSE installation tape image (e.g. VSE520EN.AWS or VSE520KA.AWS) in *binary transfer mode* to *variable block* CMS/SFS files using e.g.:

- 3270 IND\$FILE file transfer
- FTP
 - BINARY
 - [QUOTE] SITE VARrecfm

2. Deblock the VSEIDISK files in CMS:

- PIPE < VSEIDISK MODULE A | DEBLOCK CMS | > VSEIDISK MODULE A
- PIPE < VSEIDISK EXEC A | DEBLOCK CMS | > VSEIDISK EXEC A
- PIPE < VSEIDISK HELPCMS A | DEBLOCK CMS | > VSEIDISK HELPCMS A

3. Create a z/VSE installation disk (e.g. on DASD 600) using the z/VSE Installation Disk Utility:

- VSEIDISK VSE520EN AWS A 600

tape image

virtual
device



Creation of z/VSE Installation Disk under z/VM

VSEIDISK Syntax

```

(1)
>>--VSEIDISK--fn--ft--fm--vdev--
      '*--'
      |
      | (2)
      |--(-----| Options |-----)
      |--)-
  
```

Options:

```

.-VOLID=ZVSEID-.
|----->
'-VOLID=serial-' '-OWNER=owner-'

.-NOERASE-.    .-PROMPT---.
>-----|
'-LASTVOLID=serial-' .-ERASE---' '-NOPROMPT-'
      '-LASTOWNER=owner-'
  
```

Notes on the Syntax:

- (1) The defaults you receive appear above the line in the Options fragment.
- (2) You can enter options in any order.



Creation of z/VSE Installation Disk under z/VM VSEIDISK Parameters and Options

- Parameters (required):

- fn, ft, and fm

The CMS/SFS file name, type, and mode of the z/VSE installation tape image in AWS format. If an asterisk (*) is specified as file mode, the currently accessed disks and Shared File System (SFS) directories will be searched in the standard CMS search order.

- vdev

The virtual device number (i.e. CUU) of the z/VSE installation disk.



Creation of z/VSE Installation Disk under z/VM VSEIDISK Parameters and Options (Cont.)

- Options (optional):
 - VOLID=serial (default value: ZVSEID)
Specifies the volume serial number of the disk (1 to 6 alphanumeric, national, or special characters).
 - OWNER=owner
Specifies the owner identification of the disk (1 to 14 alphanumeric characters).
 - LASTVOLID=serial
Identifies the current volume serial of the disk. It is used to verify the volume serial number before formatting and/or initializing the disk.
 - LASTOWNER=owner (requires LASTVOLID)
Identifies the current owner identification of the disk. It is used to verify the owner identification before formatting and/or initializing the disk.
 - ERASE
Requests to format all tracks (erase all data) on the disk using the ICKDSF TRKFMT ERASEDATA command. Note that this takes a considerable amount of time.
 - NOPROMPT
Requests not to prompt for confirmation before performing any destructive operation.



Creation of z/VSE Installation Disk under z/VM Example

```
vseidisk vse520en aws a 600 (volid=zvse52
IDSK151D REPLY 'CONTINUE' TO ALTER DASD 600, ELSE 'CANCEL'
continue
IDSK141I FORMATTING Z/VSE INSTALLATION DISK ...
[... ]
ICK03091I EXISTING VOLUME SERIAL READ = MYWORK
[... ]
ICK00002I ICKDSF PROCESSING COMPLETE. MAXIMUM CONDITION CODE WAS 0
IDSK143I CREATING Z/VSE INSTALLATION DISK ...
IDSK000I Z/VSE INSTALLATION DISK TOOL 5.2.0
IDSK009I VALIDATING TAPE IMAGE VERSION AND RELEASE ...
IDSK009I EXTRACTING BOOT PHASE AND WRITING IT TO DISK ...
IDSK009I GENERATING BOOT RECORDS AND WRITING THEM TO DISK ...
IDSK009I WRITING TAPE IMAGE TO DISK ...
IDSK009I Z/VSE INSTALLATION DISK CREATED SUCCESSFULLY
Ready; T=0.08/0.18 14:37:49
```



Initial Installation from z/VSE Installation Disk (LPAR and z/VM)

- Installation from disk is very similar to installation from tape
 - The z/VSE installation process assumes a tape
 - Internally the disk is mapped to a virtual tape
- IPL the z/VSE installation disk:
 - LPAR: Use the HMC/SE task “Load” to IPL the disk. Optionally specify a load parameter.
 - z/VM: IPL <cuu> [LOADPARAM]
 - Load Parameters (optional):
 - I for Integrated Console (i.e. HMC/SE “Operating System Messages”)
 - D . . . for Debug (for problem determination by IBM support)
 - I D . . . for Integrated Console & Debug
- Refer to the *z/VSE Installation* manual for further details, especially the section “Initial Installation of z/VSE from an Installation Disk”



Initial Installation from z/VSE Installation Disk (LPAR and z/VM) Manual Installation

- During manual installation you will need to provide information from message SA32I as reply to message SA11D:
 - BG-0000 SA10D FASTCOPY, RESTORE, ICKDSF, DITTO, REIPL
 - 0 RESTORE
 - BG 0000 SA32I INSTALLATION DISK WAS ASSIGNED TO VIRTUAL TAPE *vcuu* FOR RESTORE FROM INSTALLATION DISK SPECIFY *pcuu* AS INPUT DEVICE PCUU
 - BG-0000 SA11D SPECIFY ADDRESS OF INPUT DEVICE PCUU
 - 0 *pcuu* (specify *pcuu* as displayed in message SA32I)

- When prompted (after RESTORE) enter REIPL to perform IPL from DOSRES:
 - BG-0000 SA10D FASTCOPY, RESTORE, ICKDSF, DITTO, REIPL
 - 0 REIPL
 - BG-0000 SA55D ENTER ADDRESS OF REIPL DEVICE PCUU
 - 0 *pcuu* (e.g. 200)
 - BG-0000 SA57D CONTINUE MANUAL INSTALLATION? SPECIFY YES OR NO
 - 0 YES
 - BG-0000 SA79D REIPL FROM SCSI? SPECIFY YES OR NO



Initial Installation from z/VSE Installation Disk (LPAR and z/VM) Pitfalls

- Less than 64 MB of processor storage during IPL of z/VSE installation disk
 - HCPVMI232E IPL UNIT ERROR; IRB 00404017 00100020 0C60B974 00400000
 - HCPGIR450W CP entered; disabled wait PSW 000E0000 00000232
- Less than 64 MB of processor storage during IPL of DOSRES
 - 0I04I IPLDEV=X'0200',VOLSER=DOSRES,CPUID=FF3B0B822097
 - 0J65I TURBO DISPATCHER ACTIVATED
 - 0I00A REAL STORAGE TOO SMALL. IPL TERMINATED
- VSEIDISK under z/VM: Code-page issues running the pipeline stages to deblock VSEIDISK (e.g. the characters <, >, and/or | are not recognized)
 - PIPE < VSEIDISK MODULE A | DEBLOCK CMS | > VSEIDISK MODULE A
 - FPLDSK112E Excessive options "| DEBLOCK CMS | > VSEIDISK MDOULE A"
 - FPLSCA003I ... Issued from stage 1 of pipeline 1
 - FPLSCA001I ... Running "< VSEIDISK MODULE A | DEBLOCK CMS | > VSEIDISK MODULE"
- Manual Installation: If IPL from DOSRES is performed manually (w/o REIPL) the installation disk and virtual tape information is lost:
 - BG 0000 IESI0101I INSUFFICIENT SYSTEM CONFIGURATION FOR INITIAL INSTALLATION
 - BG-0000 IESI0102A SPECIFY IPL ADD COMMAND FOR TAPE DRIVE



Tapeless Fast Service Upgrade (FSU)

- A z/VSE installation disk can not be used to perform FSU.
- Tapeless FSU can be done via virtual tape in VSAM (since VSE/ESA 2.7):
 - Define a VSAM ESDS file to hold the z/VSE installation tape image (see job skeleton SKVTAPE in ICCF library 59).
 - Transfer the z/VSE installation tape image to the VSAM ESDS file via:
 - FTP
 - Copy Tape to VTape (i.e. from real tape to virtual tape in VSAM)
 - Copy VTape to VTape (e.g. from VSE Virtual Tape Server to virtual tape in VSAM)
 - When performing FSU specify to use a virtual tape in VSAM and the VSAM file.

Thank You

Questions



Please forward your questions or remarks to
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