Installation Methods for Linux on System z without Repository Server

Live Virtual Class June 2012
Boeblingen, Germany

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Agenda for Live-Demo

Two not well known ways to install Linux on System z

1. Installation under z/VM using the HMC as repository server (live demo)

    Installation in LPAR using HMC as repository server

2. Installation in LPAR using a prepared SCSI disk (live demo)

    Installation under z/VM using a prepared ECKD disk

1. Installation under z/VM using the HMC as repository server

Additional Prerequisites:

- Distributor's DVD with RHEL or SLES for System z available;
    Medium inserted in the HMC's DVD drive

- User Interface of HMC accessible from your Workstation (or physically)

- HMC accessible via ftp (port 21) from your z/VM guest (z/VM TCPIP)

- HMC accessible via ftp (port 21) from your Linux on System z instance

1. Installation under z/VM using the HMC as repository server

In brief:

- On the HMC, "Enable FTP Access to Mass Storage Media" for the IPv4 address of your z/VM

- Log into your z/VM guest and obtain the three installation files from the HMC's ftp server

- Punch the files into the Reader Device and IPL your z/VM guest

- On the HMC, "Enable FTP Access to Mass Storage Media" for the IPv4 address of your Linux on System z instance

- Installation repository is specified via URL:
  ftp://hmcmsaccess:hmcmsaccess@<yourhmc.yourdomain>

Let's do it...

1. Installation in LPAR using the HMC as repository server

Additional Prerequisites:

- Distributor's DVD with RHEL or SLES for System z available;
  Medium inserted in the HMC's DVD drive

- User Interface of HMC accessible from your Workstation (or physically)

- HMC accessible via ftp (port 21) from your Linux on System z instance

1. Installation in LPAR using the HMC as repository server

In brief:

- IPL your LPAR from the HMC's DVD drive

- On the HMC, "Enable FTP Access to Mass Storage Media" for the IPv4 address of your Linux on System z instance

- Installation repository is specified via URL:
  ftp://hmcmsaccess:hmcmsaccess@<yourhmc.yourdomain>
  where <yourhmc.yourdomain> is either the IPv4 address of the HMC or the hostname

(no demo)

2. Installation in LPAR using a prepared Hard Disk

Prerequisites:

- Distributor's DVD with RHEL 6 for System z available;
  Medium inserted in the DVD drive of an x86 system and later in the HMC

- x86 system and Linux on System z instance can access the same fiber
  channel attached SCSI disk in the SAN

- User Interface of HMC accessible from your Workstation (or physically)

- x86 system accessible from your Workstation (or physically)

2. Installation in LPAR using a prepared Hard Disk

In brief:

- on x86:
  dump the content of the RHEL6.2 DVD as iso-image onto the SCSI disk
  copy directory 'images' of the DVD to the SCSI disk
  release the SCSI disk

- in your System z LPAR:
  IPL your LPAR from the HMC's DVD drive
  setup your network, connect to the installer
  after anaconda has been started, open another terminal session
  activate the previously prepared fiber channel attached SCSI disk
  return to anaconda and continue installation
  choose 'Hard Drive' as installation repository
  continue the installation

Let's do it...

2. Installation under z/VM using a prepared Hard Disk

Prerequisites:

- Iso-image of the Distributor's DVD with RHEL 6 for System z available in a Linux on System z instance

2. Installation under z/VM using a prepared Hard Disk

In brief:

- copy the iso image to the mounted disk in a Linux on System z instance

- mount the iso-image loopback;
    copy directory 'images' of the DVD to the mounted disk

- install the zipl boot loader

(no demo)

2. Installation under z/VM using a prepared Hard Disk

Example for ECKD DASD (similar for zfcp):

```
modprobe vmcp; vmcp att DA5D \*; chccwdev -e da5d
dasdfmt …; fdasd …; mke2fs …
mount /dev/disk/by-id/ccw-0Xda5d-part1 /mnt
wget <url> RHEL6.2.iso
cp RHEL6.2.iso /mnt
mkdir /DVD
mount -o loop -t iso9660 /mnt/RHEL6.2.iso /DVD
cp -r /DVD/images/  /mnt
cd /mnt/images
zipl -V -t . -i kernel.img -r initrd.img -p generic.prm
cd ~
umount /DVD /mnt; chccwdev -d da5d; vmcp det da5d
```

2. Installation under z/VM using a prepared Hard Disk

...continued - Example for ECKD DASD (similar for zfcp):

logon to your target installation z/VM guest

attach and IPL the prepared disk

bring up the network

connect to the installation system

in anaconda, use "`Hard drive`" as installation method

remainder as already described

Useful Links

Links:

- RHEL 6 http://docs.redhat.com/docs/en-US/Red_Hat_Enterprise_Linux/6/
- SLES 11 http://www.suse.com/documentation/sles11/
- HMC User Guide http://www-01.ibm.com/support/docview.wss?uid=pub1sc28690501

Questions?

Thorsten Diehl

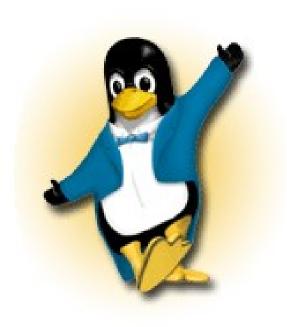*Linux on System z
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Thank you!

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