

Booting New VME board

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Universe II board

- Present one no longer available in market. No more spares.
- ~10, already purchased.
- Nakao-san who purchased the same board with Iwasaki-san succeeded in booting the board and wrote instruction, but I've never succeeded.
 - <https://gitlab.desy.de/mikihiko.nakao/rocky9-pxeboot-howto>
 - <https://gitlab.desy.de/mikihiko.nakao/universeii-driver-5.x>



Procedure

1. Prepare Linux boot server with 2 Lan ports and install RockyLinux 9.
2. Connect the new VME CPU board under btrgpc16 local network, and boot the board with Rocky9 with USB memory.
3. Make initial ramdisk (initial file system before mounting true file system) on the VME CPU
4. Copy file system and initrd image on VME to boot server

Status

```
[ 13.740046] nfsroot_to_var: options2()
[ 13.741168] nfsroot_to_var: options3()
[ 13.742273] nfsroot_to_var: path2(/tftpboot/rocky9/root)
[ 13.743451] nfsroot_from_dhcp: server(192.168.16.1), srv(), new_next_server(192.168.16.1), path(/tftpboot/rocky
[ 13.758757] nfsroot: mount -t nfs -oro,nolock 192.168.16.1:/tftpboot/rocky9/root /sysroot
[ 13.779586] FS-Cache: Loaded
[ 13.896583] Key type dns_resolver registered
[ 14.182648] NFS: Registering the id_resolver key type
[ 14.183755] Key type id_resolver registered
[ 14.184831] Key type id_legacy registered
[ 14.316514] ls -l /sysroot/
[ 14.291482] dracut-initqueue[501]: ls: write error: Invalid argument
[ 14.381638] nfsroot.sh $netif(lo) $root(nfs::) $NEWROOT(/sysroot)
[ 14.382887] nfsroot_to_var: arg1(nfs::)
[ 14.383897] nfsroot_to_var: nfs1(nfs)
[ 14.384958] nfsroot_to_var: arg2(::::)
[ 14.386838] nfsroot_to_var: path1()
[ 14.387851] nfsroot_to_var: options1(::::)
[ 14.388853] nfsroot_to_var: options2(::::)
[ 14.389855] nfsroot_to_var: options3(::::)
[ 14.398823] nfsroot_to_var: path2()
[ 14.395133] nfsroot_from_dhcp: server(), srv(), new_next_server(), path()
[ 14.396298] dracut: FATAL: Required parameter 'server' is missing: nfs_to_var $root(nfs::) $netif(lo)
[ 14.397248] dracut: nerusing to continue
[ 14.438448] systemd-shutdown[1]: Syncing filesystems and block devices.
[ 14.439448] systemd-shutdown[1]: Sending SIGTERM to remaining processes...
[ 14.445562] systemd-journald[210]: Received SIGTERM from PID 1 (systemd-shutdow).
[ 14.459648] systemd-shutdown[1]: Sending SIGKILL to remaining processes...
[ 14.463425] systemd-shutdown[1]: Unmounting file systems
```

Log of nfsroot.sh

- Fatal in NFS process. Mounting root system (initrd?) looks OK but looks like failing to mount snapshot (module specific directory)
 - The script nfsroot.sh complains no server name for loopback connection.

Status

```
Aug 30 13:54:18 localhost systemd[1]: dnf-makecache.service: Deactivated successfully.
Aug 30 13:54:18 localhost systemd[1]: Finished dnf makecache.
Aug 30 13:57:09 localhost dhcpd[5456]: DHCPDISCOVER from 00:00:cc:13:b3:ef via enp4s0
Aug 30 13:57:09 localhost dhcpd[5456]: DHCP OFFER on 192.168.16.30 to 00:00:cc:13:b3:ef via enp4s0
Aug 30 13:57:13 localhost dhcpd[5456]: DHCPREQUEST for 192.168.16.30 (192.168.16.1) from 00:00:cc:13:b3:ef via enp4s0
Aug 30 13:57:13 localhost dhcpd[5456]: DHCPACK on 192.168.16.30 to 00:00:cc:13:b3:ef via enp4s0
Aug 30 13:57:13 localhost systemd[1]: Started Tftp Server.
Aug 30 13:57:13 localhost in.tftpd[6401]: tftp: client does not accept options
Aug 30 13:57:13 localhost in.tftpd[6402]: Client ::ffff:192.168.16.30 finished rocky9/pxelinux/pxelinux.0
Aug 30 13:57:13 localhost in.tftpd[6403]: Client ::ffff:192.168.16.30 finished rocky9/pxelinux/ldlinux.c32
Aug 30 13:57:13 localhost in.tftpd[6405]: Client ::ffff:192.168.16.30 finished rocky9/pxelinux/pxelinux.cfg/C0A8101E
Aug 30 13:57:14 localhost in.tftpd[6406]: Client ::ffff:192.168.16.30 finished rocky9/pxelinux/boot/vmlinuz
Aug 30 13:57:24 localhost in.tftpd[6407]: Client ::ffff:192.168.16.30 finished rocky9/pxelinux/boot/initramfs-pxeboot.img
```

- /var/log/messages on boot server (btrgpc16)
- Mounting root not yet done

Conclusion

- Setup and required processes done, but NFS fails.
- Asking Nakao-san
 - who is calling `nfsroot.sh` with which arguments
 - to let me see successful example (and its log)