BAREOS with Relax and Recover (rear) Workshop



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Introduction to Relax and Recover (rear)

- Proven solution at large enterprise customers
- Rear established as standard solution for Linux disaster recovery in data centers
- Shipping with Fedora and openSUSE
- Integrates with many “commercial” backup software solutions, e.g. TSM, DP, NBU, NSR, …
- Integrates with many “open source” backup software solutions, e.g. BAREOS, BACULA, RBME
- Integrates with OS backup software solutions as well, e.g. GNU tar, rsync, ...
- Scales well with large amounts of servers



Rear Features

- Focus on disaster recovery and not backup
- Tight integration with common backup software
- Simple full backup integrated
- Complements backup software
  - Backup software: data storage and retrieval
  - Rear: recover the system layout and make it work
  - Rear: use the backup software to restore data
- Methodology: use the best tool for the job



Usage of rear

- Shell scripts are stored under /usr/share/rear
- Scripts are kept together according work-flows
  - mkrescue (only make rescue image)
  - mkbackup (including make rescue image)
  - mkbackuponly (excluding make rescue image)
  - recover (the actual recovery part)
- Easy to incorporate new scripts, e.g. for information gathering of Hard- and Software, or other goodies



Decide on DR strategy

- Which backup mechanism to use?
  - GNU tar, rsync, bacula, bareos, commercial backup program
- Where will the backups reside?
  - NFS share, CIFS share, external USB disk, tape, local (spare) disk
  - Remote network location
- How shall we start the rescue image
  - Via CDROM (ISO image), tape (OBDR), network (PXE), USB disk



Backup Types

- The major “backup types” available are
  - **NETFS**: NFS, CIFS, USB, TAPE, ISO, SSHFS
  - RSYNC: rsync method
  - REQUESTRESTORE, EXTERNAL
  - BACULA, BAREOS, RBME (open source backup software)
  - DP, NBU, TSM, NSR, GALAXY[7], SESAM (commercial stuff)
  - DUPLICITY (duplicity and/or duply)



Use Bareos as backup/restore with rear

- If your Linux client is fully back-up'ed with BAREOS
  - No need to take full TAR archive
  - Just create rescue image with bareos tools incl.
  - rear mkrescue
- Put the following in /etc/rear/site.conf (or local.conf)
  - OUTPUT=ISO
  - BACKUP=BAREOS
- Recover your system via booting up rescue image
  - rear recover



Disaster Recovery in Practice

- Gather system information
- Store the disk layout
  - Partitioning, LVM and RAID configuration
  - File systems, file system labels ...
  - Boot loader (GRUB, LILO, ELILO)
- Make a system backup (OS and user data)
- Create boot-able rescue media with system configuration (and optional with backup data)
- All steps are done “online”



Disaster Recovery: rescue media

- Create “rescue linux” from running system
- Optimally compatible “tool box”
- Clone the system environment
  - Linux kernel and modules
  - Device driver configuration
  - Network configuration
  - Basic system software and tools
- Operate entirely in RAM (initrd)



Rear mkrescue

- Will create an ISO image stored as
  - /var/lib/rear/output/rear-$(hostname).iso
  - On NFS server as /path/$(hostname)/rear-\ $(hostname).iso
- Inspect file /var/lib/rear/layout/disklayout.conf
- Try to boot from the ISO image into the RESCUE system
  - Use 'dmesg' to check if devices were found



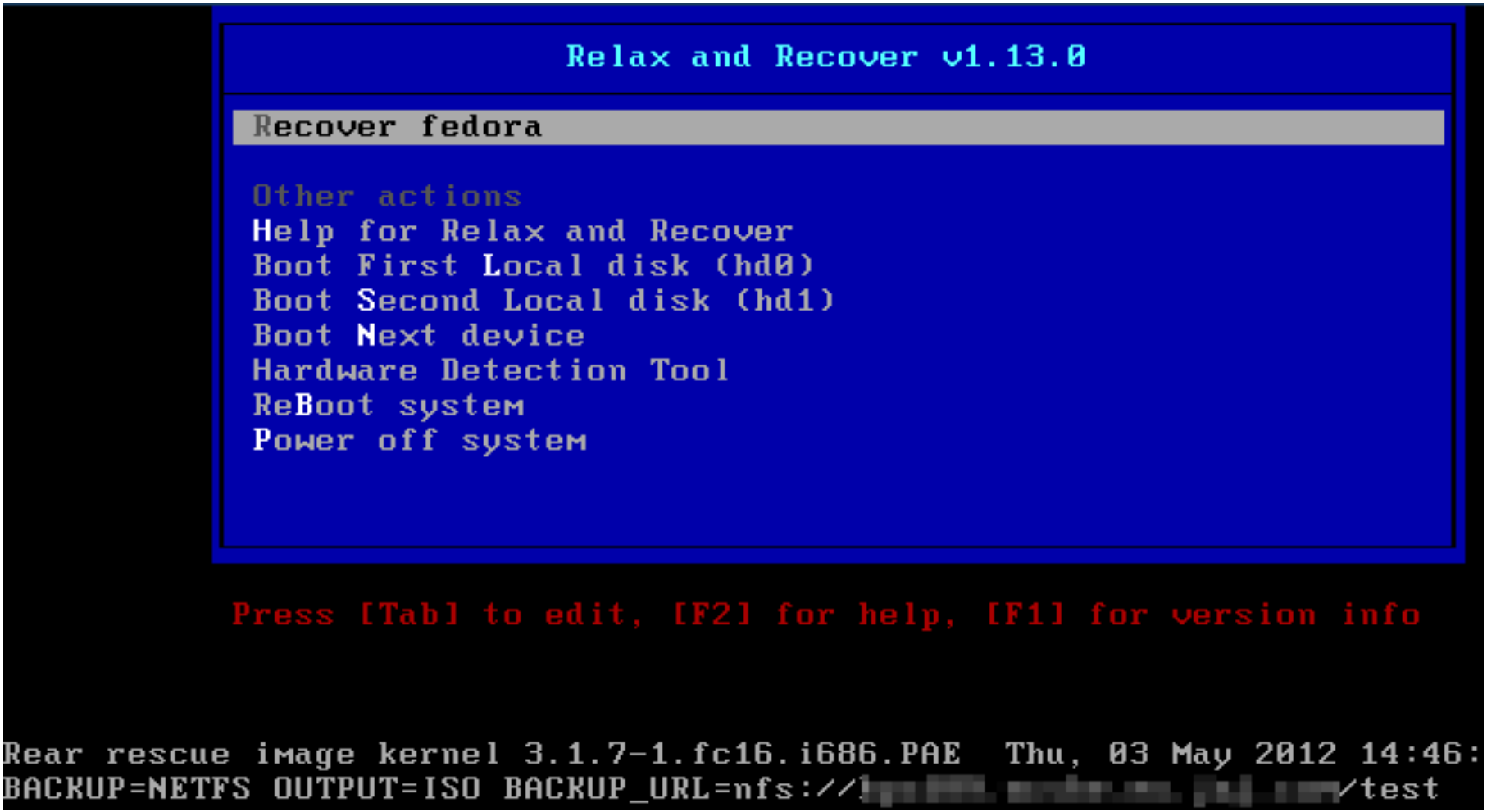
Recovery Process in detail

- Boot system from rescue media
- Restore disk layout
  - Create partitions, RAID configuration and LVM
  - Create file systems (mkfs, mkswap)
  - Configure file systems (labels, mount points)
- Restore the backup data
- Restore the boot loader
- Inspect & Reboot



Recover with rear

- Boot rescue image and select 'recover'





Contacts

Web-site: http://relax-and-recover.org/
GitHub: https://github.com/rear/rear
Mailing list:rear-users@lists.relax-and-recover.org

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