

ATOL: Installation of Linux Server

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Advanced Topics of Linux Administration

Participant Introductions

- ▶ Please introduce yourself to the rest of the class

Objectives of PV208

- ▶ Audience — Linux or UNIX system administrators, network specialists and other UNIX or Linux power users
- ▶ Prerequisites — Experience in UNIX or Linux at the power user, network operations or system administrator level
- ▶ Technical Objective — Train specific concepts and skills at the system administrator level

The Big Picture

- ▶ Foundation: Building Block
 - ▶ System operations
- ▶ Management: Keep It Running
 - ▶ System level maintenance
- ▶ Networking: Connecting
 - ▶ Establishing and securing
- ▶ Services: The Enterprise
 - ▶ Infrastructure and applications

Selecting appropriate Linux distribution I

- ▶ Desktop-oriented vs. Server-oriented
- ▶ Community driven vs. Enterprise
 - ▶ Rolling updates vs. Certification process
 - ▶ New versions vs. Backporting
 - ▶ Fixing security bugs vs. Fixing bugs
 - ▶ Long term support, paid service requests
 - ▶ Tools for automatization routine tasks

Selecting appropriate Linux distribution II

- ▶ SOHO segment
- ▶ Enterprise segment
 - ▶ Red Hat Enterprise Linux
 - ▶ Oracle Unbreakable Linux, CentOS, Scientific Linux
 - ▶ SUSE Linux Enterprise Server
 - ▶ Novell Open Enterprise Server
 - ▶ Mandriva Corporate Server
 - ▶ Ubuntu LTS, Debian stable

Binary packages format

- ▶ provide prebuilt software including its dependency information
- ▶ solve problem of current version of applications by using central repositories
- ▶ dependency problem can be transformed to SAT problem (NP-complete)
 - ▶ DP: Vladimír Beneš - Metody řešení závislostí v moderních distribucích, 2011
- ▶ dominant formats: TGZ, RPM, DEB

RPM package format

- ▶ SPEC files that includes all the metadata information
- ▶ Tools: rpm / yum
- ▶ Features:
 - ▶ DeltaRPM - only binary diff is download from repository (limit bandwidth)
 - ▶ Support for multilib (mostly 32bit + 64bit) systems
 - ▶ No interaction required during installation
 - ▶ Software signed on per-package base using GPG

DEB package format

- ▶ metadata are included in directory and split into several files
- ▶ Tools: dpkg / apt
- ▶ Features:
 - ▶ Interaction during installation (suggestion, basic configuration of network service)
 - ▶ Usually only repositories are signed with GPG
 - ▶ Package priorities

Accessing the Installer

- ▶ Graphical Installation
- ▶ VNC based Installation
 - ▶ Activate with `vnc` and protect the session with `vncpassword=`
 - ▶ Set network parameters with `ip=` and `netmask=`
- ▶ Text based Installation
- ▶ Installation over Serial Port (RS-232)
 - ▶ Used automatically when no graphic card is detected
 - ▶ Enable with: `serial=device`

Installation Overview

- ▶ Installation method
 - ▶ Local CD/DVD ROM, USB Flash disk
 - ▶ Hard drive
 - ▶ NFS image
 - ▶ FTP / HTTP
- ▶ Language and keyboard installation
- ▶ Disk partitioning
- ▶ Bootloader configuration
- ▶ Network and time zone configuration
- ▶ Package selection

Configuring File Systems

- ▶ Must select mount points, partition sizes, and file system types in installer
- ▶ Typical mount points: `/boot`, `/home`, `/usr`, `/opt`
- ▶ Swap space is typically 2x physical RAM ?
- ▶ Mount point `/` must include `/etc`, `/lib`, `/bin` and `/sbin`
- ▶ `/boot` filesystem about 100MB in size to hold files needed by the BIOS at boot time. The only limitation on `/boot` is that most boot loaders expect it to be on a normal disk partition or RAID 1 device.

Kickstart

- ▶ kickstart (RHEL), autoinstall (SLES)
- ▶ Scripted Installation method
- ▶ `/root/anaconda-ks.cfg` is automatically created during install
- ▶ *system-config-kickstart*, *ksvalidator*
- ▶ Installation methods
 - ▶ *ks* boot option have to be used
 - ▶ *linux ks=http://server/path/to/kickstart*
 - ▶ *linux ks=nfs://server:file*
 - ▶ *linux autoyast=http://server/path/to/autoinst.xml (SLES)*

Lab: Installation

- ▶ Goals:
 - ▶ Successfully install selected Linux distribution
 - ▶ Create a kickstart configuration file and perform automatic installation