Latest in Linux Virtualisation

It's real!

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Today's Topics

1. Overview of the Virtualisation Stack

2. The Latest in Virtualisation

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Overview of the Virt Stack

Stack

- No Swiss-Army knife

- Do one thing, do it right

Stack

virt-manager

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virt-manager

- User-visible interface

- Install and run guests

- Select optimal settings according to guest type

- Connects to libvirt

    - Local and remote

Stack

virt-manager

libvirt

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libvirt

- Hypervisor-neutral API

- Mechanisms, not policies

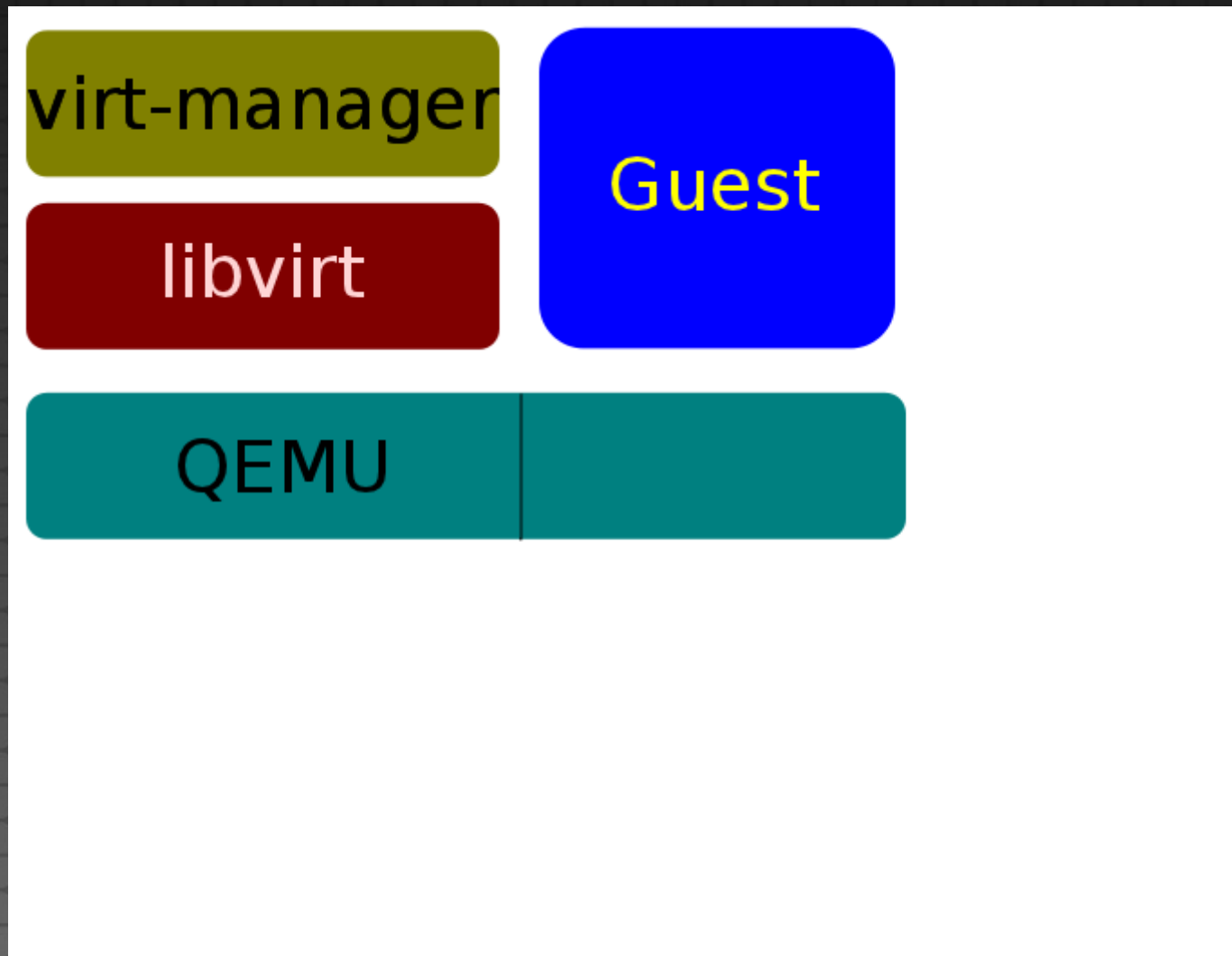- Handles various storage types

- Handles networking

- Talks to QEMU
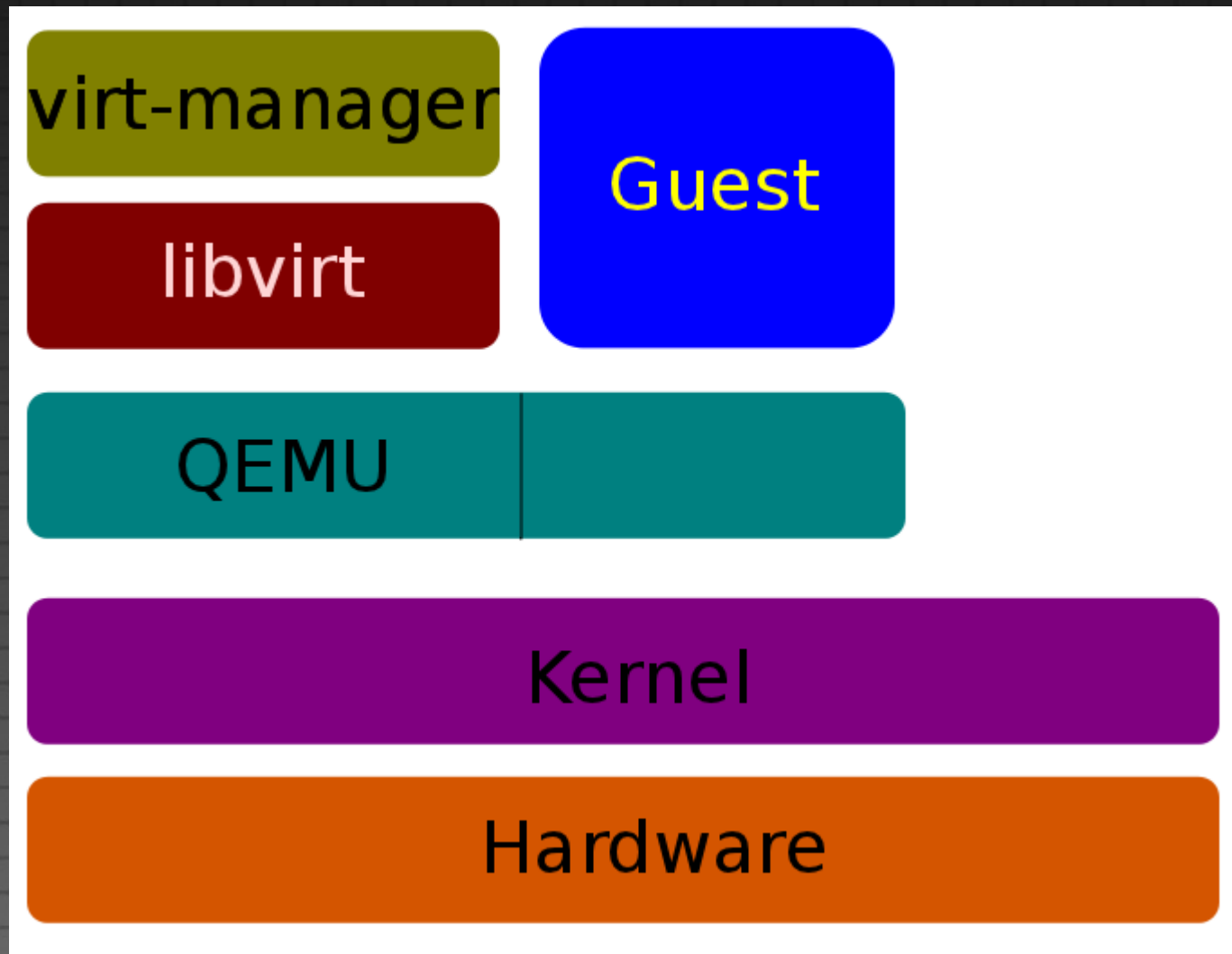
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Stack

virt-manager

libvirt

QEMU

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Stack

virt-manager

libvirt

Guest

QEMU

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QEMU

- Hardware emulation
  - CPU, Devices
- Management interface to guests
- Interfaces with the kernel

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Stack
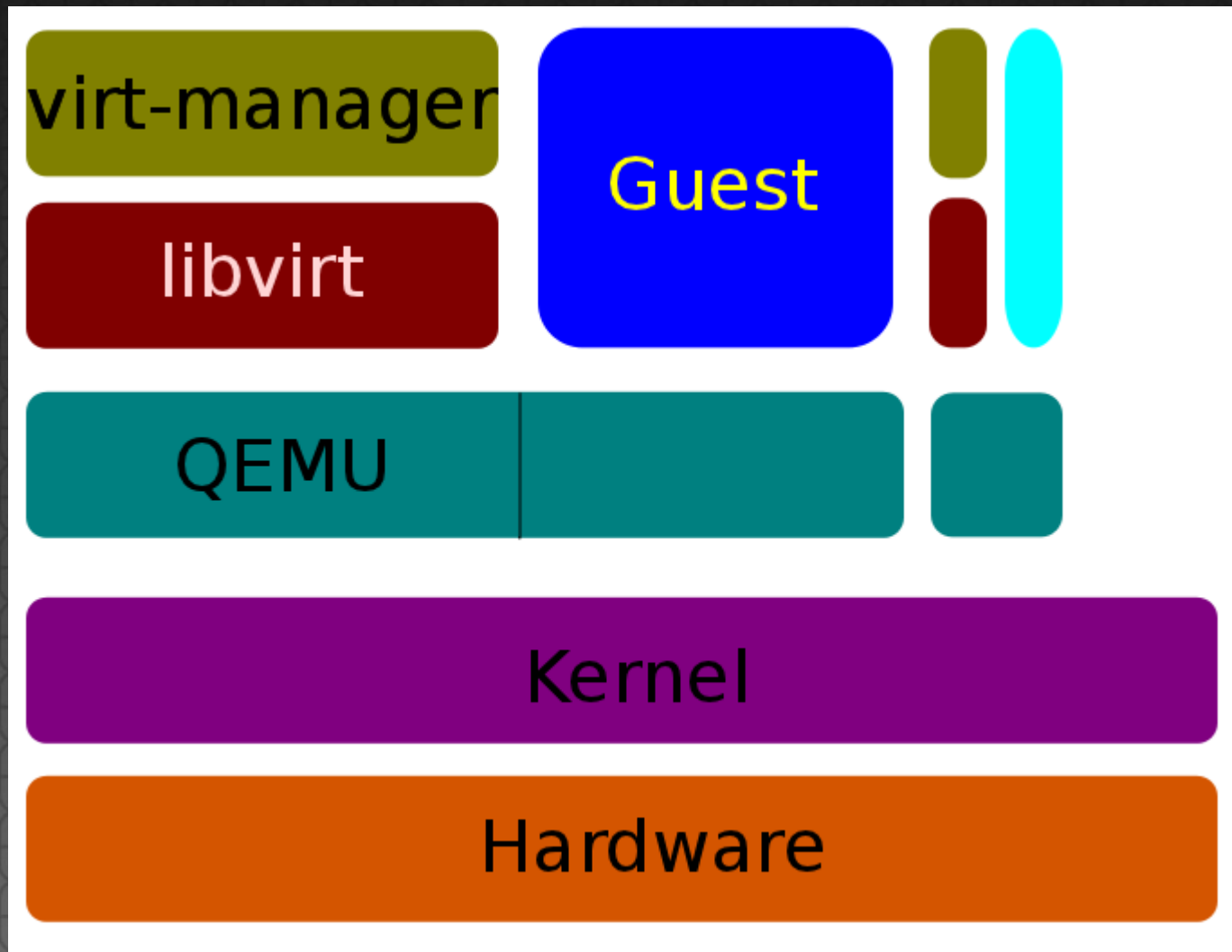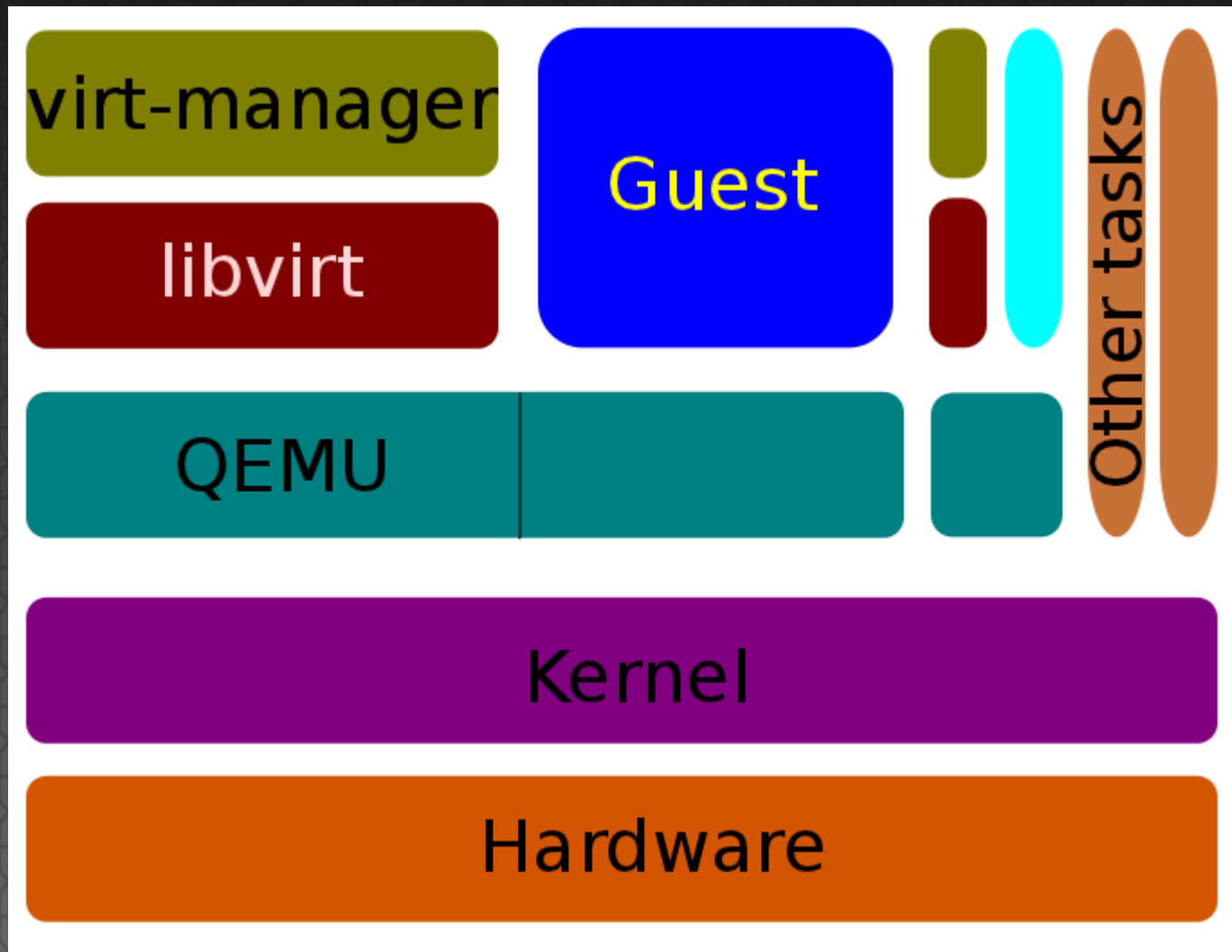
virt-manager

libvirt

Guest

QEMU

Kernel

Hardware

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Linux Kernel

- Houses KVM
- Exploits hardware virtualisation features
- Allows QEMU guests to run on local CPUs
- Paravirtualised drivers

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Stack

virt-manager

libvirt

Guest

QEMU

Kernel

Hardware

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Stack

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Host Tools

- guestfish
- libguestfs
- virt-top
- virt-df
- virt-ls
- virt-cat
- virt-*

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Client tools

- VNC viewer
- SPICE client

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Guest Agents

- Spice Video
- Spice Audio
- Clipboard copy/paste
- Lock screen
- Reboot / Shutdown
- USB devices

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The Latest

F16 vs F15

- Security
  - Memory-based attacks on QEMU much more difficult (RELRO, PIE)
- Block layer
  - Lots of CDROM emulation fixes
- USB
  - USB 2.0 (EHCI) support
  - Lots of improvements

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F16 vs F15

- SPICE
  - Audio volume sync between client and guest
  - Share USB devices over SPICE connections

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Questions?

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