DA LINUX AI CONTAINER, DALLA VIRTUALIZZAZIONE AL CLOUD: TRASFORMA IL TUO I.T.

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#RedHatOSD
WE HAVE BEEN BUILDING THE FUTURE
We participate in and create community-powered upstream projects.

We integrate upstream projects, fostering open community platforms.

We commercialize these platforms together with a rich ecosystem of services and certifications.
THE FOUNDATION IS LINUX
LINUX IS THE MOST-USED PLATFORM FOR DEVELOPMENT TODAY

*NOTE: Before 2017, “Windows” is an aggregate category that includes Windows 10, 8, 7, XP, & Vista responses. 2017 & 2018 surveys only offered the single option: Windows Desktop or Server.

Sources: Most popular technology platforms, Stack Overflow, Developer Survey Results 2018 & Developer Survey Results 2017. Most popular desktop OS, Stack Overflow, Developer Survey Results 2013-2016.
LINUX IS THE MOST-USED PLATFORM
FOR VMs IN THE PUBLIC CLOUD

54% of all applications running in public cloud infrastructure are running on Linux VMs.

LINUX IS THE FOUNDATION

LINUX IS THE FOUNDATION FOR MODERN IoT, CONTAINERS, SERVICES, & MORE

- **RED HAT ENTERPRISE LINUX**
  - Operating system (OS) foundation for infrastructure and apps

- **RED HAT VIRTUALIZATION**
  - Flexible virtualization built on Linux

- **RED HAT OPENSTACK® PLATFORM**
  - Datacenter software for building private cloud

- **RED HAT OPENSSHIFT**
  - Container platform for developing, hosting cloud-native apps

- **RED HAT STORAGE**
  - Scale-out, software-defined storage spanning the hybrid cloud

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**PHYSICAL**

**VIRTUAL**

**PRIVATE CLOUD**

**HYBRID CLOUD**

**STORAGE**

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IT IS A DIFFERENT JOURNEY FOR EVERYONE

CONSOLIDATE & STANDARDIZE

Traditional physical environment

Strategic virtualization

Test private cloud

Production/managed private cloud

Test public cloud (IaaS & PaaS)

Production public cloud

Automated & DevOps processes

Containers for everything

Strategic hybrid cloud
OPEN HYBRID CLOUD
RED HAT OPEN HYBRID CLOUD
ALL KINDS OF APPS AND ENVIRONMENTS, INCLUDING CONTAINERS

DEVELOPER TOOLING

APPLICATION PLATFORMS

INFRASTRUCTURE PLATFORMS

SOFTWARE DEFINED STORAGE

MANAGEMENT & AUTOMATION

Modernized brownfield
Cloud ready
Greenfield Cloud Native
86% Automation is either mission critical or very important to their future Cloud strategy

79% Of IT organizations will need to deploy new management and automation software between now and 2020

NEXT GENERATION IT INFRASTRUCTURE & MANAGEMENT SURVEY DEC 2017
N= 1171 Worldwide IT Operations Decision Makers
AUTOMATION EVOLUTION WITH **ANSIBLE**

**fully automate your business**

**IT automation**

Fully I.T. Automation (compute/storage, network, security...)

**Hybrid Cloud Automation**

Automation to enable Cloud Journey

**Business Automation**

Integrate Ansible Workflows

Fully Automation
RED HAT for HYBRID CLOUD
EVERYTHING IS CONNECTED

LINUX

ENTERPRISE LINUX

KVM

CLOUD

OPEN HYBRID CLOUD

CONTAINERS

KUBERNETES
OPEN HYBRID CLOUD

infrastructure - application - management

HYBRID CLOUD INFRASTRUCTURE
Infrastructure software
RHEL at the core.

TRADITIONAL & CLOUD-NATIVE APP PLATFORMS
Rapidly & efficiently develop &
deploy apps across hybrid cloud
(container platform)

MANAGEMENT & AUTOMATION
Simplify management &
automation of hybrid cloud
environments.
ALL INTERCONNECTED

infrastructure - application - management

CLOUD MANAGEMENT AND AUTOMATION

TRADITIONAL & CLOUD NATIVE APP PLATFORMS

HYBRID CLOUD INFRASTRUCTURE

LINUX OS & CONTAINERS
IT’S ALL HERE

MANAGEMENT AND AUTOMATION

OTHER PUBLIC CLOUDS

TRADITIONAL AND CLOUD READY APP: PLATFORM

THE PORTFOLIO IS OPTIMIZED TO WORK TOGETHER
RED HAT DRIVES INNOVATION
RED HAT CONSULTING & TRAINING

- Hybrid cloud infrastructure
- Cloud migration
- PaaS & Containers on cloud
- NFV adoption
- Virtualization management
- Cloud storage
GRAZIE PER L’ATTENZIONE

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Red Hat Enterprise Linux

NOVITÀ DEL SISTEMA OPERATIVO
CUORE DELLE SOLUZIONI RED HAT

LUCA VILLA
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SPEND MORE TIME DRIVING BUSINESS GROWTH

**CONTROL**
“It should” – be secure.

**CONFIDENCE**
“It should” – just work.

**FREEDOM**
“It shouldn’t” – get in the way.

Implement **WHAT YOU WANT**, when it makes sense for you.
THE CONSISTENT FOUNDATION FOR THE ENTERPRISE HYBRID CLOUD

Red Hat Enterprise Linux

CONTROL

- Security and compliance
- Platform manageability
- Security automation
- Native controls
- Management at scale

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DISK DECRYPTION AT BOOT POSES SECURITY CHALLENGES

MANUAL UNLOCKING

Drives removed will still decrypt
Requires human intervention
Managing master keys

KEYFILE UNLOCKING

TPM2.0 PIN fully supported
Can be chained with other PINs
Network Bound Disk Encryption enables encryption and decryption of disks only on a trusted network, making data unusable if removed from the network.

- Network key service (TANG)
- Automated decryption client framework (CLEVIS)
- Dracut unlocker
- SystemD unlocker
- Udisks2 unlocker
Traditional network-based defenses are no longer enough in the face of:

- Dissolving perimeters
- Changing infrastructures
- Evolving threats

A new approach requires:

- Established security controls
- Standards based policies
- Ongoing security and compliance auditing
AUTOMATE SECURITY CONFIGS AT SCALE

OPENSCAP INTEGRATION WITH ANSIBLE AUTOMATION IN RED HAT ENTERPRISE LINUX 7.5

Define and tailor security policies via profiles
Scan and apply security policies via Ansible Automation or bash
Assert security policy at build with Ansible Automation or Anaconda

Shipped National Checklist profiles include:
- DISA STIG
- PCI - DSS
- NIST USGCB

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DEMO TIME

SCANNING AND FIXING

WITH OPENSACP

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The SCAP Security Guide Project
https://www.scap.org/security-guides/scap-security-guide

This guide presents a catalog of security-relevant configuration settings for Red Hat Enterprise Linux 7. It is a rendering of content structured in the Extensible Configuration Checklist Description Format (XCCDF) in order to support security automation. The SCAP content is available in the `scap-security-guide` package, which is developed at https://www.npmjs.com/security-policy/scap-security-guide.

Providing system administrators with clear guidance to ensure they have security configurations in place under varying roles and a variety of network states. Policy makers and baseline creators can use this catalog of settings, with its associations with the XCCDF, to assist them in security baseline creators. This guide is a catalog, not a checklist, and satisfaction of every item is relative to the possible set of scenarios in many operational situations. However, the XCCDF format enables granular selection and adjustment of settings, and their association with OWAC and CCM content provides an automated checking capability. Transformations of this document, and its associated automated checking content, are capable of providing baselines that meet a diverse set of policy objectives. Some example XCCDF Profiles, which are selections of items that form a frontend and can be used as baselines, are available with this guide. They can be processed, in an automated fashion, with tools that support the Security Content Automation Protocol (SCAP). The DoD STIG, which provides required settings for US Department of Defense systems, is one example of a baseline created from this guidance.

Evaluation Characteristics

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Provides the ability for administrators to create and manage bootable LVM snapshots. Allows for easier "A/B" testing of changes and recovery of a system.

### Boot to snapshot

### PCP Rebase

Performance Metric Domain Agents (PMDAs) have been updated: perfevent, containers and CGroups, MySQL slave metrics, Linux per-process metrics, and Linux kernel metrics for entropy, slabinfo, IPv6 sockets, and NFSD worker threads.

New PMDAs are now available: Prometheus endpoint and HAProxy.
THE CONSISTENT FOUNDATION FOR THE ENTERPRISE HYBRID CLOUD

Red Hat Enterprise Linux

CONFIDENCE

- Stability and reliability
- Performance and efficiency
- Improved availability
- 10+ year lifecycle
- Benchmark-breaking performance
DATA GROWTH DRIVES UP COSTS

- Existing storage solutions can’t accommodate projected growth
- Replication between storage systems, remote sites, and clouds takes too long
- Cloud instance storage can quickly eat up I.T. budget
Block level data reduction that works directly with block devices and filesystems to provide:

- Inline, on-the-fly deduplication
- Performance-optimized data compression
- Thin provisioning and zero block elimination

Addresses most common storage deployment models

Works with any file system, local or remote
DEMO TIME
VDO DEDUPLICATION AT WORK
https://youtu.be/7OV4p7YK_hl
How much can VDO save?

It depends... on your data and your workflow

Compressible Data
- Databases (textual content)
- Messaging
- Monitoring, alerting, tracing
- Systems and application logging

Redundant Workflow
- Backups
- Virtual Desktops
- Virtual Servers
- Containers
- Shared Home Directories

Savings Potential
- 50% (2X)
- 66% (3X)
- 75% (4X)
- 80% (5X)
- 83% (6X)
SIMPLIFY ADVANCED TROUBLESHOOTING

COCKPIT ADMIN CONSOLE ENHANCEMENTS IN RED HAT ENTERPRISE LINUX 7.5 & 7.6

Cockpit provides an easy to use interactive admin interface with minimal footprint

- No state separate from the server
- Simple management for subsystems like network or storage via system APIs
- Access to multiple tools like diagnostic reports, logs, and SELinux
- NEW IN 7.5: additions to network and storage (VDO) capabilities
- NEW IN 7.6: Firewall Management, improved System Summary page
  Single Sign-on config for IPA users
DEMO TIME

STORAGE MANAGEMENT

WITH COCKPIT
# Red Hat Enterprise Linux Server

THE CONSISTENT FOUNDATION FOR THE ENTERPRISE HYBRID CLOUD

Red Hat Enterprise Linux

FREEDOM

- Application experience
- Multi-platform support
- Ecosystem

- Cloud/hardware independent
- Thousands of certified solutions
- Containers & development tools

#RedHatOSD
STANDARDS BASED CONTAINER TOOLS
CREATE, DEPLOY, MANAGE WITH PODMAN

- cri-o
- buildah
- podman
- skopeo
GRAZIE PER L’ATTENZIONE

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