

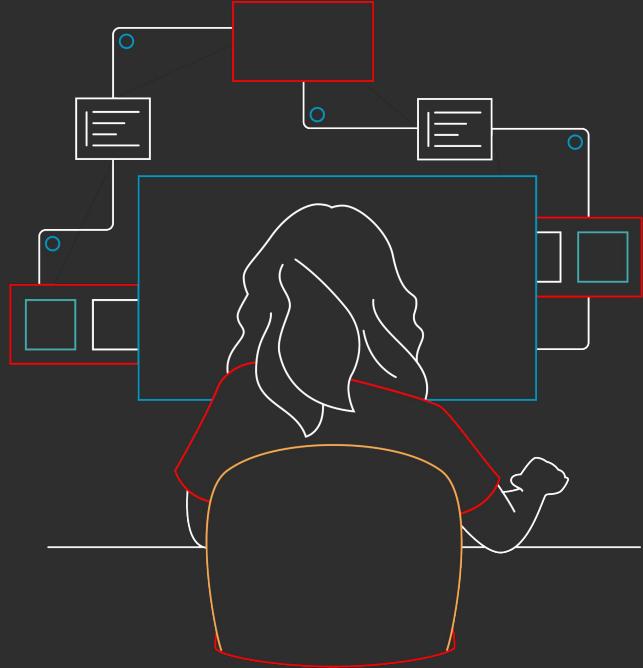
Introduction to SAP solutions from Red Hat

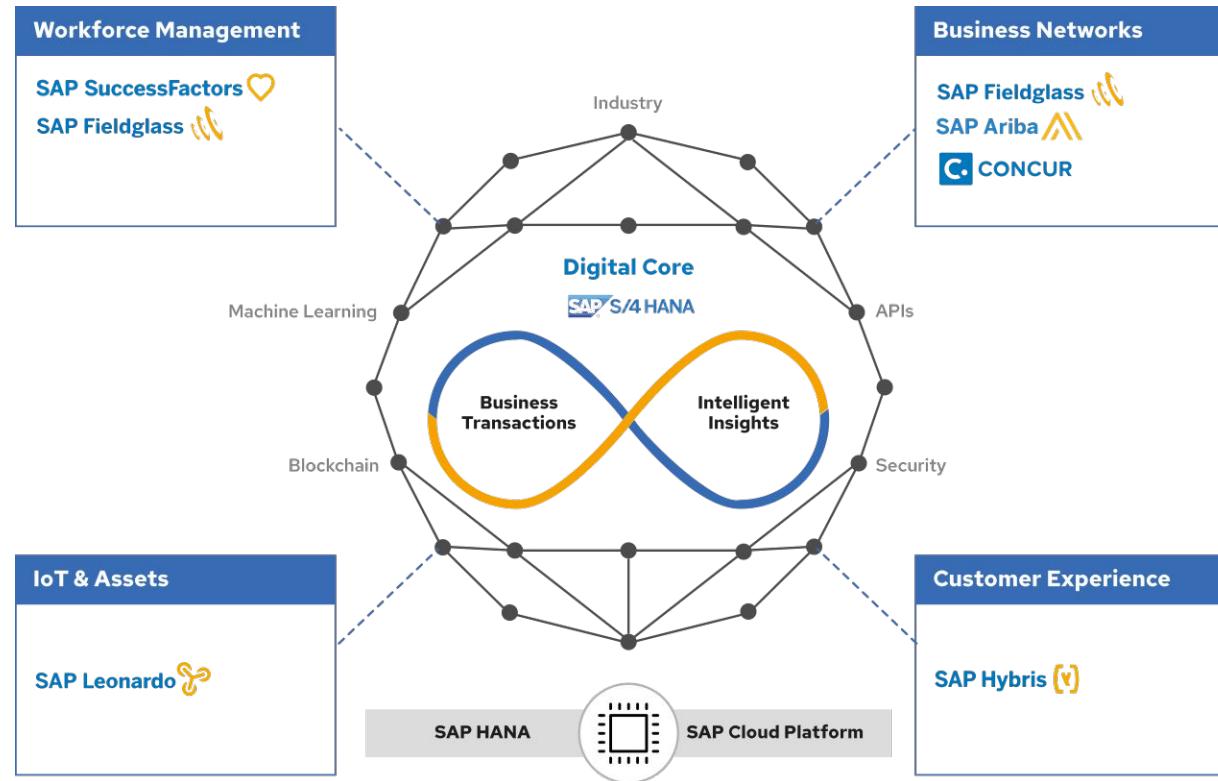
Markus Koch (mkoch@redhat.com)
EMEA Partner Development SAP

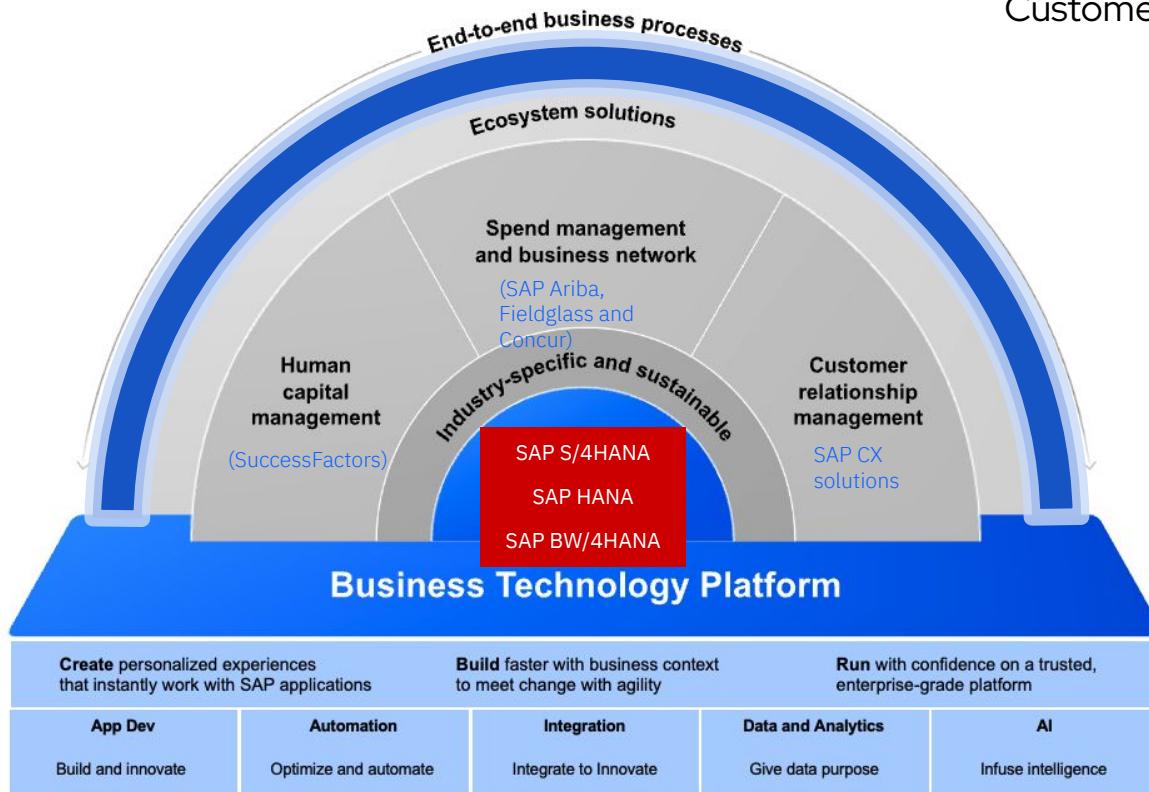
February 2024



What is SAP?







Customer's key/most-critical business applications



ERP

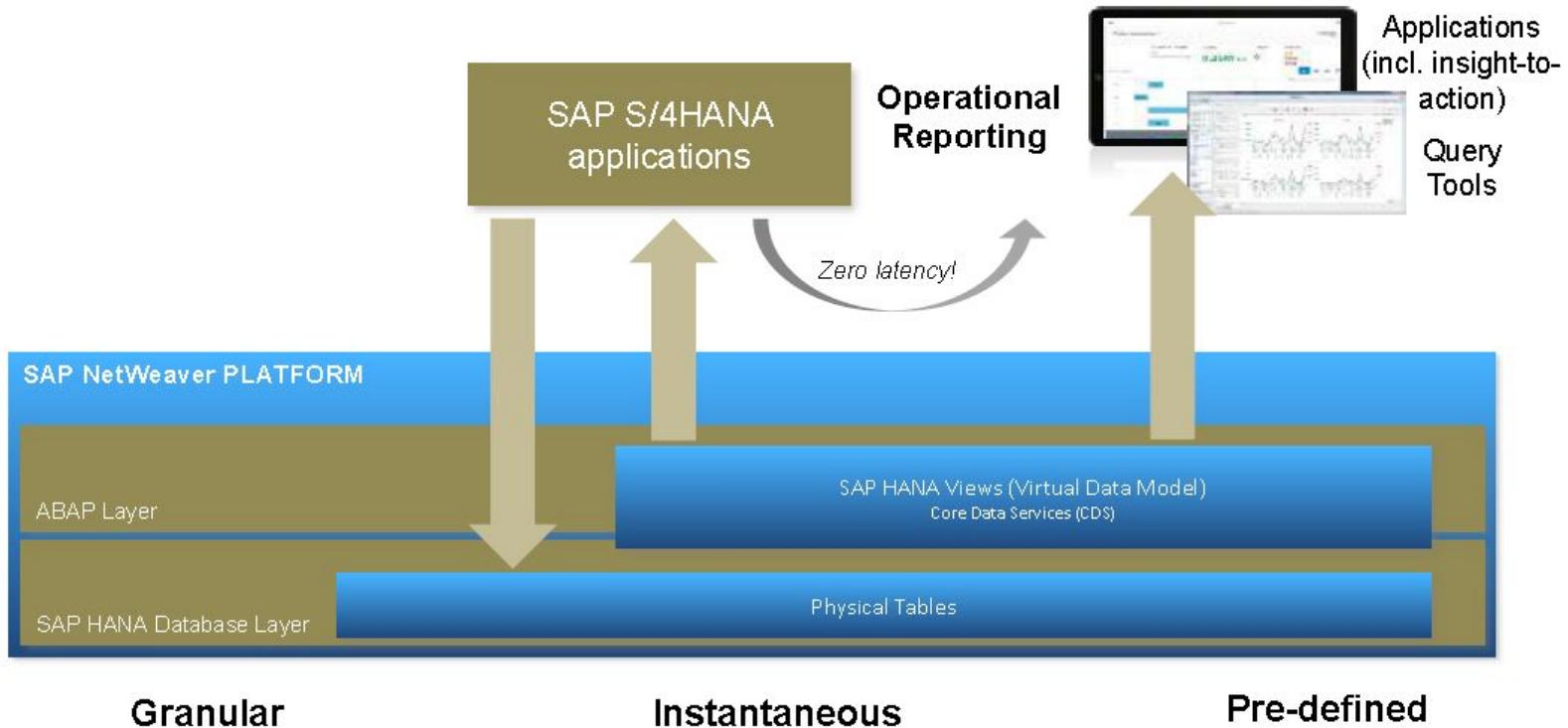


LoB's

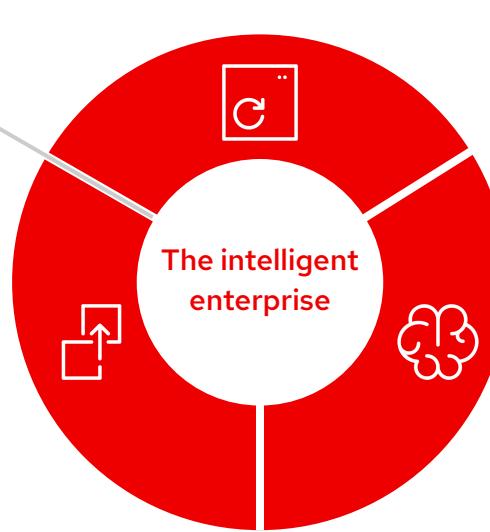


BTP
Cloud Only

The foundation for a new class of applications



A necessity to modernize SAP applications



SAP S/4HANA migration
demands **Linux OS** adoption



SAP digital core drives
application **platform modernization**

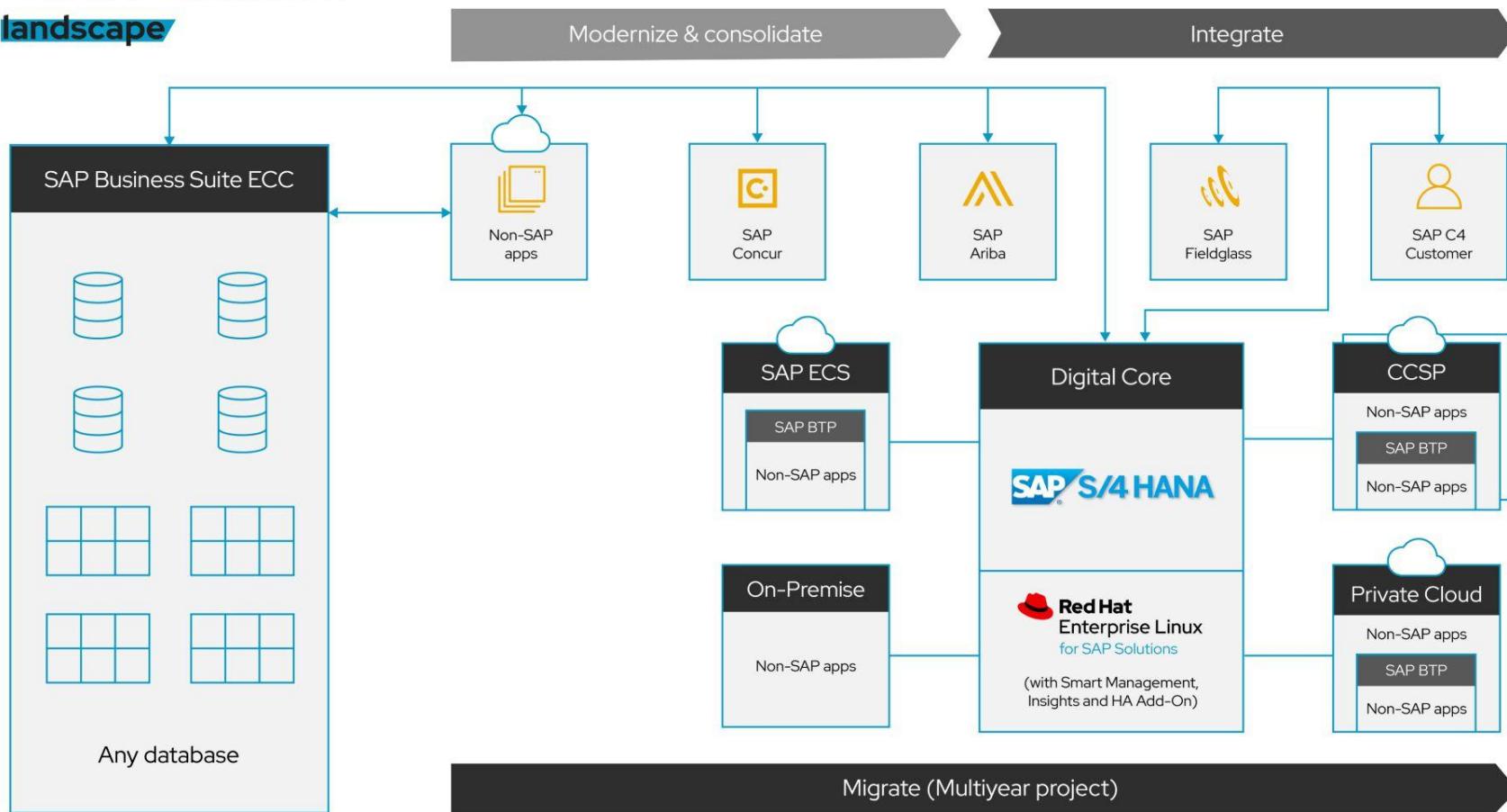


SAP move to microservices
foster **hybrid cloud** deployments

Your SAP customer's landscape

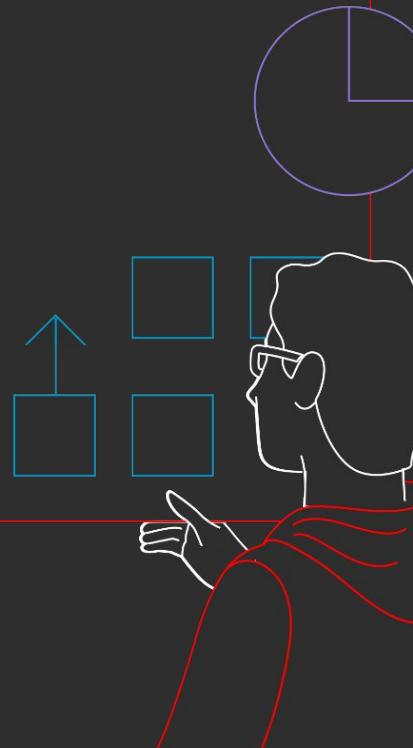
Red Hat
OpenShift

Red Hat
Integration
(Fuse, 3Scale,
AMQ, Runtimes)

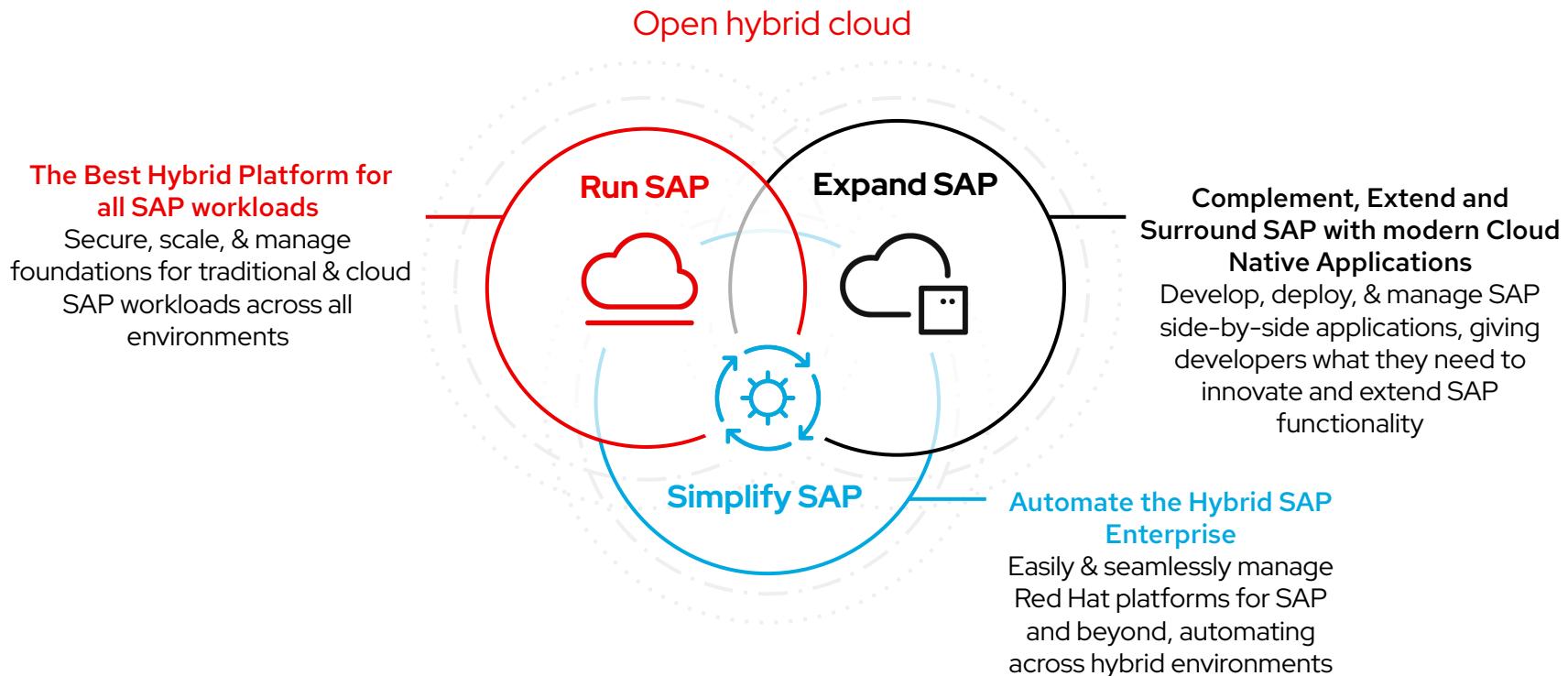


PART THREE

Red Hat solutions for SAP workloads



How Red Hat adds value to SAP workloads



Red Hat's strategy and vision for its portfolio of software, tools, and services built in the open source development model and designed for future architectures that are open, secure, and agile across hybrid, multi-cloud.

Explaining Red Hat Enterprise Linux for SAP Solutions



Red Hat
Enterprise Linux



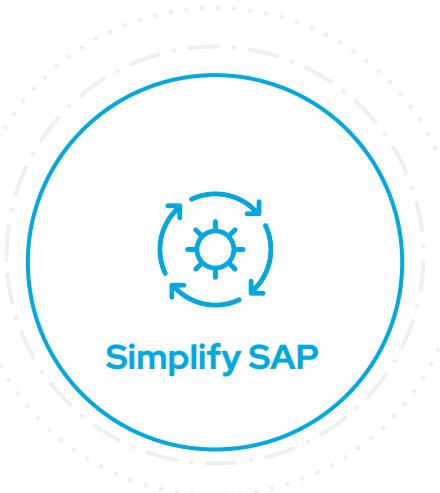
Red Hat
Insights



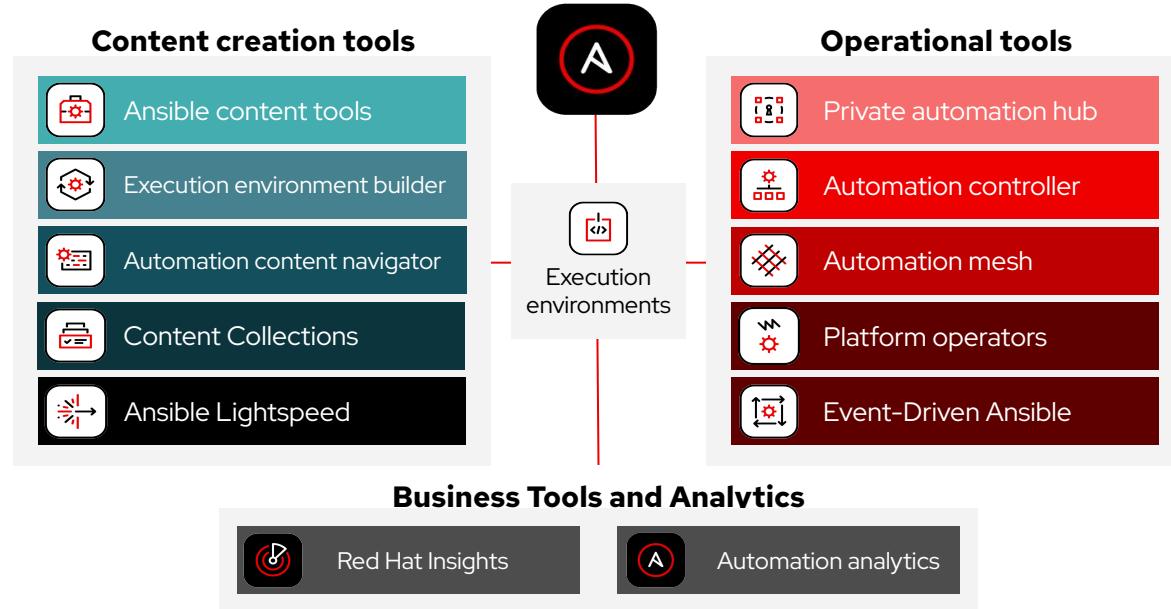
Red Hat
Satellite

- Red Hat Enterprise Linux
- RHEL High-Availability Add-on
- Red Hat Satellite
- Red Hat Insights
- RHEL system roles for SAP
- SAP specific components
- Update Services for SAP solutions

Explaining Red Hat Enterprise Linux for SAP Solutions



Red Hat
Ansible Automation
Platform



SAP HANA Server Installation and Update guide: ~280 pages

S/4 HANA installation documentation: ~90 pages

~80 pages of additional SAP Notes for proper preparation

supported Ansible roles implement RedHat and SAP best practices

Configuration problems are often found in wrong preconfiguration

e.g. wrong /etc/hosts entries

No same task should be performed twice

What if, automating

the initial setup & operations of SAP workloads would be just as easy than selecting a collection on an online marketplace



Migration of SAP workloads from
3rd party Linux Distros to Red Hat
Enterprise Linux



Red Hat Insights agent activation



Near-zero downtime
maintenance



Instance
refreshes



Cluster management



Stop/start
of SAP instances



Activation of SAP HANA system
replication (or equivalent
high-availability feature of other
DBs)



High-availability Red Hat Enterprise
Linux Pacemaker cluster build on
both application and DB tiers



SAP instance system copies



Spin up/delete new application
servers on demand (namely for
hyperscalers)



Kernel parameter changes



SAP kernel
upgrade



DB backup/restore



Smart management and proactive
issue resolution for SAP servers



DB operations



DB and OS patching



Shutting down of sandbox/
pre-production systems to
cold storage

Red Hat Upstream Development Model

for the SAP Automation Content

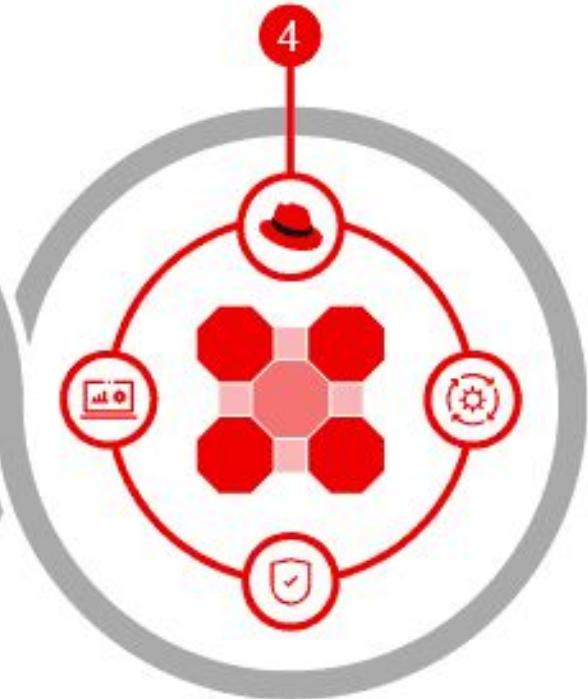
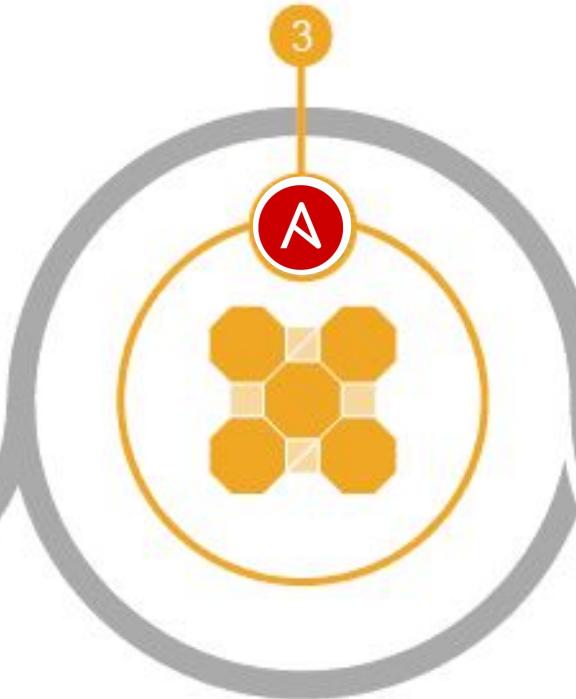
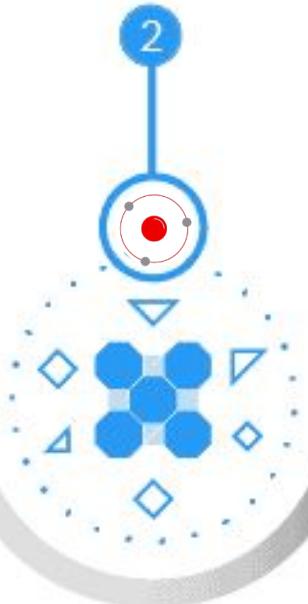
sap-linuxlab

Community Projects

Galaxy

Red Hat Automation Hub

Red Hat Enterprise Linux



Automating Day 1 operations for SAP workloads

These are some of the use cases that can be automated with Ansible for Day 1 operations



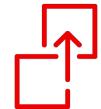
Activation of SAP HANA system replication (or equivalent high-availability feature of other DBs)



High-availability cluster build on both application and DB tiers

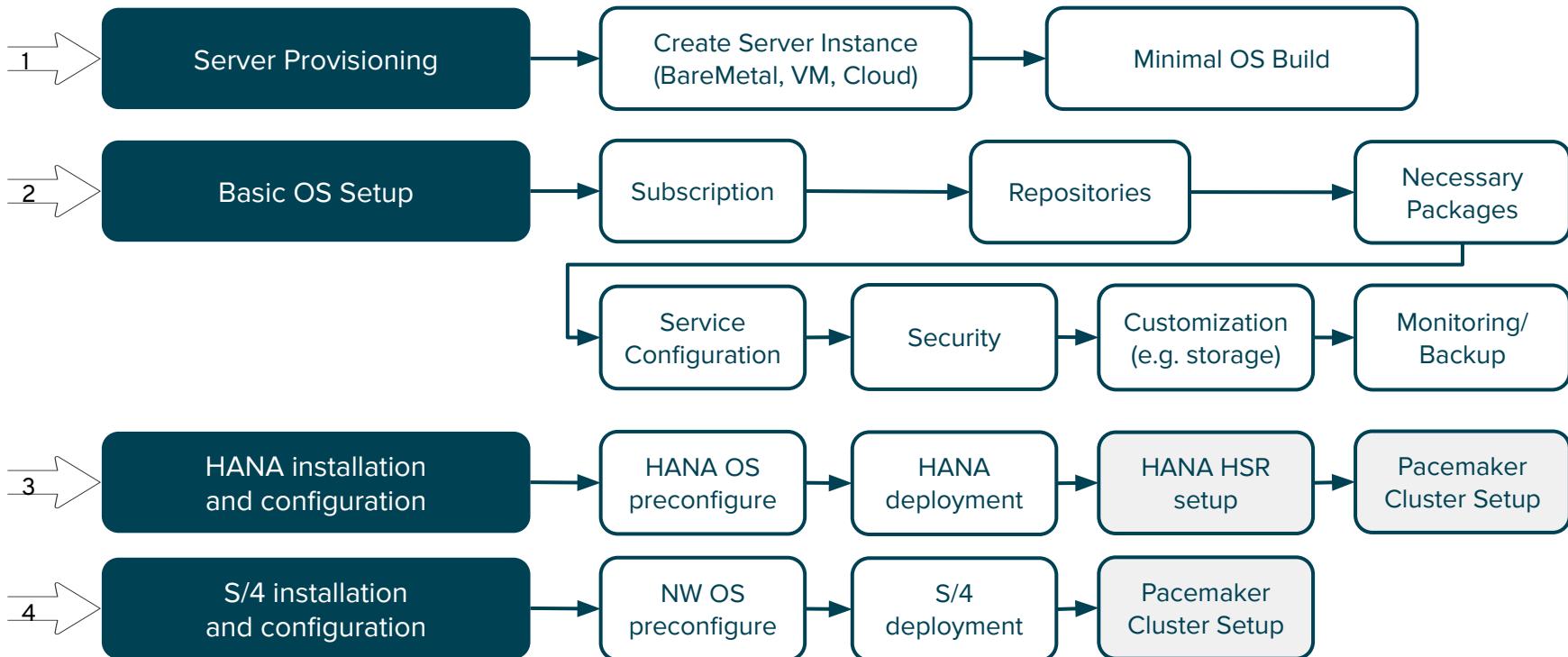


Red Hat Insights agent activation



Migration of SAP workloads from Suse Linux Enterprise Server to Red Hat Enterprise Linux

The SAP S/4 HANA deployment process breakdown



Red Hat Ansible Day-1 SAP Automation Content

Currently available Red Hat certified content collection for SAP installation

Name	Type	Description
sap_general_preconfigure	role	Prepare Linux OS (RHEL, SLES) with common configurations required for either SAP NetWeaver or SAP HANA installation
sap_hana_preconfigure	role	Prepare Linux OS (RHEL, SLES) with specific configurations required for SAP HANA installation
sap_netweaver_preconfigure	role	Prepare Linux OS (RHEL, SLES) with specific configurations required for SAP NetWeaver installation
sap_hana_install	role	Installation of SAP HANA on Linux OS (RHEL, SLES)
sap_ha_pacemaker_cluster	role	Installation and configuration of Pacemaker Cluster for SAP solutions
sap_swpm	role	Installation of SAP Software using the SAP Software Provisioning Manager (SWPM) on Linux OS (RHEL, SLES)
sap_ha_install_hana_hsr	role	Installation of SAP HANA System Replication on Linux OS (RHEL, SLES)

17

Red Hat **tested, documented** and **supported** Ansible Day-1 content artefacts for SAP workloads

Available through **Ansible Automation Platform** and/or **RHEL for SAP Solutions** subscription

Source: https://console.redhat.com/ansible/automation-hub/repo/published/redhat/sap_install/content

Automating Day 2 operations for SAP workloads

These are some of the use cases that can be automated for **Day 2 operations**

-  SAP instance system copies
-  Spin up/delete new application servers on demand (e.g. for hyperscalers)
-  Instance refreshes
-  Kernel parameter changes
-  SAP kernel upgrade
-  DB operations
-  DB and OS patching
-  Resource addition (CPU, memory, disk)
-  Cluster management
-  DB backup/restore
-  Stop/start of SAP instances
-  Shutting down of sandbox/pre-production systems to cold storage and pulling them out of storage when needed
-  Smart management and proactive issue resolution for SAP servers
-  Near-zero downtime maintenance for SAP servers

Red Hat Ansible Day-2 SAP Automation Content

Currently available Red Hat certified content collection for SAP operations

Name	Type	Description
unpack	role	Unpack *.zip and *.sar files
hana_update	role	hana_update
prepare	role	Prepare RHEL managed host to run content from sap.sap_operations
sap_kernel_update	role	Update SAP kernel.
host_info	module	Collect information about installed SAP instances on the host
system	module	Manage SAP system
hdbuserstore_info	module	Get information from HANA user store (HANA command hdbuserstore)
service	module	Manage SAP HANA services
rolling_kernel_switch	module	Manage Rolling kernel switch
hana_backup	module	Create SAP HANA database file backup
parameter_info	module	Parameter information
system_info	module	SAP system information
hdbuserstore	module	Manage the HANA user store (HANA command hdbuserstore)

Red Hat **tested, documented** and **supported** Ansible Day-2 content for SAP workloads

Available through **Ansible Automation Platform** (only)



create and build



Ansible Modules & Collections

Ansible Playbooks



→
orchestrate
and manage



Ansible Playbooks

Ansible Automation Platform

Roles and Playbooks are commonly developed with vendors and partners

Currently many end2end examples are available at: https://sap-linuxlab.github.io/03_demos/

- ▶ Cloud Providers
- ▶ HPE, DELL and Power incl. demo environments at the vendors
- ▶ several SAP software bundles

SAP Linuxlab



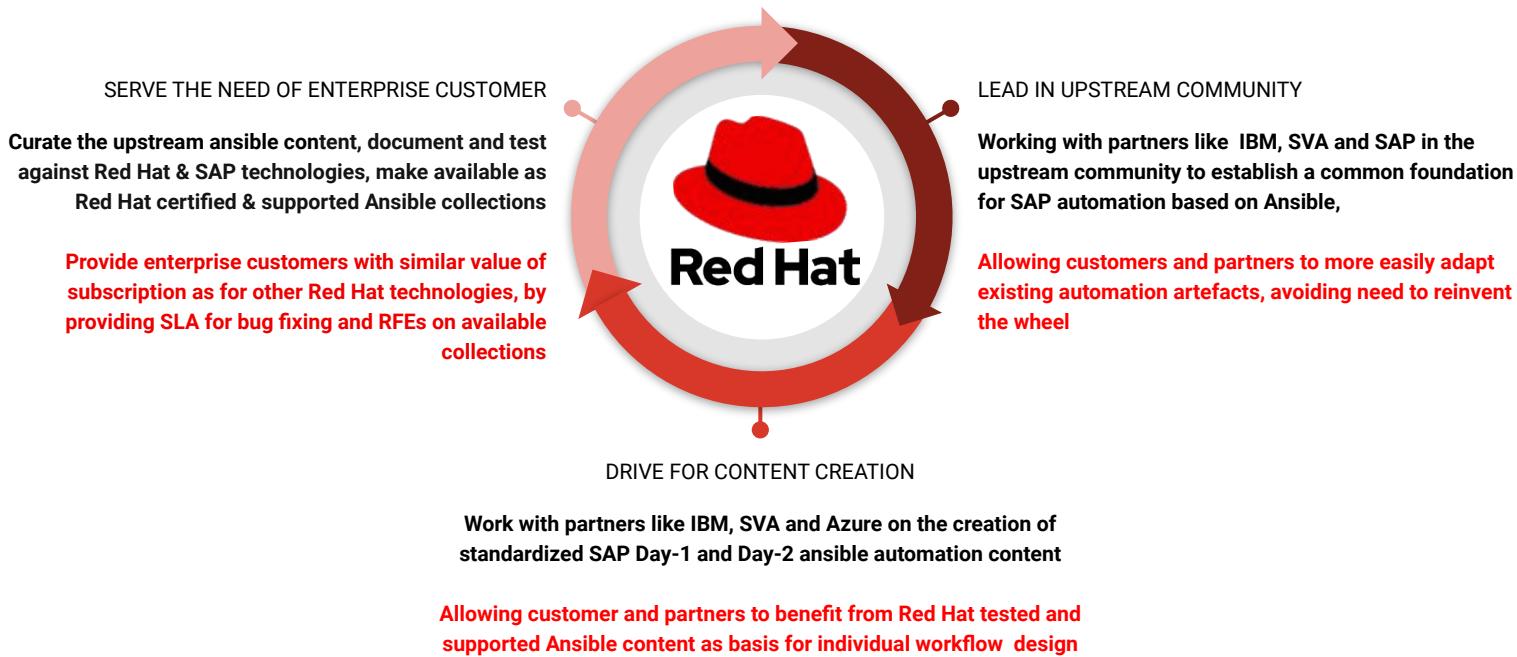
Full support from Red Hat



A place for open source software that helps to make creating and managing SAP environments on Linux easier

The value of subscription for SAP Automation

Provided through Red Hat Ansible Automation Platform

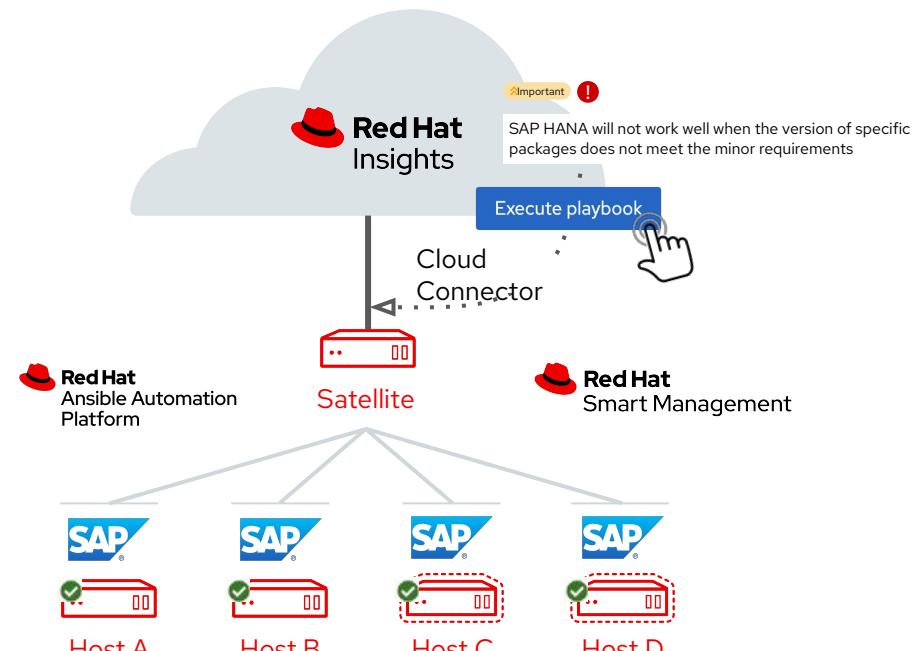




Completely Automated SAP Environments

Automated fix of performance, vulnerability, and compliance risks in SAP environments

- ▶ Support push-button deployments of SAP on top of Red Hat Enterprise Linux for SAP Solutions
- ▶ Provide automated remediation of issues identified by Red Hat Insights, tailored for SAP workloads, at scale
- ▶ Operationalize Red Hat expertise to help IT more efficiently keep systems in line with SAP requirements
- ▶ Lower risk of unplanned downtime by proactively addressing performance issues



Explaining Red Hat Enterprise Linux for SAP Solutions



 **Red Hat**
OpenShift

Application platform modernization

Modernization and integration



 **Red Hat**
Integration

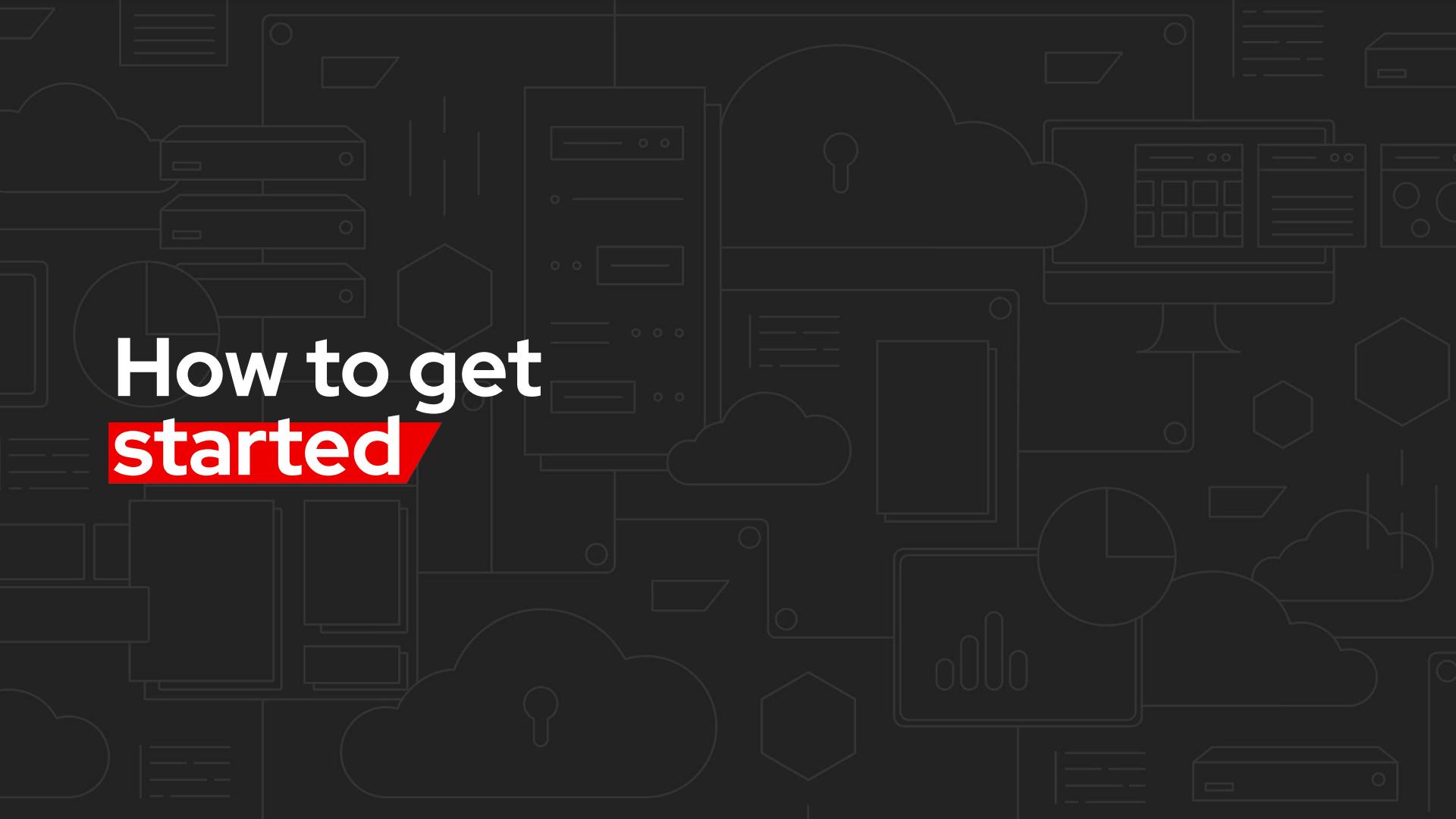
Intelligent applications

Innovation through data and analytics



 **Red Hat**
OpenShift Container Storage

How to get started





Want to learn more?

Where to find more information about Red Hat solutions for SAP

► **Analyst Briefs**

- [SAP S/4HANA migration benchmark report](#)
- [The intersection between simplicity and business value](#)
- [Für SAP-Landschaften bedeutet migration mehr als Linux](#)

► **eBooks**

- [Reducing downtime for SAP HANA](#)

► **Virtual Classroom Trainings**

- [Red Hat Ansible Automation for SAP \(RH045\)](#)
- [Fundamentals of RHEL for SAP Solutions](#)

► **Blogs**

- [Multi Target Replication on SAP HANA for RHEL](#)
- [Red Hat Insights dashboard for SAP HANA on Red Hat Enterprise Linux](#)
- [Integrating SAP technology in the cloud-native era](#)

► **Product pages**

- [Red Hat Enterprise Linux for SAP Solutions](#)
- [Red Hat Ansible Automation Platform](#)

SAP Partner Education Plan

Infrastructure / Architecture

INITIAL

RHCSA or comparable

[Red Hat Solutions Overview for SAP](#)

(quarterly, updated)

[Red Hat Sales Engineer Specialist - Red Hat Ansible Automation for SAP Solutions](#)

[SAP Landscape Automation with Ansible & Red](#)

²⁸ [Hat Enterprise Linux](#)

on open.sap.com (SAP Account req.)

ADVANCED

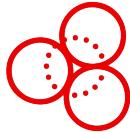
- Red Hat Ansible Automation Platform Foundations
- [RH294: Red Hat Enterprise Linux Automation With Ansible](#)

EXPERT

[RH445: Red Hat High Availability Clustering for SAP Solutions](#)

[Technical enablement - skill up on SAP Netweaver and HANA Automation with Ansible](#)

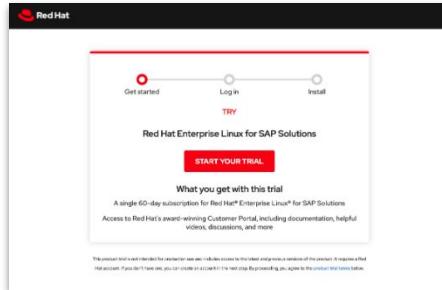
Free trial of Red Hat Enterprise Linux for SAP Solutions

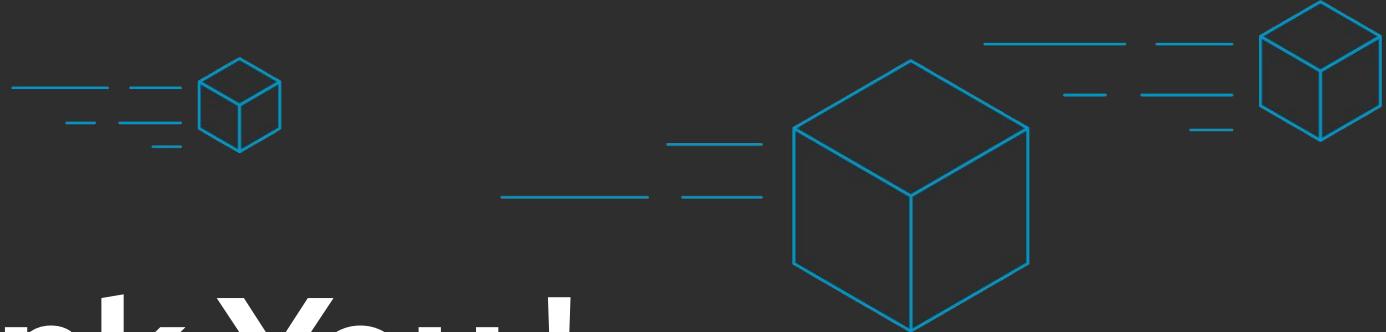


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Red Hat Enterprise Linux for
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- Documentation
- Helpful videos
- Discussions
- Much more





Thank You !



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