



Connect

Automation for SAP workloads

How to efficiently manage them through their whole lifecycle

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Principal Portfolio Architect

Agenda

- Red Hat and SAP
- The case for automating SAP
- Ansible® Automation Platform for SAP modernization
 - Day 0/1 migration
 - Day 2 operations
- The Red Hat portfolio for SAP
- Q&A

Red Hat & SAP

PARTNERSHIP

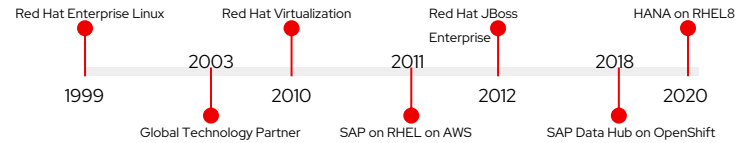


1st LINUX FOR SAP

SAP Venture Invested 1999
Accelerated Linux Success

21 YEAR PARTNERSHIP

Open-Source base for many
SAP Solutions & Innovations



CUSTOMERS

MORE THAN
310
FORTUNE 500

MORE THAN
+30%
NEW CUSTOMERS / YEAR

E2E INFRASTRUCTURE

Matching SAP's Technical Pillars of the
Intelligent Enterprise



Integration



Cloud Native



Intelligence



SAP Data Intelligence
on Red Hat OpenShift

Next-Gen Data



Open Platform



Security

Top challenges with SAP modernization

2027 Deadline

Sunsetting of SAP ERP Central Component (ECC) in 2027

Organizational/Cultural Shift

More than just a technology migration—it requires a mind-set shift as part of a larger digital transformation strategy

Complexity

Migration involves multiple teams, requires thoughtful planning, and careful decision-making

Time

Migration can take anywhere from 12 to 18 months (or longer), distracting teams from other priorities



Linux OS Required

SAP S/4HANA requires Linux for its processing speed, flexibility, security, and reliability.

Legacy Customizations

SAP S/4HANA is a new product; custom code may not be forward-compatible with SAP S/4HANA

SAP Skills/Training Gap

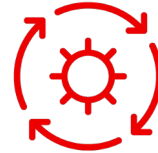
Lack of in-house expertise with S/4HANA and/or Linux

Opportunities for success



Linux® OS

Adopt Linux® OS and move to SAP S/4HANA before 2027.



Automation

Automate IT to focus on high value, strategic work.



Modern Core

Modernize applications to make sure the SAP digital core is clean and Cloud-Ready to options like SAP S/4HANA Cloud or SAP RISE.



Drive innovation

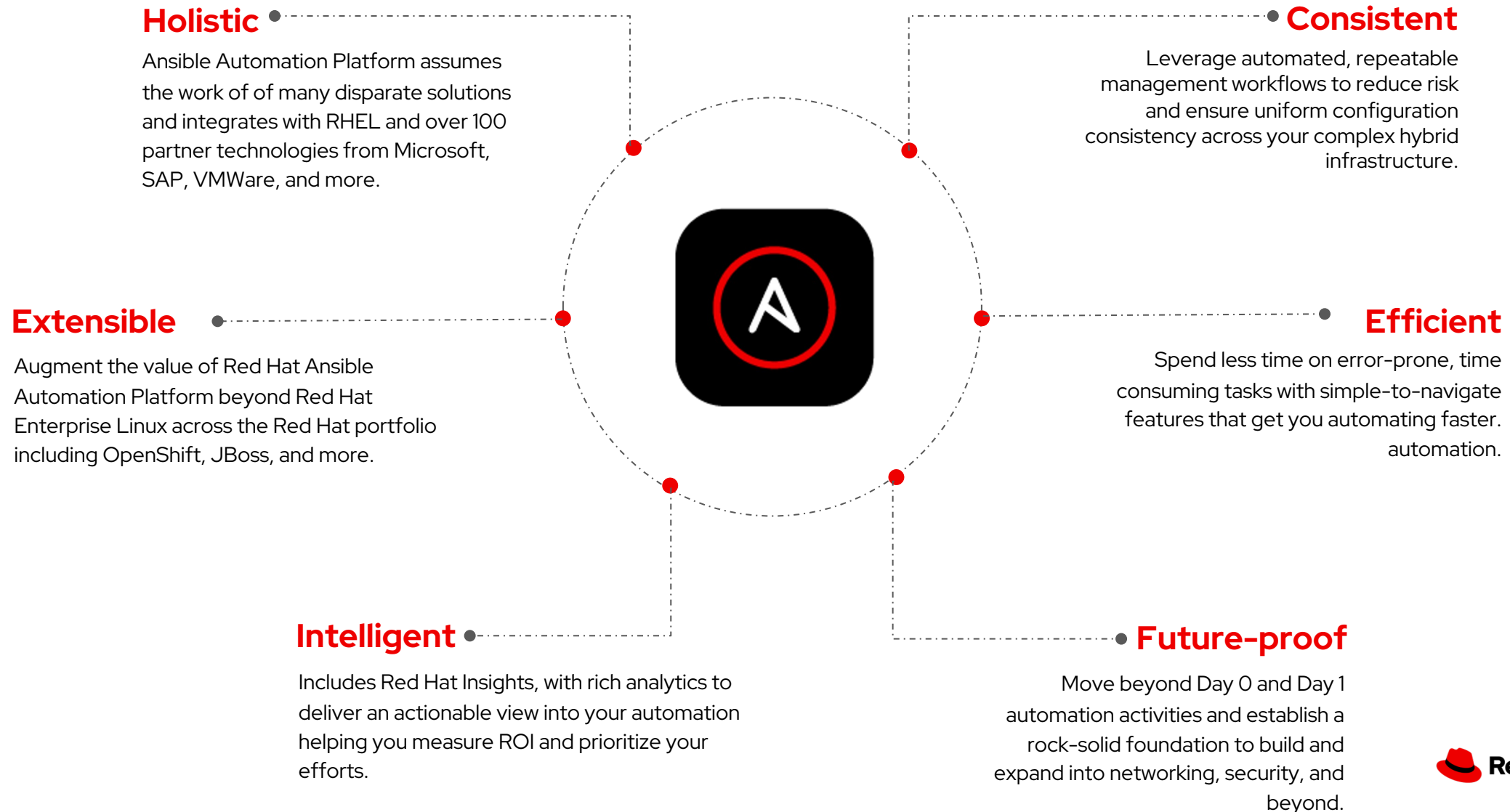
Include new, modern, innovative solutions into daily operations, and increase competitiveness, speed, and agility



“Red Hat Ansible Automation Platform provides a wealth of **SAP-specific roles** for automating SAP HANA landscapes.”

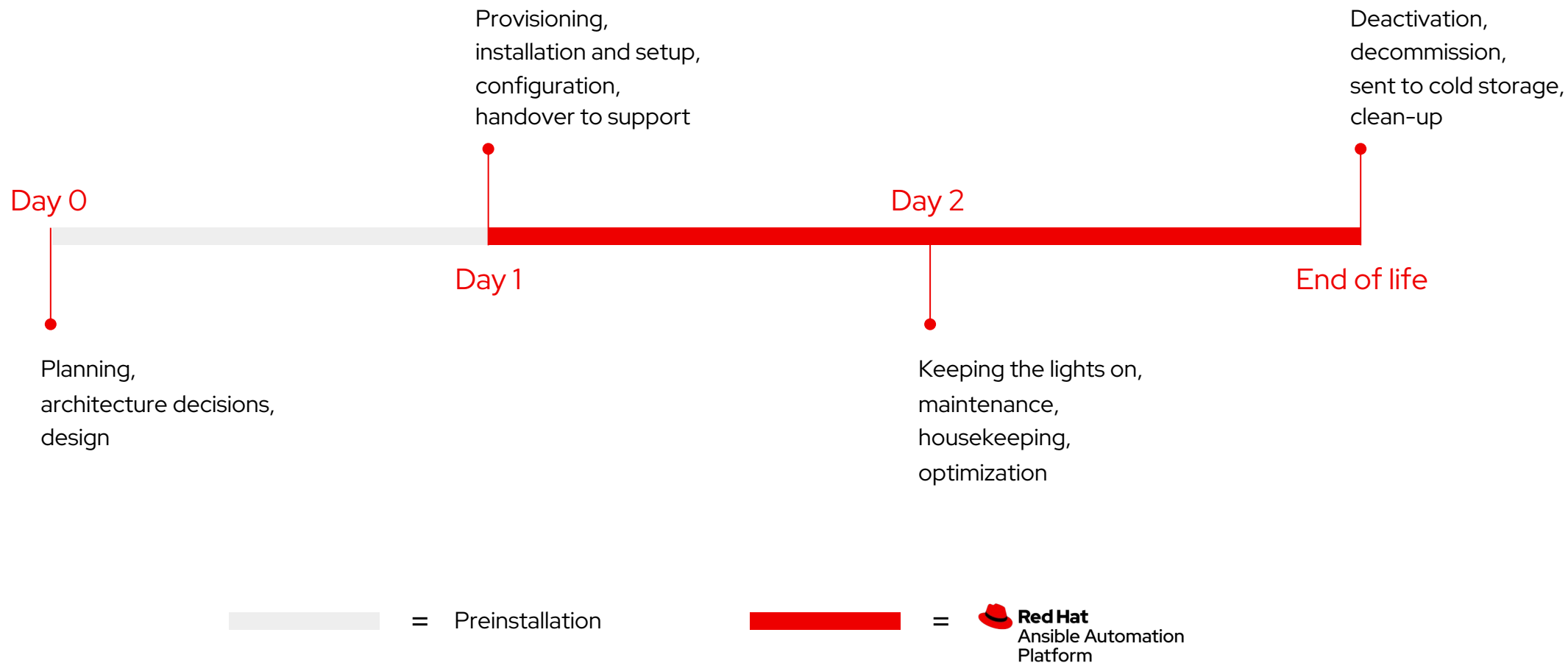
Source: IDC, [For SAP Landscapes, Migration Means Much More Than Just Linux](#), Peter Rutten and Sriram Subramanian, February 2021

Ansible Automation Platform and Infrastructure-as-Code

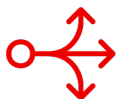


Ansible Automation Platform for SAP modernization

Day x operations concept



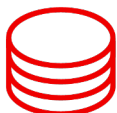
Automating Day 1 operations for SAP workloads



Provisioning of the target node(s) (VMs)



Installation of Red Hat Enterprise Linux on VMs; activation of Red Hat Enterprise Linux subscriptions, initial patching



DB installation (SAP HANA or any other SAP supported DB)



Installation of SAP S/4HANA (or SAP NetWeaver)



Migration of SAP workloads to a cloud environment



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



Red Hat Insights agent activation



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

Ansible roles for Day 1 operations

redhat_sap.sap_hana_ha_pacemaker

- Configures pacemaker to provide a highly available SAP HANA instance

redhat_sap.sap-s4hana-deployment

- Runs the fully automated installation of SAP S/4HANA with an existing SAP HANA installation on the same server or on a separate server

redhat_sap.sap_hana_deployment

- Deploys SAP HANA

redhat_sap.sap_hana_hsr

- Configures SAP HANA System Replication (HSR) on 2 existing SAP HANA deployments

redhat_sap.sap_hana_mediacheck

- Checks SAP HANA installation media

redhat_sap.sap_hostagent

- Deploys SAPHOSTAGENT on the server

sap-netweaver-preconfigure

- Configures server for SAP Netweaver software according to Best Practices in SAP OSS Notes

sap-hana-preconfigure

- Configures server for SAP HANA according to Best Practices in SAP OSS Notes

redhat_sap.sap_rhsm

- Registers and subscribes a server to RHEL for SAP related repositories

sap-preconfigure

- Installs required packages and configures server based on Best Practices in SAP OSS Notes

other linux system roles for network, ntp, subscription mgmt, etc.

Automating Day 2 operations for SAP workloads



SAP instance system copies



Spin up/delete new application servers on demand
(namely 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 SAP instances



Shutting down of sandbox/preproduction systems to
cold storage and pulling them out of storage

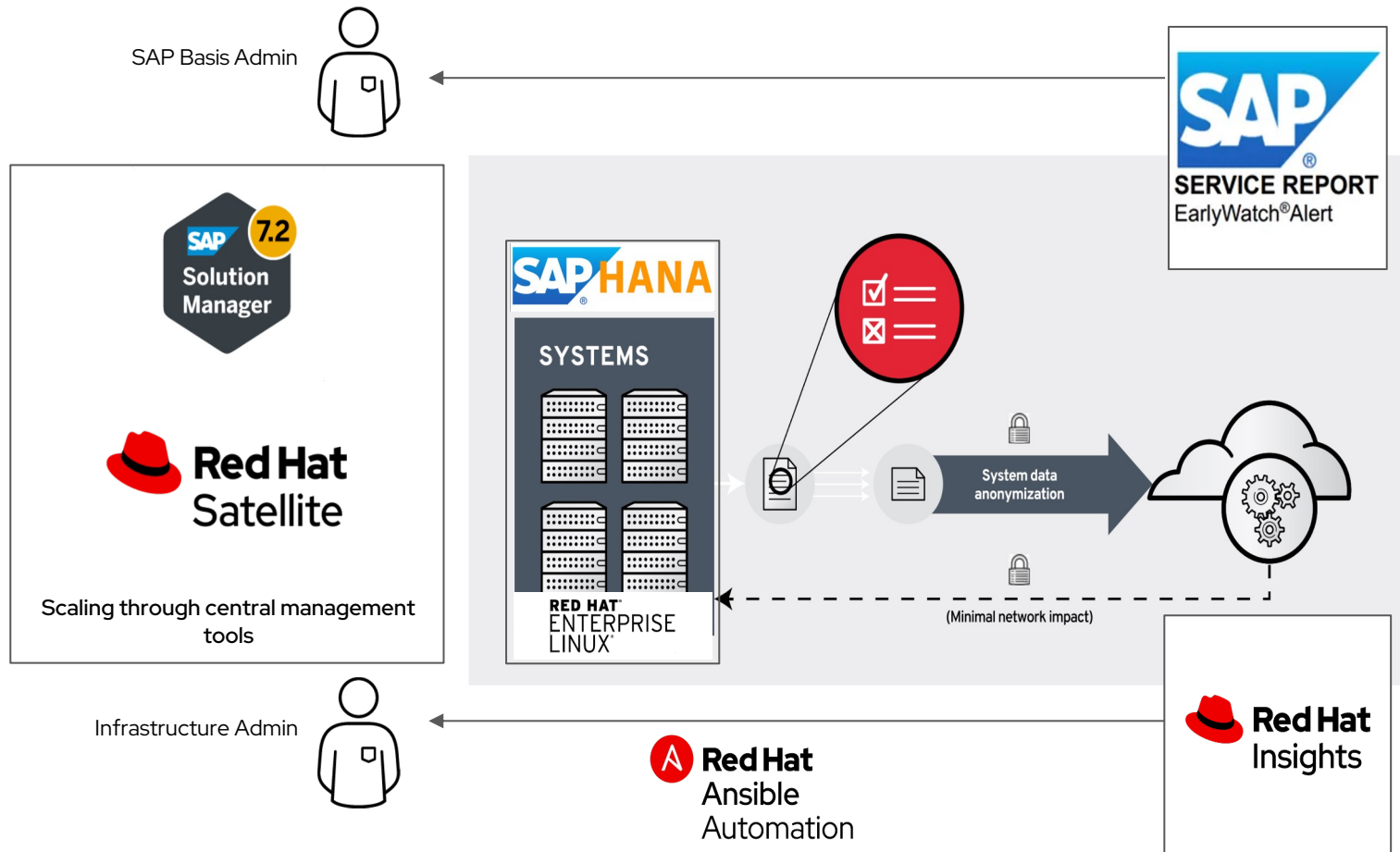


Smart management and proactive issue resolution for
SAP servers



Near-zero downtime maintenance for SAP servers

Smart Management for SAP

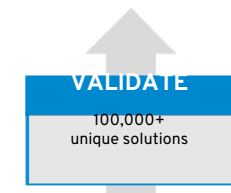
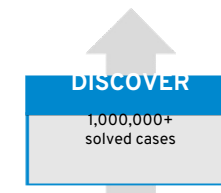


SAP Early Watch

- Proactive Application Monitoring
- Top down view
- Insights from SAP Solution Manager

Red Hat Insights

- Proactive Infrastructure Monitoring
- Bottom up view
- ML in Red Hat Datacenter



SAP specific rules in Insights

Red Hat

Insights

Dashboard

Advisor

Recommendations

Systems

Topics

Vulnerability

Compliance

Patch

Drift

Policies

Inventory

Remediations

Register Systems

Subscription Watch

Product Materials

Filter results

Workloads SAP

Clear filters

Advisor recommendations

Download executive report

Name

Filter by name

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Systems impacted 1 or more

Status Enabled

Clear filters

Name	Added	Total risk	Risk of change	Systems	Ansible
> Incident Misconfigured applications running on EC2 instances where IMDSv1 is enabled will have access to the internal Metadata service by exploiting application vulnerabilities	9 months ago	Important	Very Low	3	✓
> When the Insights Client is earlier than "3.1.0", it is not able to get recommendations dependent on core collection	19 days ago	Important	Very Low	5	No
> Incident Cluster integrity cannot be guaranteed because no fence devices available in HA cluster	4 years ago	Important	Low	2	No
> SAP HANA will not work well when the version of specific packages does not meet the minor requirements	2 years ago	Important	Very Low	4	✓
> Kernel panic might occur when using the SELINUX=disabled option in the /etc/selinux/config	3 months ago	Important	Moderate	8	✓
> The Amazon Time Sync Service is not configured on EC2 instances which might result into inconsistent and inaccurate time	11 months ago	Moderate	Very Low	2	✓
> The dnf installs lower versions of packages when the "best" option is not present in the /etc/dnf/dnf.conf	6 months ago	Moderate	Very Low	2	✓
> Cluster nodes are fenced frequently as DHCP is used for corosync interconnection	4 years ago	Moderate	Low	1	No
> Kdump will fail if the minimum required crashkernel reservation size is not configured correctly when the third-party modules are loaded	1 month ago	Moderate	Very Low	2	✓
> Incident SAP HANA is not supported when running on an uncertified EC2 instance	2 years ago	Moderate	Low	2	No

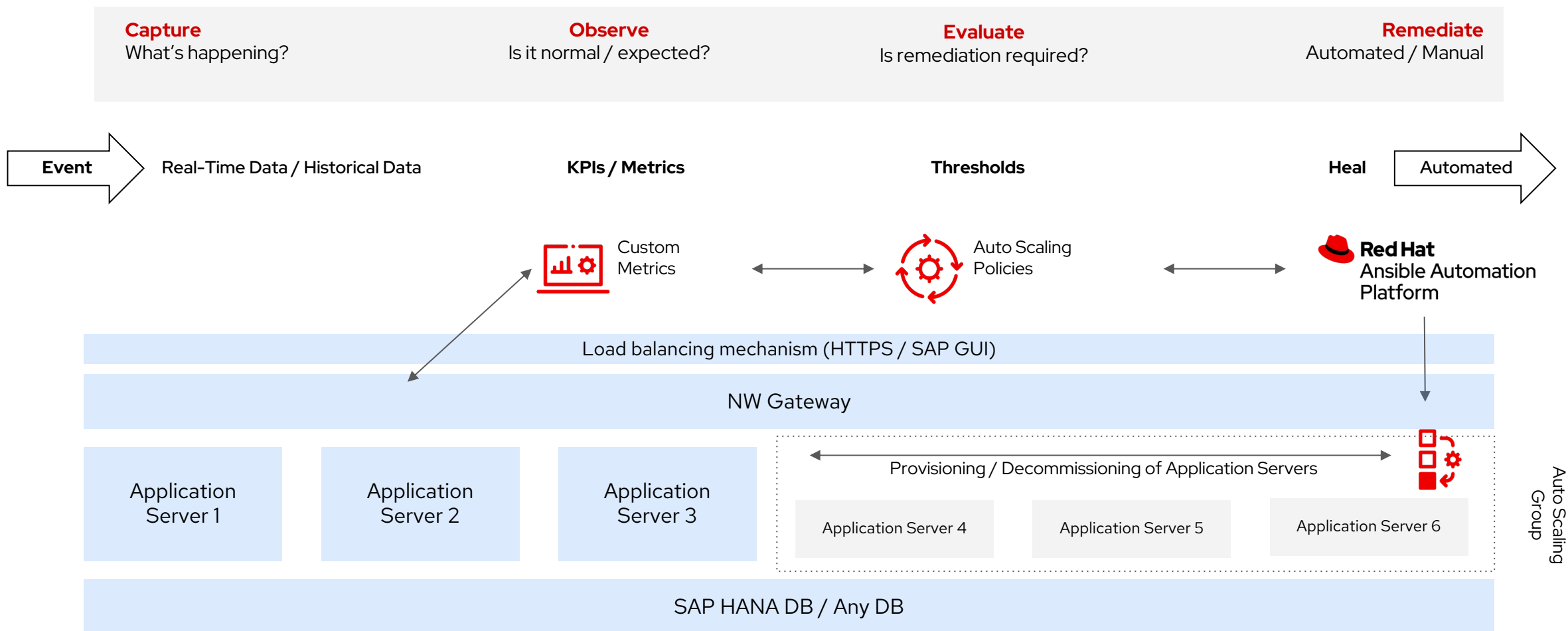
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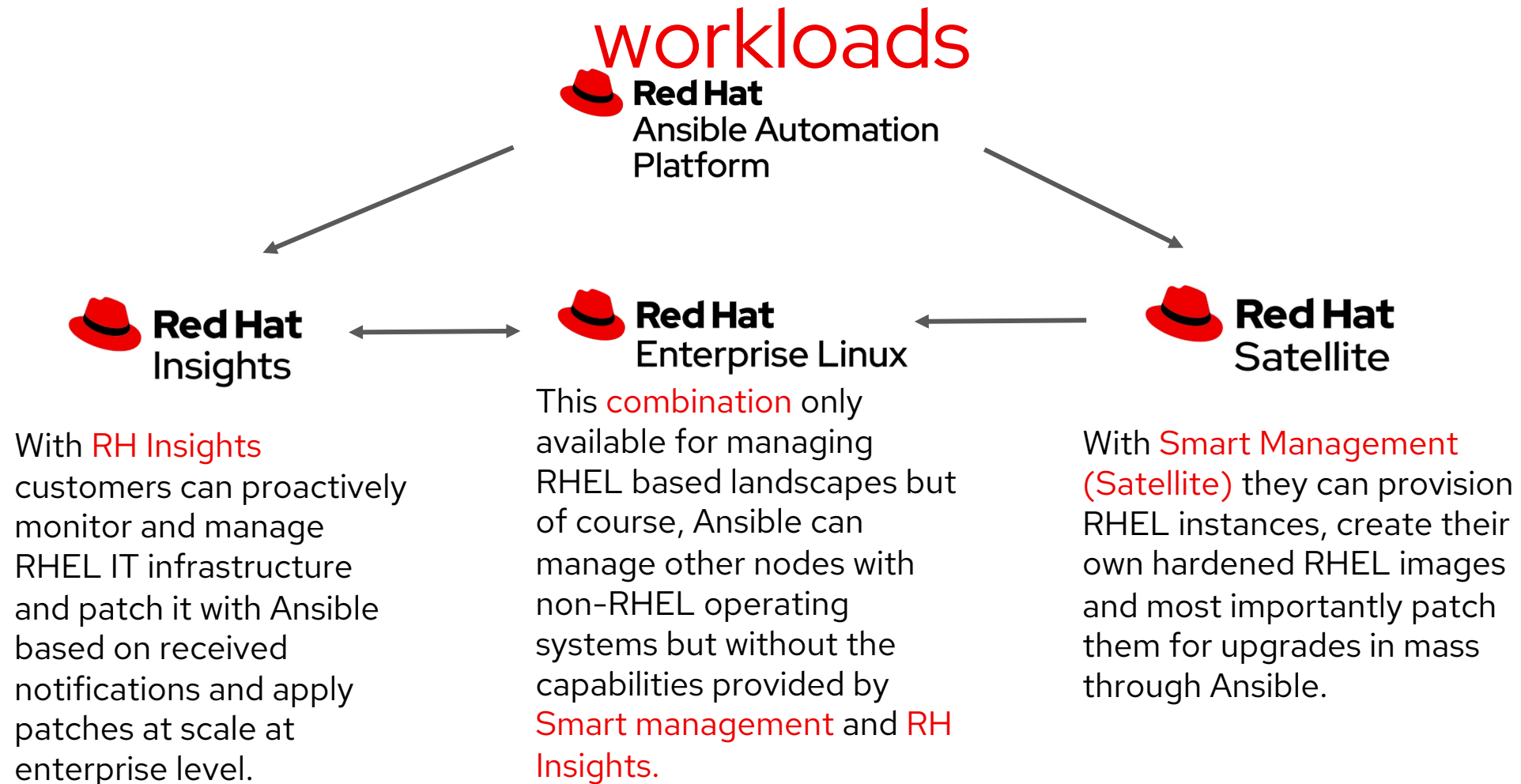
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Self healing architecture

Fully automated provisioning and decommissioning of SAP Application Servers



Complete platform for automation of SAP



Red Hat solutions for SAP

Red Hat solutions for SAP



Red Hat
Ansible Automation
Platform



Red Hat Enterprise Linux

- Create stable, future-ready infrastructure
- Leverage **high-availability clustering for SAP solutions**
- Meet security and compliance objectives



Red Hat OpenShift

- Develop and deploy end-to-end business processes
- **Leverage cloud-native tools w/o advanced business application experience**
- Streamline application support



Red Hat Smart Management

- Ensures Red Hat Enterprise Linux runs efficiently
- Improves **security** and **enforces compliance**



Red Hat Insights

- **Predictive analytics and reporting**
- Monitor and remediate critical issues



Red Hat | **intel.**

Red Hat
Summit

Connect

Thank you



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youtube.com/user/RedHatVideos



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