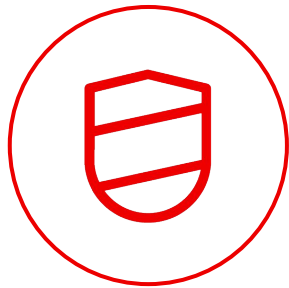**Red Hat**
Enterprise Linux

Red Hat Enterprise Linux Migrations

Presenter's Name

Title

Presenter's Name

Title

Red Hat

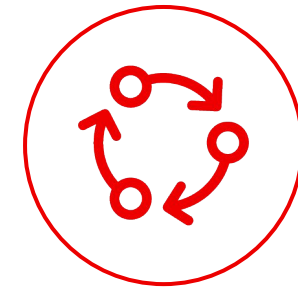# Top 3 reasons to move to Red Hat Enterprise Linux 8

Security and compliance

Maintain compliance and access the latest patches and fixes
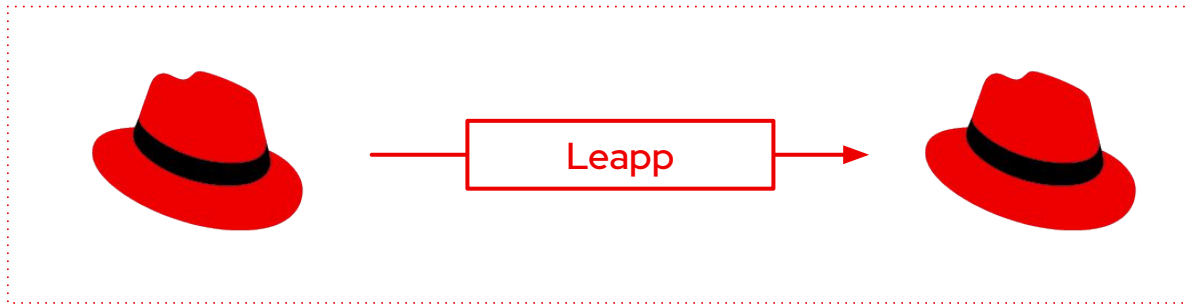
Access to innovation

Take advantage of all the latest Red Hat Enterprise Linux features and functionality
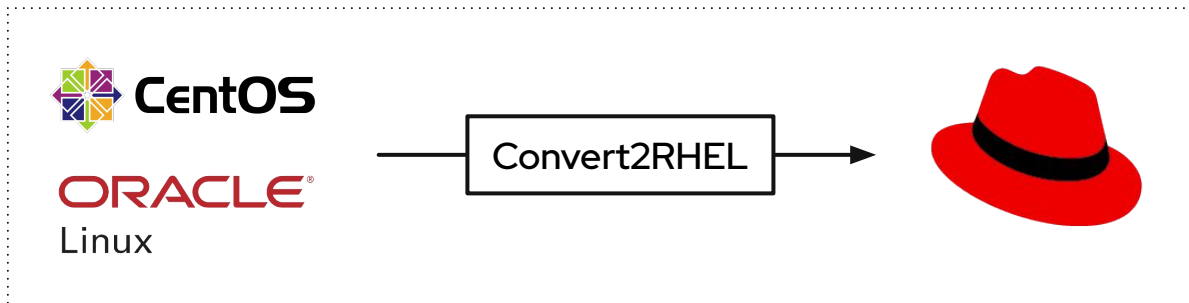
Lifecycle events

Avoid end of maintenance or extended support requirements

Types of migration

Leapp

Migrate across Red Hat Enterprise Linux

Upgrade from one major version to another.

CentOS

ORACLE® Linux

Convert2RHEL

Migrate to Red Hat Enterprise Linux

Convert from non–Red Hat Enterprise Linux systems.

Migrate across Red Hat Enterprise Linux

Upgrade from one major version of Red Hat Enterprise Linux to the next

Key customer milestones

Red Hat Enterprise Linux 6 end of maintenance (EOM)

Red Hat Enterprise Linux 6 end of maintenance in November 2020

Red Hat Enterprise Linux 7 lifecycle

Red Hat Enterprise Linux 7 is entering maintenance support phase.

Extended lifecycle support purchase criteria

Extended lifecycle support is a chargeable add on for Red Hat Enterprise Linux 6
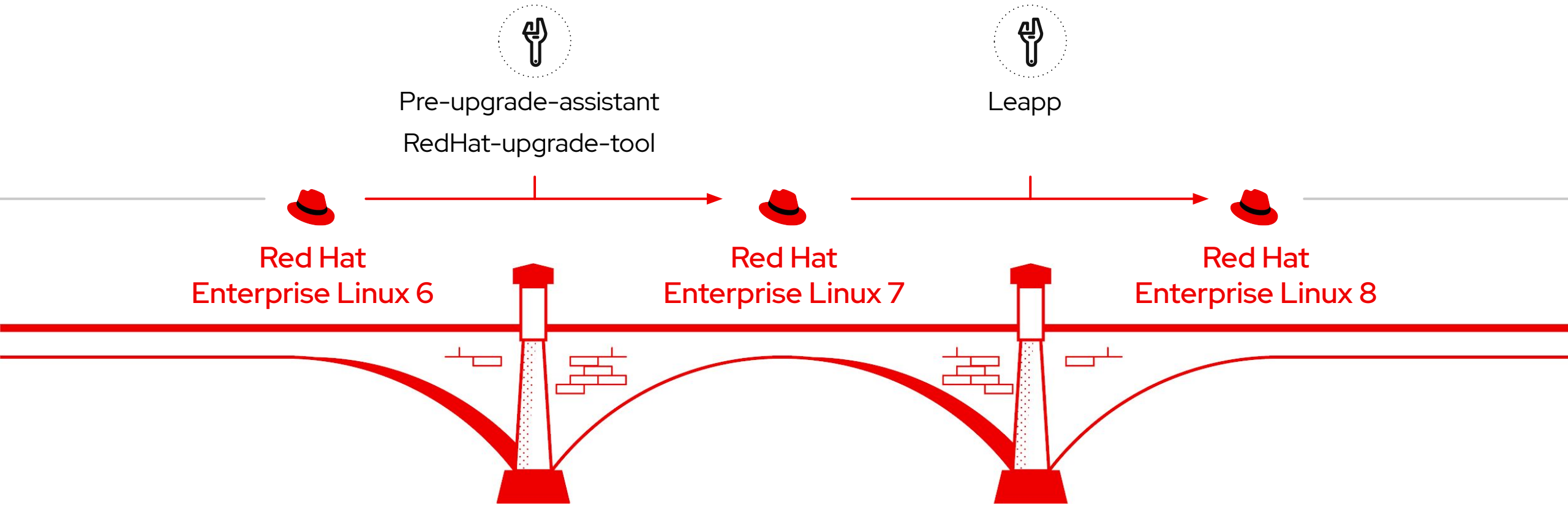
Adoption of Red Hat Enterprise Linux 8

Most customers historically adopt new major versions after a .2 release

Red Hat

In-place upgrades vs. re-deployment

In-place upgrade		Re-deployment
	VS	
Preserves configuration		Wipes out existing configuration
Bypass subscription management		Machines have to be re-subscribed
Saves time and cost		Additional time and cost
Lower bar of seniority required		Requires expertise to ensure success

Red Hat

Utilize migration tools to streamline upgrades

Pre-upgrade-assistant

RedHat-upgrade-tool

Leapp

**Red Hat
Enterprise Linux 6**

**Red Hat
Enterprise Linux 7**

**Red Hat
Enterprise Linux 8**

Introducing Leapp

Upgrade Red Hat Enterprise Linux faster and easier than ever before

Upgrade from	Becomes
Red Hat Enterprise Linux 7.9	Red Hat Enterprise Linux 8.2

▶ Single automated path to migrate from Red Hat Enterprise Linux 7.latest to 8.latest EUS

▶ Two phase process:
  - Upgradability analysis
  - Upgrade

▶ Original subscription stays attached to the system

Features and benefits

Why Leapp for your upgrade from Red Hat Enterprise Linux 7 to 8?

No redeployment of the OS or apps

Automated path for ISV apps

Access to the latest Red Hat Enterprise Linux capabilities

Compatibility and remediation guidance

Simplified subscription management

Built-in fail safe and disaster recovery

All configuration is preserved

Supported by Red Hat

Shorter maintenance window

9

01 Leapp Compatibility Analysis

RED HAT ENTERPRISE LINUX SERVER

👤 vagrant ⌄

📄 leapp-2019082...

System
Logs
Storage
Networking
Containers
oVirt Machines
Accounts
Services

Diagnostic Reports
In-Place Upgrade Report
Kernel Dump
SELinux
Software Updates
Subscriptions
Terminal

In-Place Upgrade Report for: localhost.localdomain

Filters ▼

≡ Remediation plan (0) | ➕ Add all remediations to plan (1)

Title	Risk Factor ⌄	Description	Tags	Time
Repositories map file is invalid (/etc/leapp/files/repomap.csv)	High	🛡 Inhibitor ↗ Links	upgrade process	26.08.2019 15:18:04 UTC+02:00
OpenSSH configured to use removed ciphers	High	🛡 Inhibitor ⚙ Remediation	authentication security network services	26.08.2019 15:23:56 UTC+02:00
OpenSSH configured to use removed mac	High	🛡 Inhibitor ⚙ Remediation	authentication security network services	26.08.2019 15:23:56 UTC+02:00
Packages not signed by Red Hat found in the system	High	⚙ Remediation	sanity	26.08.2019 15:23:57 UTC+02:00
LUKS encrypted partition detected	High	🛡 Inhibitor	boot encryption	26.08.2019 15:23:59 UTC+02:00
Possible problems with remote login using root account	High	🛡 Inhibitor ⚙ Remediation	authentication security network services	26.08.2019 15:23:59 UTC+02:00
chrony using default configuration	Medium		services time management	26.08.2019 15:23:57 UTC+02:00
Postfix has incompatible changes in the next major version	Low		services email	26.08.2019 15:23:58 UTC+02:00
The subscription-manager release is going to be set to 8.0	Low		upgrade process	26.08.2019 15:23:58 UTC+02:00
Schedule SELinux relabeling	Low		selinux security	26.08.2019 15:23:58 UTC+02:00
SELinux will be set to permissive mode	Low		selinux security	26.08.2019 15:23:58 UTC+02:00
Some enabled RPM repositories are unknown to Leapp	Low	⚙ Remediation	repository	26.08.2019 15:23:58 UTC+02:00
OpenSSH configured not to use privilege separation sandbox	Low		authentication security network services	26.08.2019 15:23:59 UTC+02:00
Syntax error detected in grub configuration	Low		boot	26.08.2019 15:23:59 UTC+02:00
Dosfstools incompatible changes in the next major version	Low	⚙ Remediation	filesystem tools	26.08.2019 15:24:00 UTC+02:00
Grep has incompatible changes in the next major version	Low	⚙ Remediation	tools	26.08.2019 15:24:00 UTC+02:00

| 30 ⌃ per page | | 1-16 of 16 « ‹ 1 of 1 › » |

Red Hat

02 Leapp Remediation Suggestions

Additional considerations

Disconnected systems

Specify location of packages manually and optionally bypass subscription manager
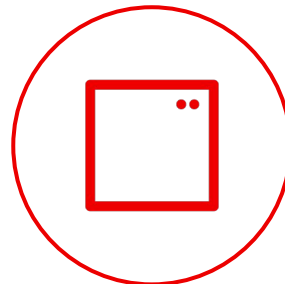
Custom applications

Guidance to write custom actors and policies

Scaling migrations with Leapp

Red Hat Insights

- ⓘ Insights rule
- 👍 Proactive suggestions

Red Hat Enterprise Linux 8.2

Red Hat Satellite

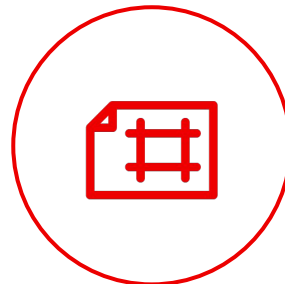- Satellite plug-in
- 📄 Pre-upgrade assessment report
- ⚙️ Remediations

Red Hat Enterprise Linux 8.2/8.3
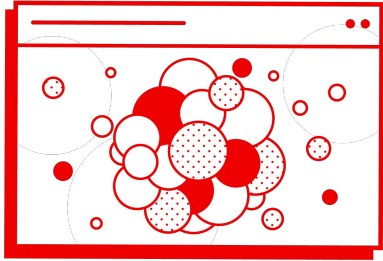**Red Hat Satellite 6.8**

Preparation is key to upgrade success

Although the upgrade process takes approximately 15 minutes, there is some preparation required

Resources are available to help you prepare for the upgrade—expect this to take time

Large scale upgrade and modernization

—

Large global financial services firm upgrades from Red Hat Enterprise Linux 7 to Red Hat Enterprise Linux 8 easier than ever before.

Size

▸ Approximately 30,000 Red Hat Enterprise Linux 7 systems

Key driver

▸ Wanted the latest and greatest capabilities

Infrastructure details

▸ Over 300 applications (custom and 3rd party)

▸ Mix of bare metal and virtual

The process

▸ In-place upgrade from Red Hat Enterprise Linux 7.6 to 8.2 with Leapp
▸ 2 month PnT-led engagement
▸ Initial PoA took 1 week
▸ Write customer actors for custom applications– leveraging Red Hat samples
▸ Engineering code review
▸ Migration in process

Migrate to Red Hat Enterprise Linux

Convert from non-Red Hat Enterprise Linux systems to Red Hat Enterprise Linux

Why customers migrate systems to Red Hat Enterprise Linux

Support

Organization expansion requires a supported enterprise-level platform

Cost

Cost of running another vendor's Linux can fluctuate or increase over time

Integration

Cloud service provider's own Linux does not have ISV app support

Why move to Red Hat Enterprise Linux ?

Value of the Red Hat Enterprise Linux subscription

Monitor and manage your deployment environment

Ability to in-place upgrade

Consistently built and tested in the same environment

Government and public security certifications

Certified by many hardware and software vendors

Certified to be used as a guest or host on cloud platforms

Includes advanced automation and management tools

Live kernel patches available

Fixed lifecycle and extended life cycle offerings

Enterprise-level platform support

CentOS   ORACLE® Linux   ≠   Red Hat Enterprise Linux

Utilize our migration tool to streamline conversions

CentOS

ORACLE® Linux

Convert2RHEL

Red Hat Enterprise Linux

Automatically determines conversion path based on architecture

Original packages are replaced with ones provided by Red Hat

OS is converted to the latest RHEL minor version and subscription attached

Red Hat

Introducing Convert2RHEL

Simplified migration to Red Hat Enterprise Linux

Convert from	Becomes
Oracle Linux 8 | CentOS Linux 8	Red Hat Enterprise Linux 8
Oracle Linux 7 | CentOS Linux 7	Red Hat Enterprise Linux 7

▶ Self-service migration tool helps avoid costly redeployment projects

▶ Maintain existing customizations, configurations, and preferences

▶ Once migrated to Red Hat Enterprise Linux, take advantage of everything a Red Hat Enterprise Linux subscription has to offer

Features and benefits

Why Convert2RHEL to standardize your Linux systems?
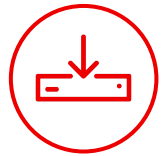
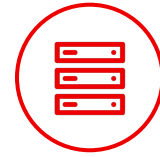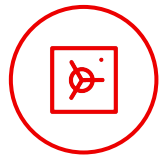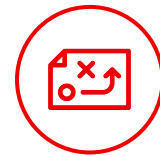No redeployment of the operating system or apps

All configuration is preserved

Built-in fail safe and disaster recovery

Shorter maintenance window

Leverage Red Hat Enterprise Linux VoS after conversion

Upgrade path to get on the latest Red Hat Enterprise Linux

Customer success with Convert2RHEL

Large global media company converts from Oracle Linux to Red Hat Enterprise Linux to reduce cost.

Size

▸ Approximately 28,800 Oracle Linux systems

Key driver

▸ Wanted to standardize on Red Hat Enterprise Linux

▸ Reduce cost

Infrastructure details

▸ Mix of bare metal and virtual

▸ 13,000 Oracle Linux 7

▸ 10,000 Oracle Linux 6.5

▸ 5800 Oracle Linux 6.3

The process

▸ Delivered as a Red Hat Consulting engagement

Convert2RHEL customer migration options
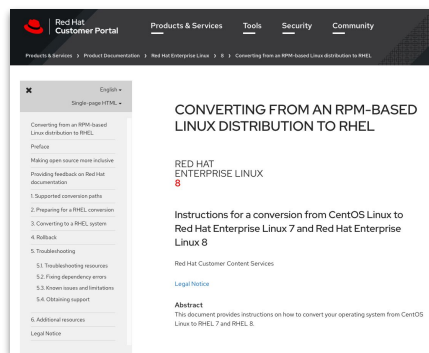
Self- service

Recommended

Accelerate your migration with Red Hat Consulting

▸ Work to identify tooling and the key sets of apps and workloads

▸ Create automation to help establish workflows

▸ Reduce risk for your mission critical applications and workloads

Visit red.ht/consulting

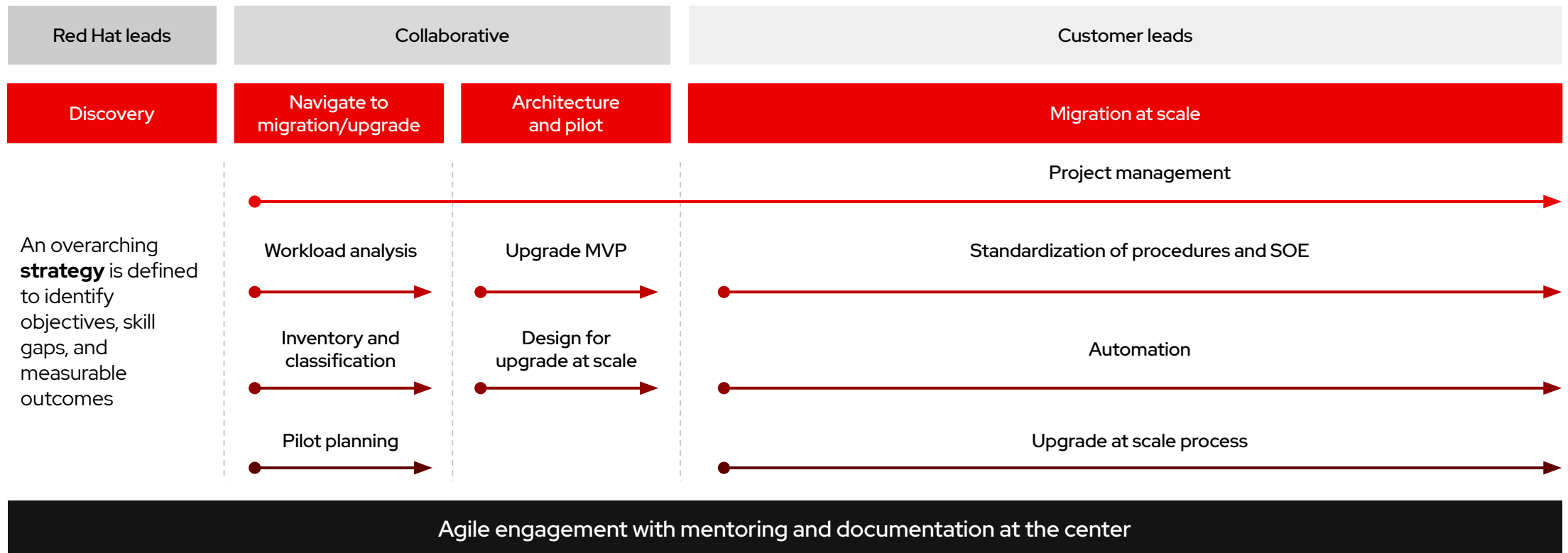# Red Hat Consulting migration engagement model

Red Hat leads	Collaborative		Customer leads
Discovery	Navigate to migration/upgrade	Architecture and pilot	Migration at scale

An overarching **strategy** is defined to identify objectives, skill gaps, and measurable outcomes

Project management

Workload analysis → Upgrade MVP → Standardization of procedures and SOE

Inventory and classification → Design for upgrade at scale → Automation

Pilot planning → Upgrade at scale process

Agile engagement with mentoring and documentation at the center

Duration of the Architecture & Pilot and Migration at Scale phases are TBD during the discovery process

Thank you

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