Disclaimer

Sharing a product roadmap sets the stage for a strategic discussion

We can all have a conversation, learn, and innovate together

However this is NOT a promise for future delivery

It is simply our vision for the product - a medium to express our long term product plans though sometimes those plans change
Agenda

- Roadmap
- Demos
- Check it out!
Hybrid is the new datacenter

- Everything-as-a-Service
- Modern apps
- Containers and microservices
- ISVs

- Physical
- Virtual
- Private cloud
- Public cloud
- Edge

Red Hat Enterprise Linux
18 Month Outlook

Migration and Installation
- Seamless migrations to latest versions
- Bring your Linux to Red Hat
- Fastest time to ‘Hello World’

Automation and Management
- Consistent management interface across releases
- Easily build ‘your’ RHEL
- Web-based administration and reporting

Performance
- Recommendations for optimal performance
- Tools for tracing and tuning
- Improved access to kernel tunables
18 Month Outlook

**Security and Compliance**
- Keep security vulnerabilities out of the board room
- Ongoing security configuration management
- Reduced barrier to entry for regulated environments

**Strategic Workloads**
- Continue to forge strategic partnerships
- Optimize the workload experience on RHEL
- Drive partner solutions in emerging markets

**Subscription Management**
- Frictionless deployment of RHEL
- Unified reporting of deployments
- Deliver sane offerings
18 Month Outlook

Developers

- Provide the content developers will consume
- Support the “Red Hat Developer” experience
- Continue to attract new developers

Hybrid Cloud

- Streamline the cloud experience
- Enable ISV workloads in the cloud
- Increase adoption in the cloud for developers
A broader, diverse developer community

Red Hat’s proposed approach for CentOS is part of a broader focus to engage with communities and developers that better aligns with the modern IT world. Along with CentOS Stream, Red Hat now provides platforms to address a broad spectrum of developer needs, including:

- The Fedora Project, foundation of the Fedora operating system, for those looking to contribute to the leading-edge of operating system innovation.

- CentOS Stream for ecosystem developers who need to see what is coming in the next minor release of RHEL and need to introduce changes in order to enable their hardware or software.

- The Red Hat Universal Base Image, a cost-free, redistributable and developer-ready image for creating cloud-native enterprise applications. With the Red Hat Universal Base Image, developers can more easily create certified applications for production deployment on RHEL and across Red Hat’s open hybrid cloud portfolio, including Red Hat OpenShift.

- The RHEL Developer subscription, a free, self-supported subscription for developers, provides a dev/test environment for applications that are meant to be deployed into production on the stable, more secure and high-performance foundation of RHEL.

A diverse community ecosystem
CentOS Stream is a new Linux release from the CentOS Project in partnership with Red Hat Enterprise Linux (RHEL) engineering. Focused on the next minor release of RHEL, CentOS Stream increases the transparency and collaboration of the RHEL development process and provides a platform for products shipping on the next RHEL.

What is CentOS Stream?

Find out more

Visit the Fedora/CentOS Area of Community Central - watch the presentations and talk to the community experts

Get it today

https://centos.org/stream/
RHEL 8.2 Highlights

Consistent Platform
- 6 month release cadence facilitates upgrade planning
- Ease of upgrade from earlier releases
- Simplified installation and configuration
- Monitor and manage at scale with Insights

Hybrid Cloud
- Build and deploy on bare metal, VM or public clouds
- Simplify workload mobility
- CoreOS and Universal Base Images are RHEL based for consistency across the Red Hat Portfolio

For Developers
- Latest developer tools and languages delivered in application streams
- Freedom to share UBI based containers
- Certification programs for partners expands ecosystem of supported solutions

Performance
- Architecture specific tuning
- Tracing and monitoring tools help identify bottlenecks across complex deployments
- Monitor throughput of Microsoft SQL Server databases on RHEL
Some updates we’ve been working on are not so far in the future

**cgroup v2**
Control Groups v2 is fully supported in Red Hat Enterprise Linux 8.2. This means additional memory controller features for hard and soft reservations as well as the ability to adjust or disable swap.

**NUMA**
systemd has added the ability to set NUMA and sub-NUMA policies. With CPU pinning, it is now possible to use cpu-partitioned tuned profiles for optimizing sensitive workloads like never before.

**Tuned**
Tuned is used to automatically tune systems according to a specific workload and the most recent release has seen updates to sap-hana, latency-performance, and realtime profiles.

**Universal Base Image**
Red Hat Universal Base Images have expanded to include OpenJDK and .net 3.0. It is also easier than ever to download source code associated with a given UBI image.
Updating to RHEL 8.2

- RHEL 7.8 general availability 3/31/2020
- RHEL 7 is now in its initial maintenance phase
  - New features will not be added going forward
  - Customers have 4 years to plan their upgrade strategy
- With the release of RHEL 8.2, the **in-place upgrade** tooling ensures a simple, risk-free move to the latest release from 7.8 to 8.2
<table>
<thead>
<tr>
<th>Title</th>
<th>Risk Factor</th>
<th>Description</th>
<th>Tags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packages not signed by Red Hat found in the system</td>
<td>Low</td>
<td></td>
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<tr>
<td>chrony using default configuration</td>
<td>Medium</td>
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<tr>
<td>Postfix has incompatible changes in the next major version</td>
<td>Low</td>
<td></td>
<td></td>
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<tr>
<td>The subscription-manager release is going to be set to 8.0</td>
<td>Low</td>
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<tr>
<td>Schedule SELinux relabeling</td>
<td>Low</td>
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<tr>
<td>SELinux will be set to permissive mode</td>
<td>Low</td>
<td></td>
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<tr>
<td>Some enabled RPM repositories are unknown to Leapp</td>
<td>Low</td>
<td></td>
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<tr>
<td>OpenSSH configured not to use privilege separation sandbox</td>
<td>Low</td>
<td></td>
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<tr>
<td>Syntax error detected in grub configuration</td>
<td>Low</td>
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<tr>
<td>Dozens of incompatible changes in the next major version</td>
<td>Low</td>
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<tr>
<td>Grep has incompatible changes in the next major version</td>
<td>Low</td>
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<td>time-management</td>
<td>High</td>
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<td>services</td>
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<td>eat</td>
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<td>upgrade process</td>
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<td>selinux</td>
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<td>sudo</td>
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<td>boot</td>
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<td></td>
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<tr>
<td>filesystem</td>
<td></td>
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<td></td>
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<tr>
<td>tools</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>GPG pubkeys</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Add remediation plan</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Request: y</td>
<td>-  remove gpg-pubkey</td>
<td></td>
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</tbody>
</table>

Summary:
The following packages have not been signed by Red Hat and may be removed in the upgrade process: gpg-pubkey.
Increasing the value of the Red Hat subscription

Greater visibility and awareness with Insights.

Action & management at scale with the Smart Management upgrade.

Management services available with Red Hat Enterprise Linux subscription

<table>
<thead>
<tr>
<th>Theme</th>
<th>Use Case</th>
<th>Analysis Service</th>
<th>Description</th>
<th>Smart Management upgrade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost of Ownership</td>
<td>Avoid unplanned downtime</td>
<td>Advisor</td>
<td>Proactive recommendations informed by support database</td>
<td></td>
</tr>
<tr>
<td>Security</td>
<td>Manage risk from vulnerabilities</td>
<td>Vulnerability</td>
<td>Common vulnerabilities &amp; exposures (CVEs)</td>
<td>Execute remediation</td>
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<tr>
<td></td>
<td>Ensure continuous compliance</td>
<td>Compliance</td>
<td>Level of compliance to OpenSCAP policies</td>
<td></td>
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<tr>
<td>Operational Efficiency</td>
<td>Standardize my operating environment</td>
<td>Patch</td>
<td>Systems that need patching based on available updates</td>
<td></td>
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<td></td>
<td>Quickly resolve operational issues</td>
<td>Policies</td>
<td>Manage custom policies to act upon system configuration</td>
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<td></td>
<td>Grow my environment without worry</td>
<td>Drift</td>
<td>Compare systems to identify drift against golden images</td>
<td></td>
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<td></td>
<td></td>
<td>Subscription Watch</td>
<td>Dashboard of Red Hat subscription utilization across all environments</td>
<td></td>
</tr>
</tbody>
</table>

* Previously only available to subscribers of Red Hat Smart Management

Drive action at scale across Satellite(s) with simple and secure execution of the prescriptive resolution generated by Insights.

No action currently provided for Drift or Subscriptions.
Overview
Friday, January 24 2020 08:44:45 UTC

Insights system inventory
109,452 24% of total systems
Systems running insights-client
2,423 stale systems
134 systems to be removed

Subscription watch utilization summary
Red Hat OpenShift
Red Hat Enterprise Linux

Patch
576 systems affected
- 254 security advisories
- 400 bug fixes
- 100 enhancements

Advisor recommendations
25 Incidents detected
- 512 Critical
- 132 Important
- 121 Moderate
- 76 Low
1325 Systems with rule hits

Compliance
Policy: PCI DSS v3
- Business objective: Project Gemini
  - 471 Systems
  - 75% Passes
Policy: HIPPA
- Business objective: Project Gemini
  - 322 Systems
  - 42% Passes
Policy: my_internal_policy
- Business objective: Project Gemini
  - 348 Systems
  - 75% Passes
4 more compliance policies

Vulnerability
231 CVEs impacting your systems
- 19 CVSS 8.0 - 10
- 32 CVSS 4.0 - 7.9
- 221 CVSS 0.0 - 3.9

Remediations
Running custom_playbook A
Started, Jan 20 2020 08:44:42
Demo: Take a look at what’s new in the Red Hat Enterprise Linux Web Console

Console - A better way to manage
Web Console provides a web interface (even a bash shell)

Troubleshoot Selinux
We’ll see an SELinux issue, troubleshoot it, and fix it

Discovering ansible
Deploy the fix at scale with Ansible

Remote Access
Web Console can be accessed from a windows machine or your mobile phone
Automation Script

Shell Script

- semanage import <<EOF
- boolean -D
- login -D
- interface -D
- user -D
- port -D
- node -D
- fcontext -D
- module -D
- ibendport -D
- ibpkey -D
- permissive -D
- boolean -m -l httpd_enable_homedirs
- EOF

Copy to clipboard
Demo: Install an up-to-date RHEL, registered with Insights
WHAT IS THE EDGE

Edge Tiers and GTM

- Multiple Clusters: OpenShift-led
  - Core Data Center
  - Regional Data Center
  - Provider Aggregation Edge
  - Provider Edge
  - Provider Access Edge
  - Provider Device Edge

- Single Clusters: OpenShift-led
  - Edge Gateway/Endpoint

- Edge Gateway/Endpoint: RHEL Distributed Compute
  - End-User Premises Edge
  - Device Edge

Red Hat Enables

“last mile”

Device or Sensor
Deliverables for Edge

Bringing the technology from Fedora IoT to the enterprise

Transactional Updates
Rpm-ostree ensures a known-good state for each update. OTA payloads are optimized for low-bandwidth environments.

Intelligent OS Rollbacks
Greenboot provides additional resilience and peace of mind by allowing custom healthchecks to trigger node rollbacks.

Delivered as a Flexible Blueprint
RHEL’s Image Builder enables the right level of flexibility for OS content, configuration, update cadence, and image life cycle.
Thank you

linkedin.com/company/Red-Hat
youtube.com/user/RedHatVideos
facebook.com/RedHatinc
twitter.com/Red-i-lat