

Authoring & Publishing Reference Architectures for Red Hat Solutions

1. What is a Red Hat Reference Architecture?

Red Hat has published Reference Architectures for selected Red Hat solutions since 2007.

Previously published Reference Architecture documents are available in multiple locations including:

- Red Hat intranet at the Red Hat Products & Technologies Portal (requires Red Hat kerberos credentials):
https://engineering.redhat.com/pnt/b-6.160/Reference_Architectures
- Customer Portal (requires RHN account credentials):
<https://access.redhat.com/site/articles> and pick Type = Reference Architectures
- Red Hat Reference Architecture site at:
[http://www.redhat.com/en/resources?f\[0\]=field_resource_type%3A1501&rset1_format=list](http://www.redhat.com/en/resources?f[0]=field_resource_type%3A1501&rset1_format=list)

1.1 Goal of a Red Hat Reference Architecture

A Red Hat Reference Architecture is a detailed technical description of one/combination of the following:

- Use best practices to architect/design a Red Hat solution
<http://www.redhat.com/en/resources/deploying-oracle-database-12c-red-hat-enterprise-linux-6-best-practices>
- Deploy/implement a Red Hat solution
<http://www.redhat.com/en/resources/deploying-a-highly-available-openshift-enterprise-2-environment-on-rhel-osp-4-using-heat-templates>
- Scale a Red Hat solution
<http://www.redhat.com/en/resources/scaling-sap-in-a-rhev-3-environment>
- Manage a Red Hat solution
<http://www.redhat.com/en/resources/red-hat-cloud-infrastructure-managing-red-hat-enterprise-linux-openstack-platform-4-using-red-hat-cloudforms-3>
- Have a Red Hat solution Integrate/Interoperate with de facto standards & tools
<http://www.redhat.com/en/resources/integrating-red-hat-enterprise-linux-6-with-active-directory>
- Migrate a solution from a competitive platform to Red Hat
<http://www.redhat.com/en/resources/migrating-vmware-esxi-5-red-hat-enterprise-virtualization-3>
- Etc.

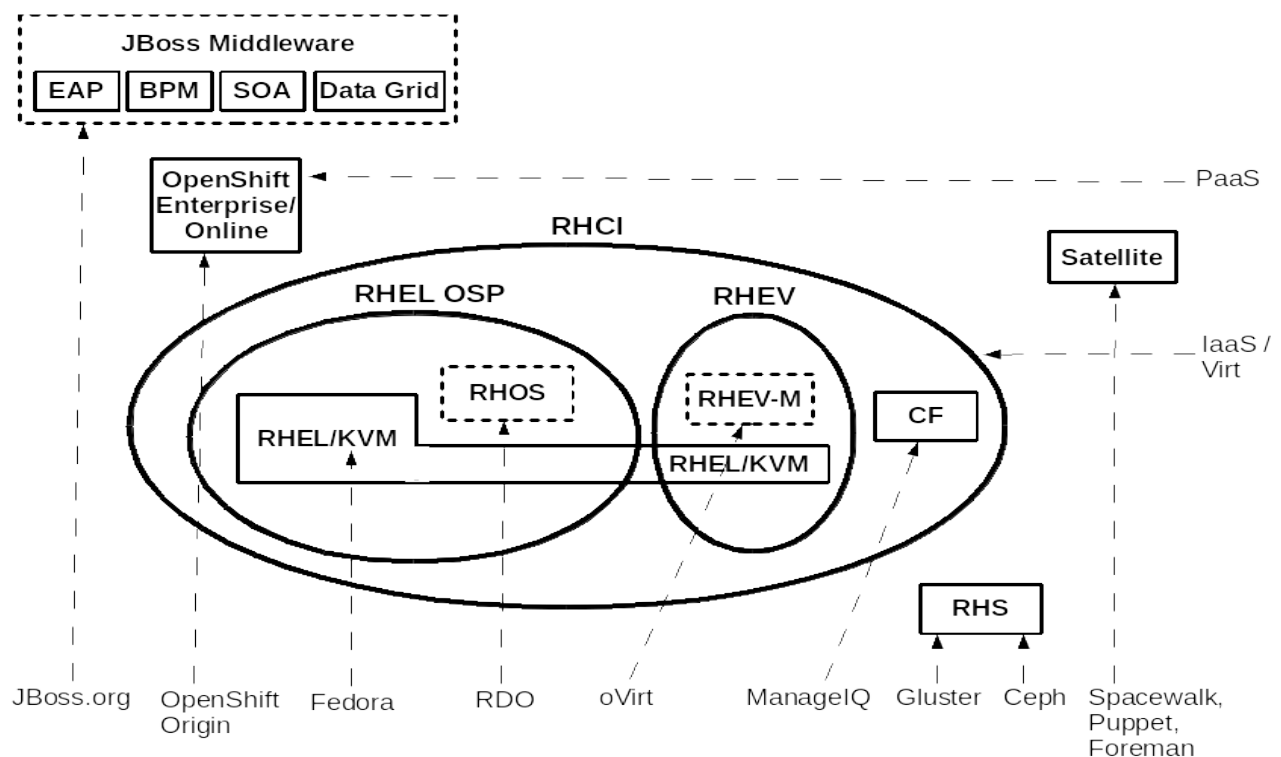
1.2 End-to-end use case for a Red Hat Reference Architecture

A customer-oriented end-to-end use case defines the solution stack studied by a Red Hat Reference Architecture. A use case must be executable in a lab and includes a detailed definition of:

- All software (including 3rd party) products used
- All hardware products used
- HW & SW Configuration
- Workload(s) / application(s) / functionality used to exercise the solution stack from the perspective of different personae (developer / admin / end-user)
- Any QOS goals targeted (performance, scalability, HA, DR, security-isolation, security-identity, etc.)

1.3 Red Hat products & bundles

The schematic below shows, at a high level, the Red Hat product portfolio and product bundles as of June 2014.



1.4 Intended audience

The primary audience for a Red Hat Reference Architecture is:

- Red Hat field (SAs, Consultants, TAMs)
- Red Hat partners
- Red Hat customers & prospects

1.5 What a Red Hat Reference Architecture IS

- Includes one or more generally available Red Hat & partner products. The primary (although not exclusive) focus is on solutions requiring the integration of multiple products.
- Guaranteed to have been stood up, in its entirety, in a lab. It is not a theoretical paper about how things could/should work but rather of how they did work with generally available products
- Publicly available to anyone over the web and some Red Hat intranet sites

1.6 What a Red Hat Reference Architecture IS NOT

- (In whole or in part) a duplication of information found elsewhere, e.g., product doc sets.
- Intended as a marketing document although it may be used by marketing sales.
- A “certification” of a Red Hat supported solution stack from a support point of view.
- A demo or Proof of Concept (POC). Although it could serve as the basis of a demo or POC.
- Intended to document a “one of kind” solution that is unlikely to leverage repeatable business.

2. Acceptance Criteria

While there may be some exceptions, a Red Hat Reference Architecture is planned and approved before the work is started. We often get requests where a large completed document is presented to us to be rubber-stamped ex-post-facto as a Red Hat Reference Architecture. Such requests are invariably denied because the chances that they have met the acceptance criteria are remote.

A Red Hat Reference Architecture is tied to a end-to-end use case. Simply saying you want a Reference Architecture for a product (e.g., RHEL 7) or some feature/functionality (e.g., KVM virtualization or Linux containers) is meaningless.

The following criteria must be met before a Reference Architecture is considered:

- Clear articulation of the end-to-end use (defined above) which will be the subject of the Reference Architecture
- Clear statement of the goal (defined above) of the Reference Architecture
- Must be technically feasible today, i.e., using existing products & will not require product development for the solution to be implemented in a lab & documented
- Must make business sense, i.e., there is a market for the use case & a good business justification, e.g., 'revenue impact' , 'better perception of our brand in strategic markets'
- The proposers must demonstrate:
 - The necessary detailed skills knowledge in all the products involved.
 - Access to a lab to stand up the end-to-end use case for the duration of the project
 - Resources to write up the reference architecture

3. Review & Approval Process

Even though a Reference Architecture may cover multiple products from many Business Units (BUs), one BU and one Engineering group must be identified as primary sponsors.

A small core review group is identified to guide a reference architecture from the proposal stage through final review and publishing.

This small core review group must include:

- A lead Product Manager from sponsoring BU.
- A lead Engineering Manager from the sponsoring Engineering group.
- A member of the Systems Engineering team.
- Plus others as necessary.

The proposers of a Red Hat Reference Architecture must follow the following key steps with the core review group:

- Prepare a short presentation with the proposal for the Reference Architecture as specified in the acceptance criteria (defined above). A configuration diagram(s) is highly encouraged.
- Develop a single slide with the key milestones and roadmap of when those milestones will be accomplished.
- When writing the Reference Architecture use the template & style guide provided at: https://engineering.redhat.com/pnt/p-337658/RATemplateAndStyle-v1_8.zip
- When writing up the Reference Architecture document, seek the input of the BU member of the core group to help align Chapter 2 with any business/marketing content produced by the BU.

- Once the Reference Architecture is documented in draft form, use core team to identify a list of reviewers to do a detailed technical review of the document.
- Once this is completed, proceed to publish the Reference Architecture (steps outlined below).

Our experience has shown that creating a reference architecture takes at least 3+ man-months from start to finish.

4. Red Hat Reference Architecture Publication Process

Please follow the following steps to enable publication of a Red Hat Reference Architecture:

- Use the template & style guide (from the provided link in Section 3) to write the Reference Architecture.
- Send a draft PDF + .tgz file with scripts (if applicable) to vtrehan@redhat.com
- A url for the .tgz file is sent back (if applicable).
- Incorporate the .tgz file url into the document (if applicable).
- Send the final PDF + zipped source file (.odt) + an abstract (to be included in announcement email and on websites).
- The Reference Architecture will be published on the following sites and an email will be sent out announcing the availability of the Reference Architecture.
 - PnT Portal
 - Customer Portal
 - redhat.com [Note: Publication on redhat.com may take a few days.]

5. Who may author a Red Hat Reference Architecture?

A Red Hat Reference Architecture may be authored by anyone so long as it meets the above definitions and criteria and follows the processes described above. A checklist before you start:

- Do you have a well defined end-to-end use case of general interest?
- Do you have sponsors from the relevant BU leadership and Engineering leadership who will vouch for the business need & technical readiness for this work?
- Are you intimately familiar with all the Red Hat & 3rd party products in the use case and how to integrate them?
- Do you have access to a lab for the 3+ months it may take to complete the work?
- Can you write up the Reference Architecture in the template provided?