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RedHat Centralized

Repo Server Documentation

Version History

Rev #	Release Date	Update By	Reason for Change	Status
1.0	15/06/2022	Sampath Kamasamudram	Initial document	Initial release

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Table of Contents

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1. Purpose and Scope of Document

This document contains the procedure to build a RedHat Enterprise Linux centralized repository server getting updates from cdn.redhat.com to fetch updates internally for the client machines without connecting to the outside world.

2. Architecture of Central Repository in Each Region

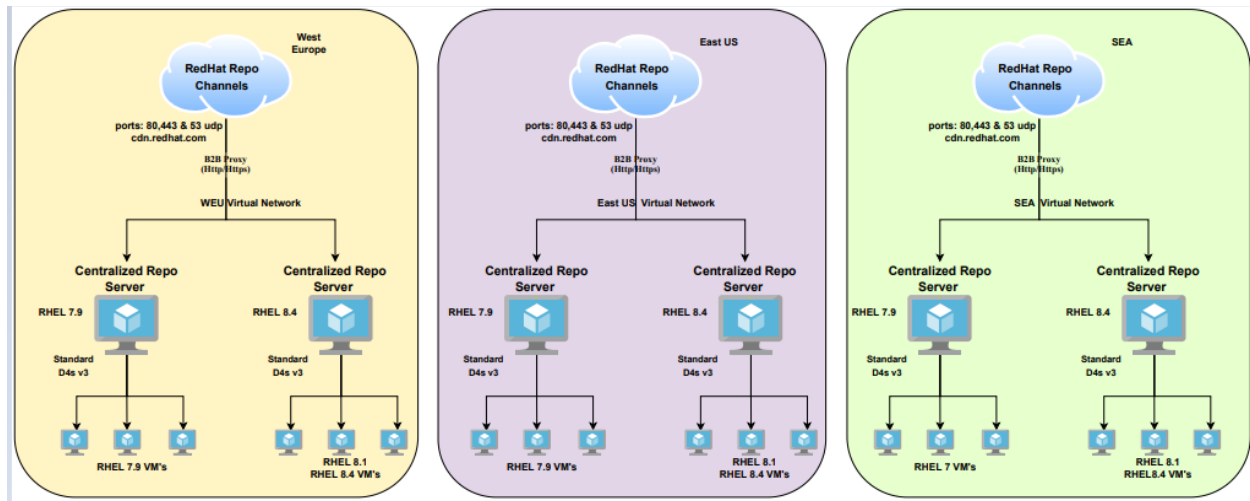Below is the architecture defined for the centralized repository server to place in each region (WEU,EUS and SEA).

Figure - 1 - Central Repository - Architecture

3. Prerequisites to Build Repository Server

Following are the prerequisites to setup a repository server:

- RHEL 7.9 and RHEL 8.4 Servers in each region.
- Establish connectivity to cdn.redhat.com on ports 80,443 & 53 via B2B Proxy.
- Valid RedHat subscription to register to cloud access.
- 500GB additional disk to download repos from RedHat channel.
- Ensure to install Apache package.

4. Installation and Configuration of Repository server

4.1 Apache Installation and Configuration

i.   Install apache package in both RHEL 7.9 & RHEL 8.4 servers using the command
        "Yum install httpd"

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Figure - 2 - Apache Installation and Configuration

ii.   Configure alias name in the httpd configuration with the repo directory as /data in /etc/httpd/conf/httpd.conf file

Figure - 3 – Apache Configuration File

iii.   Restart apache service post updating configuration.

Figure - 4 - Apache service Restart

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4.2 Reposync Configuration In RHEL 7

i.   Download required RPM packages (Base OS and Extra packages) for Rhel7 from redhat repository to local repo directory /data using reposync.

ii. Execution of reposync commands for Base OS and Optional rpms was mentioned below.

#reposync --gpgcheck -l --repoid=rhel-7-server-rpms-baseos-rpms --

download_path=/data

Figure - 5 – reposync for BaseOS RPMs

#reposync --gpgcheck -l --repoid=rhel-7-server-optional-rpms --download_path=/data/

Figure - 6 – reposync for optional-rpms

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iii. Once packages are downloaded from required repositories then execute createrepo command to contain metadata information for the repository under /data.

#createrepo --update -v /data/

```
[root@xal21ls610018 ~]# createrepo --update -v /data/
Scanning old repo data
```

Figure - 7 - createrepo

4.3 Reposync Configuration In RHEL 8

i. Download required RPM packages (Base OS and Appstream packages) for Rhel8 from redhat repository to local repo directory /data using reposync.

ii. Execution of reposync commands for Base OS and AppStream rpms was mentioned below.

#reposync -p /data --download-metadata --repo=rhel-8-for-x86_64-baseos-rpms

```
[root@xal21ls610021 ~]# reposync -p /data --download-metadata --repo=rhel-8-for-x86_64-baseos-rpms
Red Hat Enterprise Linux 8 for x86_64 - BaseOS (RPMs)                                    35 kB/s | 4.1 kB     00:00
Modular dependency problems:

 Problem 1: conflicting requests
  - nothing provides module(perl:5.26) needed by module perl-IO-Socket-SSL:2.066:8030020200430120526:1e4bbb35-0.x86_64
 Problem 2: conflicting requests
  - nothing provides module(perl:5.26) needed by module perl-libwww-perl:6.34:8030020200428102957:b967a9a2-0.x86_64
Red Hat Enterprise Linux 8 for x86_64 - BaseOS (RPMs)           24% [===============-                      ]  27 MB/s | 160 MB     00:17 ETA
```

Figure - 8 - Reposync Configuration for Base OS

#reposync -p /data --download-metadata --repo=rhel-8-for-x86_64-appstream-rpms

```
[root@xal21ls610021 ~]# reposync -p /data --download-metadata --repo=rhel-8-for-x86_64-appstream-rpms
Red Hat Enterprise Linux 8 for x86_64 - AppStream (RPMs)                                 27 kB/s | 4.5 kB     00:00
Red Hat Enterprise Linux 8 for x86_64 - AppStream (RPMs)                                 29 MB/s | 295 MB     00:10
(1/19509): container-selinux-2.124.0-1.module+el8.1.1+5259+bcdd613a.noarch.rpm            79 kB/s |  47 kB     00:00
(2/19509): libguestfs-1.38.4-11.1.module+el8.0.0+4084+cceb9f44.x86_64.rpm                2.1 MB/s | 2.8 MB     00:01
(3/19509): compiler-rt-7.0.1-1.module+el8.0.0+3181+ec021930.x86_64.rpm                   1.9 MB/s | 2.8 MB     00:01
(4/19509): rust-src-1.47.0-1.module+el8.3.1+8546+07bf6eb2.noarch.rpm                     1.8 MB/s | 2.2 MB     00:01
(5/19509): libvirt-daemon-config-network-4.5.0-23.1.module+el8.0.0+3151+3ba813f9.x86_64.rpm  46 kB/s |  27 kB     00:00
(6/19509): containers-common-0.1.41-4.module+el8.3.0+8377+eff33c85.x86_64.rpm            100 kB/s |  51 kB     00:00
(7/19509): libguestfs-javadoc-1.38.4-15.module+el8.2.0+5297+222a20af.noarch.rpm          185 kB/s | 151 kB     00:00
(8/19509): llvm-toolset-8.0.1-1.module+el8.1.0+3866+6be7f4d8.i686.rpm                     12 kB/s | 9.5 kB     00:00
(9/19509): postgresql-test-9.6.20-1.module+el8.3.0+8938+7f0e88b6.x86_64.rpm              1.4 MB/s | 1.6 MB     00:01
(10/19509): perl-libnet-3.11-3.module+el8+2464+d274aed1.noarch.rpm                       235 kB/s | 121 kB     00:00
(11/19509): python2-psycopg2-debug-2.7.5-7.module+el8.0.0+3358+99b46920.x86_64.rpm       134 kB/s | 105 kB     00:00
(12/19509): apache-commons-collections-3.2.2-10.module+el8.1.0+3366+6dfb954c.noarch.rpm  811 kB/s | 538 kB     00:00
(13/19509): mysql-8.0.17-3.module+el8.0.0+3898+e09bb8de.x86_64.rpm                       6.7 MB/s |  11 MB     00:01
(14/19509): rubygem-io-console-0.4.7-106.module+el8.1.0+3653+beb38eb0.x86_64.rpm         102 kB/s |  67 kB     00:00
(15/19509): nodejs-docs-12.13.1-1.module+el8.1.0+5069+f8aaab94.noarch.rpm                2.7 MB/s | 3.4 MB     00:01
(16/19509): golang-1.12.8-2.module+el8.1.0+4089+be929cf8.x86_64.rpm                      1.1 MB/s | 643 kB     00:00
(17/19509): apiguardian-1.1.0-4.module+el8.2.1+7436+4afdca1f.noarch.rpm                   27 kB/s |  18 kB     00:00
(18/19509): pki-base-java-10.8.3-2.module+el8.2.0+6294+b7db4606.noarch.rpm               879 kB/s | 704 kB     00:00
(19/19509): seabios-0.20170427git-3.module+el8.0.0+4084+cceb9f44.x86_64.rpm               41 kB/s |  20 kB     00:00
(20/19509): libvirt-nss-6.0.0-28.module+el8.3.0+7827+5e65edd7.x86_64.rpm                 103 kB/s |  64 kB     00:00
(21/19509): seabios-bin-1.11.1-3.module+el8.0.0+3075+09be6b65.noarch.rpm                 169 kB/s | 124 kB     00:00
(22/19509): ipa-common-4.8.0-11.module+el8.1.0+4247+9f3fd721.noarch.rpm                  851 kB/s | 749 kB     00:00
(23/19509): podman-1.0.0-2.git921f98f.module+el8+2785+ff8a053f.x86_64.rpm                6.4 MB/s | 9.0 MB     00:01
(24/19509): swig-3.0.12-19.module+el8.3.0+6248+838326ab.x86_64.rpm                       1.7 MB/s | 1.5 MB     00:00
(25/19509): nbdkit-plugin-xz-1.4.2-4.module+el8.0.0.z+3418+a72cf898.x86_64.rpm            65 kB/s |  33 kB     00:00
(26/19509): libvirt-daemon-driver-interface-4.5.0-35.3.module+el8.1.0+5931+8897e7e1.x86_64.rpm  173 kB/s |  92 kB     00:00
(27-28/19509): python3-nss-1.0.1-10.module+el8.1.0+3366+6dfb954c  0% [                  ]  4.8 MB/s |  37 MB     174:46 ETA
```

Figure - 9 - reposync configuration for appstream- rpms

5. Repo Configuration on Client Servers

5.1 Client Configuration in Red Hat Enterprise Linux 7.9 Servers

Create repo file with name rhel7.repo under /etc/yum.repos.d/ with centralized repository server details.

```
[root@xa12lls610020 yum.repos.d]# cat rhel7.repo
[rhel7-repo]
name=RedHat
gpgcheck=0
enabled=1
baseurl=http://10.224.2.160/data/
[root@xa12lls610020 yum.repos.d]#
```

Figure - 10 - Repo configuration in RHEL 7.9 servers

5.2 Client Configuration-Red Hat Enterprise Linux 8.1 and 8.4 Servers

Create repo file with name rhel8.repo under /etc/yum.repos.d/ with centralized repository server details.

```
[root@xa12lls610019 yum.repos.d]# cat rhel8.repo
[BaseOS]
name=BaseOS
enabled=1
gpgcheck=0
baseurl=http://10.224.2.163/data/rhel-8-for-x86_64-baseos-rpms/

[AppStream]
name=AppStream
enabled=1
gpgcheck=0
baseurl=http://10.224.2.163/data/rhel-8-for-x86_64-appstream-rpms/
[root@xa12lls610019 yum.repos.d]#
```

Figure - 11 - Repo configuration in RHEL 8.1 & 8.4 servers

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6. Perform Updates in Client Servers

In client servers, execute "yum update" command to get updates from respective OS version of repository servers to the targeted servers.

Figure - 12 - Yum update

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