Kickstarting a Bare Metal Host using Verdad – Step-by-step Guide

This document will guide you on kickstarting a bare metal server as a host for [redacted] deployment.

Based on a meeting between [redacted], [redacted] and [redacted], [redacted] 8/15/22.

Background Notes/Caveat

[redacted]: "You have access to all these places. You ***can*** do all these things. ***Should*** you?" Also: "If I had a week to explain all this to you, we could transfer all this knowledge."

Verdad

"Get familiar with Verdad – ideally, be shepherded by someone. There's a bootstrapping problem."

Executing Verdad commands. Need (on the [redacted] team): someone to become familiar with Verdad + commands.

[redacted] Verdad [redacted] readme: [redacted] README.md

- Verdad docs (including man pages) here.
- Man page for vd commands (this seems to be [redacted]'s superpower).

See `vd find, print, edit, tag, is, rename, txn,` and `diff`.

- [redacted] SRE's guide on Verdad querying: [redacted]
- [redacted]'s guide for instantiating a system from bare metal, including some troubleshooting and renaming info: [redacted].
- Troubleshooting ([redacted]) and Verdad Tags, PXE, and DHCP tips.
- Background info about Verdad.
- [redacted] mentioned 'inheriting' a few times, which seems to be an important part of Verdad. There's a page dedicated to it.

Check with [redacted]: Verdad 'tree' = the complete form of an item, i.e., "all the tags contributed by all the items it inherits from, collapsed into one big item?" See Learning by Example in the Verdad inheritance doc.

- Red Hat Kickstart reference

- Oracle's docs

Help

[redacted] on Slack is the best place to get help. See archives. (Note: it seems best to offer to open a [redacted] if/when help is needed [[redacted] | All]) It looks like there's a lot that can be learned by reading this channel as well.

Brief Step-by-step Guide

We will take the following steps when renaming/re-kicking hosts:

1. See what the state of the hosts are – alive/dead? – "Can I SSH into it?" is a good test. [redacted] has a tool: [redacted] for connecting to datacenter hosts through bastion servers. More info. [redacted] User Guide (includes [redacted] access info.) and Shell hosts and Bastion/SSH Troubleshooting guide.
2. Make sure you have working console access before rebooting or re-kicking, as it's easier to fix this while you can login.
3. Reboot them: (does it survive a reboot? Investigate this before taking other actions.)
4. Rename them. How does it work? [redacted] Verdad assets are imported from [redacted] Verdad. [redacted] Verdad items are imported from [redacted]. Think about the order of doing things because there's a delay.
    a. Rename in [redacted] via browser or CLI.
    b. Rename with Verdad command: `vd rename`. This is the best option because it preserves history. But it doesn't work if moving between "properties" ([redacted], [redacted] – a property is like a namespace in Verdad). So, we have to:
        i. Remove items (from the service) tree, or rename the existing tree to something relevant to us – [redacted].
        ii. Tag them to say "this runs in this database."
        iii. Delete the existing vd tree: `vd delete`. Then create them – but it might not let you create if there is no "owner contact" – otherwise people could just grab servers that don't belong to them/their team. You may have to use `vd edit` to backfill stuff – to make sure all the "intermediate stuff," like 'owner contact' is in there before you can create all the items (tags, trees) on a new tree with `vd create`.
    c. Splunk settings: service.[redacted]. vd find [redacted] service. [redacted]. Ideally have it backfilled by the Splunk team. Contact them and say something like: "We're bringing up a new data center online, we need to have Splunk…" Also, see [redacted].

5. Check to see that the host name got picked up from [redacted]. "We ([redacted]) maintain a list of some assets, but not all of them." So, this might be automated and it may synchronize with MAC addresses. When the IP address associates with the MAC address, it can pull all that info in.
6. Re-kick them. They may take their time shutting down. When we see the "[redacted]" then we know lots of stuff has happened – http, iPXE boot, kickstart info, server brings config from Verdad. ([redacted]: "Does this load our group so that we become root?" [redacted]: "Yes, if it's successful.")
7. Then it will install Linux (OEL7 -- but will transition to RHEL9, TBD) and its file packages. Started at about 2:55 PM. 3 servers seemed to take about 10-20 minutes, but they had been sitting mostly unused since 2019.
8. Check to see if you can log in and have sudo rights.

New Host Names

[redacted]

Other misc. notes

- Find dlb (load balancer) in the appropriate area and dlb setup
- Load balancers are in Verdad
- Interface.9 is the interface for Out of Band access; sometimes DNS is available for this. DNS entry?
- When you're editing in Verdad, use `vd edit`, you can add things in single quotes.

Next Steps

- Configure [redacted]s. [redacted] says it is in Verdad. [redacted]: "You'll still need a dlb in [redacted] – who will give us a DNS." (and then we'll have to configure [redacted]s from there.) [redacted]: "We can drop a Verdad config into [redacted] – you might have ACL problems though." [redacted] says it should take less than 5 minutes for someone who knows what they're doing.
- Find out where our [redacted]s will be hosted for [redacted] – or how our DNS will be configured.
- Tackle the ACLs – reach out to [redacted]. See also: [redacted]'s Verdad ACL Howto. Also Schema Filter, IP Allocation, and ACL doc.
- Config the new sites at [redacted]. [redacted]s to point to our frontends at [redacted]. "Ping our frontend through [redacted]s, even though the DNS resolution isn't ready yet."