

RackN Digital Rebar Features



RackN Digital Rebar does not win simply on features: we win through collaboration. No other provisioning automation platform focuses first on fundamentally improving operations for our community. We're not just about having better technology - we work with our operators to build robust data centers with more automation, less human toil and a higher return on investment.

But, we do, of course, also win on features. No other system on the market provides the integrated capabilities of the RackN Digital Rebar Platform (DRP). Our unique infrastructure as code (IaC) features enable a wide range of advanced use-cases such as multi-site management, dynamic out of band workflows (contexts), manage switches or storage appliances for air-gapped and edge deployments. We deliver these features because only RackN takes a holistic bare metal management approach.

Take us for a free [self-service test drive](#) and you'll find that we are the simplest to use and most flexible data center automation platform available.

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Platform Features

DRP Service, CLI and Agent

While the core service runs as a single binary for the Digital Rebar API, there are client components that are also distributed with the service. The CLI and Agent (both are available in the DRPCLI binary) interface with the service to provide workflow and machine management.

Secure Hardware

Allows Machines to use secure components during network boot provisioning process. This is required to enable signed operating systems to use the trusted platform module (TPM) available in most server platforms.

Note: additional secure components are required for [VMware ESXi](#) secure install.

Single Sign On (SSO)

Allows operators to delegate user sign on to an external system, such as Active Directory, instead of using the Digital Rebar integrated authentication system.

Automation Chains / Server Workflow Contexts

Contexts extend Workflows to run from the Digital Rebar Server (or other external service) instead of the Machine. This extends the automation chaining capabilities to manage any type of device ranging from a switch, storage or sensor to a complete platform as part of our normal infrastructure as code (IaC) workflows. One important benefit of Contexts is that they leverage devices' own APIs or CLIs running safely in containers used without specialized programming.

Role Based Access Control (RBAC) and Multi-Tenant

[RBAC security](#) provides fine grained control integrated into the user management API. Operators are able to define roles with specific restrictions based on component, action and data identifiers.

Multi-Tenant is an additional control beyond RBAC because it allows operators to partition Machines into resource groups for multiple users.

Pooling / Cloud API

Pooling abstracts Machines into resource groups that can be allocated generically from a single API. This enables cloud-like behavior because operators can request a Machine based on an

attribute map rather before assigning a specific Machine(s). The Pooling system also provides operator Workflows for allocation and reallocation processes.

Pooling is used to interface with Terraform, ClusterAPI and other clients that expect cloud-like behavior.

Multi-Site Manager / Distributed Control Plane

A distributed management system connects multiple Digital Rebar sites in a federated way. Each site retains autonomous control over its resources while also providing multiple single-pane-of-class management mirrors that get updates and delegate requests.

In addition to view, RackN managers ensure that distributed sites synchronize Infrastructure as Code components based on specialized content catalogs.

See [Multi-Site Manager](#) for more information.

High Availability (HA)

Integrated High Availability (HA) clusters enable Digital Rebar endpoints to create a local redundancy grid in the event of a failure. This includes provisioning, DHCP and workflow state information. The HA system leverages Digital Rebar internal transaction support so no external data synchronization is required.

Encrypted Parameters

Digital Rebar protects sensitive information by internally encrypting select data to prevent storing of cleartext secrets. This feature is deeply integrated into the Infrastructure as Code models and can be controlled discreetly per parameter.

Ansible Integration

Digital Rebar supports multiple Ansible integration strategies to protect operators' investment in Ansible Playbooks. These integrations include:

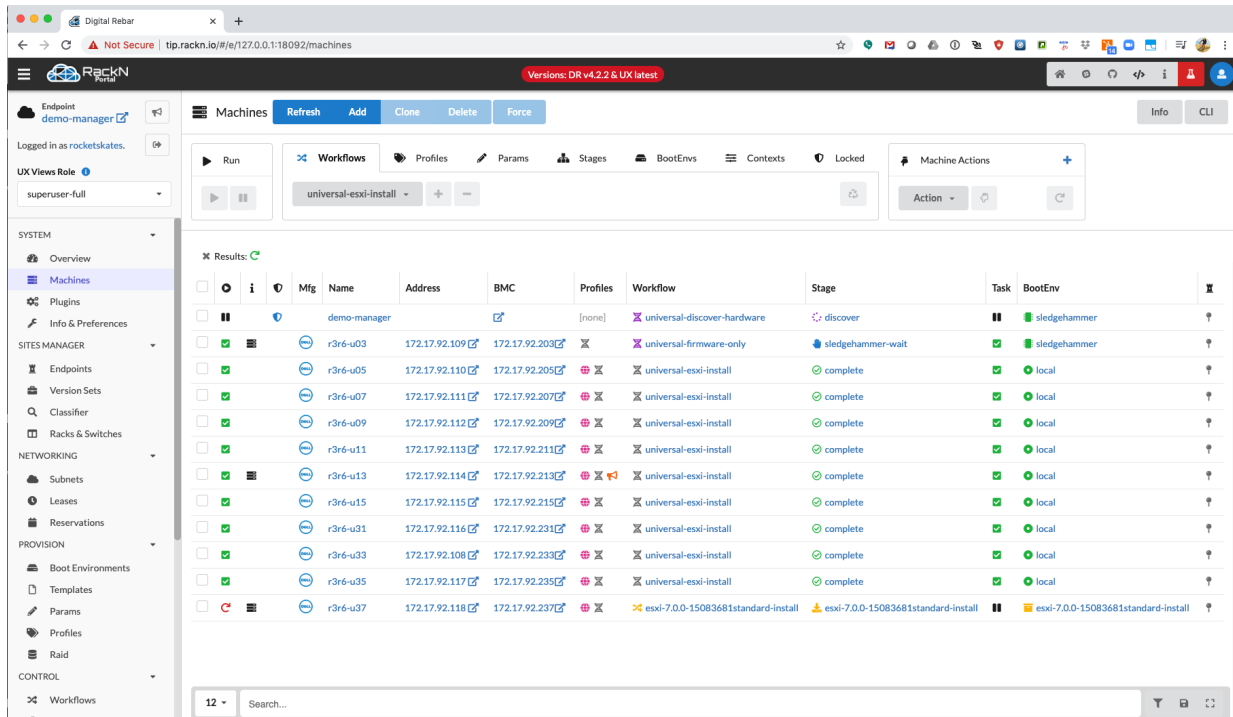
- Using Digital Rebar API as a dynamic inventory source
- Tasks for running local plays during Digital Rebar workflow
- Running Ansible Playbooks on the Digital Rebar Server using the context system.

Customers may find that these options completely eliminate the need for Ansible Tower.

RackN Portal (UX)

NOTE: Digital Rebar operates completely behind your firewall. No control or provisioning traffic leaves your network.

The RackN portal is an in-browser application that provides a graphical user interface (aka UX) for the Digital Rebar API. After downloading the application from portal.rackn.io, the UX connects directly from the user's browser to the Digital Rebar Server without transiting external



networks.

The UX also provides access to download RackN online assets such as the curated catalog; product alerts and news; and RackN license management and documentation.

Portal.RackN.io

Access to the [stable](#) and [experimental](#) version of the RackN UX is online and maintained with the latest features and fixes.

Since the UX connects directly to Digital Rebar Servers, no control or configuration data is stored by RackN. In this model, RackN is simply providing consistent HTTPS access to the “single page” React application.

In addition to providing basic navigation and views of the Digital Rebar data, the UX uses web

☰ d08-00-27-77-56-4d.attlocal.net Locally managed </> Clone Save Edit CLI ✕

NAME
▶ d08-00-27-77-56-4d.attlocal.net

UUID
e2f0f90e-7178-41e6-b80e-0114c8c36f26

DESCRIPTION
Empty

IP ADDRESS
192.168.56.10

CONTEXT
 machine runner (Context: "")

WORKFLOW
▶ discover-base

STAGE
▶ sledgehammer-wait

BOOT ENVIRONMENT
▶ sledgehammer

TASKS (MACHINE.CURRENTJOB)
▶ 0: stage:discover ▶ 1: bootenv:sledgehammer ▶ 2: enforce-sledgehammer ▶ 3: gohai ▶ 4: ssh-access ▶ 5: stage:sledgehammer-wait

PROFILES
Empty

PARAMETERS	VALUE
▶ detected-bios-mode	legacy-bios
▶ last-boot-macaddr	01-08-00-27-77-56-4d

```
1 - {
2 -   "DMI": {
3 -     "BIOS": {
4 -       "BIOSVersion": "VirtualBox",
5 -       "Characteristics": {
6 -         "8042 keyboard services are supported (int 9h)": true,
7 -         "ACPI is supported": true,
8 -         "Boot from CD is supported": true,
9 -         "CGA/mono video services are supported (int 10h)": true,
10 -        "ISA is supported": true,
11 -        "PCI is supported": true,
12 -        "Selectable boot is supported": true
13 -      },
14 -       "EmbeddedControllerFirmwareMinorRelease": 0,
15 -       "EmbeddedControllerFirmwareMajorRelease": 0,
16 -       "ReleaseDate": "12/01/2006",
17 -       "RomSize": 1,
18 -       "RuntimeSize": 131072,
19 -       "StartingAddressSegment": 57344,
20 -       "SystemBIOSMajorRelease": 0,
21 -       "SystemBIOSMinorRelease": 0,
22 -       "Vendor": "Innotek GmbH"
23 -     },
24 -     "Baseboards": [
25 -     ]
26 -   }
27 - }
```

sockets (WSS) to provide event-driven live updates. This allows operators to watch provisioning operations in real time.

Customized Views

The UX Plugin for Digital Rebar enhances the RackN UX by enabling operators to define special site, role and user based behaviors. The behaviors include custom menus, columns, filters and pages for the RackN UX.

As a plugin extending the Digital Rebar data model, operators can define and manage specialized filters, menu items and views using our Infrastructure as Code system.

The ability to override the UX menus and pages is especially powerful to restrict UX options for different classes of users.

Self-Hosted UX

For customers who want to avoid using the RackN portal or need an independent on-site backup UX, the RackN UX can be self-hosted from the Digital Rebar Server or any modern web server. This option allows customers to manage their own domain name and security certificate.

When [self-hosting the UX](#), customers may choose to keep the RackN online integrations or disable them to eliminate external traffic (aka air-gap). Air-gap configurations require specialized deployment consideration and management.