

Introducing the NetBox integration with Ansible Automation Platform



netbox labs

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Agenda

- NetBox Labs
- NetBox as a Network Source of Truth (NSoT)
- Network Automation Reference Architecture
- Ansible Automation Platform (AAP)
- Ansible Certified Collection for NetBox
- NetBox + Ansible Demo
- Q & A



**We make it
easier to build
and manage
complex
networks**

netbox labs

- Founded in 2023 in NYC
- Commercial steward of NetBox OSS
- World class team Built & lead NS1, founded the NetBox project
- World Class investors & customers

Automation requires a Network Source of Truth (NSoT)

NSoT: representation of the intended **configuration and state of the devices, connections, and services of the network**

Captures **intended state** - different than operational state

Structured, cohesive, comprehensive data model for network intent - forces completeness & correctness in design, planning, configuration management, operations

The Journey to Network Automation Starts with Implementing a NSoT

Document

Converge legacy sources of truth

Discovery or manual capture of additional network data

Change operational processes to start with documentation

Model

Connect network data through cohesive models

Enforce consistency across models

Automate

Implement change management starting with NSoT / intent

Generate configs from model data

Drive automations from dynamic inventory

Assurance to identify/resolve operational drift

NetBox is the world's most popular network source of truth

Comprehensive network data model

From ASNs to VPNs, and everything between

API & integration first

REST, GraphQL, Event Streams, Webhooks

Massive extensibility

Plugins, Device Types, Custom Scripts, Custom Fields, ...

Enormous ecosystem

Everything works with NetBox

The screenshot displays the NetBox web interface. On the left is a sidebar with a navigation menu under 'Organization' including 'Sites', 'Regions', 'Site Groups', 'Locations', 'RACKS', 'Racks', 'Rack Roles', 'Reservations', 'Elevations', 'TENANCY', 'Tenants', 'Tenant Groups', 'CONTACTS', 'Contacts', 'Contact Groups', 'Contact Roles', and 'Contact Assignments'. Below this are 'Devices', 'Connections', 'Wireless', and 'IDAM'. The main content area shows the 'Amsterdam' site configuration. It includes a search bar, a user profile 'admin', and a breadcrumb 'Sites > Europe > Netherlands'. The site details include: Region (Europe / Netherlands), Group (Branch), Status (Active), Tenant (Divisions / Consulting), Facility (CON05), Description (Sales Field Office), Time Zone (Europe/Amsterdam (UTC +0100)), Physical Address (Nepstraat 123, Amsterdam, Netherlands), Shipping Address (—), and GPS Coordinates (52.354550, 4.738810). On the right, there are sections for 'Related Objects' (Locations, Racks, Devices, Virtual Machines, Prefixes, ASNs, VLAN Groups, VLANs, Circuits) and 'Images' (Content Type, Parent, Image, Name, Size (Bytes), Created). At the bottom, there are 'Tags' (consulting, Europe) and a 'Comments' section.



NetBox is Powered by a Massive Community

5000+

Networking pros building,
helping, sharing - 24x7

10K+

Global deployments

15k+

GitHub ★
Widely loved by
networking teams

11k+

Software commits
Feature complete,
battle tested

Which NetBox Is Right For You

NetBox OSS

- ✓ Most widely used Network Source of Truth - by far
- ✓ Massive & active community = product & ecosystem velocity

NetBox Enterprise

- ✓ All capabilities of NetBox OSS
- ✓ Deploy on your own infrastructure
- ✓ Enterprise class features
- ✓ Integrate your IT stack
- ✓ NetBox experts in your corner
- ✓ NetBox Labs supported plugins

NetBox Cloud

- ✓ All capabilities of NetBox OSS and Netbox Enterprise
- ✓ SaaS edition of NetBox
- ✓ Fully-hosted on NetBox Lab's rock-solid platform
- ✓ secure, easy to use, and ready for scale.
- ✓ Customizable cloud isolation, redundancy and performance
- ✓ Push button lifecycle operations
- ✓ Zero administrative overhead

Which NetBox Cloud Plan Is Right For You

NetBox Cloud - Free Plan

Perfect for small networks, lab environments, and targeted use cases

- ✓ 100 devices, 500 IP addresses, 10k API requests/month
- ✓ Eliminate operational burden
- ✓ Get started instantly
- ✓ Fully hosted & secure
- ✓ Single tenant isolated deployment
- ✓ Push button backup & lifecycle operations

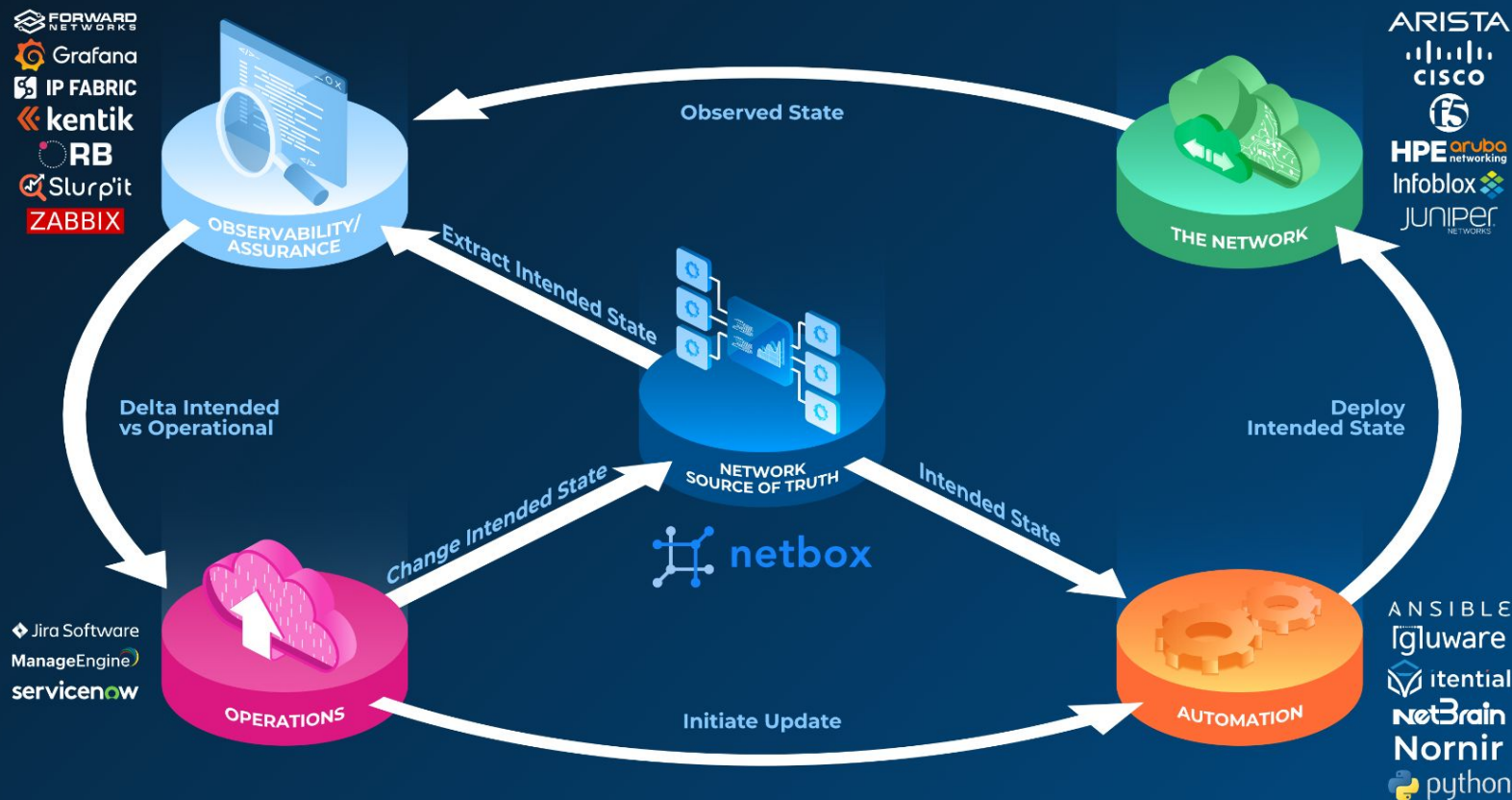
**Available
Now!**

NetBox Cloud - Paid Plans

Production scale, fully supported, with a host of enterprise-grade features and benefits

- ✓ Plans for every network, starting at 2k devices, 10k IP addresses, 40k API requests/month
- ✓ Vast array of security & convenience features - SSO, custom isolation, connectivity options & controls, backup management, lifecycle operations & validation
- ✓ Tuned for reliability & performance - seamless redundancy & scalability
- ✓ Support for dozens of NetBox Labs certified plugins
- ✓ Advanced features for automation & data management
- ✓ Supported integrations - ServiceNow, network discovery, and many more
- ✓ 24x7 Support

Modern Network Automation Architecture



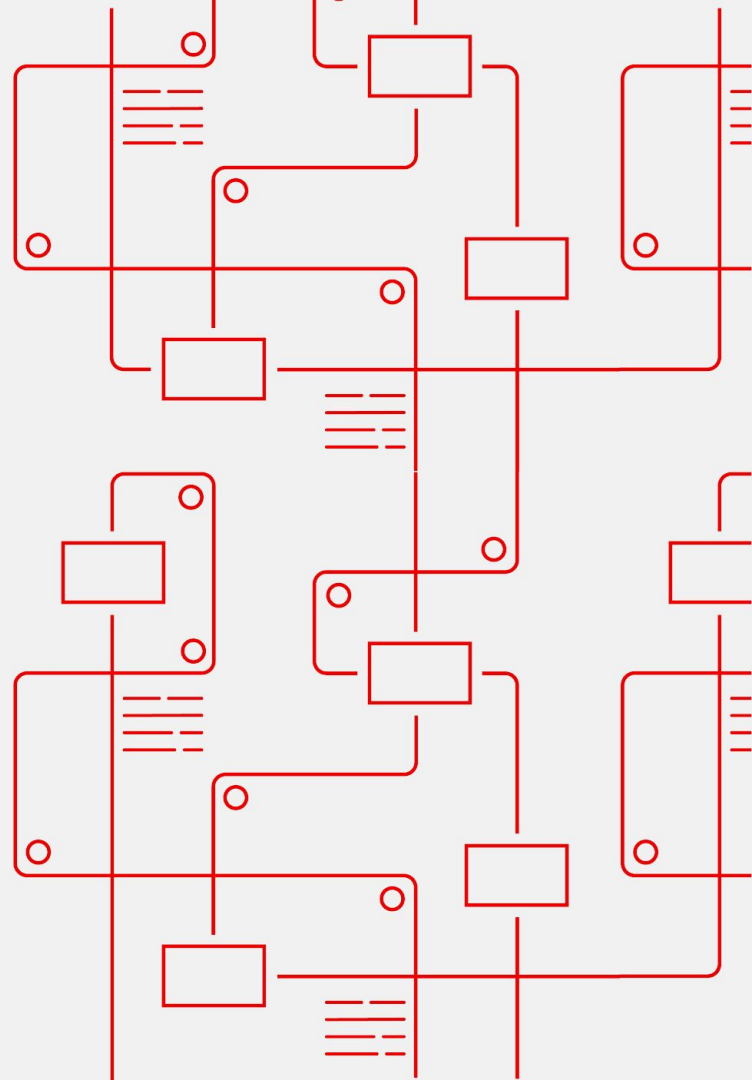
Closed-Loop Network Automation Stack

What is Ansible?

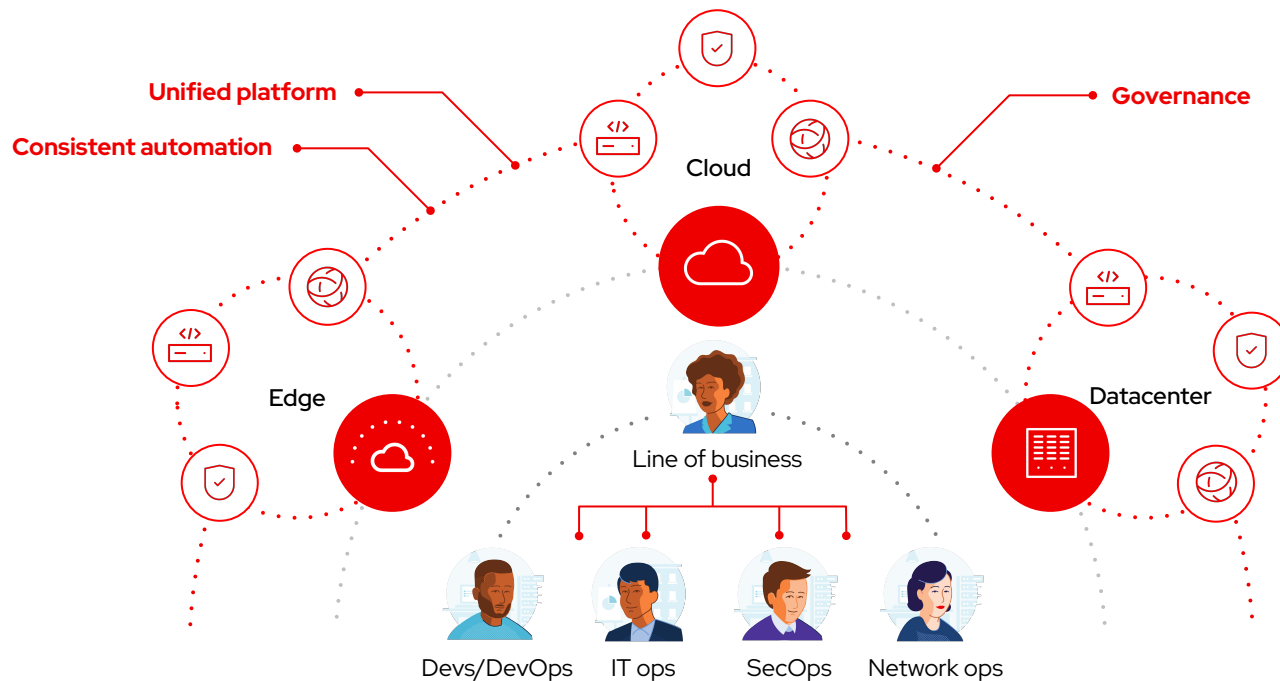


- Is an IT framework to configure systems, deploy software, and orchestrate simple to more advanced IT tasks such as continuous deployments
- Open Source ecosystem, mostly written in Python and requires Python to run
- **Agentless.** Supports SSH/NETCONF/API/winrm access
- **Simple.** Human readable declarative language (YAML)
- **Extensible.** Collections, roles, modules and plugins
- Very popular as a network automation tool due to Low barrier to entry

What is Red Hat[®] Ansible[®] Automation Platform?

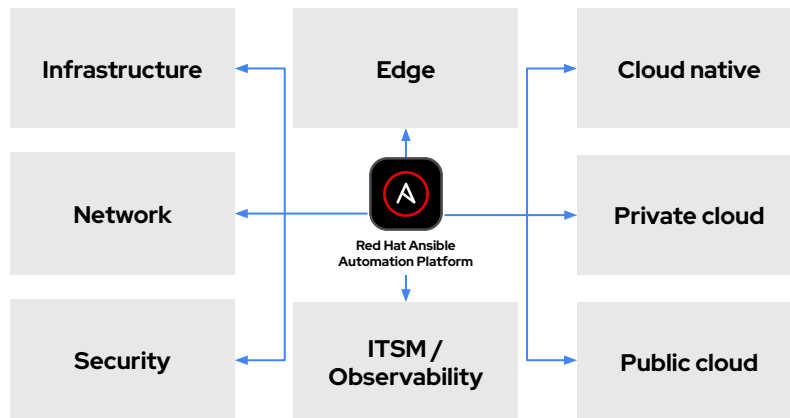
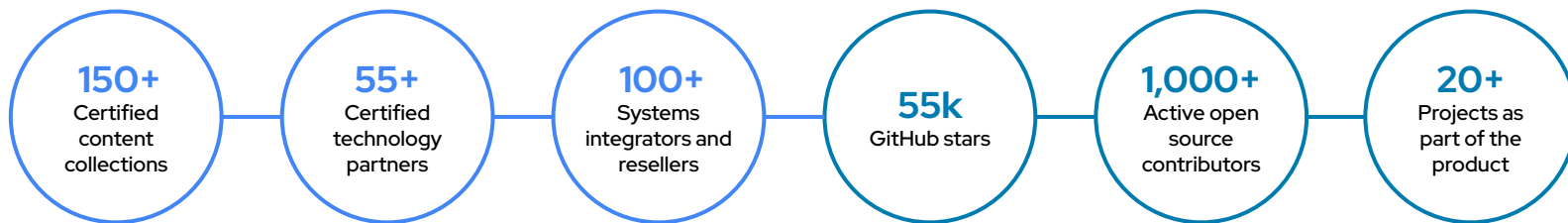


The solution? Break down the silos



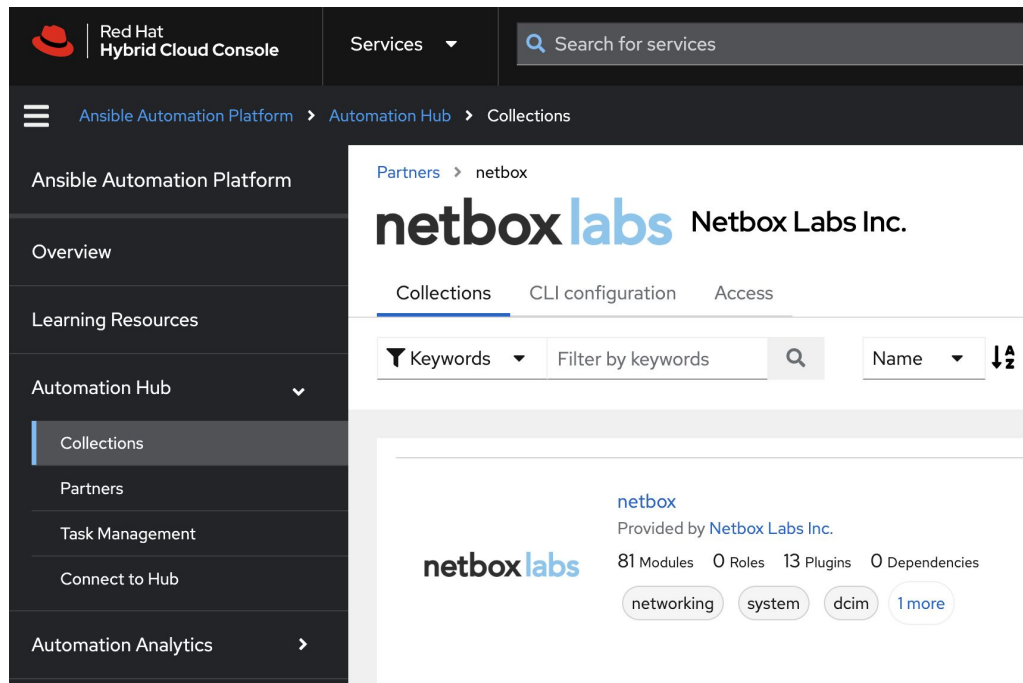
Collaborative automation across your ecosystem

netboxlabs



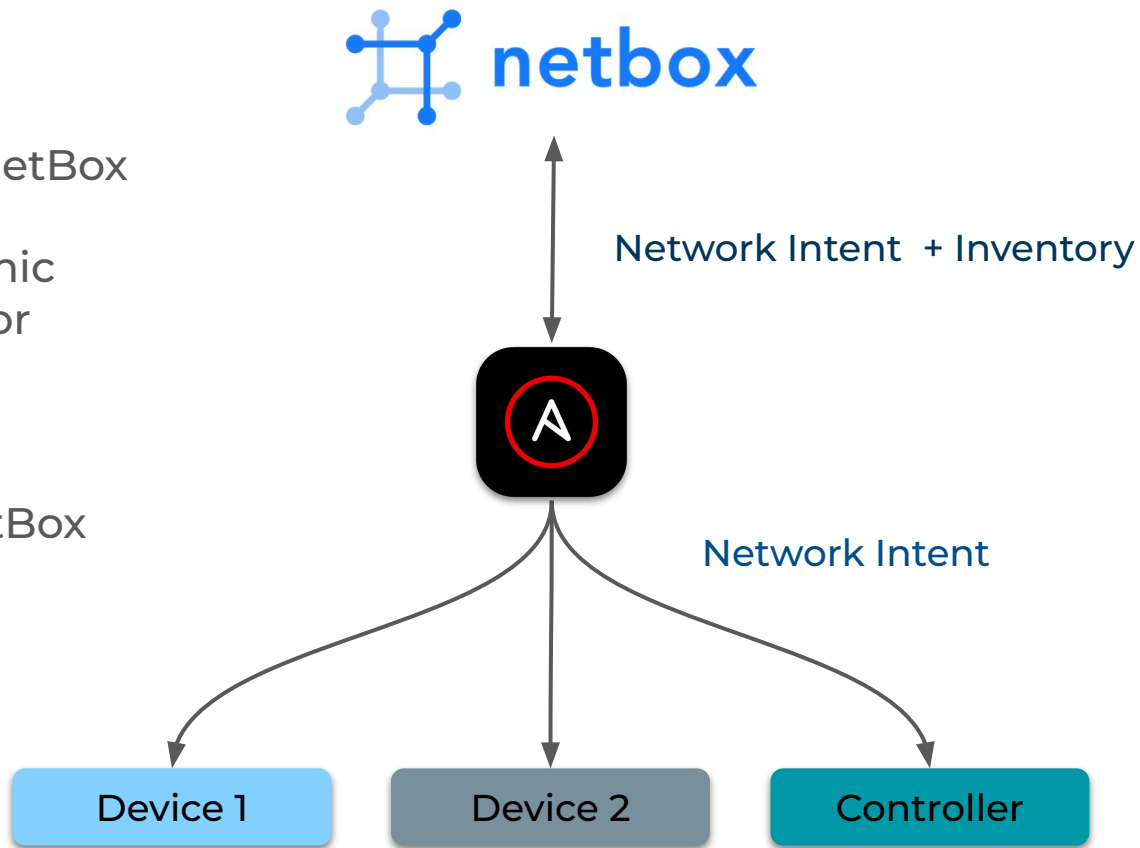
Ansible Certified Collection for NetBox

- Modules to define the **intended network state** in NetBox
- Plugins to **drive automation of the network** using data from NetBox
- **Official support** from NetBox Labs and Red Hat for customers
- Available from Ansible Automation Hub (**certified collection**) or Ansible Galaxy



Use Cases

- Define Intended Network State in NetBox
- NetBox as a Dynamic Inventory Source for Ansible
- Query and Return Elements from NetBox



Demo

How do I get started?



NetBox Ansible certified collection blog

NetBox Ansible Quick Start Git Repository



Network automation with Red Hat Ansible
Automation Platform

Q & A