



VyOS
Networks



ANSIBLE



/ SOLUTION BRIEF

NETWORK AUTOMATION WITH ANSIBLE AND VYOS

Network Automation with Ansible and VyOS

Modern networks demand agility, consistency, and scalability to support digital transformation. Manual configuration processes are slow and error-prone, especially in dynamic, multi-vendor environments.

By combining **Ansible**, an open-source automation platform, with **VyOS**, an open-source network operating system, organizations can automate network provisioning, configuration, and management with simplicity and precision. This integration enables faster deployments, reduces operational complexity, and ensures reliable, repeatable results across any scale.

What is Ansible?

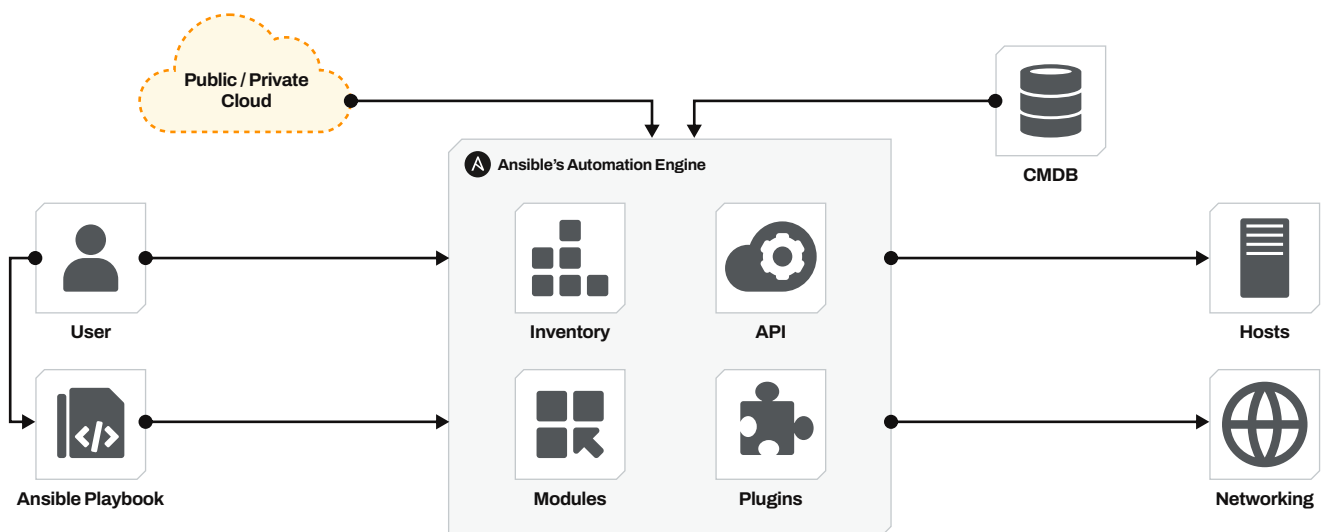
Ansible is a powerful, agentless automation platform designed to simplify IT orchestration, configuration management, and application deployment.

Using human-readable YAML files called **playbooks**, Ansible defines automation workflows that can be easily maintained and version-controlled.

It communicates with managed devices, such as routers, switches, and servers—via standard protocols like SSH or REST APIs, without requiring any additional software installation on those devices.

Key Components

- **Inventory:** List of devices or hosts under management.
- **Playbooks:** YAML files describing automation tasks.
- **Modules:** Reusable units performing specific actions (e.g., configuring interfaces).
- **Collections:** Packages containing modules, roles, and plugins for specific technologies.

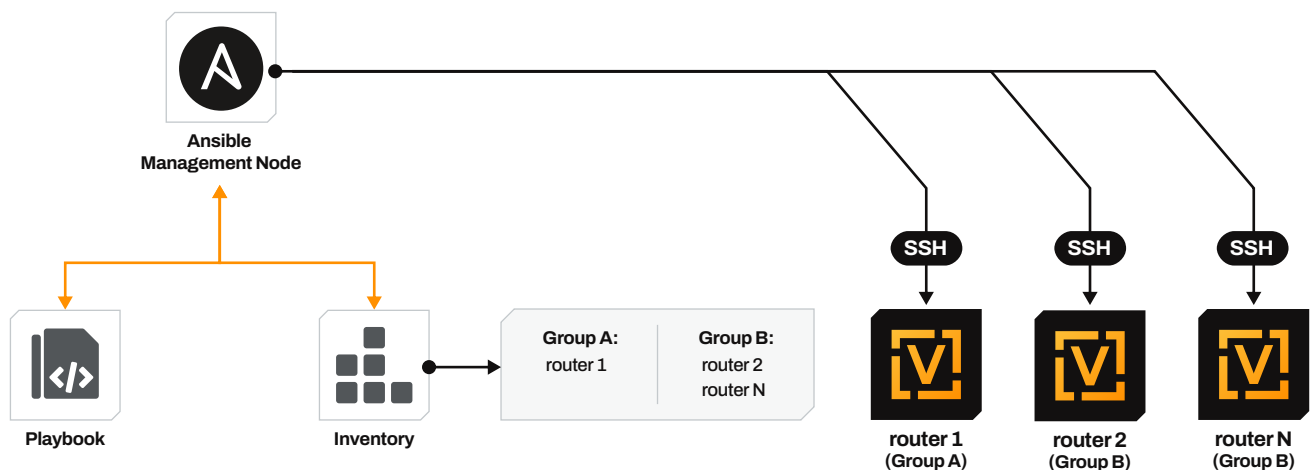


VyOS and Ansible Integration

VyOS is a feature-rich, open-source network operating system providing routing, firewall, and VPN functionalities.

When integrated with **Ansible**, network engineers can automate and standardize VyOS configurations across distributed environments, from small labs to large-scale production networks.

The official **vyos.vyos** Ansible Collection enables easy integration, providing ready-to-use modules and roles to automate VyOS devices efficiently.



Key Benefits of Automating VyOS with Ansible

- Consistency**
Deploy and maintain uniform configurations across multiple VyOS instances with a single playbook.
- Scalability**
Manage hundreds or thousands of routers effortlessly, scaling from test environments to production-grade infrastructure.
- Speed**
Reduce provisioning and update times from hours to minutes.
- Flexibility**
Integrate VyOS automation within multi-vendor or hybrid cloud workflows.
- Reliability**
Use version-controlled playbooks for predictable, repeatable changes and quick rollbacks.

Use Cases

- Automated provisioning of branch routers and VPN endpoints.
- Bulk configuration updates and compliance enforcement.
- Integration of VyOS into CI/CD pipelines for network-as-code workflows.
- Multi-vendor automation alongside platforms.

Conclusion

The combination of **Ansible** and **VyOS** empowers network teams to transition from manual device management to a fully automated, scalable, and version-controlled infrastructure.

This approach not only accelerates operations but also enhances reliability and consistency across the network, building the foundation for agile, cloud-ready connectivity in modern enterprises.

Resources

VyOS documentation: <https://docs.vyos.io/en/latest/automation/>

Ansible Galaxy: <https://galaxy.ansible.com/ui/>

Ansible VyOS Collection: <https://galaxy.ansible.com/ui/repo/published/vyos/vyos/>