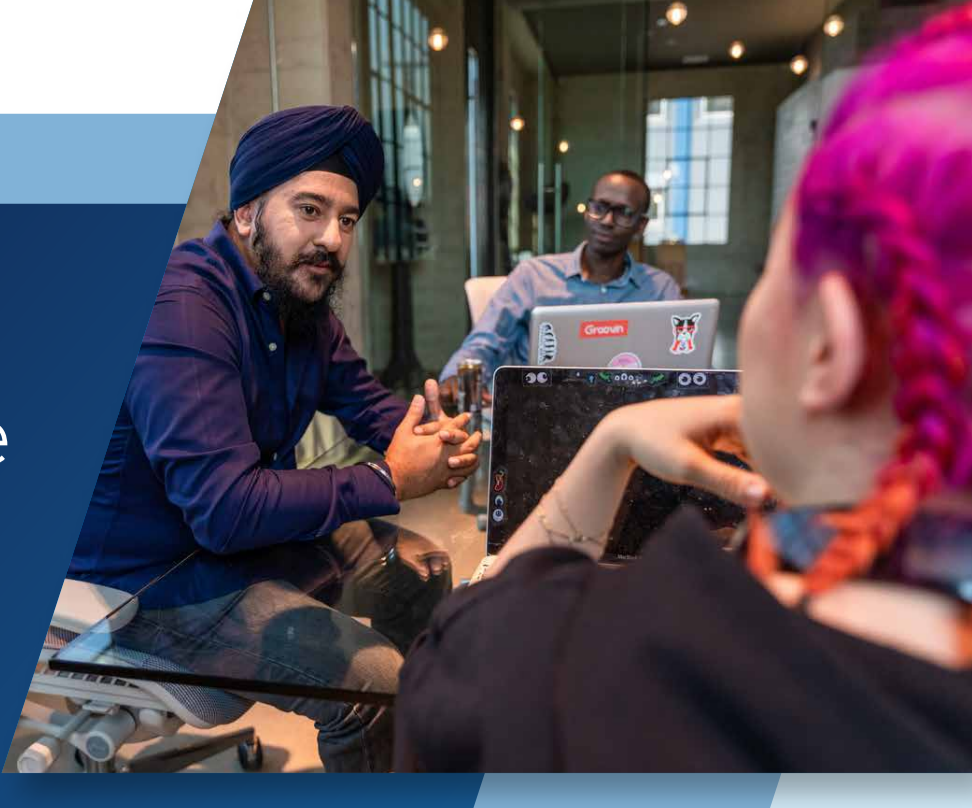**vmware**

10 Reasons to Choose VMware NSX to Automate Networking and Security

Be more agile with a network defined entirely in software

MODERNIZE IT | ACCELERATE APP DEVELOPMENT | GAIN DEVELOPER EFFICIENCY

1 | API-first Approach

Everything is driven through APIs. Whether it's using NSX UI or using automation tools, APIs and SDKs provide the interface into all product functions and control.

Traditional Network Automation .... a New Level

Config:
- VLAN (multiple switches)
- IP subnet (Router)
- Security Policy (Firewall)
- NAT service (Router)
- Load Balancing (ADC)

PATCH
https://<ip>/policy/api/v1/infra
(
desired **outcome**
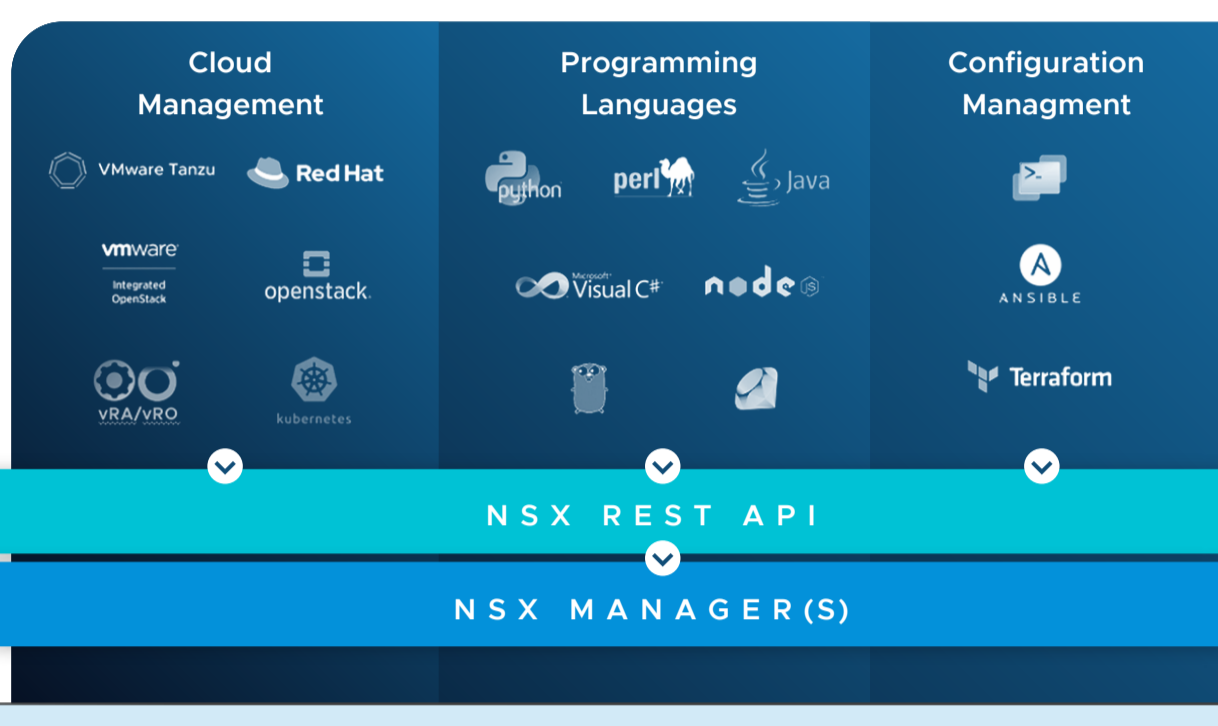human-readable JSON
)

Single API Command

2 | Network Infrastructure as Code

- Create complex network topologies and address complex security requirements programmatically
- Manage the source scripts in any version control system and revisions can be made
- Integrate the entire process with a CI/CD pipeline, enabling network and security infrastructure to be managed as code

3 | Many Automation Tools in the Chest

Supports VMware tools such as vRealize Automation, PowerCLI, and third party tools such as Terraform and Ansible. Puts flexibility into the hands of the network engineer.

Cloud Management: VMware Tanzu, Red Hat, openstack, vRealize

Programming Languages: perl, Java, Visual C++, node

Configuration Managment: ANSIBLE, Terraform

N S X   R E S T   A P I

N S X   M A N A G E R (S)

4 | Hierarchical APIs = API Simplicity

```
PATCH /policy/api/v1/infra
{
  "resource_type": "Infra",
  "display_name": "infra",
  "children": [
    {
      "resource_type": "ChildTier1",
      "Tier1": {
        "resource_type": "Tier1",
        "display_name": "my-Tier-1-GW-Prod",
        "id": "my-Tier-1-GW-Prod",
        "tier0_path": "/infra/tier-0s/Tier-0-GW-West-01"
      }
    },
    {
      "resource_type": "ChildTier0",
      "Tier0": {
        "resource_type": "Tier0",
        "display_name": "Tier-0-GW-West-01",
```

Designed to simplify with Hierarchical structure allowing for create/edit/delete interactions with multiple objects with a single API call.

5 | OpenAPI standard-based API

Simplify and standardize schema development and export to various programming language SDKs (e.g. Java, Python) to develop third-party software:
https://developer.vmware.com/sdks

OPENAPI INITIATIVE

6 | Active Community (Samples on GitHub)

Sample code and fully automated end-to-end use-cases are available in GitHub for easy consumption:
https://github.com/vmware-samples/nsx-t

GitHub

7 | Wide Variety of Users

- VI Admins can leverage PowerCLI to interact with NSX
- DevOps/DevSecOps can use tools like Ansible and Terraform
- Cloud/Org Admins can automate NSX through enterprise solutions like vRealize Automation/vRealize Operations
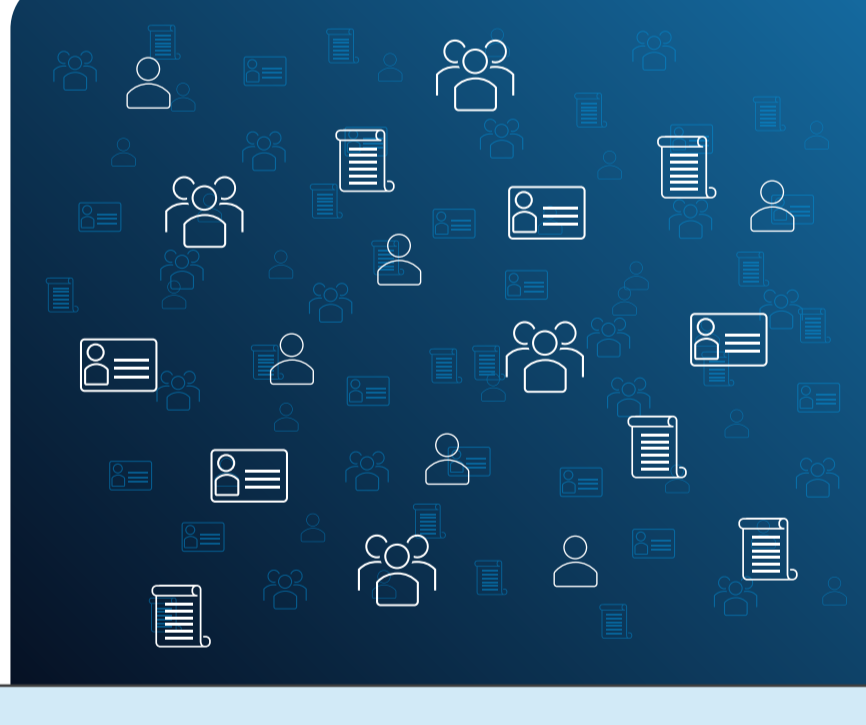
8 | Wide Range of Authentication Mechanisms

certificate-based authN

authN

LDAP/AD

Choose from basic authN to certificate based authN and LDAP/AD integration. Network engineers gain flexibility while designing their network automation.

9 | Operational Efficiency

Automate repetitive and manual tasks and simplify network management, thereby enabling IT staff to focus on strategic initiatives that improve productivity and drive innovation
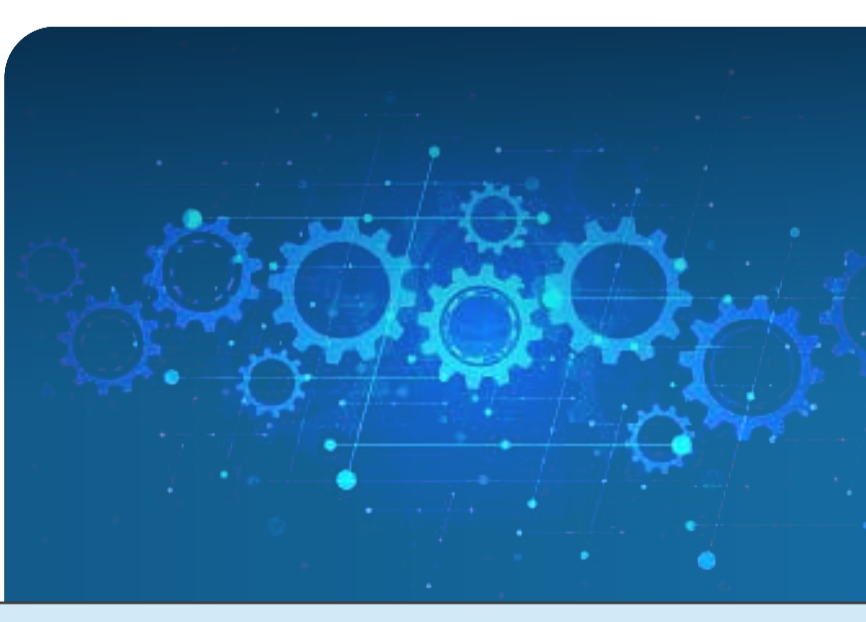
10 | Risk Mitigation

Reduce human errors and ensure consistency which translates to lower risk of equipment failure, data breaches, and regulatory compliance violations

Ready to Accelerate Your Modernization Journey?

To learn more, visit:
https://www.vmware.com/solutions/network-automation.html