F5 Application and Security Services Automation with Ansible

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The explosive growth of apps

Driven by accelerated digital transformation, it presents incredible **opportunities** and **challenges**

OPPORTUNITIES

Improve Customer Experience

Transform the Business

Differentiate

CHALLENGES

Security

Modernization

Complexity

IT as Enabler of Innovation

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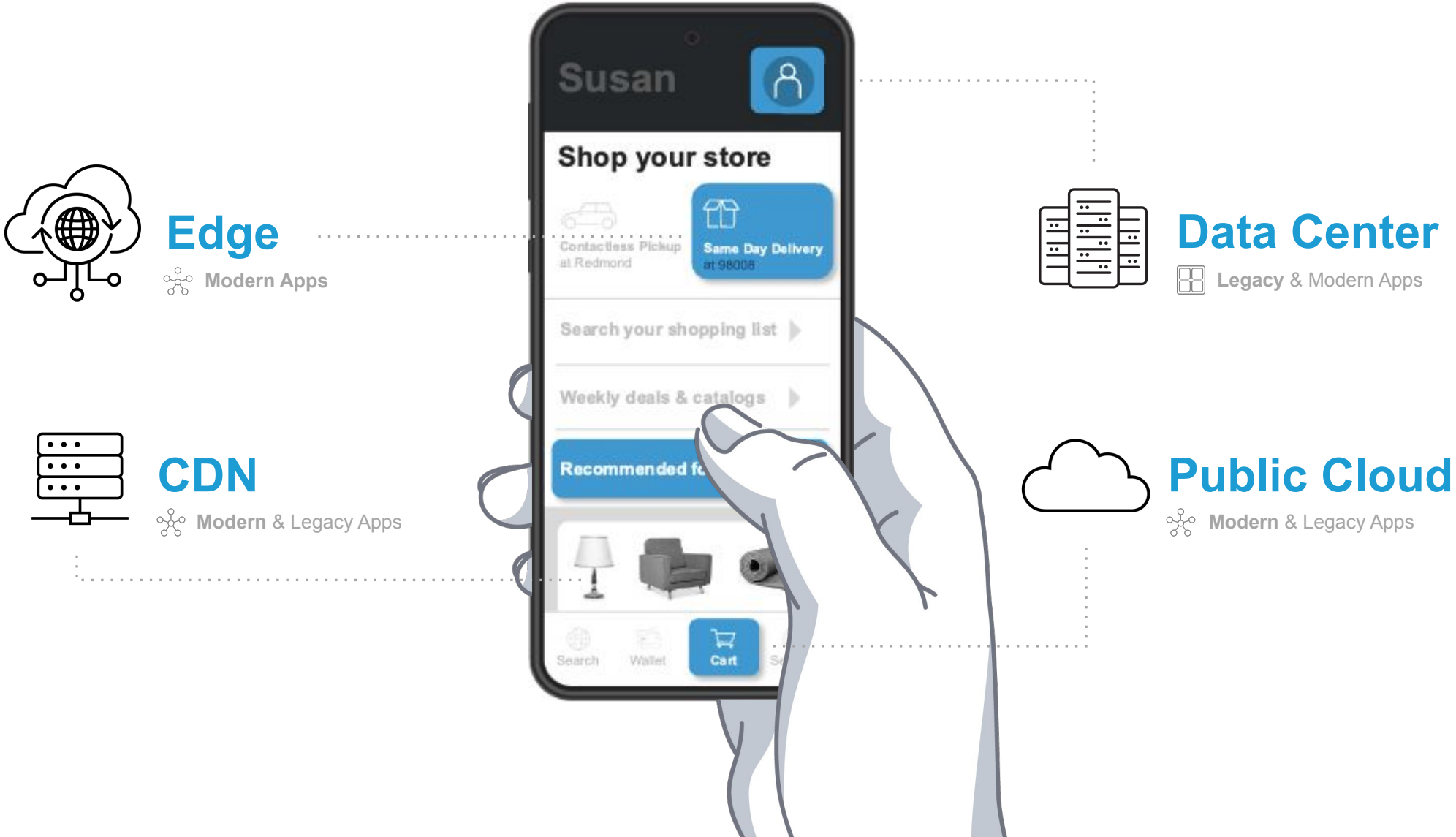
The digital experience

Comprised of **legacy and modern** apps, with **multiple app sources** spanning on-prem to edge



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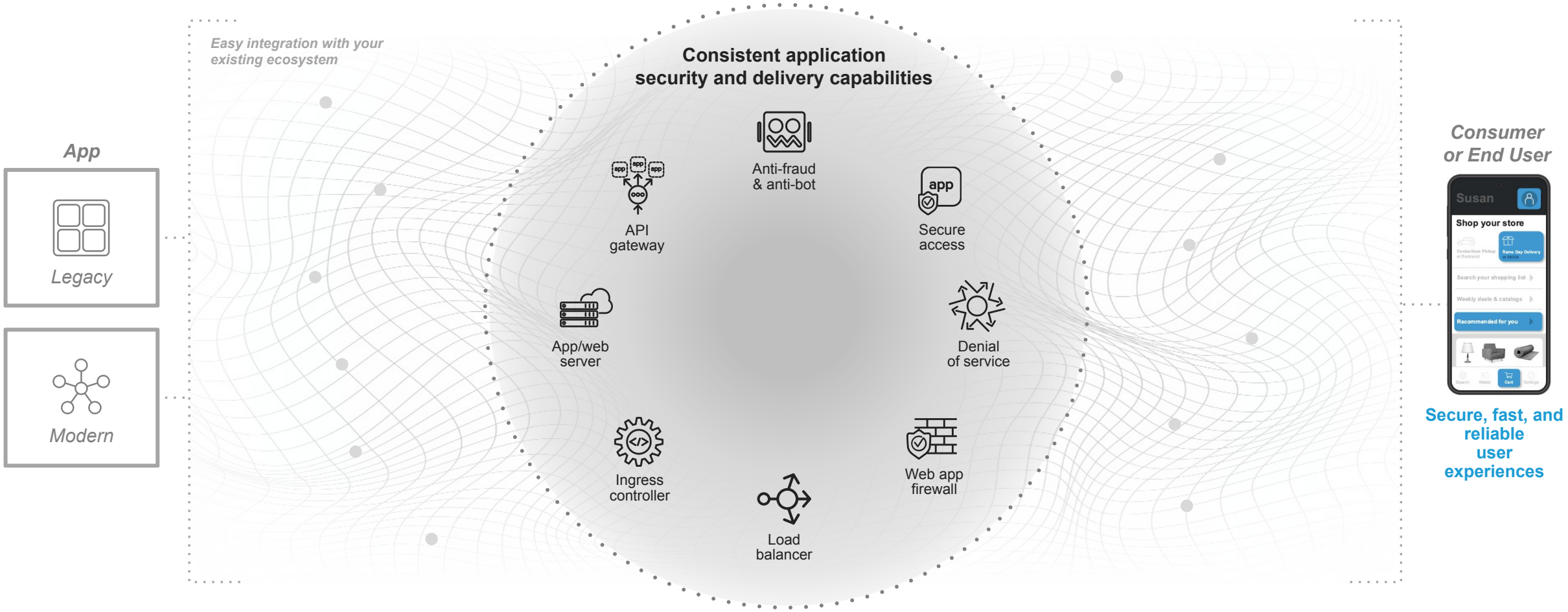
A Distributed Cloud Architecture for app security and delivery

Increasing an organization's ability to keep up with **ever growing security needs**, even as they **modernize**



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F5's Architecture for App Security and Delivery

Providing a blueprint for enterprises to significantly **heighten and maintain their security posture**

App

Legacy

Modern

Deliver any application, on any cloud, anywhere

F5 Distributed Cloud
Cloud-based services for modern and legacy apps...anywhere

F5 NGINX
Modern apps, on-premises & in public clouds

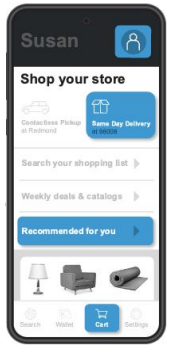
F5 BIG-IP
Legacy apps, on-premises & in public clouds

F5 Visibility & Insights

F5 Policy Declaration & Service Management

Secure, deliver, and optimize every app and API, anywhere

Consumer or End User



Fast, reliable, and secure user experiences

Red Hat: Enterprise Linux | OpenShift | Ansible Automation Platform

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F5 & Red Hat

Certified solutions to automate, scale and secure application workloads across multi-cloud environments

Services for containerized apps

Secure app services with **F5 Container Ingress Services** and **NGINX Plus** router for **Red Hat OpenShift** deployments

Automation

Red Hat Ansible Automation for **F5 BIG-IP**, **NGINX** and **Distributed Cloud** infrastructures and app services

Advanced API Security

Enhanced API protection with **F5 Advanced WAF** and **Red Hat 3scale**

NFV Solutions for Service Providers

Monetize new services with **F5 virtual network functions (VNFs)** and **Red Hat OpenStack**

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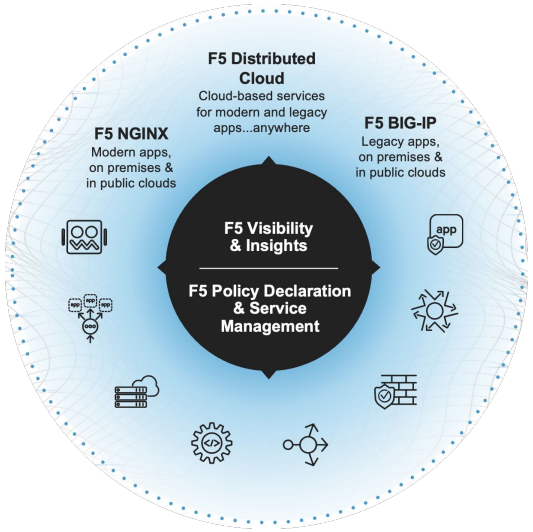
F5 & Red Hat

F5

- De-facto platform for L4-L7 application provisioning / security
- One of the first adopters of automation enablement esp. Ansible
- Committed to open source



ANSIBLE

- De-facto automation platform for network automation
- Agentless architecture
- Automation for F5 BIG-IP, NGINX and Distributed Cloud Use Cases

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F5 / Ansible Solution

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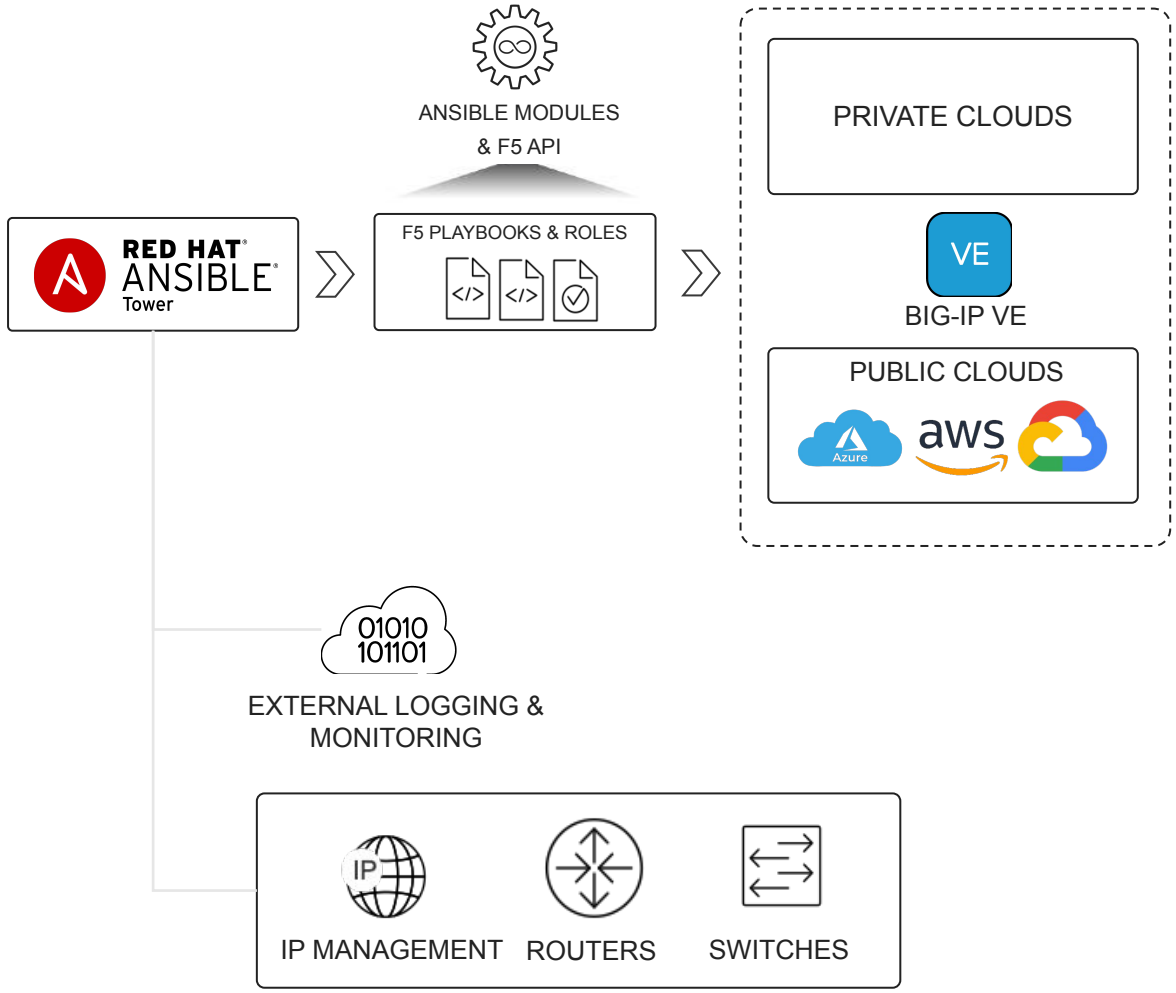
Ansible Automation for F5 BIG-IP

AUTOMATED NETWORK AND SECURITY SERVICES

- Network Firewall & Web Application Firewall policy management
- Certified content via Ansible Automation Hub
- Over 110 fully supported modules
- Support for declarative interfaces

AUTOMATION TO MANAGE BIG-IP THROUGH BIG-IQ

- Supported modules for BIG-IP license management
- Support for App templates



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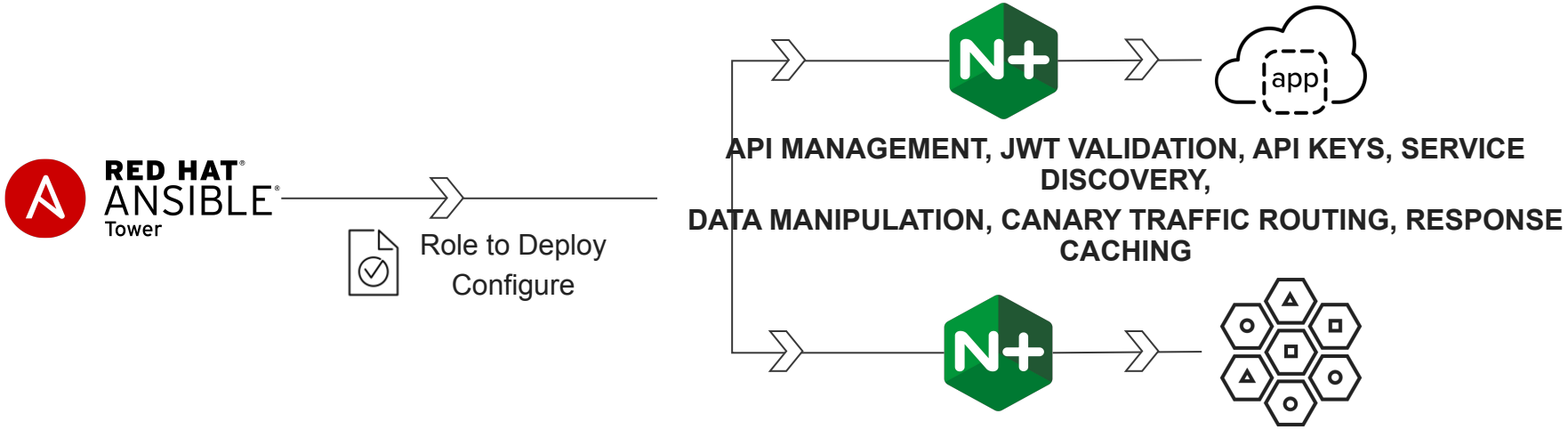
Unified NGINX Role On Ansible Galaxy

Deploy and Configure both NGINX and NGINX Plus



- Deploy NGINX to a cloud provider using a dynamic inventory
- Configure:
  - Create Dynamic NGINX configurations or upload existing NGINX configuration files from your host
  - Toggle metrics collection with the NGINX and live activity monitoring on NGINX Plus
  - Installing the popular NGINX modules – NGINX JavaScript (formerly called nginScript), Perl, WAF
  - Installing NGINX Unit on your host system

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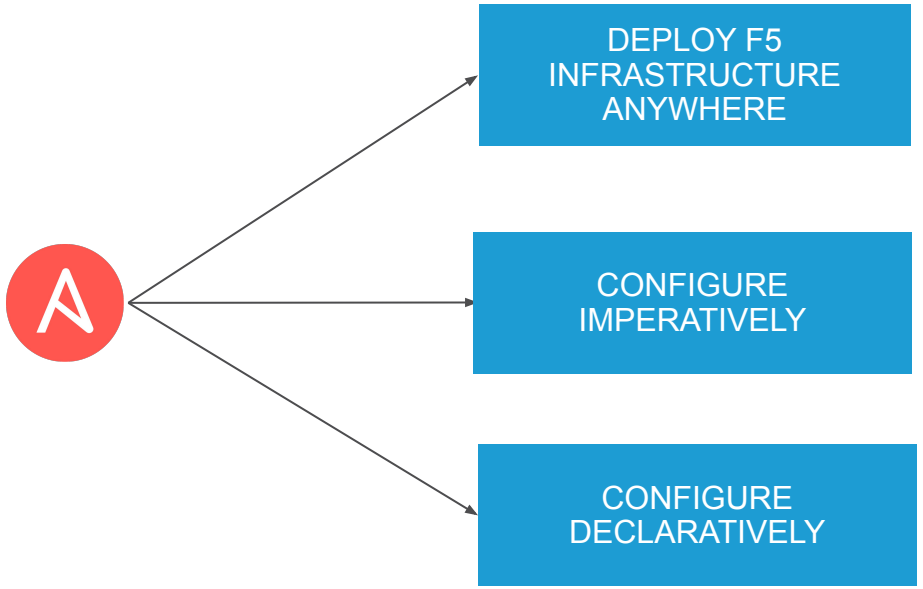
Solution Benefits

Gain a competitive edge and Flexible automation based on your needs

- **MANAGE F5 & NGINX INVENTORY**
  - Retrieve ad hoc or bulk inventory and configurations
  - Credential management with Tower Vault
  - State checking and validation by versioning (GITOPS & Infrastructure as Code)
- **EXECUTE F5 / NGINX PLAYBOOKS WITH FLEXIBILITY**
  - Invoke manually, API via Tower, Scheduled via Tower
  - Combine stateful validation with schedules
  - Custom workflows, Logging and Aggregation, Notifications



Declarative vs Imperative:
https://www.f5.com/company/blog/f5-as3-and-red-hat-ansible-automation

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Increased Operational Agility with F5 & Ansible

• APP DEVELOPERS

- Declaratively manage application configurations
- Consume configuration templates to develop and test with enterprise grade app-services.
- Spin up, replicate configurations and tear down development and test environments with ease
- Ensure your application works in production scenarios

• NETWORK ADMINS

- Automation for BIG-IP or NGINX infrastructure provisioning and network configurations
- Create and manage F5 BIG-IP objects
- Automation for F5 network firewall (AFM) policy management
- Templatize BIG-IP or NGINX network configurations for use by other teams

• SECURITY ADMINS

- Automation for WAF (ASM) and Access (APM) policy management
- Templatize security policy for app-owners to ensure compliance
- Ability to create security policy once and deploy across hybrid cloud, multi clouds and container environments
- Faster mean time to resolution

• APP ADMINS (DEVOPS)

- Launch pre-configured templates to rapidly provision BIG-IP and NGINX infrastructure anywhere and configure app-services
- Easily deploy F5 and NGINX infrastructure-as-code capabilities in CI/CD workflows
- Tear down unwanted environments with ease
- RBAC

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Use Cases

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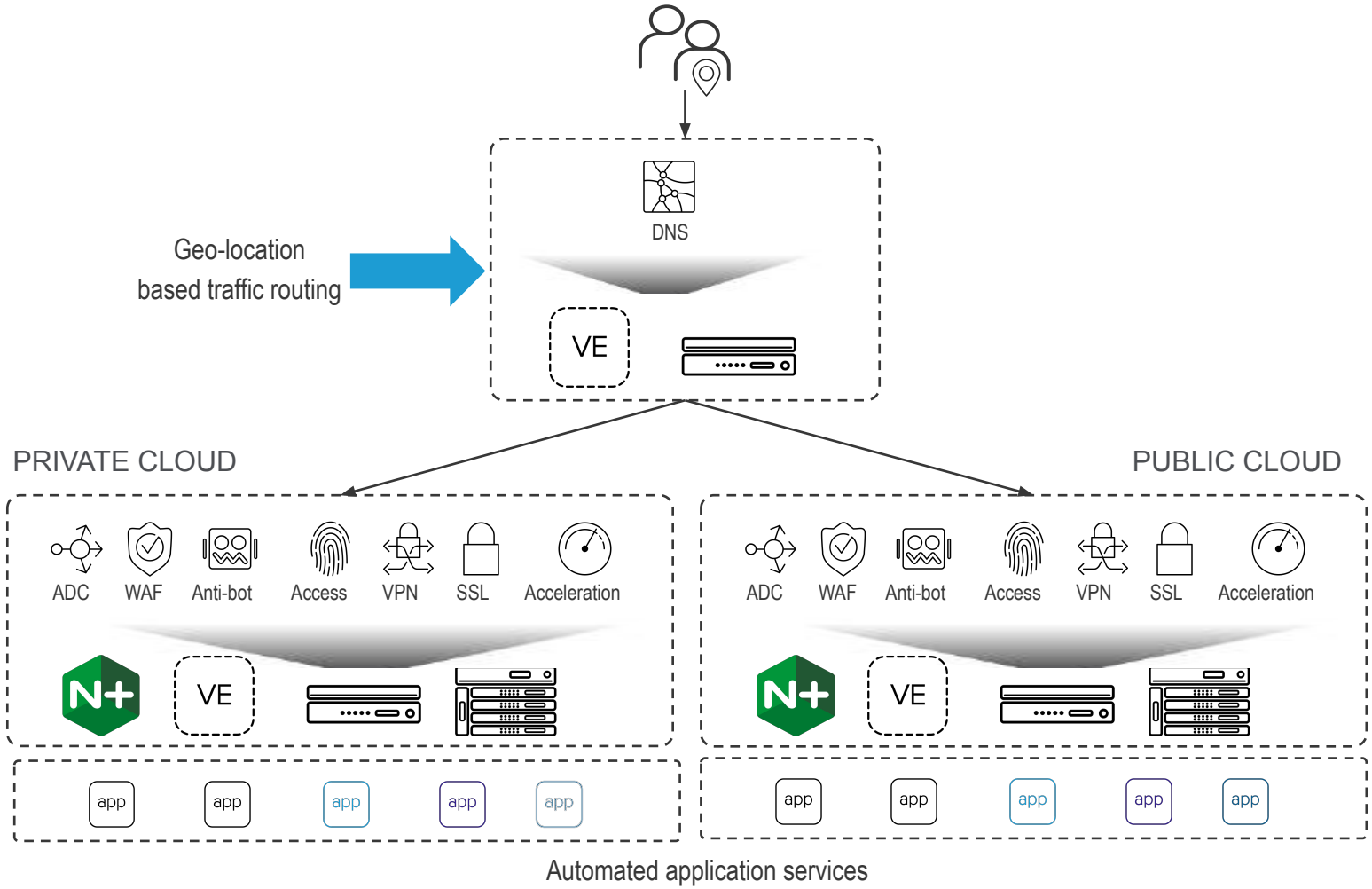
Multi-Cloud Application Architecture

Automation to manage infrastructure across Multi-cloud

Automate **F5 BIG-IP DNS** configurations using **Ansible Automation Platform**

F5 BIG-IP or **NGNIX Plus** providing secure app-services

Ansible playbooks/roles for F5 automation for all F5 and NGINX app-services written once that can re-used to scale



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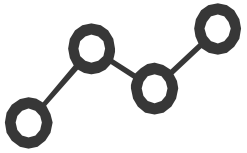
Containerized Application Architecture

N-S control

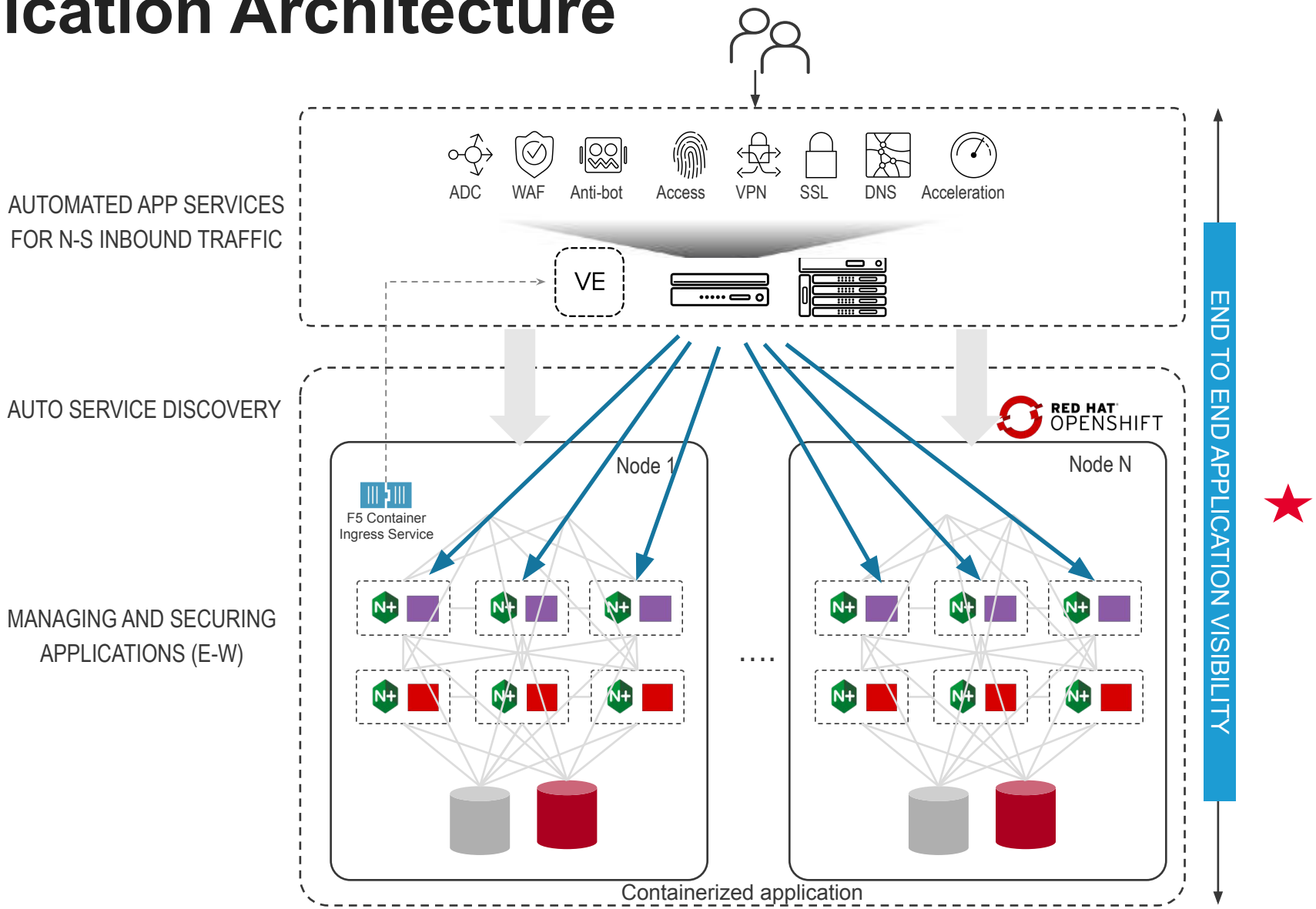
Control and secure the traffic to the container platform with F5 CIS

Ingress control

Expose, scale, and secure container-based apps to the world



E-W control
NGINX Service Mesh



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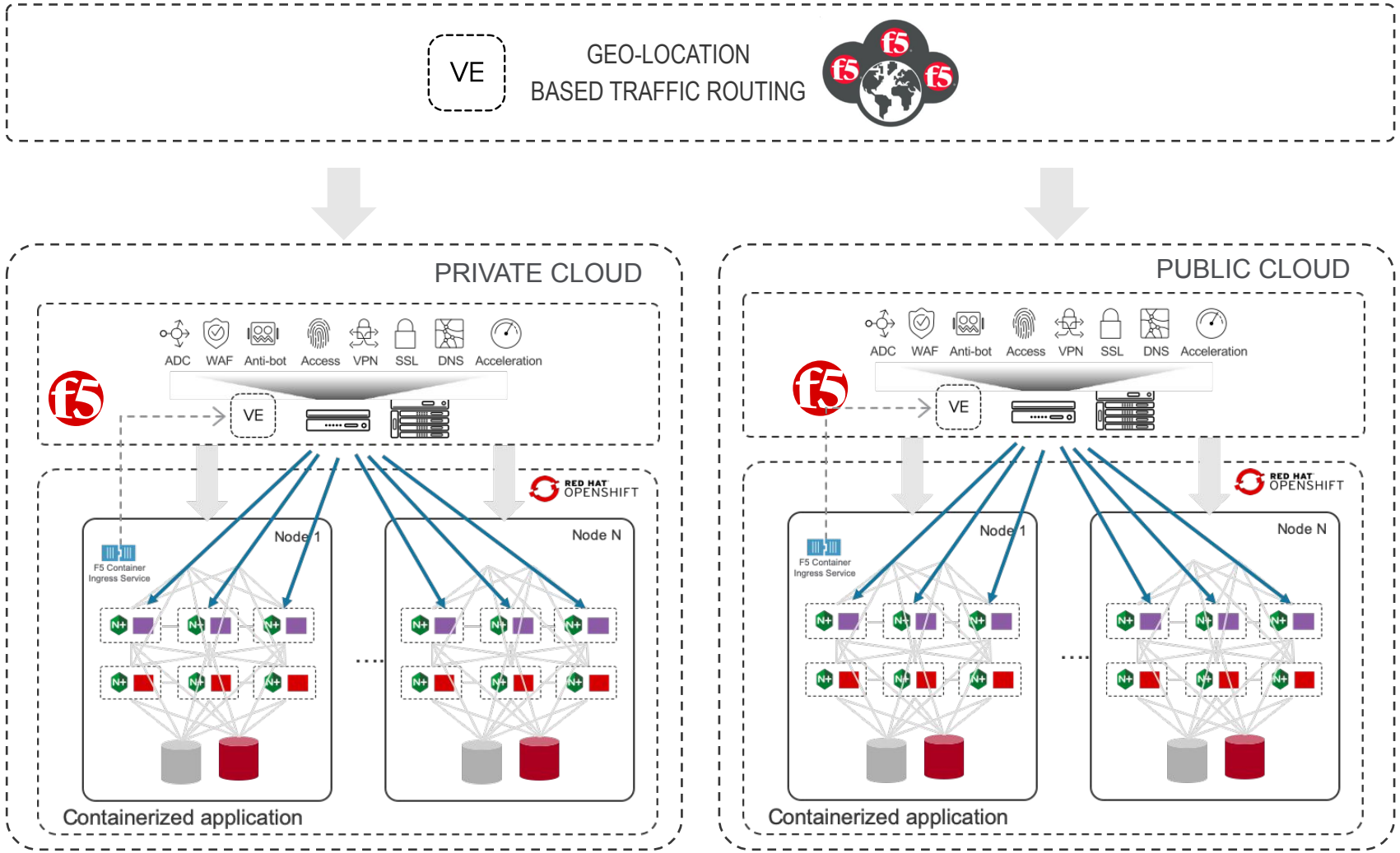
Resiliency in Containerized Architecture

End to End Automation and Insights
using
Ansible Automation Platform

Supported and certified
F5 automation content
via
Ansible Automation Hub



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Summary

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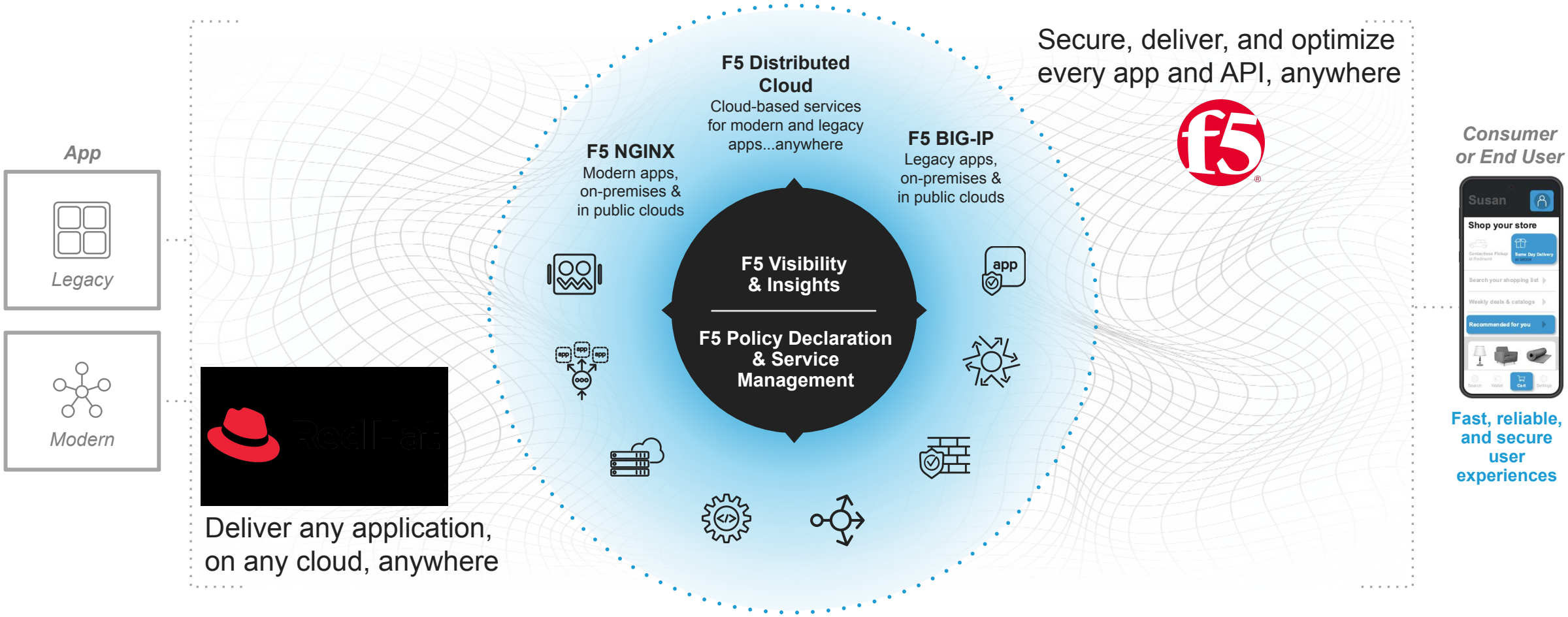

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F5 and Ansible solution lifecycle

Net / Dev / Sec Ops

Day 2 operations & optimizations

Extends the Red Hat and F5 relationship into Day 2 exercises via Ansible Tower:

- Monitoring and management
- Updates and upgrades in a reliable DevOps-style workflow

Net-new deployments / unit sales

Leverage this offering at any point in the lifecycle

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F5 is a Certified Ansible Automation Partner

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