

Red Hat
Summit

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Automation Telco Journey



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Autonomous Network Framework

Autonomy Level (L0-L5) is based on TMForum framework combining Automation and AI capabilities

Autonomous Levels	L0: Manual operation & maintenance	L1: Assisted operation & maintenance	L2: Partial Autonomous Networks	L3: Conditional Autonomous Networks	L4: High Autonomous Networks	L5: Full Autonomous Networks
AN services (Zero X)	N/A	Individual AN case	Individual AN case	Select AN cases	Select AN services	Any AN services
Execution	P	P/S	S	S	S	S
Awareness	P	P	P/S	S	S	S
Analysis/ Decision	P	P	P	P/S	S	S
Intent/ Experience	P	P	P	P	P/S	S

■ Personnel (manual) ■ Systems (autonomous)

tmforum

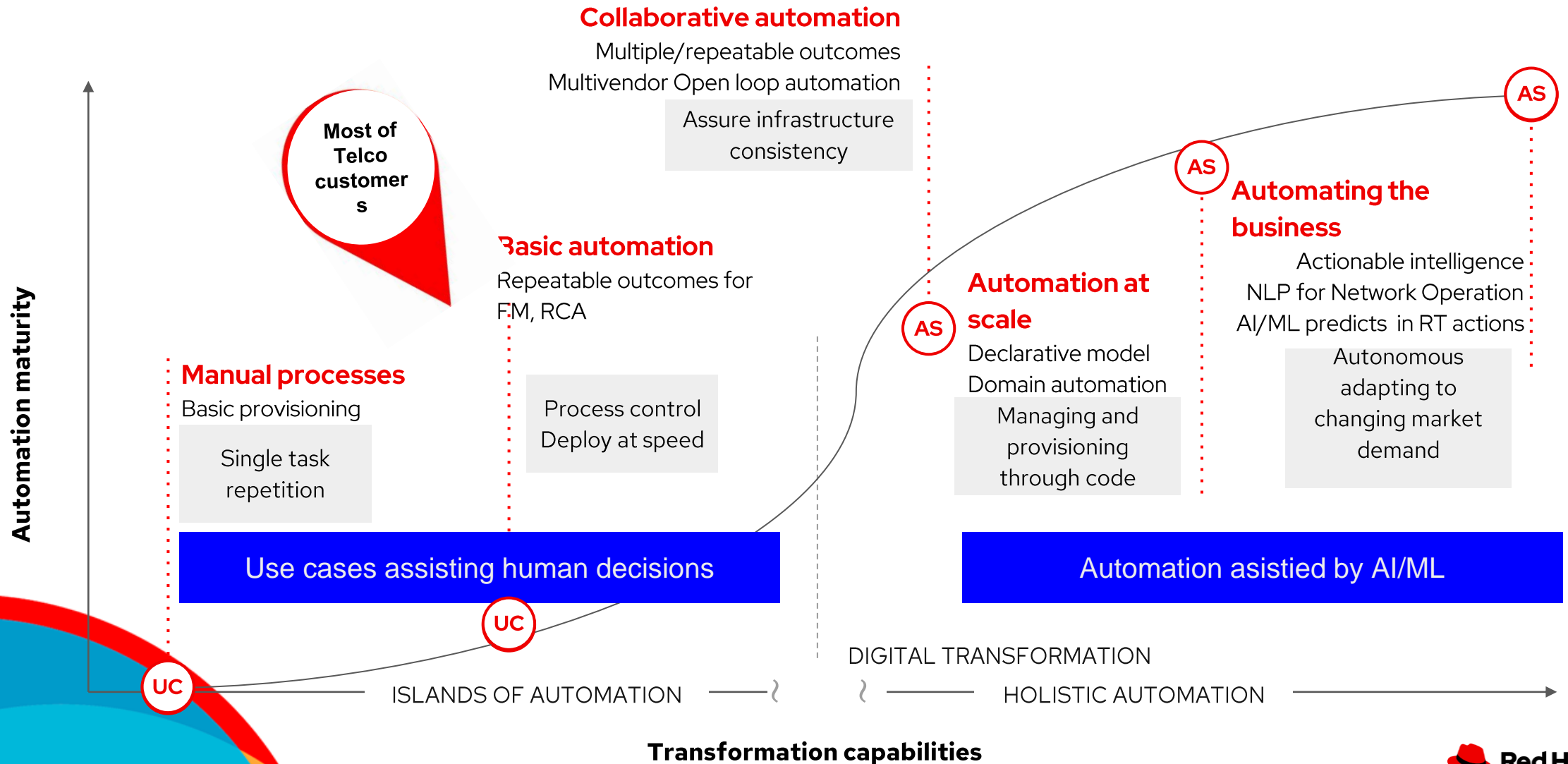


Anyone can automate...
but an enterprise Telco
Needs to coordinate
and scale

- **Improve Efficiency**
- **Increase Productivity**
- **Control Risk and Expenses**



Red Hat Approach : Transforming from task to business automation



Red Hat Automation Solutions_Automation E2E

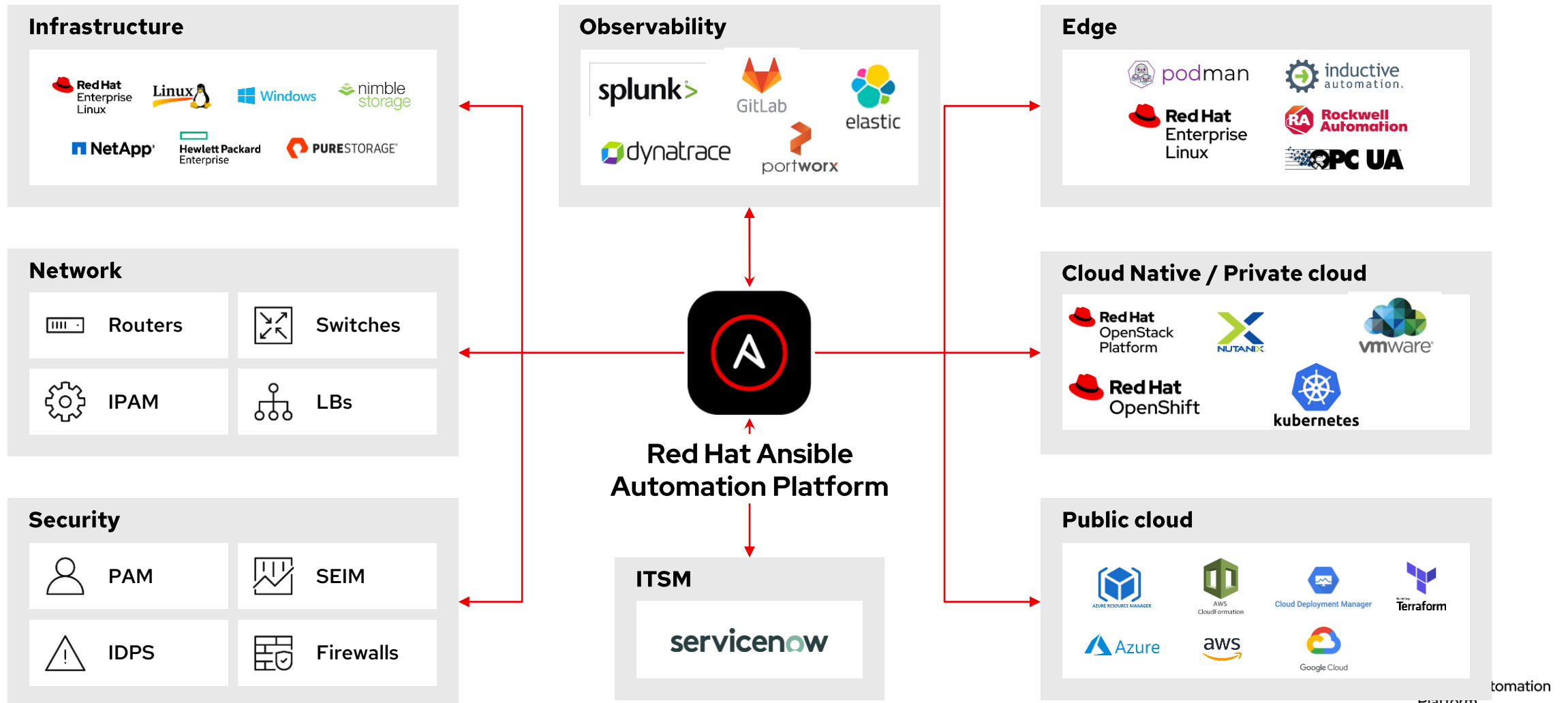


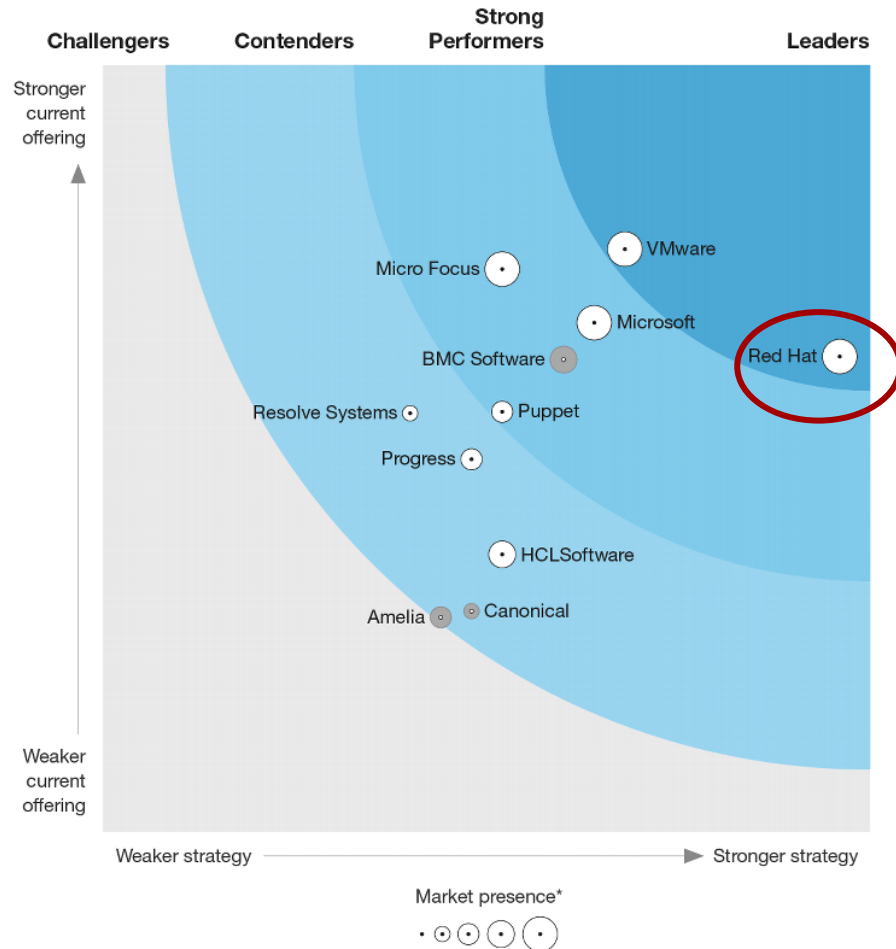
FIGURE 1

Forrester Wave™: Infrastructure Automation, Q1 2023

THE FORRESTER WAVE™

Infrastructure Automation

Q1 2023



*A gray bubble or open dot indicates a nonparticipating vendor.

Source: Forrester Research, Inc. Unauthorized reproduction, citation, or distribution prohibited.

Red Hat Named a Leader in Infrastructure Automation by Industry Research Firm

Ansible Automation Platform acknowledged with the highest score in the strategy category; “leverages its strong open source community to power innovation”

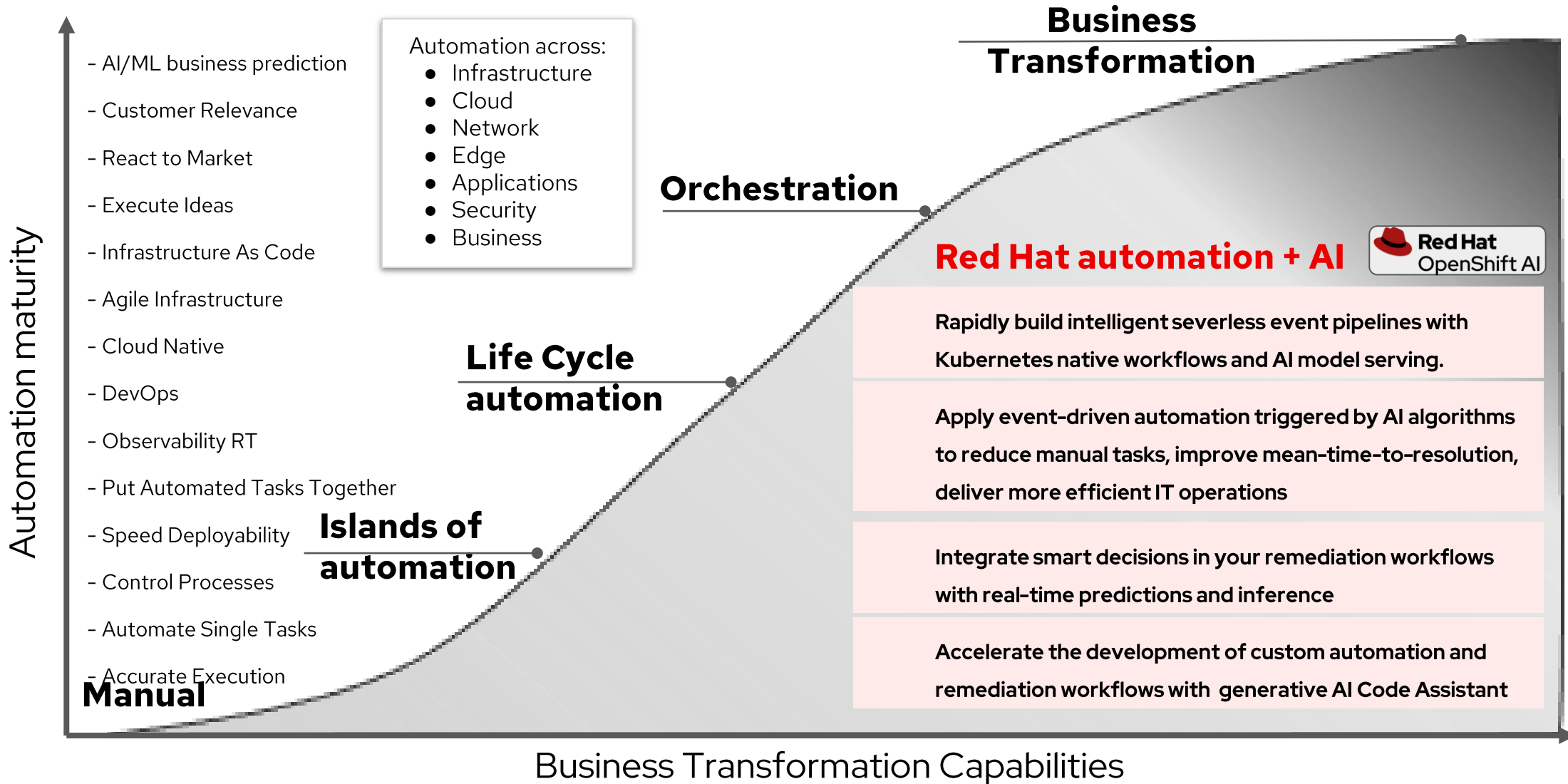
Research, named Red Hat Ansible Automation Platform a leader in The Forrester Wave™: Infrastructure Automation, Q1 2023. Judged against a rigorous set of 30 criteria, Ansible received the highest score in the strategy category.

“Ansible has strengths in configuration management, integration with configuration management database (CMDB), analytics, and community support. It can clearly handle scale: Large global systems integrators lean on it to deliver managed services.”

by Naveen Chhabra, principal analyst, Forrester



From streamlining processes to automating from the business



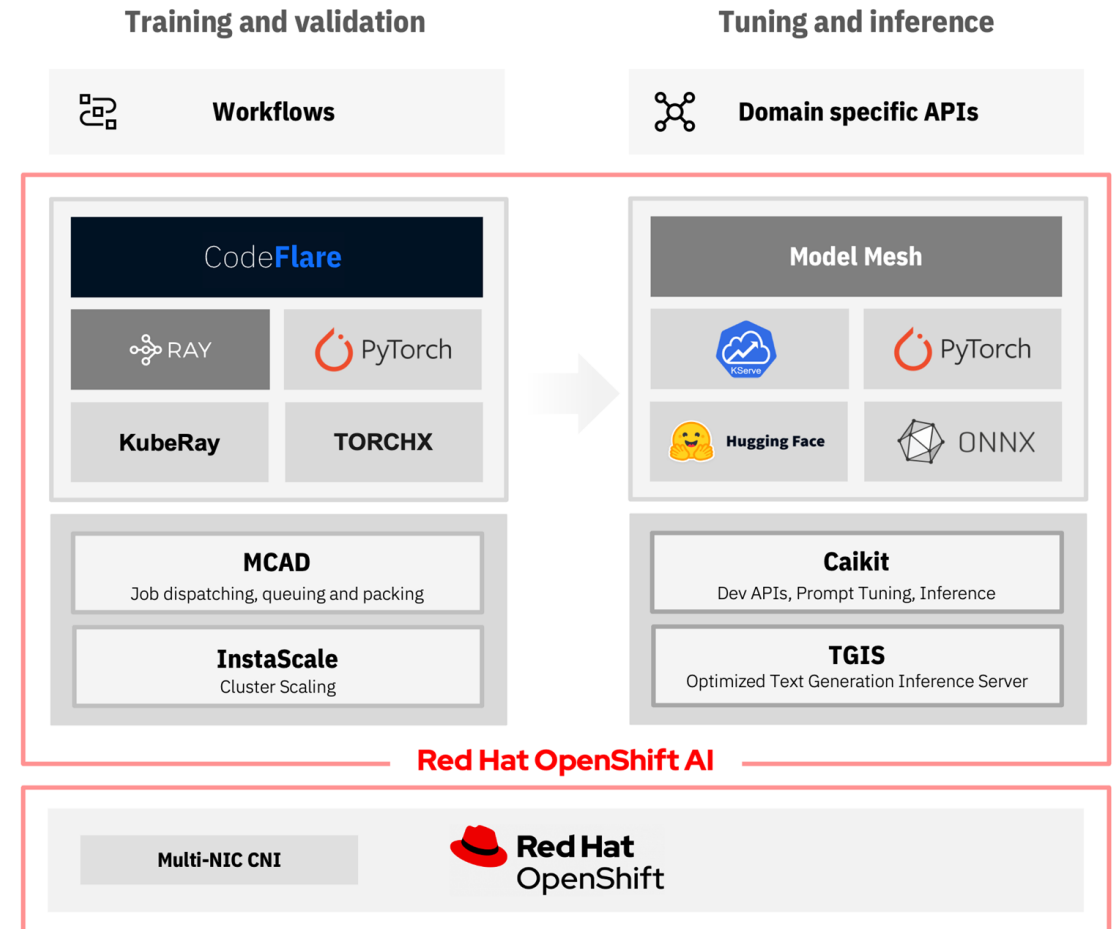


An Open Source Platform for Machine Learning

Red Hat OpenShift AI

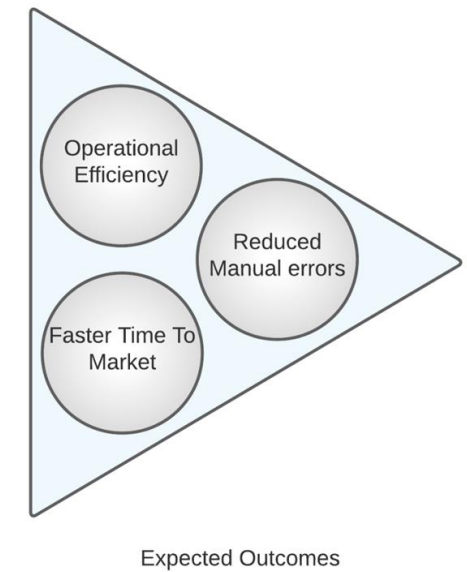
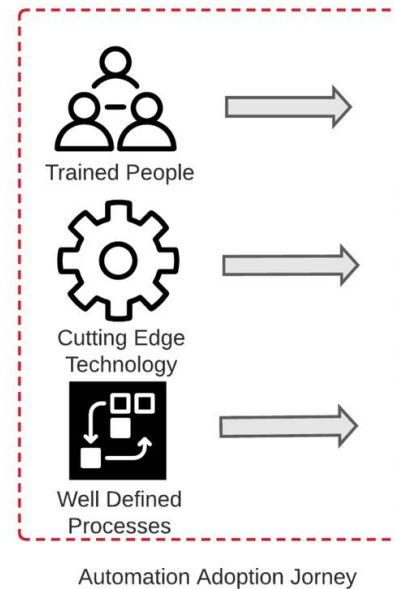
Expands upon the proven capabilities of Red Hat OpenShift to:

- ▶ Provide a unified platform for data scientists, IT Ops, and application developers.
- ▶ Support end-to-end workflow of training, tuning, and serving foundation models
- ▶ Automate entire model lifecycle with solutions for data science and MLOps teams
- ▶ Scale to handle workload demands of foundation models (volume of data, duration of training run, size of model, acceleration required, and scalability).
- ▶ Enable you to bring, tune, and deploy your own open source models
- ▶ Serve as underlying platform for training, serving and tuning foundation models for IBM watsonx.ai and Red Hat Ansible Lightspeed with Watson Code Assistant



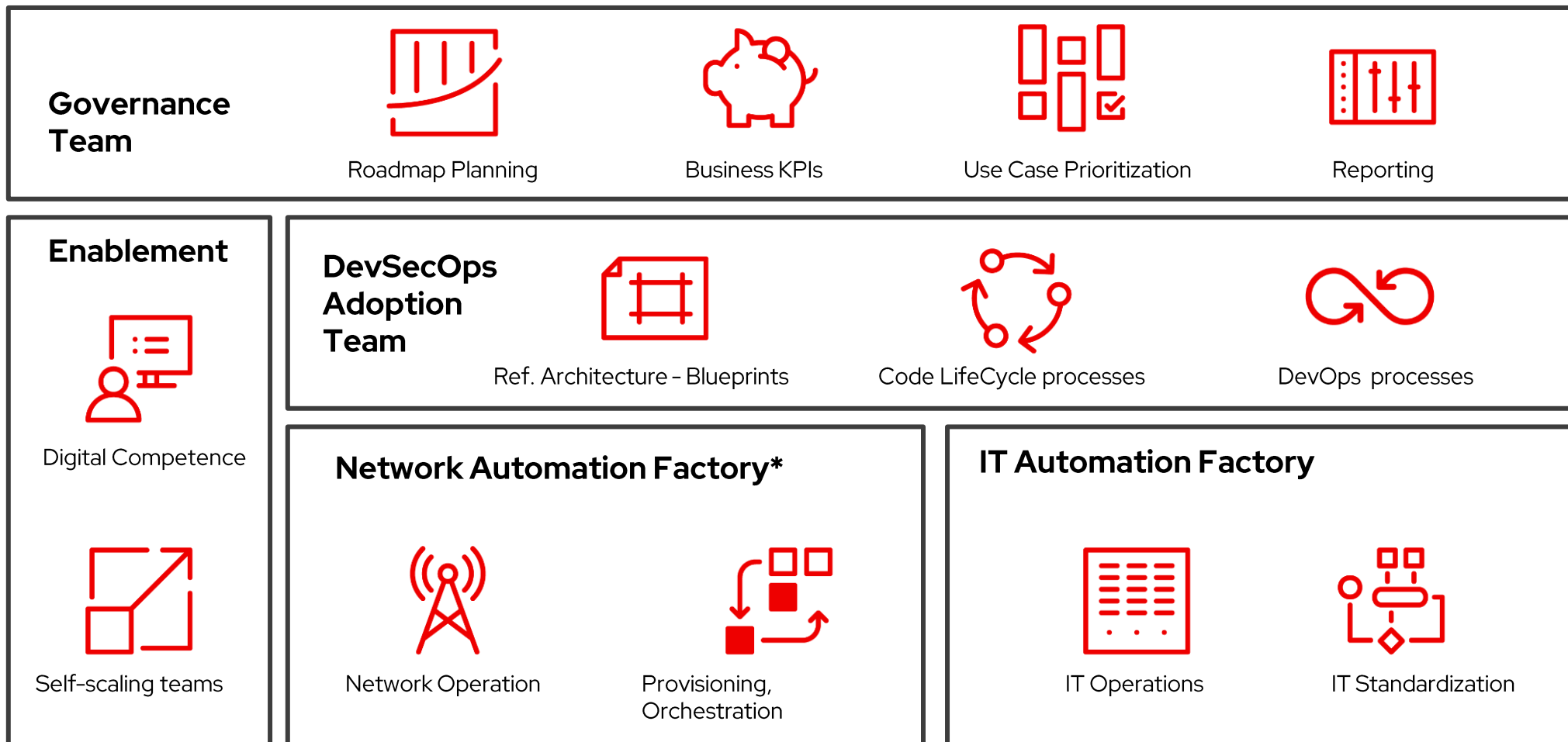
Red Hat value proposition

Aligning **people, technology** and **processes** as fundamental ingredients in building an extendible automation framework - enabling the automation of **any use case**, at **any time** and **at scale**.



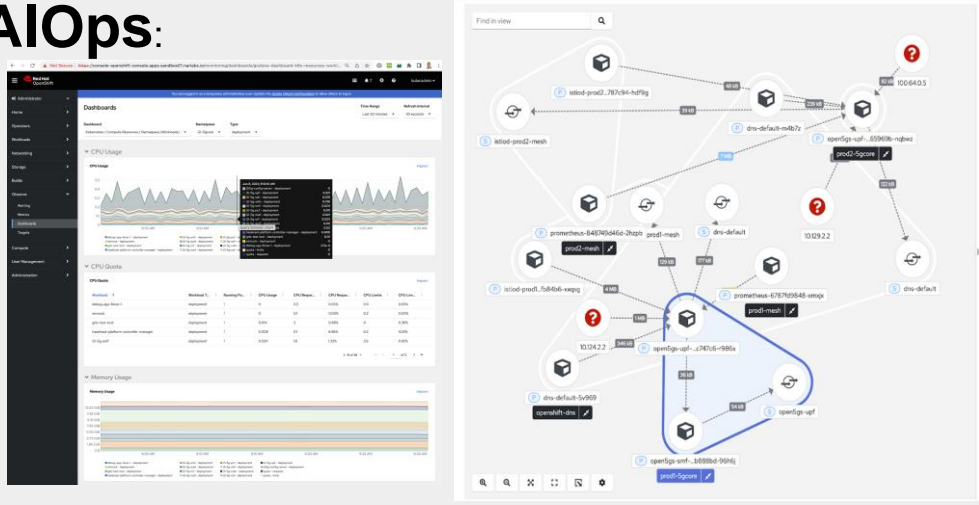
Automation Practice Functions

Supporting structured, organic adoption

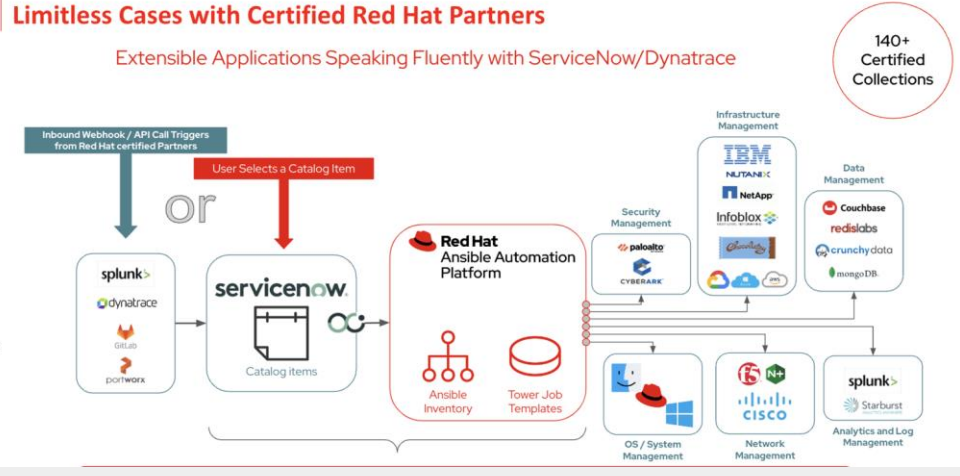


Red Hat Automation Solutions_ Some Use Cases

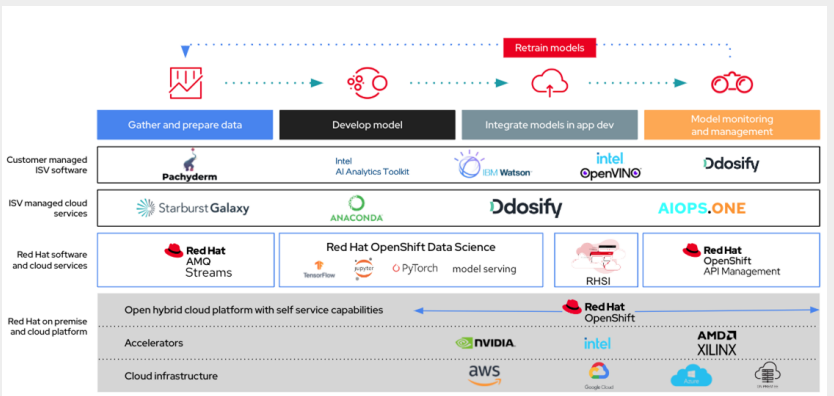
AI Ops:



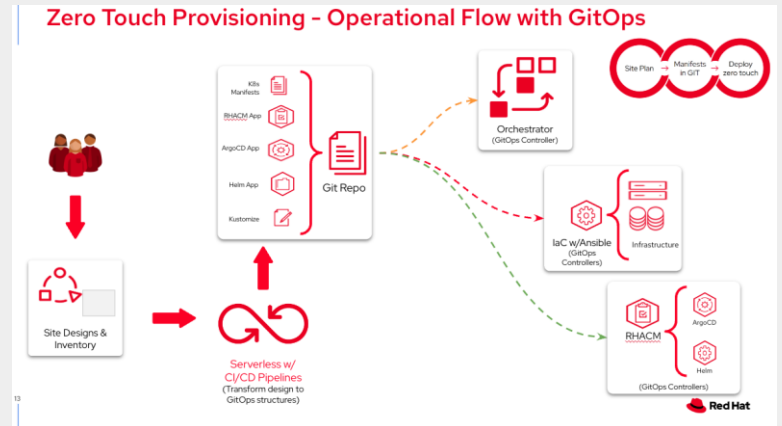
Self healing- AAP



OpenShift AI



ZTP- GitHub ACM+Ansible



Red Hat Automation Solutions_ Some Use Cases

Automating CPE Deployments

Configuration process with CWMP/TR-069

To align understanding

- The flow is initiated by CPE, but ACS can trigger CPE to initiate the flow
- ACS is effectively a repo of CPE configurations with SOAP API of a certain shape (TR-069) to provide these configurations in a controlled manner
- The whole thing is intended to be extremely scalable; the TR-069 part is automatic by definition
- ACS northbound interface is ACS-specific
- Very few ACS types within a given broadband provider

Telco Network (Cloud) automation

One of the Ansible strongest points is around cloud native platforms automation.

Use cases:

- Zero Touch Provisioning
- Day2 Operations
- Multi-cluster management
- HW automation
- NW automation
- Security automation
- Storage automation
- Disaster recovery & Backup
- Conformance testing
- Operating systems

Continuous Delivery

Multi-vendor network elements continuous validation

Edge Network Automation

Extending culture automation to the Edge Network

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Thank you



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