

Don't Panic!

QuikTrip's Automated Network Keeps the
Coffee Brewing

AUTROCON 2

THE NETWORK AUTOMATION CONFERENCE

Introductions



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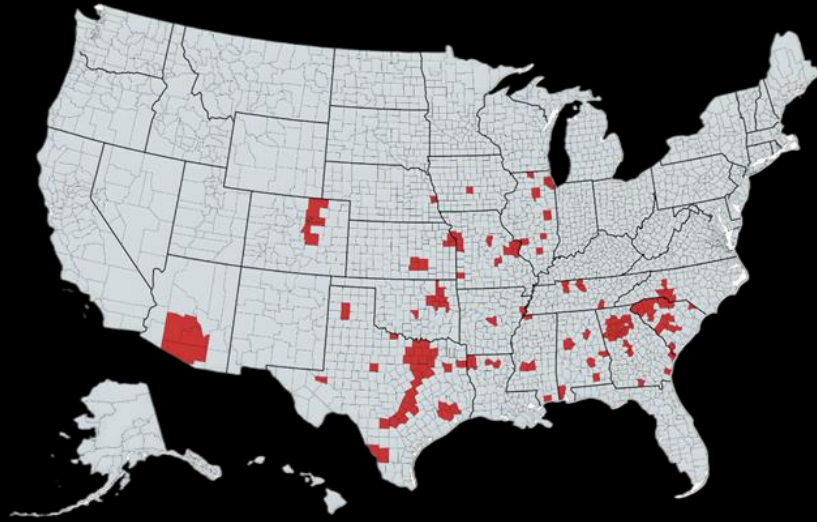
Joe Wesch
Managing Consultant
Network to Code

Overview



1,100+
Store
Locations

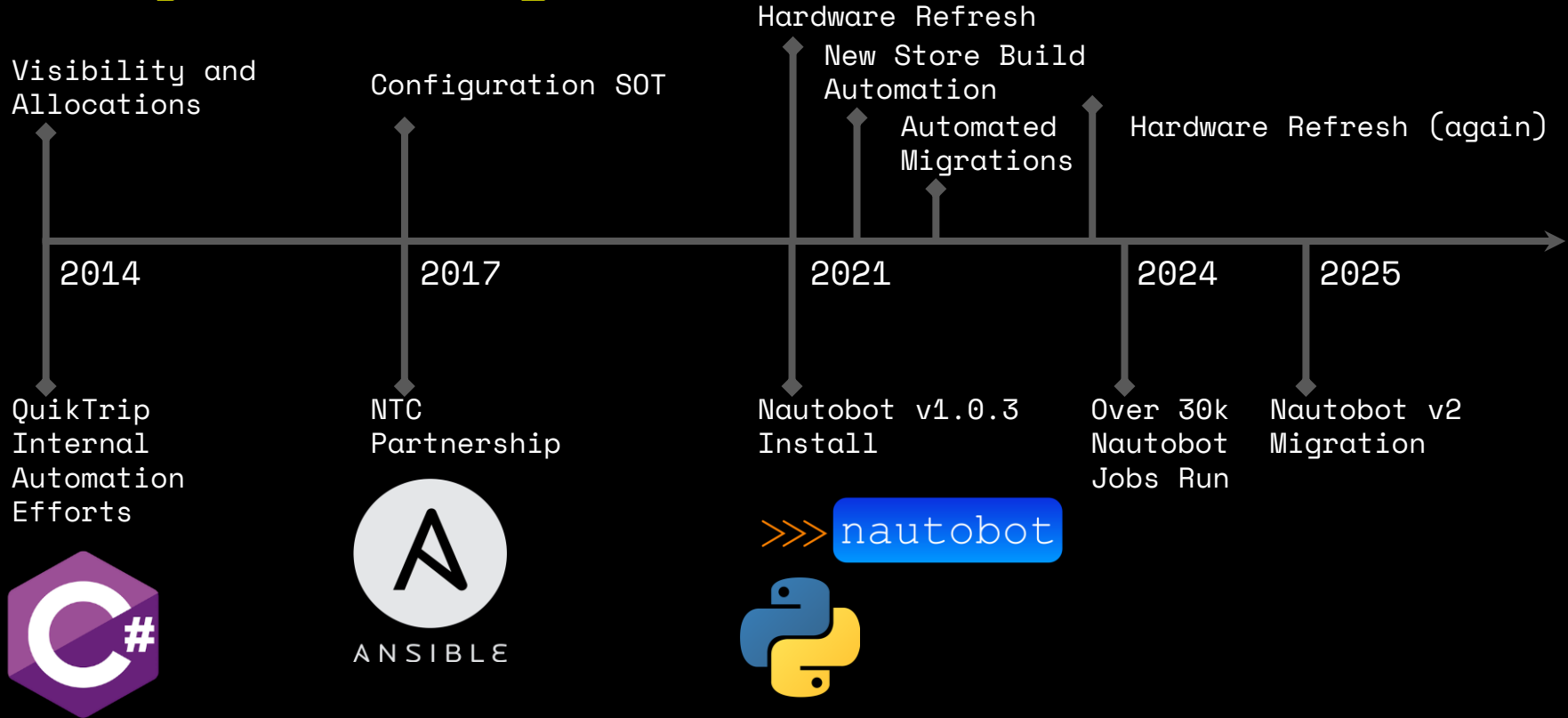
18
States



Key Operational Challenges:

- Enable front-line IT staff to complete complex tasks
- State checks and health validations
- Speed to implement
- Reduce human errors

Project Background



Design-driven Automation Approach



Definition and significance



Benefits of consistency across a multi-vendor environment



Importance of seamless integration and management

Hardware Configuration Challenges

Platforms



Configuring devices across geographically dispersed locations

- *Be the “eyes and ears” for on-site techs with varying experience/background*
- *Work asynchronously on multiple stores without compromising consistency*

Maintaining a unified interface for diverse teams

- *Many tasks are through Nautobot, reducing human intervention*
- *Full audit logs of what was done, when, and by whom*

Key Features of our Automated Network

1

Lifecycle event automation

Automated hardware install, upgrade, replacement and decommission ensures consistency across the organization

Idempotency allows for ease of backporting changes to initial pilot stores

2

External system enablement

Seamlessly integrating with existing systems is crucial - don't reinvent the wheel

Systems across the organization are not disrupted with the introduction of our automation

3

Streamlined hardware break/fix processes

Devices can be replaced faster and with assurance that standards are applied

*Meraki
Add/Replace/Remove*

4

"One click" complex network changes

Store relocation complexities

Palo OS Upgrade

Use Nautobot as the Source of Truth to dynamically change build process based on store type

Consolidated Visibility

On-premises vs. cloud resources

Loss of CLI access, bound by vendor's layout structure, and separate interfaces with different RBAC requirements

Created a centralized audit log to assist with causation and correlation of events across systems

Tools/methods for operational oversight

Retrieve and display only necessary information

Expose only required integrations rather than everything

Impact on efficiency and decision-making

Cut down on extraneous information

Highlight the information that matters the most during downtime events to assist in rapid recovery

Role-based access for views/controls

Provide read only visibility for non-technical users

Provide just the right knobs and switches for Tier 1-2 support to empower them while limiting their blast radius



Lessons Learned



Modular components - Hardware and manufacturers will change

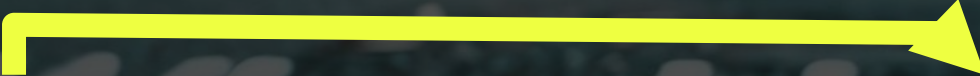


Data sources such as IPAM are important to get right and ideally automated/scheduled imports



Understand your target user when crafting log/job output and format

What Lies Ahead



Continue to open 80-100
new build sites per
year

Enhance Nautobot as a data source

- Rack elevations
- Power feeds
- More corporate facility data

Conclusion

1

Key benefits of automation

2

Lessons learned and future projects at QuikTrip

3

We encourage you to consider similar automation strategies



Questions?