

# Karl J. Haworth

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## ABOUT

Highly motivated, leadership driven, team player, and quick learner with extensive experience in computer applications and statistical reporting. Creative thinker and problem solver with exceptional planning and analytical abilities.

## EDUCATION

**Albion College**; Albion, Michigan  
Bachelor of Arts  
Major: Economics and Management  
Minor: Statistics

August 2010 – May 2014

## EXPERIENCE

### Principal Engineer, IT DevOps

American Airlines

June 2020 – Present

Worked in the Delivery Transformation organization architecting solutions for automation using devops methodologies

- Develop overall strategic technical plan and create architecture proposals based on identified solution gaps
- Create solutions with high level of innovation, cost effectiveness, high quality and faster time to market
- Contribute to the overall strategy and manage complex issues within functional area of expertise
- Serve as a Subject Matter Expert in Automation architecture
- Collaborate with business and technical partners to identify and scope the opportunities, outline potential value and ROI, identify risks, benefits and constraints

### Network Automation Engineer

American Airlines

June 2019 – June 2020

Worked in the Enterprise Network Automation organization architecting solutions for automation using devops methodologies

- Develop overall strategic technical plan and create architecture proposals based on identified solution gaps
- Create solutions with high level of innovation, cost effectiveness, high quality and faster time to market
- Contribute to the overall strategy and manage complex issues within functional area of expertise
- Serve as a Subject Matter Expert in Automation architecture

### Senior IT Infrastructure Engineer

American Airlines

January 2018 – June 2019

Worked in the Enterprise Network Services department deploying, optimizing, and creating engineering toolsets.

- Plan, create, and document processes for new platforms
- Evaluate and correct the integrity of existing systems
- Plan, create, and implement automation between platforms
- Maintain and administer multiple platforms including products from Riverbed, CA Technologies, Infoblox, and Gigamon
- Troubleshoot network and network device issues with routing and administration
- Implement data monitoring and collection equipment based on diagrams and run-books provided by architect

### IT Infrastructure Engineer

American Airlines

June 2016 – January 2018

Worked in the Enterprise Network Services department with network and application performance monitoring toolsets.

- Implement data monitoring and collection equipment based on diagrams and run-books provided by architect
- Plan, create, and document processes for existing platforms
- Maintain and administer multiple platforms including products from Riverbed and CA Technologies
- Troubleshoot common network and network device issues with routing and administration

### Associate IT Infrastructure

American Airlines

June 2014 – May 2016

### Engineer (ADEPT)

The American Airlines Development Program for Technology (ADEPT) is a college recruiting program created to develop a technical talent pipeline for Information Technology(IT).

- Deploy functional networks
- Configure and install various network devices and services
- Maintain complete technical documentation
- Resolve issues that tiers of support have escalated
- Perform network maintenance and system upgrades

### Statistical Analyst Intern

US Airways

July 2012 – June 2014

Assisted the Systems Engineering & Operations staff with support, analysis, and reporting.

- Creation of performance metrics
- System performance and capacity planning analysis
- System troubleshooting and documentation of complex processes
- Engagement of software vendors and internal development staff to resolve problems as necessary

## TECHNICAL SKILLS

Kubernetes Python CI/CD Docker GIT Rest APIs Relational Databases (MSSQL, MySQL) Cisco Networking DNS DHCP  
Process Automation Network Management Systems Shell scripts Batch Powershell Cloud Environments  
Network Data Aggregation and Mapping HTML/CSS Responsive Layouts PHP Perl Mac OS Windows OS Linux Cisco IOS

## AWARDS

### Delivery Transformation Principals Award

This team developed a comprehensive interface to deliver Infrastructure for IT-to-IT, and enable Real Time delivery of our products through automation. Their automated and integrated delivery infrastructure will be a huge time saver for many teams in the infrastructure procurement process.

- Chief Information Officer (CIO), Executive Vice President (EVP)

December 19, 2019

## NOTABLE RECOGNITION

Terrific work on Project 42 - I loved seeing the progress you've made. This will have a huge impact on how we work and I so appreciate all your hard work. Keep it up - you are making us all better.

- Chief Information Officer (CIO), Executive Vice President (EVP)

November 13, 2019

SELFLESS: Karl has been helping multiple infrastructure teams in their automation and self service journey. He provides training, shares his knowledge to boost the teams to get started on development with Runway. This is on top of his own development commitment. But he never push the other teams away when they need him.

- Sr. IT DevOps Automation Manager

September 10, 2020

Karl, Great automation demo this week, you rock!

- Vice President (VP) Enterprise Technology Services

July 19, 2019

## PROJECTS

### Infrastructure Orchestration Platform

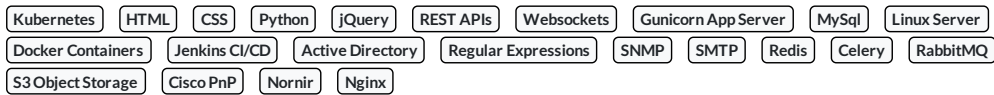
April 2018 - June 2020

#### PROBLEM

All requests for infrastructure are done through a ticketing system and then multiple administrators manually perform the required task hours or days later, in multiple platforms creating a long lag in the time to delivery.

#### SOLUTION

An orchestration platform for infrastructure requests was created that is secure with enterprise authentication, fully logged, provides an attractive and easy to use interface, and reduces the time to delivery through APIs and automation while standardizing and creating relationships among infrastructure objects.



- Set out the integration strategy
- Define technical designs and implementation of system integrations/API Gateways
- Define, implement, and manage the development architecture and supporting toolsets required to build and test complex applications in an efficient and rapid manner
- Architect and develop with REST web API services
- Create a mechanism for continuous integration and continuous delivery (CI/CD)
- Communicate with other stakeholders/end users in the software development lifecycle
- Work within a project management/agile delivery methodology in a leading role as part of a wider team
- Create automated deployment mechanisms from code push
- Documentation of solutions (e.g. data models, configurations, and setup)
- Ensure that platforms and data solutions can be deployed and operated in a highly repeatable and predictable manner
- Requirements Analysis and Solution Architecture Design

### H3C Firmware Upgrade Automation

February 2019

#### PROBLEM

Engineers have to manually upgrade the firmware on H3C devices as they are unsupported by all enterprise tools.

#### SOLUTION

Create Perl script inside of CA Spectrum to push firmware with the expect module for an interactive automated session.



- Set out the integration strategy
- Define technical designs
- Communicate with other stakeholders/end users in the software development lifecycle
- Requirements Analysis and Solution Architecture Design

### Network Device Insourcing Automation

March 2016 - June 2016

#### PROBLEM

Migrate thousands of devices from an outsourced vendor to in-sourced.

#### SOLUTION

Created plan of migrating devices via SNMP TRAP and using SNMP to rapidly rewrite device configurations in bulk.



- Define technical requirements
- Automate migration workflow
- Optimize communication by implementing SNMP over SSH to reduce time to configure and reduce implementation failures
- Develop new capabilities in existing toolsets to communicate with newly acquired unsupported devices
- Communicate regularly with management regarding status
- Work with platform administrators and engineering teams to implement and validate solutions