

ProRail accelerates IT processes from weeks to days with automation

ProRail

Software and services

Red Hat® Ansible®
Automation Platform
Red Hat Consulting

Dutch rail operator ProRail is responsible for the Netherlands' entire railway network. To prepare for growing traffic and new demand for operational technology, ProRail sought to make its IT network and infrastructure more efficient. By expanding its use of Red Hat Ansible Automation Platform with help from Red Hat Consulting, the company has adopted standardized processes for network switch modification and more. A new automation community of practice (CoP) has simplified cross-team collaboration and established a foundation for ongoing innovation.



Transportation

4,500 employees

Benefits

- ▶ Saved time from 60 minutes to 20 minutes
- ▶ Established cross-functional automation community of practice
- ▶ Improved talent acquisition with innovative technology

“Previously, our network operations staff had to log onto each switch to make the change, which took 2 or 3 minutes each. Ansible Automation Platform can change each switch in just a few seconds.”

Coert Busio
IT4IT and IT4OT Manager,
ProRail

“Our use of Ansible Automation Platform to build a higher-quality IT network makes us proud to be at the forefront of automation.”

Coert Busio
IT4IT and IT4OT Manager,
ProRail

Preparing IT to support future increase in railway traffic

ProRail is responsible for maintenance, expansion, and safety operations of the Dutch railway network, including more than 7,000km of track, 11,600 signals, and 160 million km of yearly train traffic. Its mission to connect people, cities, and companies focuses on making travel pleasant and safe on sustainable transportation.

In response to its projections that passenger rail traffic will increase by 30% and freight traffic by 50% by 2030, ProRail needs to run more trains—and with less disruption. Focusing on this growth means not only the railway manager’s IT team, but also its signaling and track operations department were increasingly reliant on information and communications technologies (ICT).

ProRail established a more efficient IT organization, but complex processes coupled with a massive volume of documentation caused delay and difficulty. The railway manager decided that modernizing and standardizing these processes with automation would help the IT team support more demand with less time and effort.

“As ICT use across our organization increases, the demand on our IT network is going to grow exponentially,” said Coert Busio, IT4IT and IT4OT Manager, ProRail. “We knew we needed to become much more efficient and do things in a standard way to achieve our goal of preparing for the coming increase in rail traffic. As network projects bring a large number of new services, automation will ensure the projects are standardized and progress faster.”

Expanding end-to-end automation platform to new processes

ProRail decided to expand use of its existing automation technology, Red Hat Ansible Automation Platform, to address this new IT challenge. The railway manager has successfully used Ansible Automation Platform to automate its Linux® environment for more than 5 years.

Red Hat’s automation platform uses human-readable scripts, or playbooks, to replace routine, manual processes and tasks with repeatable configuration management that simplifies complex deployments.

“Applying Ansible Automation Platform to our network environment was the logical step forward,” said Busio. “Doing so would allow us to integrate our existing Ansible Playbooks so we could use and reuse them. And according to our engineers, writing new playbooks when we need them saves time and provides quality processes.”

The railway manager now uses Ansible Automation Platform to manage deployment of connectors for its TIBCO enterprise service bus (ESB), integrating all of its applications. Network domain backup tasks are also automated using Ansible Playbooks. ProRail’s IT operations team also uses the platform to automatically fetch IP information from the domain name server (DNS) network to deploy a new application or server.

In addition to initial guidance on creating playbooks, Red Hat Consulting provides ongoing guidance to ProRail management on reaching the organization’s automation goals, including expanding adoption of Ansible Automation Platform.

Adopting an automation-centric approach to IT development and management

Saved time from 60 minutes to 20 minutes

By automating software installation and other IT network management tasks, ProRail has reduced the time and effort needed to roll out new systems, applications, and tools. The railway manager can now complete these tasks faster and more efficiently.

For example, ProRail's network team needed days to manually modify general settings in 3,000 switches when a new DNS was introduced. By automating those changes with Ansible Automation Platform, they can be completed within several hours.

"Previously, our network operations staff had to log onto each switch to make the change, which took 2 or 3 minutes each," said Busio. "Ansible Automation Platform can change each switch in just a few seconds."

As ProRail continues investing in building teams' knowledge and support, the company anticipates additional efficiency and quality improvements.

Established cross-functional automation community of practice

ProRail is working on improving the lengthy and complex change process for its engineering teams. With approved Ansible Playbooks producing standard documentation, modifications can move forward from concept to production more quickly.

In addition, standardizing processes with automation has also created new opportunities for collaboration between IT teams. With guidance and initial website content from Red Hat Consulting, ProRail has established an automation community of practice (CoP). The group has grown from 30 network domain engineers to almost 60 participants, including ESB engineers and others eager to share their automation experience and tips.

"The goal is to use playbooks across the different teams, such as Network, ESB and Operating System, to ensure the service is provided," said Busio. "The interaction we're seeing between the engineers is fantastic. Mindsets are changing as people are thinking about how to automate and how to collaborate."

Improved talent acquisition with innovative technology

In an aging workforce where many engineers are approaching retirement, adopting modern technology like Ansible Automation Platform is helping ProRail attract new talent.

"In addition to giving our current staff access to the most innovative tools, we need to encourage young people to join us. Using and supporting modern technologies that our employees are eager to work with, such as Ansible Automation Platform, helps with those efforts," said Busio.

Expanding automation culture to new systems, including critical railway operations

In support of a mandate that all new network initiatives adopt automation, the use of Ansible Automation Platform is growing at ProRail. "Our Windows team now uses it to automate their tasks. We're also working on a self-service portal for developers to request simple network or Linux tasks, as well as possibly integrating Ansible for our IT service management tool and writing playbooks for our service desk," said Busio. "Our goal is an end-to-end, integrated automation approach."

The railway manager is also exploring expanding the platform to managing critical railways systems, including those responsible for overhead lines and signage. "If we can connect to SCADA [supervisory control and data acquisition] and PLC [programmable logic controller] systems to monitor them and roll out updates automatically, that will save our mechanics a lot of time," said Busio.

The benefits of automation could also extend to ProRail's application development partners by using Ansible Automation Platform to build standardized Jenkins continuous integration and continuous delivery (CI/CD) pipelines across the required technology stack, including a virtual machine (VM), OS, and TIBCO connector.

"Our use of Ansible Automation Platform to build a higher-quality IT network makes us proud to be at the forefront of automation," said Busio.

About ProRail

ProRail is responsible for maintaining and extending the national railway network infrastructure. It is also responsible for allocating rail capacity, informing operators, and controlling rail traffic. The rail infrastructure includes more than 7,000 kilometers of track and 11,600 signals. [prorail.nl](https://www.prorail.nl)



About Red Hat Innovators in the Open

Innovation is the core of open source. Red Hat customers use open source technologies to change not only their own organizations, but also entire industries and markets. Red Hat Innovators in the Open proudly showcases how our customers use enterprise open source solutions to solve their toughest business challenges. Want to share your story? [Learn more.](#)



About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers develop cloud-native applications, integrate existing and new IT applications, and automate and manage complex environments. [A trusted adviser to the Fortune 500](#), Red Hat provides [award-winning](#) support, training, and consulting services that bring the benefits of open innovation to any industry. Red Hat is a connective hub in a global network of enterprises, partners, and communities, helping organizations grow, transform, and prepare for the digital future.

[f facebook.com/redhatinc](https://facebook.com/redhatinc)
[@RedHat](https://twitter.com/RedHat)
[in linkedin.com/company/red-hat](https://linkedin.com/company/red-hat)

North America
 1 888 REDHAT1
www.redhat.com

**Europe, Middle East,
and Africa**
 00800 7334 2835
europa@redhat.com

Asia Pacific
 +65 6490 4200
apac@redhat.com

Latin America
 +54 11 4329 7300
info-latam@redhat.com