

Improving the quality of life in Northern Norway



Tromsø kommune | Industry: Government | Location: Tromsø, Norway

With a population of more than 75,000, Tromsø is the largest urban area in Northern Norway. Like all municipalities in Norway, Tromsø is responsible for a number of public services, including education, healthcare, senior citizen support, unemployment and other social services, zoning, municipal roads, and economic development. Tromsø is in the midst of a comprehensive digital transformation initiative that aims to deliver new community services and improve the quality of life for its residents. For more information, visit tromso.kommune.no.

Challenges

- Connect and modernize two data centers
- Shift operational focus from infrastructure management to service improvements
- Create a digital transformation model for other Norwegian municipalities

Solutions

- Cisco® Application Centric Infrastructure (Cisco ACI™)
- Cisco HyperFlex™ systems
- Cisco Nexus® switches

For more information

- [Cisco ACI](#)
- [Cisco HyperFlex](#)
- [Cisco Nexus switches](#)

Results

- Reduced routine IT administration tasks by an estimated 70 percent
- Improved IT standardization and governance with a software-defined policy model
- Built a service delivery platform that can be scaled and monetized



Challenge: Modernize IT infrastructure and service delivery

Tromsø could no longer deliver and maintain community services the “old-fashioned way,” says Kent Heide, IT architect for the Northern Norwegian municipality. A disparate mix of technologies spread across two data centers had created too much complexity. And operational silos made slow, manual tasks even slower.

“The different technologies didn’t talk very well with each other, and neither did the people managing them,” recalls Heide, noting the one-week server installations and 18-month service deployments of the past. “Even small projects became big projects that took forever.”

Tromsø IT leaders wanted to spend less time managing the infrastructure and more time on their core mission—providing great services to the community. To do so, they needed to embrace new technologies and a new operating model.

“We needed a data center infrastructure that could configure and maintain itself,” says Heide.

A powerful combination

To modernize its infrastructure and services, Tromsø implemented the powerful combination of Cisco ACI, the industry’s leading software-defined networking solution, and Cisco HyperFlex, which extends the simplicity of hyperconvergence from the core to the edge to multi-cloud environments.

Tromsø’s two data centers are now fully integrated and managed as one logical entity. Its community services are now delivered through a flexible

private cloud. And the slow, manual tasks of the past have been replaced with software-defined, policy-driven automation.

“What’s really surprised us is the efficiency you get when you combine ACI and HyperFlex,” says Heide. “Everything is integrated and automated, so we can define an application or security policy once and deploy it everywhere.”

Tromsø’s IT operations are much more efficient as a result. Heide estimates routine administration tasks—spanning 30,000 devices, 70,000 switch ports, and 4,000 wireless access points—have been reduced by at least 70 percent. Server deployments that used to take a week, for example, now take less than a minute.

“I call Cisco ACI the Swiss army knife of our data centers because it connects and simplifies our systems and operations,” he says. “It’s become the foundation for everything we do in delivering services to the community.”

Cisco ACI is also the glue that binds multiple vendor technologies and computing environments with a consistent policy model. Tromsø is using Veeam for storage, Avi Networks for load balancing, and Ansible for application provisioning. And it plans to extend its applications and policies to the public cloud in the future.

“The ACI partner ecosystem is great. Everything integrates so easily and so tightly, it’s like it’s not even there,” says Heide. “And with ACI Anywhere, we can leverage the public cloud without losing any of our automation or policy control.”

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A new focus

With a significantly reduced administrative burden, the Tromsø IT staff has shifted its focus to service improvements and community support. Infrastructure and application teams have been merged, breaking down the operational silos that used to slow down internal processes. And longtime data center specialists are learning new skills and contributing at a higher level.

“One of our guys used to be responsible for making sure the server, storage, and networking systems were communicating properly, and it was a full-time job,” says Heide, noting the hands-off nature of Cisco HyperFlex has eliminated the need for such oversight. “Now he’s doing application management and publishing—things that actually touch the customer.”

There’s no shortage of opportunity or work. The team is currently evaluating a number of possibilities for improving healthcare, education, and transportation. IoT devices like cameras and smart sensors, for example, can be used to create better welfare services for Tromsø’s elderly population and allow them to live at home for a longer period of time.

“These types of services can help improve the quality of life for our residents and also reduce our costs,” he explains, “and they weren’t possible before we implemented ACI and HyperFlex.”

Looking ahead

As one of the larger municipalities in Norway and one of the first to transform its service delivery platform and operations, Tromsø has unwittingly become a model for the rest of the country. But Heide and his team aren’t planning to merely give other municipalities an infrastructure blueprint—they intend to give them access.

“This is becoming pretty huge, pretty fast,” he notes. “We’ve already expanded the environment to support five nearby municipalities, and it will soon support an additional 60 municipalities. Fortunately, the infrastructure is easy to scale, the private cloud can be accessed from anywhere, and our policies follow our applications whether they’re hosted on-premises or in the cloud.”

In addition to extending the infrastructure—via private cloud—to other Norwegian municipalities, Tromsø plans to make it available to the private market. A third data center is being built to handle additional capacity, and public cloud environments can be leveraged as needed.

“We can expose the platform, services, and data sets using APIs and make them available to everyone,” says Heide. “We’ve built the foundation and now there is a lot of opportunity for others to create new apps and services on top of it.”



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