

CASE STUDY

# University of Southern Denmark celebrates ten years of solid network performance with an Infoblox Refresh



## SUMMARY – A WORLD-CLASS UNIVERSITY

University of Southern Denmark (SDU) welcomed its first students onto the Odense campus in September 1966, and things have been developing by leaps and bounds ever since.

Now with additional campuses in Slagelse, Kolding, Esbjerg and Sønderborg, the school now surpasses 3,800 employees with more than 27,000 students (nearly 20% of whom are from abroad) across its five campuses.

With around 115 programs of study in the fields of the humanities, social and natural sciences, health and engineering, graduates of the University of Southern Denmark are now members of virtually every profession in the international community. Renowned as a world-class research center, SDU was recently designated as one the Top 50 of the world's young universities.

Network architect Lasse Birnbaum Jensen joined SDU's IT department in the late 2000s as a network administrator with a charter modernize the university's network. "There was a growing awareness that the university needed to improve bandwidth capacity and throughput, and just put the infrastructure on stronger footing for the years ahead," he explains. "We did some market research and heard good things about Infoblox, and that's how our relationship got underway."

**“** The most important thing for us in having Infoblox DDI is continuous delivery of network services. If it goes down, nobody can do anything—especially now. I'd characterize it as Infoblox is an invisible system, and that's a great thing because everything just runs. We've been operating on Infoblox for 10 years and have had only one support issue where a software upgrade ran into problems. That's the only issue we've ever had.”

**Lasse Birnbaum Jensen,**  
Network architect and Team  
Coordinator University of Southern  
Denmark – SDU IT

## THE CHALLENGE

### Continuously modernizing network infrastructure for future growth

At the time Lasse Birnbaum Jensen joined the university the IT team was managing DNS operations using a Unix-based system developed in-house. For IP address management (IPAM), the team tracked their work manually through spreadsheets—a notoriously inefficient methodology, but one that is still common in many organizations today. Lasse Birnbaum Jensen oversaw the implementation of a comprehensive Infoblox DDI solution with integrated Network Identity Operation System (NIOS) and Grid technology in the 2011-2012 timeframe. This implementation included several Trinzic network appliances, a footprint that grew over time to a total of eleven boxes—including both Trinzic 1415 and 815.

The performance delivered by the Infoblox DDI implementation brought enormous improvements to the university's network operations, both in terms of bandwidth for users and manageability for the IT team. Infoblox DDI fully automates IPAM, which brought a tremendous level of time and labor savings to the university, but also fully modernized the team's network monitoring capabilities through Grid technology. "Grid gives us management control over all DNS, DHCP and IPAM (DDI) operations," explains Lasse Birnbaum Jensen. "We see IPAM as the "truth" of what we have running, in regard to servers at least, but also in regard to clients. All server deployments start with the issuance of an IP address, so we know exactly what servers and devices are running on our network at all times. The dropdown fields in the interface are really helpful for tracking things like DHCP records, and adding more detailed information using the commenter fields."

Grid technology not only enables the IT team to more easily scale and manage DNS, DHCP and IP address management operations, it also makes it possible to log everything happening on the system—for instance, whether a sever is configured for the IPv4 or IPv6 domain scheme. All essential information on network resources is easily accessible. Likewise, the reporting and analytics module simplifies the process of compiling network performance metrics that the SDU team can leverage for planning resource allocation and reporting to the executive team.

## THE SOLUTION

### Refreshing a solution that's delivered excellence for a decade

In 2020 Lasse Birnbaum Jensen and the university IT team began consulting with their account team at Infoblox on a refresh that would bring its Infoblox implementation fully up to date, with new appliances and the latest versions of NIOS DDI and Grid. The university runs a mixed hybrid cloud environment, with a private cloud service for students and faculty based on VMware. Modernizing the DDI infrastructure would bring upgrades in performance, scalability and manageability across this architecture, but it would also help the IT team execute on its priorities for a strengthened security posture and greater flexibility supporting remote learning during the COVID pandemic.

**Customer:** Southern Denmark University

**Industry:** Higher Education

**Location:** Odense, Denmark

#### **INITIATIVES:**

- Modernize network architecture
- Integrate DDI data with management and security systems
- Continue optimizing existing Infoblox investment

#### **OUTCOMES:**

- Many years of excellent, reliable network performance
- Excellent visibility into network operations via Grid interface
- Flexibility to allocate resources in ways to better support and secure remote learning

#### **SOLUTIONS:**

- Infoblox Core DDI
- Infoblox Grid
- Trinzic Appliances / Infoblox Virtual Appliances

Speaking from the empty IT department office on campus, Lasse Birnbaum Jensen remarks that as with virtually every organization globally, COVID has affected life at the university over the past year. “I’m looking out the window and the parking lot is completely empty. All classes and events are virtual now, so we have had to rework our operations somewhat to support the new reality.”

Worldwide, the pandemic has brought with it a surge in cybersecurity incidents. Hackers are taking advantage of the disruption caused by a huge increase in at-home study and work to exploit an expanding threat surface. “We haven’t really seen an uptick in threats here at SDU, but we’re aware it’s been an issue for other universities and companies here in Europe and elsewhere,” says Lasse Birnbaum Jensen. “But with everyone remote and at a distance, it’s not as easy for someone with a potential issue to consult with the service desk. No doubt, there’s an increase in risk.” As such, the IT team has been exploring ways to optimize its security infrastructure, specifically getting the most out of its Cisco Umbrella implementation.

## THE RESULTS

### Rock solid uptime in support of a World-class learning institution

The network refresh will entail SDU consolidating its Infoblox hardware footprint and taking advantage of some new virtualized offerings. “We’re at eleven appliances currently and with the new generation we expect to end up at around eight or nine. Plus, some of our name servers are virtual appliances now. We feel like we can risk losing them without causing much interruption.” The SDU team expects to take advantage of Infoblox’s API environment during the refresh to innovate new integrations that will bring improvements to security and management visibility.

“We have an “ecosystem” license with Infoblox, which makes it possible to integrate our DDI operations with our Cisco networking processes,” says Lasse Birnbaum Jensen. “We’re looking at ways to have the information from the DHCP to flow to the Cisco system in ways that will improve our internal DNS security. This is possible because the API side of Infoblox is really strong. Currently we integrate data from Infoblox in a multitude of ways: DNS synchronizations from one view to another view, DNS synchronization to the Cisco Umbrella platform and so on. We’re also able to extract data from our Infoblox and VMware systems to our management systems, which gives us insights into our server farm. The kind of APIs you get with Infoblox are just not available with the open-source DNS or DDI offerings out there. So that’s a major difference.”

Asked what Infoblox has meant to the university over the years, Lasse Birnbaum Jensen explains that smooth DDI operations are a foundational element supporting teaching and learning: “The most important thing for us in having Infoblox DDI is continuous delivery of network services. If it goes down, nobody can do anything—especially now. I’d characterize it as Infoblox is an invisible system, and that’s a great thing because everything just runs. We’ve been operating on Infoblox for 10 years and have had only one issue where we needed to call on support. It was a software upgrade that ran into problems, but we got it resolved in no time. That’s the only issue we’ve ever had.”



Infoblox unites networking and security to deliver unmatched performance and protection. Trusted by Fortune 100 companies and emerging innovators, we provide real-time visibility and control over who and what connects to your network, so your organization runs faster and stops threats earlier.

**Corporate Headquarters**  
2390 Mission College Blvd, Ste. 501  
Santa Clara, CA 95054

+1.408.986.4000  
[www.infoblox.com](http://www.infoblox.com)