



**VyOS**

The universal networking platform



Универзитет „Св. Кирил и Методиј“ во Скопје  
ФАКУЛТЕТ ЗА ИНФОРМАТИЧКИ НАУКИ И  
КОМПЈУТЕРСКО ИНЖЕНЕРСТВО

**/** VYOS SUCCESS STORY

# Faculty of Computer Science and Engineering (FCSE) at Ss. Cyril and Methodius University with VyOS: A Case of Resilience and Innovation

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## Challenges and Solutions with VyOS Routers

When the COVID-19 pandemic necessitated a swift transition to online learning, the Faculty of Computer Science and Engineering (FCSE) of the Ss. Cyril and Methodius University in Skopje, North Macedonia, faced significant technological challenges. Vladislav Bidikov, Senior System Administrator, needed a robust solution to move the faculty's operations online quickly. VyOS, known for its reliable virtual router solutions, became the tool of choice. Within just seven days, the faculty was able to establish an online presence using its own platform hosted in its data center, primarily thanks to the flexibility and familiarity of the VyOS routing solutions.

## Expanding Educational Opportunities Through Virtualization

VyOS has been instrumental in the faculty's ability to adapt and innovate. The software's compatibility with various virtual machine environments, such as VMware and KVM, has allowed the faculty to efficiently route large volumes of internet traffic and maintain connectivity for educational tools and resources during the pandemic. The faculty has utilized VyOS not only for essential services but also as a teaching tool, enabling students to gain hands-on experience with enterprise-level network configurations and routing protocols.

## Innovative Use in Networking Education

Vladislav highlighted the faculty's three-pronged approach to using VyOS:

- **Core Production:** VyOS runs smoothly as a core router for essential services, proving its reliability and performance in a demanding environment.
- **Student Experimentation:** Students explore various networking technologies using VyOS, which supports a range of configurations and adaptations, fostering a practical learning environment.
- **Future Technologies:** The faculty looks forward to integrating upcoming features like Vector Packet Processing (VPP) and Data Plane Development Kit (DPDK) to stay at the forefront of networking technology education.



### The VyOS for Good Program

The 'VyOS for Good' program has been particularly beneficial, providing the Faculty of Computer Science and Engineering at (FCSE) with access to enterprise-grade software solutions without the associated costs. This support is crucial for educational institutions like (FCSE), where budget constraints can limit access to advanced technology.

Designed to assist not only educational institutions but also first responders and non-profit organizations, the program ensures these entities benefit from robust network solutions that are typically beyond their budgetary reach. This widespread eligibility helps foster a community of diverse organizations, all benefiting from improved network capabilities.



Additionally, the program ensures that when the faculty encounters challenges, prompt and effective support is available, allowing them to maintain a stable and effective educational environment. The comprehensive support includes technical assistance and access to updates, ensuring that the network infrastructure is not only up-to-date but also secure. This level of support is vital, especially during critical times such as rapidly transitioning to online learning platforms or scaling operations to meet unexpected demands. Through the 'VyOS for Good' program, VyOS demonstrates a committed partnership, empowering (FCSE) and similar organizations to achieve their mission without compromise to quality or performance.

## Conclusion: A Partnership for the Future

As (FCSE) continues to innovate and expand its network capabilities, VyOS remains a central component of its infrastructure. The faculty plans to develop a mixed lab environment that will further utilize VyOS to simulate real-world networking scenarios for students. This hands-on approach not only enhances learning but also prepares students for future challenges in the field of computer science and engineering.

VyOS Networks is proud to support the Faculty of Computer Science and Engineering at (FCSE) in their mission to provide cutting-edge education and research opportunities through high-quality network solutions and educational partnerships.

