



D-Link Campus Area Network in the Science and Technology Park CAVD, Czech Republic



“During two years of operation we did not experience any network issues or downtime. The solution we are using meets our needs and requirements. With D-Link switches we are fully satisfied.”

Mr. Lumír Žila,
Director of CAVD

Customer Profile

Dobříš Centre of Applied Research (CAVD) supports emerging projects, innovations and new technological solutions and their transfer into practice. Its Science and Technology Park (STP) provides modern equipped laboratories, offices, training rooms, manufacturing facilities, technological expertise and support to start-ups and entrepreneurs who want to apply the latest scientific knowledge and technologies that have a chance to succeed on the domestic and global market. The partnership structure of the CAVD STP comprises of dozens of manufacturing companies and entrepreneurial companies and 14 universities, schools and research institutes in the country.

Challenge

The computer network is a very important part of each research centre. Internet access, communication between users, data sharing and server applications are an integral part of the day-to-day work of scientists and researchers. A fast and reliable network without downtimes is a must. Within the first stage of the Science and Technology Park, more than 500 network sockets were proposed for four buildings. It was necessary to ensure their interconnection, access to servers and to the Internet. It was expected that premises and network will be used by various entities and institutions whose structure will be changing over time. When designing an active network infrastructure, it was also necessary to take into account its scalability, flexibility and simple management.

Main requirements:

- Campus area network for about 500 users
- Optical 10 GbE core network
- 10 Gbps servers connection
- Multimedia service operation (VoIP, video)
- Using of subnets and VLANs
- Support of IPv4 and IPv6 protocols
- Simple and intuitive network management
- Network reliability and high availability

Solution

D-Link DGS-1510 series stackable managed switches were selected for the active network infrastructure. Four 48-port switches DGS-1510-52 are used as core switches in two main racks. Next 16 switches DGS-1510-28 and DGS-1510-20 are placed in sub-racks as access switches, all connected in a star topology. These Gigabit switches are equipped with 10G SFP+ ports for optical uplink or physical stacking. Switches located in different buildings are connected by optical fibres at 10Gbps speed using SFP+ transceivers. 10G SFP+ direct attach cables (DAC) are used for physical stacking and also for the connection of servers to switches within the rack. Each server is connected redundantly to two different switches within one stack where both links are active and create the high throughput trunk.

Physical stacking allows the user to connect up to six switches in a fault-tolerant ring which behaves and is configured as one logical unit, similar to cards in chassis switch. Additionally, the user can add or remove any switch from the stack without any interruption of other switches. The stack can be created also via optical links which means switches within one stack can be physically placed in different racks and buildings.

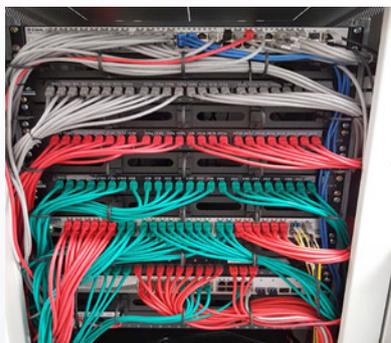
DGS-1510 series provides advanced Enterprise-class feature set and also L3 static IPv4/IPv6 routing which allows the user to segment the network into workgroups that communicate between VLANs and increase application performance. It reduces the load of core devices and edge router, allowing the user to create a scalable and efficient network.

DGS-1510 series provides intuitive web-based management, SNMP and an extensive industrial Command Line Interface (CLI) via console or Telnet. Configuration and changes in the network can be easily done locally, centrally or remotely.



For more information: www.dlink.com

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Solution:

- 4x L2/L3 managed switch DGS-1510-52
- 4x L2/L3 managed switch DGS-1510-28
- 12x L2/L3 managed switch DGS-1510-20
- D-Link Assist Services (DAS)
- 10G SFP+ optical transceiver
- 10G SFP+ direct attach cables (DAC)

Key parameters:

- Gigabit switches with 10G SFP+ uplink ports
- Complex management capabilities including web interface, SNMP, industrial CLI through console and Telnet
- Advanced L2 feature set, QoS and security features
- Static routing for forwarding within subnets and VLANs
- HW stacking, up to 6 switches can create one logical entity

Implementation

The company GraphTech s.r.o., an authorized reseller and long-term D-Link partner, was selected as the supplier. GraphTech, as the system integrator trained and certified by D-Link delivered, installed and configured the entire network. It continues to provide technical support and assistance to network users.

“Thanks to good experience and a very interesting price / performance ratio we deploy D-Link products repeatedly into various corporate projects and applications,” said Pavel Skala, sales director of GraphTech. And he adds: “As a service provider of Internet and IPTV we also use D-Link switches in our own network. That’s why we have long-term proven their performance, reliability and stability.”

Experience

The campus area network of CAVD is in operation since early 2016. It is utilized by dozens of partner organizations using the Science and Technology

Park as their facility. The network is also used by visitors and guests who meet here for a diverse range of training sessions, conferences, workshops and exhibitions.

“Network operation is a key to us therefore we have covered switches by Bronze level of D-Link Assist Service for guaranteed replacement of failed hardware the next business day,” says Lumír Žila, director of CAVD. “However, during two years of operation we did not experience any network issues or downtime. The solution we are using meets our needs and requirements. With D-Link switches we are fully satisfied,” concluded Mr. Žila.

Benefits:

- Unified network management
- High network throughput
- Stable network without downtimes
- Enterprise class feature set
- Limited Lifetime Warranty
- D-Link Assist Service provides SLA with Next Business Day replacement



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