



# Education Sector

Wireless Controller Product Line



## OBJECTIVE

To facilitate Wi-Fi access to classrooms and hostels with well-positioned APs to provide seamless roaming connectivity within the university campus supporting multiple mobility devices.

## CHALLENGES

Due to the advancement of networking technologies, one of the most important sectors “Education” is also facing a lot of challenges. With the increase in the number of devices being used on campus, the universities have to really work hard to connect all the devices. With having numerous computers, printing machines, cameras, and scanners, it is quite difficult to manage all the devices, in addition to connectivity issues. To fix the dropouts, the IT department has to invest their time in finding out the faulty AP and to re-set the respective AP. In addition to the electronic devices already present in the university campus, students, staff, and visitors bring their own devices in the campus. This further deteriorates the connectivity.

When the clients' strength exceeds 60, the simultaneous access of the internet becomes strained. There is a partial distribution of bandwidth on the basis of the technology being used by the respective client. Interference caused due to improper signal and channel management also results in connectivity issues.

The visitors along with the staff members demand for social logins like Facebook, Twitter, and Hangout which requires an authentication mechanism. They have to be authorized to access these websites which might be blocked for students.

The laptops and smartphones have become major sources of education material. In view of this development, the education sector has to start thinking beyond the legacy networking solutions. To overcome these challenges, the universities have to upgrade their networking method to the latest Wi-Fi solutions available in the market. As the education sector has a limited budget, so upgrading to the latest and cost effective technology is their foremost criteria.

## SOLUTIONS

There are various solutions available in the market. One of the best solutions is the D-Link Unified Wireless Controller with the software package from TeamF1 Networks. This most cost effective and highly efficient device by D-Link provides the best solution in terms of features and reliability. D-Link's DWC Unified Wireless Controller is a wireless management solution suitable for large Access Point deployments.

The DWC Product line has a variety of controllers that can manage indoor and outdoor access points, range varying from 6 to 256 APs, providing robust and optimized network, and enhancing device connectivity. The DWC product range comes with Centralized Authentication and load balancing of wireless clients across APs. Load balancing feature distributes network traffic among multiple servers or virtual machines within a cluster to avoid overloading any one host and hence, improves the performance. The fast-roaming feature of the controller allows the students, staff, and visitors to stay connected to the server seamlessly. The roaming and load balancing features help the students to roam around from one classroom to the other without any connectivity issue.



The DWC comes with a Captive Portal feature which provides temporary or permanent authentication to the specific users (SSIDs) only. The users of the group having Captive Portal privilege will have permissions to access the Internet/Networks/Social-Logins through Captive Portal authentication.

The D-Link's solution solves the problem of partial bandwidth distribution by introducing a feature "Airtime Fairness" that ensures equal amount of air time to each client regardless of its theoretical data rates (b, g, n, a, ac). When an AP is failed, the self-healing quality of the wireless controller boosts its output power to compensate the failed AP.

When it comes to wireless, the foremost area of concern is the security of the whole network. To deal with this challenge, D-Link has WIDS (Wireless Intrusion Detection System) to detect intrusion attempts into the wireless network and take automatic actions to protect the network. It also allows user to define a list of Black and White clients that will be blocked and allowed to access the network respectively.

The DWC comes with Scheduled Access, an important feature for the education sector as it can define a time frame when the students can access the internet. The teachers, office staff, and students can have access based on the settings done for their respective SSIDs using Wireless Network Distribution of the controller.

The connectivity, which was facing dropouts, is improved by using the channel management and signal management features of the controller. These features allow the controller to set different channels for each AP to avoid interference with other APs.

## SOFTWARE PACKAGE BY TEAMF1

TeamF1 Networks' products enable secure networking of telecom or Datacom, and industrial equipment, and provide the infrastructure components needed for switching and wireless products in various market segments. TeamF1 Networks leverages pre-existing software blocks that have proven their merit in thousands of deployments, minimizing risk for OEMs and Service Providers (SPs) at flexible licensing terms. TeamF1 provides the best solution for SMB security gateways that require UTM/VPN/firewall/router features with comprehensive management capabilities.

## RESULTS

The installation of Wireless Controller in the education sector has resulted in providing a seamless connectivity to the server. The new features of the device have helped various universities to promote BYOD (Bring Your Own Device) to the campuses. The staff members and visitors are also using various other devices like tablets, laptops, and smart phones to stay connected to the campus server. They are moving inside the campus without any worry of signal dropouts. The APs can now be easily deployed in the campus, and fixing an AP can also be done without any trouble using the centralized management of the controller. The Unified Controller is a scalable product and can expand APs using D-Link DWL product line of access points. The features like WIDS, Fast-roaming, Centralized access, and Airtime Fairness provide an edge over the competitors and help the Education sector to use the latest technology in an efficient and cost-effective way. It provides a reliable, secure, self-healing, and scalable wireless network suitable for education sector of any size.



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