Allot Traffic Intelligence Solution for the Higher Education
Ensuring learning continuity and upholding reputation

Digital Transformation and IT Challenges

The recent global shifts, including the acceleration of digital transformation, have reshaped various aspects of our lives, from how we interact, shop, access essential services, and learn.

Universities and higher education institutions have navigated this transformative landscape, redefining their priorities and embracing innovative solutions to adapt to the evolving digital environment. Contemporary market research underscores the increasing momentum of digital transformation initiatives across diverse sectors, driven by the imperative for technological advancement and evolving market demands.

Rapid adoption of online and remote learning
On-line and remote learning has become a prevalent mode of education, reflecting the accelerated digital transformation witnessed in recent years. Today, universities typically offer both traditional campus activities and online learning options, catering to the diverse preferences of students.

Campus resilience and operations
Resilience, agility, and continuity have become paramount concerns for many universities, essential for safeguarding student enrollment and preserving the institution's reputation.

This pursuit of resilience, agility, and continuity is evident in ongoing digital transformation efforts, which include the adoption of hybrid cloud strategies for learning and work environments. These initiatives facilitate the virtualization of workforce operations, study planning, and facility management, ensuring adaptability and seamless continuity in university operations.

Delivery of online services to students and staff
Today, universities universally offer on-line services, encompassing admissions, program and course registration, examinations, certifications, collaborative libraries, and finance and accounting services. This widespread availability is evident across the university landscape, even among traditionally hesitant institutions. These on-line services have become integral components of the student experience, playing a pivotal role in shaping the university's reputation.

> The Allot Traffic Intelligence Solution ensures learning continuity and an excellent digital experience for online learning and the university's mission-critical applications

The accelerated adoption of technology significantly impacts university IT departments

With the substantial increase in on-line learning and service provision, universities must ensure comprehensive visibility and control over their networks. Students, who are often heavy consumers of bandwidth for activities like gaming, streaming videos, and accessing sports programming, may also strain the network by utilizing someone else's bandwidth for on-line content. Managing network traffic effectively becomes essential when thousands of students rely on on-line education and services simultaneously, while universities require reliable operations for admissions, accounting, and planning applications..

Ensuring an excellent digital experience is crucial for student success, employee satisfaction, and productivity. Therefore, university **IT departments must prioritize monitoring and optimizing the digital experience.**

The prevalence of on-line learning and work significantly increases the number of digital interfaces, thereby expanding the attack surface and increasing vulnerability to cyber disruptions. IT departments must be prepared to safeguard networks and minimize downtime caused by DDoS attacks and other cyber threats. **IT departments must be prepared to safeguard networks and minimize downtime caused by DDoS attacks and other cyberthreats.**

Higher Education Use Cases

- Separates and manages faculty and student bandwidth consumption
- Provides fair and equal online access to all students while optimizing internal network resources
- Ensures excellent digital experience for online learning and mission-critical applications such as: finance & accounting, admissions, program & course registration, examinations and certifications
- Ensures learning continuity for remote locations
- Enables seamless online course delivery
- Monitors and ensures the performance of Google classroom applications
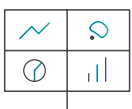

Benefits

Ensures learning continuity

- Digital Experience Monitoring (DEM) for online learning and services
- Controls network utilization through enforcement of configurable policies
- Minimizes network downtime due to DDoS attacks and other vulnerabilities

Provides an excellent digital experience for university employees

- Ensures QoS for the university's mission-critical applications, such as admissions, accounting, examinations, and planning, through advanced traffic shaping and prioritization
- Calculates the QoE score of the university's applications to track and assure a consistent, high-quality digital experience for employees

Safeguards university networks with DDoS protection and mitigation

- Detects and stops inbound and outbound DDoS attacks in real-time, at terabits per second
- Ensures that no network element is overwhelmed and that QoE is maintained, even during an attack

Reduces TCO

- Provides scalable centralized management for streamlined operation and control
- Highly scalable to accommodate the university's growing IT network

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Features

Advanced Digital Experience Monitoring

By analyzing multiple performance metrics, including jitter, delay, packet loss, and errors, the solution quantifies the digital experience for students and staff. The Allot Quality of Experience (QoE) score provides a real-time measure of user satisfaction for every learning session and online service.

Graphical dashboards equipped with advanced analytics and real-time troubleshooting capabilities provide insights to IT infrastructure and operations (I&O) personnel regarding the digital landscape of the university. Through corresponding alerts and root cause analysis, I&O personnel can swiftly take action to address any issues before they lead to a decline in end-user digital experience.
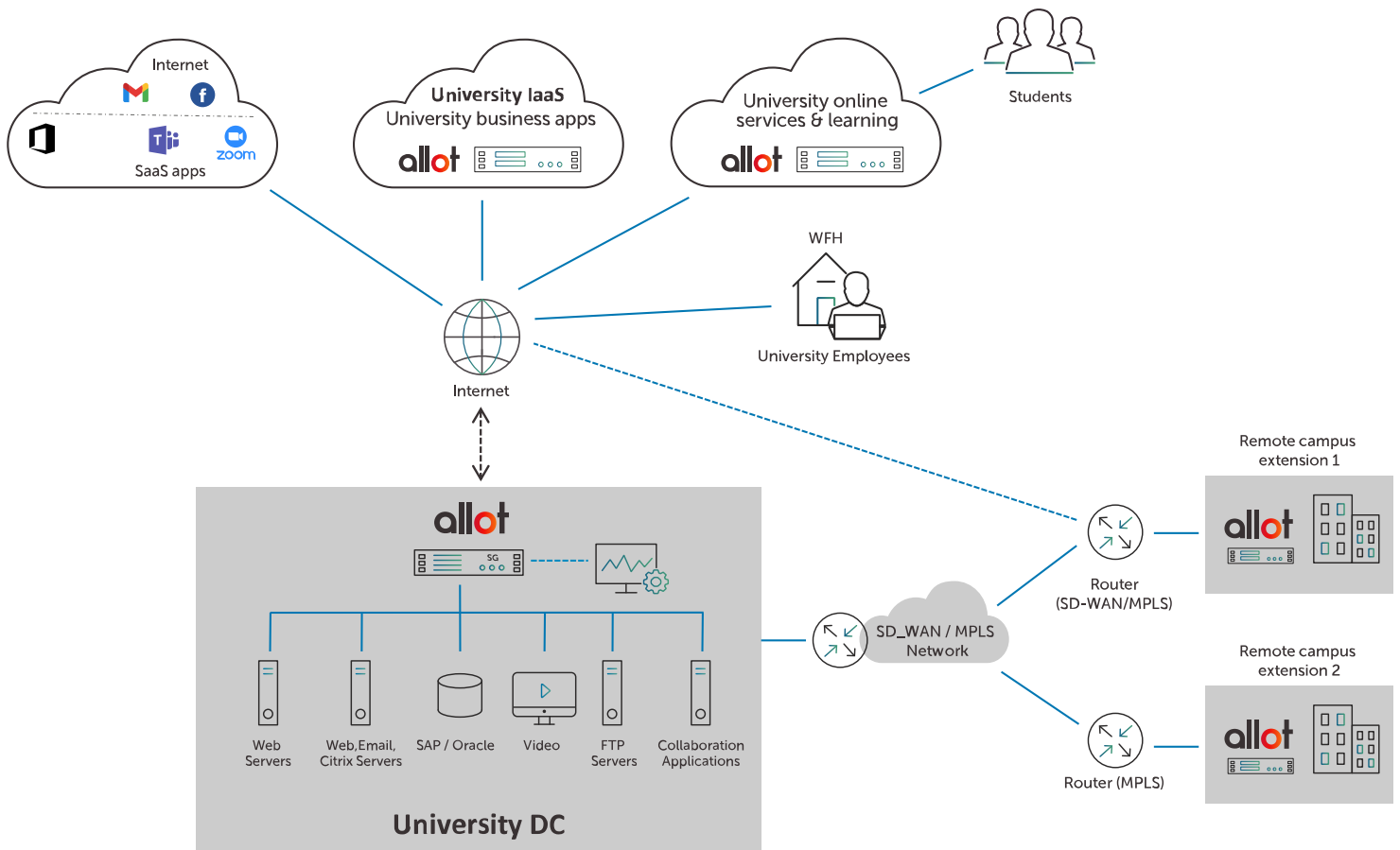
Complete Traffic Visibility

For university IT departments, the Allot Traffic Intelligence and Assurance Solution provides a 360° view of network traffic and the digital experience that students (on university premises or in dormitories) and employees (in local or remote branches), get from the university data center. It also sheds light on students' highly popular recreational data usage, which might otherwise go unnoticed.

Integration with Microsoft Active Directory provides traffic intelligence per user, enabling IT personnel to gain deeper insights into how employees consume university applications and network resources.

Key visibility features include:

- Layer 7 application visibility
- In-line SSL encrypted traffic visibility (e.g. cryptomining applications commonly used by students) without decryption
- Web content and web threat visibility
- User and endpoint visibility with L4-L7 quality of Digital Experience KPIs
- Dashboard monitoring and analytics
- Live, self-refreshing performance metrics with down-to-the-second reporting granularity

High-Resolution Traffic Management

The Allot Traffic Intelligence Solution effectively partitions the university LAN, WAN, and internet resources. This prevents users and applications from competing for bandwidth and Quality of Service(QoS) a crucial aspect in university IT environments where students are major consumers of recreational content like games and videos. Powerful policy tools enable the definition and enforcement of the acceptable policy, as well as prioritization of the university's mission-critical applications at the office, user, and application levels.

Leading Traffic Classification

Allot's Dynamic Actionable Recognition Technology (DART) engine, embedded in the Solution, inspects every packet and classifies traffic based on application, user, IP address, location, and by any static or dynamic policy element. Employing advanced ML and AI engines, Allot's extensive application and protocol classification logic continually adapts to identify new applications and maintain current definition logic for Allot-empowered devices. The Allot Traffic Intelligence Solution features a comprehensive signature library capable of identifying thousands of web applications and protocols, along with support for user-defined signatures. Automated DART protocol pack updates from the Allot cloud ensure that university deployments remain current with the latest application and web developments, guaranteeing accurate traffic classification.

Leading DDoS Attack Protection

The Allot Traffic Intelligence Solution protects against fast-moving, high volume, encrypted DDoS attacks, as well as concise duration threats. Serving as the first line of defense against both inbound and outbound attacks. Inbound DDoS attacks are automatically mitigated by discarding malicious traffic, while permitting legitimate traffic to pass through uninterrupted. Additionally the Solution identifies and then isolates potential threats originating from individual hosts, thereby preventing outbound attacks that could compromise the performance and integrity of the university's network infrastructure and services.

Central Management, Scalability, and Superior Performance

The Allot Traffic Intelligence Solution features a central management layer that empowers university IT personnel to effectively control and manage appliances deployed in remote locations and offices, ensuring complete coverage across the entire network. Designed for scalability, the solution appliance is seamlessly scales from small to large enterprises networks, delivering superior performance at up to Tera-bit scale and accommodating any expansions of a university's network.

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