

## SOLUTIONS BRIEF

### HIGHER EDUCATION

Technological innovation, long a hallmark of academic research, is changing the very way universities teach and students learn. At school, BYOD is not an option, it's a reality. This means a multiplicity of client devices from gaming systems to streaming video, smart phones to specialized in-class IoT tools—many of which don't play well with the network. For network and IT staff managing user and device performance has effectively become impossible with conventional infrastructure management tools. Developed with higher education in mind, Voyance eliminates the costly and cumbersome analysis of volumes of network data to ensure every client, network service or application is behaving properly for the best possible user experience. Voyance constantly measures and tracks every client network transaction across the stack, proactively identifying problem spots and suggesting remediation actions to recover lost client hours of connectivity.

#### QUANTIFIABLE BENEFITS

- Increased student satisfaction and retention
- Improved teacher/staff productivity
- Performance management of IoT devices
- Single, complete data source IT operations
- Seamless integration with ticketing systems
- Proactive network recommendations
- Custom application performance monitoring

#### KEY ISSUES

- BYOD increasing student/staff network problems
- Validating issues as users specific or network-wide
- Troubleshooting unique devices such as gaming systems
- Too much network, client, applications data to analyze
- Network usage and client population analysis
- Inability to quantify user network performance issues
- Reporting network health to senior management

#### USE CASES

- Analyzing behavior of unique student devices
- Justifying network changes, capacity planning
- Client performance management
- Help desk trouble ticket integration
- Full-stack visibility into every network device

#### RESULTS AND RETURN ON INVESTMENT

- 10-50% increase in production/operational efficiency
- 40-50% reduction in time to find and fix network issues
- 45-55% improvement in device and client productivity
- ROI validation of infrastructure changes and upgrades

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### IMPROVED STUDENT ENGAGEMENT

- By recovering lost hours of client connectivity due to network issues and with full-stack visibility into every device network transaction, user performance is maximized and students more engaged with curriculum and network service that are essential to their educational experience.

### GREATER FACULTY PRODUCTIVITY

- Eliminate erratic behavior of in-class devices and systems used for instructional purposes. Ensure expensive applications, utilities and school learning systems are operating at their full potential on the network.

### BETTER WI-FI STABILITY AND PERFORMANCE

- Quickly find and fix roaming issues, dropped connection and other Wi-Fi problems causing user service disruption. Wi-Fi performance is measured and analyzed across a variety of dimensions to pinpoint where problem are hiding. And proactive remediation suggestions help network staff stay ahead user issues.

### SINGLE SOURCE OF TRUTH FOR ALL NETWORK TEAMS

- All user performance, application health and network service behavior across the entire network are analyzed within Voyance so different network and IT teams are working from the same facts without costly and cumbersome manual data analysis or cross-stack correlation.

### REPRESENTATIVE HIGHER ED DEPLOYMENTS



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### CASE STUDY: Putting BYOD to bed within one of the largest university campus networks

One of the largest and most renowned universities in the country had personal issues.

With 99,000 people accessing applications and services the network every week, with most connected to one of the universities 9,000+ Aruba access points, BYOD was making the life of the network team untenable.

#### THE BIG CHALLENGE

While there were some good tools on the wired side that delivered visibility, there was nothing on the wireless side, where most of the problems were manifesting, that could give staff detailed data about each user's experience. What APs were users connected to? What was the SNR during problematic times? Was channel availability good? Was roaming a root cause? Was interference causing problems? Getting answers to these questions just wasn't easy or efficient.

In other words, there was no simple and comprehensive way for IT staff to understand how these devices, all with a different flavor of operating system, were behaving with various parts of the network.

Finding and fixing problems was taking an inordinate amount of time. And determining if a user problem was an isolated incident or a more systemic issue required rethinking conventional wisdom with a view towards finding a way to focus on the network, services, applications and device behavior from the user perspective.

The university was using a variety of tools to manage different parts of the network, such as Aruba's AirWave, SolarWinds and Extreme's PurView on the wired side. But generating useful reports took hours and correlating the data from these disparate systems was cumbersome and complex at best. Meanwhile the university needed a way to plan for capacity challenges as the network grew.

With limited resources and staff, the University wanted to understand where best to focus their attention, time and money across the entire network that would give them the biggest benefit in improving the user experience.

However, no solutions existed that could provide a holistic view or a single source of network truth that IT staff team could use figure out where problems were hiding or who would be best suited to handle.

#### ENTER VOYANCE FROM NYANSA

To solve these challenges, the university decided to take a new approach leveraging recent advances in big data network analytics, machine learning and cloud-computing technologies. Something not done before.

After deploying Voyance, the University now had a way to automatically pinpoint and quantify the root cause of virtually any wired or wireless anomaly impacting users.

For instance, the University was able to identify DNS performance issue impacting user performance before users complained. Though the DNS servers reported by others tools as up and functional, their response times were slow and certain times in certain locations. This was automatically flagged to the network team, who then triaged the problem immediately before an influx of tickets.

#### THE BIG PAYOFF

With Voyance, the University is now able to quickly identify if users are connecting to the right DNS server, access points or if clients not getting an IP address because they are roaming to the wrong VLAN.

What's more, the university now has a single data set for all network-related user transactions that is constantly analyzed and correlated with actionable insights in plain English. The network teams all use voyance for everything from help desks functions to network engineering, capacity planning to management reporting.

Now network and client incidents impacting student or staff productivity are surfaced with specific recommendations to take to recover lost client hours of connectivity.

With Voyance, university networks just got a whole lot smarter.