



Unlocking the Enterprise: Open Architecture SaaS in Higher Education

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Using Technology to Support Students, Maximize ROI and Stay Competitive

Introduction

A new paradigm for higher education enterprise software is upon us. New technologies have presented the opportunity to create data systems that offer an open architecture delivered in a Software as a Service (SaaS) model, enabling schools to embrace complete student lifecycle management through tightly integrated, best-of-breed solutions. This flexible approach empowers colleges and universities to select the systems and applications necessary to meet the specific needs of their ever-changing student populations, as well as drive maximum return on investment and secure a competitive advantage.

This revolutionary shift in architecture is changing the way that vendors deliver their applications and the way that enterprise IT managers and university leaders utilize applications for maximum benefit. The old rules and assumptions no longer apply.

Industry Challenges: How Did We Get Here?

Traditional, monolithic application suites were developed in response to the inability to integrate applications in the early days of the enterprise software industry. In order to create a full breadth of capability, a vendor had no choice but to write every application module themselves or to advance their product line through acquisition, often resulting in problems with integration, usability or no integration at all.

The application suite vendors in higher education have attempted to address the needs of colleges and universities from varying perspectives:

- Some providers started from a basic Student Information System and then expanded their product line into general purpose business applications as part of a strategy to become a single vendor for all of a university's needs. These suites diversified to provide General Ledger, Purchasing, Human Resources, Online Learning Management Systems, Facilities Management, Alumni Development, and more.
- Other vendors began their enterprise applications with a focus on commercial sector needs for Financials, Human Resources, Inventory and Supply Chain, and only then entered higher education with a Student Information System, built as a side, or vertical-market, business.

While these approaches may have appeared sound at the time, experience with these systems has surfaced many challenges and shortcomings, including:

- Difficulty of being "great" in all areas: higher education systems tend to have strengths in one or two areas, and produce glaringly deficient modules in other areas. The result is that colleges and universities who wished to embrace the benefits of the "suite" have been saddled with inferior applications in key administrative areas of the university, often resulting in outcomes that do not meet their needs.

- Multi-system adoptions: many colleges and universities have had to adopt several disparate “suites” to meet the various needs of operating units throughout the school. The results are extremely high maintenance costs, crippling IT complexity, little ability to adapt to changing opportunities, and little to no integration across the organization.
- Limited integration: older enterprise solutions have not allowed easy integration, even between modules of the application suites themselves.

Modern enterprise application architectures are moving away from the legacy approach of the monolithic suite. Higher education has reached a tipping point in enterprise applications, a point which creates massive new opportunities for colleges and universities to transform their enterprise architectures and achieve greater benefits. Benefits of this new approach include:

- Lower costs
- Reduced IT complexity
- The ability to capitalize on best-of-breed applications
- An integrated enterprise

The future of higher education software rests with companies who are the best at their core business focus. These companies leverage new industry standards to integrate broadly with other important education and business applications, and make it easier for universities to integrate their own internally developed applications. Higher education no longer has to settle for a package of second-rate applications in order to benefit from the one application module that is core to their mission.

The Emergence of SaaS: Is it Enough?

Software as a Service, or SaaS as it is known, is a topic of discussion in most higher education IT circles today and adoption rates are on the rise. But what does it mean?

There are significant differences between the hosting of traditional applications and true SaaS applications. The hosting of traditional software applications simply changes who manages the IT behind the delivery of the application. Hosting providers typically support more hardware and software versions and are not able to quickly increase capacity as user demand grows. Hosting does not address the fundamental limitations of traditional enterprise applications or the old economic and high-cost model that is inherent.

Because a SaaS application is delivered to the school as a service, securely over the Internet, the school is automatically kept on the latest version of the application, reducing costly and disruptive upgrade projects. Schools don't incur the expense and hassle of purchasing, installing and storing their own hardware and software, plus they can better leverage staff expertise by moving the focus away from software maintenance and upkeep to instead focusing on strategic decisions to improve the overall student experience.

SaaS can improve a school's institutional effectiveness and its student support in terms of the following:

- **Managing business-driven IT projects** – by removing the reliance on IT to provide the necessary infrastructure, college departments can lead technology projects that address true business needs.
- **Increasing student demand and improving retention** – a SaaS model provides high reliability, enabling schools to deliver near perfect 99.999 percent system availability so users, including current and prospective students, can access the system at the times that are most convenient to them.
- **Addressing growth** – SaaS delivers a level of scalability that easily supports an increasing number of students to meet a school's growth objectives. No longer does IT have to plan for enrollment growth or expansion to other campuses or locations.
- **Serving new markets quickly and easily** – SaaS allows schools to quickly and easily add programs. Also, because staff can be reallocated to focus on trends and the student experience, schools can adapt to changing student demands at a faster rate.

While SaaS in and of itself delivers numerous operational and financial benefits, traditionally it has been viewed as a closed environment. To truly embrace the potential of SaaS, it needs to be supported by an open architecture.

SaaS in an Open World: What Does it Mean for the Future of Higher Education?

SaaS becomes that much more powerful through an open integration architecture with either pre-built connections with leading business and learning applications or a school's own custom applications that directly integrate to the data and business processes. An open SaaS environment means that colleges and universities can benefit from a reliable, dependable, low maintenance SaaS model, plus they can customize and add on to both simplify and centralize information management in a way that meets their individual needs.

Integration Benefits

An open SaaS architecture allows simple integration with additional technologies used by the institution, enabling schools to create an ideal environment capable of meeting its unique needs. Schools that take advantage of an open SaaS environment are able to create efficiencies for users by streamlining operational and reporting processes.

From an operations perspective, users only need to focus on the applications that are relevant to the school. For example, a school that utilizes on-campus housing may need to integrate a housing application, while an online university wouldn't need that application.

From a reporting perspective, a school can obtain greater insights into its business by creating reports from a central database, across all integrations and applications. An integrated Ad Hoc report writer will allow a school to easily create reports and track results it needs to support prospects, students, programs, growth and accreditation. For example, a school that wants to report on student learning outcomes in an online environment compared to a campus-based course can easily

do so because data will be centrally managed through the core system and accompanying integrations.

Through Web Services, industry standard open APIs can allow for ready integration with external third-party or in-house applications and data. Such integration can support flat-files, .csv format, XML data, Web Services, spreadsheets and more.

Presentation Layer Benefits

By separating the UI tier from the underlying business logic, schools can achieve significant business benefits from an open SaaS model. Application flexibility and extensibility are made available through:

- **Configurable fields:** institutions need the ability to continue to innovate and reconfigure the system, creating fields that are relevant to them and adding those fields to screens and reports. This ability to extend the managed data ensures the application can be configured to meet the organization's needs without extensive customization efforts.
- **Seamless extensions:** it's important that the development of functional extensions to the application and incorporation of them into the school's system does not affect the underlying application or require expensive migrations when new versions are released. These applications can remain separate from the core source code so they are not affected by regular application updates.

Adoption Benefits

Using a Web Services architecture makes it possible for both vendors and schools to develop new application functionality much faster than traditional application development. Schools will benefit from a system that is rapidly evolving to meet their needs, and regular release cycles make it possible for these schools to benefit from new capabilities as soon as they are available. Because the core system is delivered in a SaaS model, schools don't have to do anything to take advantage of new capabilities.

Conclusion: Is an Open SaaS Model Right for Your School?

When assessing an open SaaS environment, schools need to take a look at their current systems and any redundancies and/or disconnects where information management can be simplified and streamlined. An open SaaS model, which enables a core system to integrate with preferred applications, allows for complete student lifecycle management, giving schools the tools to better support students, helping them maximize their investment and driving a competitive advantage.

Supporting Students

An open SaaS model gives schools the opportunity to constantly embrace new and advanced applications to meet the evolving needs of students and support them throughout their education. At the end of the day, a successful student experience is what typically drives institutional missions, and being able to readily adopt and

create applications that enable a school to further support student success is paramount.

Maximizing ROI

By creating a structure unique to school's own needs and processes, that school then doesn't have to pay for systems and applications it is not going to use. The school also is not incurring exorbitant costs for custom integration into a closed system.

Staying Competitive

Staffing efficiencies in IT and across the institution mean that users aren't burdened with functionality they don't need, therefore giving them more time and resources to dedicate to recruiting and retaining students, as well as delivering and advancing programs to meet market demand.

About TopSchool

TopSchool built the first Software as a Service (SaaS) student administrative system in higher education to address the key aspects of the student lifecycle. TopSchool's simple, on-demand Student Lifecycle Management (SLM) system empowers student-centric institutions to drive growth, reduce costs, and meet accountability requirements.

TopSchool believes that an institution's processes should drive the system – not the other way around, offering true IT innovation and a long-term strategy for SLM from recruiting to retention. TopSchool's system goes beyond "old school" SIS capabilities with a student portal, a Prospect Management (CRM) component, and an intelligent reporting suite.

TopSchool designed its open and flexible next-generation system based on logical fundamentals, including .NET and Web Services technologies, a cost effective Web delivery method, and a response-driven service model. Through its TopX™ service layer, the TopSchool system uses the same API's and interfaces that are publicly available for use by third party developers for integrations and extensions of the TopSchool system. By using the same methods internally and externally, TopSchool reduces the amount of code to be tested and maintained, and therefore the API's used by third parties are reliable, dependable and well documented.

TopSchool's system is comprehensive, but also simple, working easily with other essential technologies. Administrative users appreciate the intuitive and customizable interface; developers appreciate having access to "best of breed" technologies, plus the flexibility and power to generate student lifecycle success from the inside out.

The bottom line: TopSchool's SLM helps higher education work smarter for less cost.

About the Author

Chris Chumley's career has been focused on educational technology both in academia and on the consulting/corporate side, gaining deep insight into their collaborative initiatives and the importance of flexibility and next generation technology. Chris joined TopSchool in 2008 and leads all product management activities.

Prior to TopSchool, Chris was with Exeter Consulting leading the implementation of student information systems at multiple, large public universities. During his tenure, he led the implementation at the University of Puerto Rico, which involved moving the institution from 11 separate student systems to a single common system. Before Exeter, Chris spent almost six years at DeVry University as the program manager for all student system initiatives. While at DeVry, total enrollment grew by 23%. As part of DeVry, Chris served on the product advisory board for the Oracle Student System and helped define product priorities and feature requirements. Chris' background also includes six years at Ernst and Young Consulting where he advised Fortune 500 companies on organizational strategy and led enterprise transformation projects.

Chris has spoken at industry events, including the Pennsylvania Association of Private School Administrators (PAPSA) annual conference. He holds a master's degree from Teachers College, Columbia University and a bachelor's degree from Brigham Young University. Chris can be reached at chrisc@topschoolinc.com.