

A common identity platform for Tennessee Department of Education

A powerful platform for a single identity for both on-premises and cloud to extend applications to people and their devices



Summary

Client profile

The Tennessee Department of Education (TDOE) has approximately 950,000 students divided into 142 school districts.

Problem

TDOE needed to simplify access to data and resources for its users, to reduce costs and save time, and to comply with state and federal regulations.

Solution

Oxford Computer Group (OCG), working in conjunction with Double Line Partners, created a cloud-based solution to manage the complex identity and regulatory requirements, and provide scalability for the future.

Benefits

- A more effective and efficient infrastructure
- Easily integrates third party SaaS applications
- Single sign-on
- Flexibility and scalability
- Reduced costs



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Introduction

The Tennessee Department of Education (TDOE) has approximately 950,000 students divided into 142 school districts. In 2011, Tennessee received a federal Race to the Top grant, the goals of which included building teacher and support staff dashboards allowing single sign-on access to a myriad of IT systems used by school districts across the state. The goals were to enable students and staff to get swift access to the resources they need, resulting in considerable savings in both direct user time, and administrative and support costs. Tennessee privacy regulations and Federal Education Rights and Privacy Act (FERPA) requirements added another layer of complexity.

Working in conjunction with Double Line Partners (doublelinepartners.com), Oxford Computer Group (OCG) created a cloud-based solution using a suite of Microsoft products to manage the complex identity and regulatory requirements of TDOE and provide the scale (millions of user IDs) needed for future phases. The single sign-on environment and single identity reduced costs and staff time spent on management and access. These are enabling technologies that allowed TDOE to teach, monitor, collect and share information, improve communication and measure student performance. Tennessee is already showing it is well on track to providing a more effective and efficient data infrastructure for their schools; in 2013 Tennessee students posted greater academic gains than those in any other state.

The problem

TDOE embarked on an initiative to restructure the State's P-12 data system according to Ed-Fi data standards in a cloud environment. The vision was to collect and consolidate data from district systems to deliver timely, actionable student data to teachers, principals and administrators aimed at improving student performance.

Double Line Partners, on behalf of TDOE, quickly identified OCG as the 'go to' partner for identity management solutions based on Microsoft technologies. OCG worked closely with TDOE's CIO Richard Charlesworth, who from the outset made it clear he wanted a single identity, cloud-based environment with no on-premises infrastructure.

According to Richard: "Teachers have a ridiculously complex environment to juggle and it is not unusual for a teacher to have 20 to 30 separate logins for all the tools and datasets they need (some teachers report 50+ logins). We needed a platform which

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Richard Charlesworth, CIO, TDOE

would dramatically simplify this, knowing that the time saved by the teachers would always be re-invested in a child’s education.

“The regulatory burden on data access within public education is scary, and compliance is based exclusively on relationships between the student and educator, which are dynamic and change rapidly. As a result, most school districts over-restrict data access for their teachers. We needed to retain regulatory compliance while providing easy access for teachers.”

The solution

The solution uses the native features of Azure AD and FIM 2010 R2 for automated user provisioning and de-provisioning. Authoritative user data stored in SQL Azure is brought into FIM to be processed. FIM policy rules are then applied to this data to drive provisioning and de-provisioning actions for user identities in Azure AD.

OCG’s solution was created using our professional services methodology to prepare for the project through on-site envisioning workshops and detailed requirement gathering. Subsequently, OCG held architectural design sessions and delivered proof-of-concept implementations.

OCG has been working with Microsoft closely, advising the Azure AD product development team. We were able to get feedback to the development team with very specific suggestions and requirements for product improvements, for example, the changes made to Azure AD that allowed us to meet FERPA and other regulatory mandates. During the project, Microsoft added several new, significant features to the Azure AD products. Because of our structured approach and deep relationship with Microsoft, OCG could integrate those changes in the TDOE design, exploiting the new features without adding cost.

As a result, the final production environment allowed the customer to use all of the latest features of Azure AD and to meet their FERPA requirements.

The new architecture consists of three major subsystems:

- an identity layer: a common, single sign-on (SSO) identity platform for all state-sponsored applications
- a master data model (MDM) layer: a unified data store for state and district data to support operational decision making and reporting
- a common surfacing layer (SharePoint): a front-end for web-based applications

OCG created the identity layer and Double Line Partners delivered the other two.

The entire new infrastructure is hosted in a multi-tenant cloud using Microsoft Azure. Crucial to the decision to use Microsoft Azure was the need to scale to TDOE’s 1,784 schools and 142 school districts, as well as future plans to provide services directly to students and their guardians.

The cloud brings reduced capital and operating expenses while increasing efficiency, flexibility and the ability to easily integrate future product enhancements.

Benefits

The common identity platform solution:

- easily integrates third party SaaS applications, including TDOE IT developed apps, and other education-specific apps that TDOE is now discovering. The platform is a foundation for Microsoft first party SaaS applications such as Office 365. All these apps can now use a common identity platform for authentication, authorization, relationship visibility and auditing. Audit capabilities help provide supporting data for privacy requirements.
- allows single sign-on access to the appropriate cloud-based applications and resources for every K-12 student, teacher, staff member, and parent or guardian. The number of accounts users need to access applications is reduced
- ensures that only authorized users can access applications and resources and that their access to sensitive student and staff data is restricted to only those students or staff where the user has legitimate need in compliance with local Tennessee privacy regulations and the federal Family Education Records Privacy Act (FERPA)

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- manages the complexity of distributed identity information, with user accounts managed at both state and district levels
- reduces the helpdesk burden with a self-service interface
- applies user data that is being submitted to the state's operational data store to automatically provision and assign entitlements, without workflows to authorize access
- manages auditable processes for granting access to resources that meet regulatory requirements
- is scalable. Using Microsoft Azure it is possible to scale the solution from an initial 67,263 teachers and staff to include the 935,317 students and more than 1.5 million parents
- is great value. Azure AD costs are incorporated in the Office 365 solution price, so the identity management and access control services come without additional investments in infrastructure
- is portable to other public and private cloud environments, and other industries. Talks are already underway to discuss its potential with other state departments of education

The service was enhanced in 2014 to allow each school district to have its own Office 365 tenancy, using the common identity platform to consolidate accounts. Each district can administer their own O365 users, while still participating on the AAPS framework

Standards-based

The Azure-hosted application built on top of OCG's solution is an open XML-based, and Common Education Data Standards (CEDS)-aligned Ed-Fi education data standard application to enable integration from a wide range of existing education data sources. This application was developed by Microsoft education partner Double Line Partners.

OCG worked closely with the architects from Double Line Partners to integrate AAD into their SaaS application, the Ed-Fi dashboards. Ed Comer, Double Line Partners' Business Development and Strategy Vice President, said, "Oxford Computer Group has provided a scalable identity solution in Azure integrating Azure AD with selective FIM components."

Conclusion

Working together, Oxford Computer Group and Double Line Partners were able to realize CIO Richard Charlesworth's vision of a real-time, easy-to-access system for teachers; enabling them to make more informed decisions about a student's education.

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Now they can quickly identify and collaborate on best practice and, most importantly, improve student outcomes in a consistent, measurable way.

According to Richard: "With this platform we can re-empower our teachers and give them real-time access to their students' data while providing districts what they need to meet regulatory requirements. The bottom line is that teachers get more and better data."

The system is scalable to include parents and caregivers in the sharing of student information in an easy to navigate environment that protects the privacy of the students.

Recurring costs and system complexity have been reduced as have staff support time and the time spent by the end user in maintaining access to the systems.

About Oxford Computer Group (OCG)

In the IT world change is a given. Moving to the cloud, enabling devices, rolling out applications – whatever you are doing – you must ensure that the right people access the right corporate data from the devices and locations you choose. That's where we come in; helping you to stay in control with identity management, device management and information protection

OCG's solutions help organisations to be more flexible and responsive. We will guide you through the complexity.

We are recognised as the global experts in identity and enterprise mobility, winning yet again the prestigious Microsoft Partner of the Year award in both 2013 and 2014.

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