



CHESTERFIELD COUNTY PUBLIC SCHOOLS

RapidIdentity 

Learn how Chesterfield easily manages over 60,000 identities and grants SSO access to multiple SaaS systems.

Located in suburban Richmond, Virginia, Chesterfield County Public Schools (CCPS) is consistently recognized for its programs that provide excellence in education. The district is home to more than 58,000 students spread across 62 schools. In addition, CCPS has close to 4,200 teachers in the classrooms and about 7,500 total staff.

The Challenge

America's school districts are under tremendous pressure to increase their students' performance and modernize their classrooms and curricula through the use of technology. CCPS certainly felt these pressures, which is why the district's IT department led an effort to greatly simplify and speed access to online curriculum and other educational tools.

Dr. Adam Seldow, Ed.D., the Executive Director of Technology, oversees all facets of information technology (IT) strategy across the CCPS. Seldow and his small IT team play a key role in enabling the district's framework for 21st century teaching and learning. This framework promotes the use of educational technology to help students acquire the foundational knowledge and skills they need for success.

When the framework was first laid out, the technology team recognized a critical need for the district's technology infrastructure. The plan called for all students to take at least some of their instruction online. This meant that not only teachers and staff members but also nearly 60,000 students would need network login credentials and numerous accounts that would take them into their online educational programs. From an IT perspective, this was a huge requirement, requiring significant help desk support.

"We wrote the need for identity lifecycle management and single sign-on (SSO) into our technology plan and budget because we knew that if we were going to scale up the use of educational technology



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in our school division – in other words, if we were going to put more computers in our students' hands – then there needed to be a way to automate all the account management tasks that we were doing manually. Our processes at that time created lag time that kept kids from learning,” says Seldow.

Seldow explains that practically every computer system and application requires some sort of user authentication—usually a username and password. As teachers and students need access to more and more applications, it becomes very complex to manage all of those logins. Teachers don't have time to create login accounts for all their students. And what happens when a student forgets their password? Who will reset it for him? Without automation, the whole scenario had the potential to be a logistical nightmare that would take away from precious learning time.

“We knew that if we were to use a range of websites for teaching and learning that we needed to make it so that they could click on one icon and get right into the site,” says Seldow. “We wanted to automatically provision everything and make it as simple as one click to get into these learning activities.” And with this latter statement, Seldow defined the district's goal for identity lifecycle management.

Reaching that ultimate goal means starting from a disparate computing environment. Two separate systems are the authoritative sources for data on teachers and students. The challenge was to work through these two source databases to build a robust and cohesive account lifecycle management system that would put teachers and students into their online classes with ease.

The authoritative source of information on CCPS teachers and staff is an HR database owned and controlled by Chesterfield County's IT department and not by the school district. When employment changes like hirings and separations occur, or when teachers change schools, the information is noted in the HR database.

The original process involved the HR department sending the IT department a spreadsheet every two weeks listing the teachers who had status changes in that time period. A member of the district's IT department would manually and painstakingly create, reactivate, deactivate and delete accounts in the Active Directory (AD) system and applications like Microsoft Exchange and Discovery Education. This process could take up to two weeks.

As a result, teachers could go several weeks without having the critical account access to do their jobs. Moreover, accounts of separated employees could remain open and active for weeks, creating a security risk. This manual process was especially cumbersome at the start of a new school year when hundreds of personnel changes take place just as classes get underway and teachers need access to email and other applications.

The authoritative source of information on students is the district's Student Information System (SIS). Like the HR system, this database is in a high state of flux as the school year starts, and it continues to have updates all year as students come and go within the district and within different schools and classes. The old business process had the IT team extracting a CSV file from this database and importing it into Active Directory at the start of a school year. Changes and updates to Active Directory and applications were performed manually at the school level as needed, such as when a student moved from one school to another.

But this was only half the identity battle for student accounts. Most of the education websites each student would visit required manual account creation and deletion. Any given student might have multiple accounts with separate usernames and passwords. If a student forgot her password, she was locked out of the application until a teacher or support staff could reset it. Remember the old joke “the dog ate my homework”? The modern day excuse became “I forgot my password,” and that was no laughing matter. Clearly these manual processes for account management were unsustainable for the long term, especially as the district expanded its use of online educational applications and resources.

The Solution

While attending a Consortium for School Networking (CoSN) conference, Seldow scouted out identity and access management solutions. He was drawn to RapidIdentity, the digital identity platform in education, because of the simplicity of the user interface. “Many of the other solutions I looked at seemed fairly complex to get up and running and required professional consulting to make changes,” recalls Seldow. “With just a bit of training, RapidIdentity would really allow us to take the reins and enable the system to grow with our own efforts rather than having to engage the vendor for everything.”

Following the conference, Seldow engaged the RapidIdentity team to help CCPS develop a complete account lifecycle management and single sign-on solution.

The project started with a thorough needs assessment and development of a statement of work (SOW). “We sat down with the RapidIdentity team and detailed our authoritative sources and current business practices,” says Seldow. “Then, we brainstormed together to plan how to accomplish what we needed to get done. We learned quickly that we required more than we originally thought. Once we learned what RapidIdentity is capable of, we wanted to take advantage of more of its features.”

Implementation started with the teacher accounts. Under the old process, it simply took too much time and manual effort to extract data from the county’s HR system, enter it into the school district’s AD system, and create and assign all the necessary groups and accounts. RapidIdentity completely automates the synchronization of data between the HR system and AD to perform the setup and management of accounts. Active Directory became the authoritative identity source for all target IT systems. Now when something changes in the HR system, an automated workflow propagates the necessary changes to AD and other systems beyond that.

The same tools and techniques were used to bring the student data into AD from the SIS. This was a bigger task, not only because of the huge volume of students



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but because the data is much more dynamic. For example, students change their class schedules much more often than teachers do, and this impacts group assignment within AD and account permissions within applications.

With RapidIdentity, Chesterfield can now define all of their groups with dynamic criteria instead of manually having to put people in and out of the groups as before. On a scheduled basis, the system refreshes the groups' memberships based on those dynamic criteria. Based on class enrollment maintained in the SIS, students are assigned to various groups in AD, enabling granular capabilities.

For example, a teacher can communicate homework assignments to students in a specific class using the Edmodo application, knowing that only students in that particular class can view her notes. But it doesn't stop there. RapidIdentity integrates with numerous applications to further extend the district's identity and account management capabilities.

Using Google Apps for Education as an example, Seldow explains the value of that ability: "We were able to configure RapidIdentity to take the class information from our SIS, including the student groupings of the class— for example, Section 3 of Algebra I in a particular high school— and sync that list up in Google so that it is dynamically maintained. As students come into the class or leave the class, Google is automatically kept up-to-date. That's extremely important because just about everything we do, from the daily interactions between teachers and students as well as purchasing content for specific classes or schools, is done through these groupings and the schedule."

When a student account is created in the SIS, it's created in Google as well, so the account has the right naming convention and the placements. As students change grades or schools, that change is automatically made in Google too. If a staff member is terminated or a student deregisters, then RapidIdentity deprovisions their accounts.

Seldow was delighted to learn all they could do with RapidIdentity's capabilities. "We use this tool to a capacity that I'm not sure many other school districts do, so

along the way we have done a lot of growing with RapidIdentity. We're synchronizing tens of thousands of groups almost in real time. We're creating and moving around accounts at a very high rate. We're also integrating with a lot of cloud-based providers and taking advantage of as many APIs as possible for account provisioning and deprovisioning," says Seldow. "RapidIdentity has given us a lot of flexibility and removed barriers to change."

Just as important as the account management is RapidIdentity Authentication, which includes the SSO capability. Teachers and students use a single portal to access all the applications at their disposal. They log into a web-based dashboard – from home, school or anywhere – and can see all their own applications and user profiles.

When a person selects an application by clicking an icon, RapidIdentity takes care of passing that individual's authentication credentials to the chosen application. The person doesn't have to remember multiple URLs, usernames or passwords—just the one username and password for RapidIdentity. And if a student forgets their password, they can reset it themselves without help from a teacher or IT support.

Teachers have unique privileges on RapidIdentity. They can see their students' accounts and reset passwords as needed. Everyone can access his or her own network files through the same simple interface. Seldow calls it "a one-stop shop" for all the digital applications and resources students and teachers need. The complexity of that "one-stop shop" is completely hidden from all users. RapidIdentity works under the covers to pass along credentials and authenticate users to web-hosted applications based on current group assignments and policies in AD.

"We are taking advantage of RapidIdentity as a SAML [Security Assertion Markup Language] provider to do SSO authentication for just about any new web-based tool that we introduce," says Seldow, adding: "Any web application that is accessible in RapidIdentity is accessible via SSO. At the same time, we are passing along other bits of information about the students, such as who their teacher is, classroom information, and other stuff that is necessary for these learning sites to be able to do their job."

The Results

The benefits of RapidIdentity Lifecycle and Authentication have exceeded expectations. "This system has given us the ability to operate at a level of efficiency that wasn't otherwise possible," says Seldow. "It took a while to get our technicians out of the habit of going directly into Active Directory to make changes," Seldow recalls. "They had to adjust their own behavior to let the system work. Now they are able to use RapidIdentity to automate many of the things that they had to intervene in before. For example, if a student transfers between schools, rather than going into Active Directory and dragging their home directory from one school's organizational unit to another, now they let the system work. Overnight, RapidIdentity points that student to the right location in Active Directory."

The most important benefit is that teachers can now be up and running with all the necessary account access the instant they are hired. "It also has been extremely helpful in instruction. There are no excuses for forgetting your password. There is no lag time and having to wait for a help ticket to be completed to logon to your



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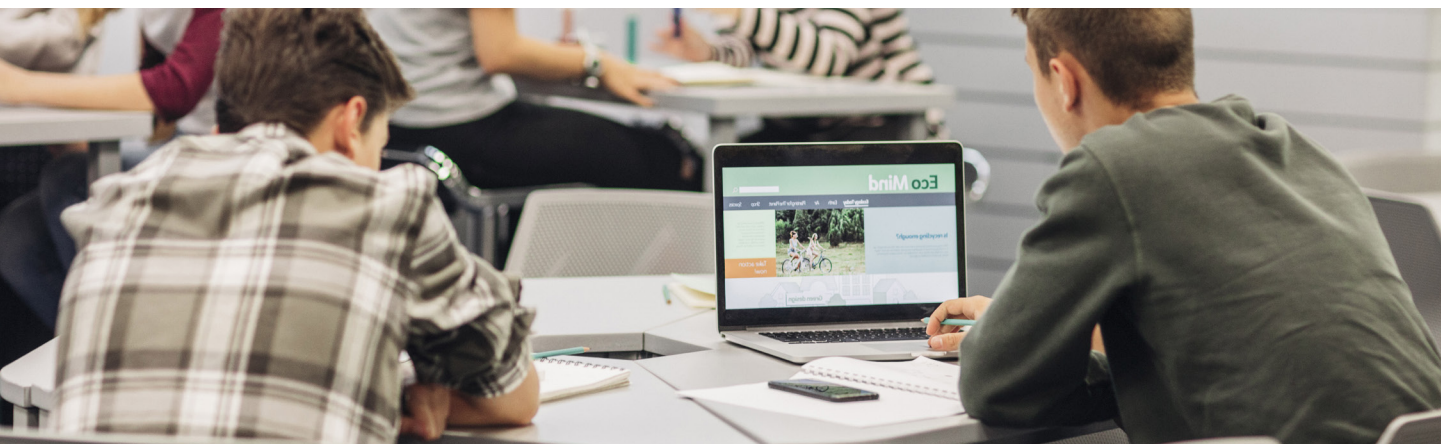
computer, so there is really no technical impediment to doing your job as a teacher or as a student with this system,” says Seldow, adding: “RapidIdentity helps the school district pass its mandated audits. “We pass our audits with flying colors because we can very quickly print out a report or show that for anybody who was separated, we deactivated their account that same day, automatically.”

As any school district can appreciate, the financial benefits are quite important as well. Savings come from reducing the man-hours to manually provision and deprovision accounts and maintain AD. What's more, the precision of being able to purchase materials and software licenses just for specific groups generates additional savings. “Having dynamic information available in Google allows us to do specific targeted purchases,” Seldow states. “We can purchase materials just for a class and tie it to that group, or we can purchase them for an entire school or the entire district. This is a new level of efficiency that is saving good money.”

CCPS plans to continue increasing the number of websites that are accessed via SSO. According to Seldow, “We still have some systems in our district that require different ways of passing data to maintain them and we would really like to take advantage of the APIs available from those system vendors. For any website that we buy access to, we basically say we are not going to work with them if they don't support SAML authentication or APIs. We are really trying to leverage that capability in this tool to make it super easy to send and receive data.”

CCPS' internal IT team is able to build most of these connectors themselves. Seldow says they engage the RapidIdentity team for significant integration efforts, but RapidIdentity is easy enough to use without having to hire professional consulting services.

Today, CCPS gives high marks to RapidIdentity as it enables teachers and students to get right down to work every day without delay, saving money and manpower along the way.



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