

# Calling the Cloud

How Schools Are Dialing Up Advanced Communications While Significantly Reducing Costs



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It's no secret that K-12 districts and schools across the country are embracing the Internet and cloud computing for a variety of critical areas, ranging from modernized, digital curricula to online testing for the Common Core State Standards. Now, some are taking the next step and moving essential telephone and collaboration capabilities to the cloud. This shift is being driven by some practical motivations, including the fact that cloud-based communications costs can be significantly discounted under the federal government's E-Rate funding program. Cloud-based communications also allow schools to replace costly and outdated phone systems with modern platforms that better prepare them for their increasingly digital futures.

Being able to take advantage of the latest innovations in communications without having to purchase new hardware and software — and receive significant discounts for service fees in the process — is a compelling business case for a growing number of school administrators who want to bring their schools and districts into the digital age. This Center for Digital Education white paper explains how these school officials in K-12 institutions can develop the right implementation strategy and craft a business plan for quickly adopting cloud-based telephony services to bring the benefits to students, teachers and staff.

### Out with the Old: Making the Transition to the Cloud

For the staff at St. Matthew's Lutheran School in Wisconsin, the decision to move to a cloud-based telephone solution came like a bolt of lightning — literally. In 2010, a thunderstorm knocked out the old Private Branch Exchange (PBX) phone system, and administrators wanted to get a replacement running as quickly as possible. But George Zaferos, the school's business administrator, soon learned that new PBX hardware would cost about \$10,000.

**"There are many different regulations and requirements that schools must meet** today for accreditation, and in many cases compliance costs money. So schools need to find every opportunity they can to save a buck — maintaining or reducing communication costs is one area that really helps."

George Zaferos, Business Administrator,  
St. Matthew's Lutheran School, Wisconsin

In addition, a PBX maintenance contract would run an additional \$1,200 a year, and the school would still need to sign up for dial-tone services with a telecom provider.


For a private, 145-student school on a tight budget, spending thousands of dollars on an upfront investment, plus significant ongoing support costs, added up to an unmanageable financial burden. "We never seriously considered getting a new PBX," he says. "The decision came down to the cost of the PBX, the maintenance going forward and the phone bill."<sup>1</sup>

When Zaferos searched for a more affordable option, he found that cloud-based communications provided a reliable alternative that eliminates upfront capital equipment costs. Instead of a physical, on-premises PBX box, cloud communications use software managed by a cloud provider with the same functionality and in many cases, more flexibility. The staff at St. Matthew's taps into the virtual PBX via an existing broadband Internet service, and the school saves additional costs because 40 percent of the monthly subscription for the PBX, dial-tone and related telecom services is paid for with E-Rate funds.


Three years after the cloud implementation, Zaferos says St. Matthew's is enjoying reliable phone services


## A Checklist for Must-Have Communications Capabilities

Switching to cloud Voice over Internet Protocol (VoIP) solutions can give schools and districts a new world of communications and collaboration features. Here's a checklist of the advanced features school administrators will find as either standard features or options in the best solutions.


 **Auto Attendant:** Recordings that greet callers and direct them to the right phone extension create a professional image, enable institutions to save on hiring an office employee and automatically present the appropriate information for after-school or after-hours calls.



 **Advanced Call Forwarding:** When the intended recipient isn't at his or her desk, calls transfer to alternate numbers, and if necessary, the system will move the call to a voicemail system to record a message. In special situations, the call can also be routed to another number such as a cell or home phone, to help the parties connect.


 **Conferencing:** A conference bridge can connect participants throughout a school or district's facilities, or when a staff member is on the road.





 **Presence Management:** Staff members can check an electronic dashboard to see status icons that show if a co-worker is already on a call and temporarily unavailable.




 **Voice Service Plan Flexibility:** Rather than a rigid, one plan for all, the cloud solution should offer multiple service and pricing options. Standard plans typically provide unlimited calling to numbers in the U.S. and Canada, as well as select international locations.


 **Mobile Apps:** These tools allow the caller IDs of employees to come up as the school's main line when professional calls are made outside of normal hours from their mobile phone. For maximum flexibility, the app should work with a broad range of mobile platforms, including phones and tablets running iOS and Android operating systems.

 **Email Notification of Voicemails:** End users receive alerts about voice messages via their desktop PCs, smartphones and tablets.


 **Enhanced 911:** Public safety officials can determine the general location of an emergency call originating from a VoIP or wireless device.




 **Virtual, Online Meetings:** Top solutions make it possible for schools to organize an unlimited number of audio conferences and Web-based meetings, and use webcams for communications. Participants can share their desktops to facilitate communications, and organizers can record meetings to capture important information.

 **Online Dashboards:** These tools provide a central location where staff members can efficiently manage cloud-based communications, make calls, schedule meetings and send faxes.



 **Ring Groups:** Schools can handle incoming calls more effectively by creating grouping-related extensions in administrative offices, academic departments, facilities and other areas to share incoming calls.

 **Call Forwarding:** Staff members can quickly set up and update rules for how the communications system directs incoming calls, so desktop and cell phones ring at the same time or in a sequential order. If the call goes unanswered, it then goes to voicemail.

while using the money it is saving to fund activities directly related to educating its students.

"There are many different regulations and requirements that schools must meet today for accreditation, and in many cases compliance costs money," Zaferos says. "So schools need to find every opportunity they can to save a buck — maintaining or reducing communication costs is one area that really helps."

### Realizing the Benefits: The Cloud Changes Everything

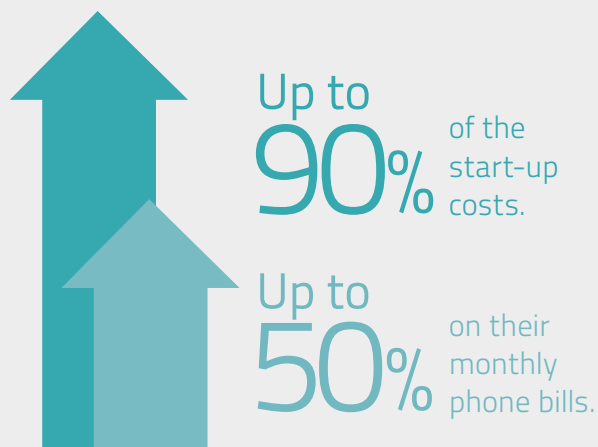
Leaders at K-12 schools across the country are discovering the same lessons. Phone services enabled by the cloud take advantage of a mature and widely used technology known as Voice over Internet Protocol, or VoIP. These cloud-based services are part of the larger hosted IP telephony market, which is seeing growth among organizations of all types.

One important reason for the spike in adoption is that schools and other budget-conscious organizations are not only reducing phone-related costs, they are simultaneously adding a host of new and sophisticated communications capabilities usually found only in large companies. These features include an automated attendant, the recorded system that greets callers and explains which number to press to connect them with the right department or staff member (see "A Checklist for Must-Have Communications Capabilities" on page 3 for other innovative telephony features available with cloud solutions).

Another benefit is that modernization comes with a minimum of disruption. First, schools can keep their existing phone numbers when they sign up for cloud services. Second, the IT staff doesn't face a long implementation timeline when a school moves away from existing PBXs. Much of the onboarding process is the service provider's responsibility. Once the solution is running, IT specialists aren't burdened with managing the communications resources — the service providers are responsible for maintaining, servicing and updating the hardware and software infrastructure.

In addition, the best cloud-based solutions provide Web portals that make it easy for schools to move, add or change

### When compared to traditional PBX and dial-tone services, cloud communications can save schools:



end-user accounts from any location. Organizations can even enable end users to self-provision some updates on their own. And because multiple schools or locations within a district can be on the same cloud communications system, the IT staff doesn't become overextended by trying to manage multiple PBXs and dial-tone service providers.

### A Compelling Business Case: Reducing Costs and Increasing Efficiencies

As Zaferos found, comparing the costs of cloud communications with a traditional PBX and dial-tone service combination can quickly build a business case in IP telephony's favor. Schools not only save on capital expenditures, they can also consolidate their service and dial-tone charges under one contract. This, along with fewer capital-expense outlays, help some institutions save up to 90 percent of the start-up costs of traditional premises-based PBX systems and reduce monthly phone bills by as much as 50 percent, according to some industry estimates.<sup>3</sup>

Another financial benefit materializes because school administrators pay for cloud-based telephony services over time from operating budgets. This means predictable monthly fees without the spikes in expenses that used to arise when a hardware component in an old PBX required a repair or unexpected service call.

Because administrators at St. Matthew’s could use an existing cable modem and Internet service to support the cloud communications, the only hardware expenditure was for 30 IP phones. “I just plugged the phones in and we were ready to go,” Zaferos says. The cloud service provider used its close ties with an IP equipment partner to provide the phones at a steep discount from their retail value.

The school also saves money because its provider offers a low-cost phone extension option that has extensive resources for handling incoming calls, along with economical shared lines for outgoing calls. “This gives us 20 extensions for incoming calls — a PBX system may have only four lines at a time,” Zaferos says. “Our school gets more calls than people here make, so that gives us a big advantage.”

Paying for services rather than large implementations of hardware means schools can more fully take advantage of E-Rate funding. The discounts vary depending on the location and student profile of individual schools, and to manage how funds are dispersed, E-Rate administrators created two funding levels — Category 1 and Category 2. The high-priority category includes cloud communications sub-subscriptions, dial-tone services and Internet access charges, which means these requests are paid first to assure as many applicants as possible get needed funds. By contrast, communications hardware, including on-premises PBX boxes, are no longer being funded.

Note that the IP handsets that schools purchase for VoIP calls fall under the Category 2 classification. However, the best cloud service providers may offer flexible pricing plans that provide the hardware at reduced costs. (The flexibility of cloud communications also enables school staff to use their PCs, smartphones and tablets to make and receive calls.)

In addition to cost savings, cloud communications bring added efficiencies to IT management. St. Matthew’s IT staff consists of Zaferos and a tech-savvy faculty member who serves as the technology administrator. They appreciate that the cloud solution eliminates the need for on-premises gear. “In addition to reducing our maintenance costs, our day is freed up from having to address the mundane computer problems that can crop up,” Zaferos says. “That’s a huge benefit for a small school.”



When the Yew Chung International School of Silicon Valley switched to cloud communications, it started saving \$150 a month on international calls to its sister campuses in Hong Kong, Shanghai and Beijing.



## Real-World Results

Administrators at the Yew Chung International School of Silicon Valley (YCIS) also considered the business case for cloud communications and concluded that traditional on-premises PBXs were no longer viable for their institution. Part of the Yew Chung Educational Foundation, which created its first bilingual school in Hong Kong in 1932, YCIS opened its doors in Mountain View, Calif., in 2002 to provide a bilingual, co-cultural environment that promotes fluency in both English and Mandarin. Approximately 175 pupils are enrolled at the California campus for preschool and grades K through 5.

The school’s old telephone system, with 27 phones connected to an aging, on-premises PBX, had been racking up significant service charges. So in 2011, on the eve of a move to a new physical location, YCIS’s administrators searched for less expensive alternatives. The YCIS staff also wanted an option that would reduce the costs of its frequent calls to Hong Kong and had modern communications features.

The school’s technology consultants eventually replaced the old PBX with a business-class VoIP service. IT administrators ported the school’s existing telephone numbers to the new service and easily launched the cloud-based phone system at the school’s new campus.



Cloud communications save teachers and other school administrators time by allowing them to scan the inboxes of their email and voicemail accounts at the same time via their computing devices.

A school official recalls that because all the communications services are in the cloud, administrators only needed to establish an Internet connection and plug in their IP phones, which saved a substantial sum compared to if they relocated the existing PBX.

Once YCIS settled into the new campus, the savings from their new phone system continued to increase. The solution's international calling plan offers unlimited calling for a flat monthly fee to 40 international locations — including the cities in China that YCIS staff members call the most: Hong Kong, Shanghai and Beijing. A school spokesperson estimates that the plan saves about \$150 a month on international calls.

The new features include the ability to use simple four-digit extension dialing to connect with YCIS's separate preschool location. YCIS Principal Kevin Reimer points to the flexibility and control that the solution provides for handling both outbound and inbound calls. Although teachers and staff have their own phones, the outbound caller ID on all phones displays the school's main number. That way, parents immediately recognize that the call is coming from the school, and if they call back using the stored number, they reach the school's main office instead of interrupting a teacher during class time.

The cloud solution also comes with the convenience of an auto attendant that doesn't require school officials to manually turn on a greeting at night, unlike the old PBX. If someone forgot to set the after-hours greeting in the past and a call came in, the phone would just ring without providing any instructions to the caller or recording a message. Now the school can configure the night greeting once, and at the appointed time, it comes on automatically.

Other important features include Internet-based faxing and email notifications of voicemail messages. School administrators no longer must call in to check whether or not they have voicemail. Instead, they can save time by quickly scanning the inboxes of both their email and voicemail accounts at the same time via their computer.<sup>4</sup>

## Next Steps: Choosing a Cloud Communications Partner

Choosing the right service provider is essential to the success of cloud telecommunications. K-12 schools and districts should focus on these eight important selection considerations.

- 1. Look for candidates with a proven track record in cloud communications.** Because the cloud market for all types of services is in a growth phase, a number of service providers are jumping into the market in an attempt to cash in on its high growth potential. So for long-term stability and reliability, school administrators should look for companies that have a history of offering cloud and outsourcing solutions.
- 2. Find solution providers that have an extensive portfolio of large and small clients.** This shows they have experience in serving a variety of communications needs. The best providers will offer a comprehensive selection of service agreements, ranging from basic calling plans to the full range of latest innovations. This gives schools the most flexibility to choose the services they need currently while having the option of adding capabilities as their requirements change over time.
- 3. Check the latest evaluations by independent IT analyst firms.** The reviews of these IT analyst firms will tell you which vendors are considered industry leaders.

**4. Research all costs, including monthly service fees, support costs and handset expenses.** Also determine what financial penalties are in place if the provider fails to meet the terms of the service level agreement.

**5. Ask candidates to explain their uptime strategies to ensure reliability and availability.** A key area to consider is whether the provider operates multiple data centers in different geographic regions. This will assure that if one facility encounters performance problems or an outage, a data center in another part of the country can keep the service running normally.

**6. Determine the level of security.** Find out how the candidate controls access to the cloud, as well as how it walls off the assets of individual customers from other authorized cloud clients.

**7. Request a list of customer reference contacts and probe them for answers about the vendor's performance for service and customer support.** In particular, ask references to rate the responsiveness of the provider's technical account manager when questions arise

about the service or phones. Also evaluate candidates for the level of support they will provide to help a school move from the old phone system to the new solution. A key question is whether the provider will perform assessments to help the school staff gauge whether the existing broadband and networking infrastructure will require upgrading. Determine if these evaluations come with the standard contract or if the school will incur additional fees.

**8. Confirm whether the service provider is part of a larger ecosystem of companies.** Relationships with other vendors will make it easier and more economical for schools to acquire related products, such as IP phones.

### Conclusion: Affordable Innovation

Cloud-based communications discounted under the E-Rate program are helping K-12 schools and districts become more efficient and serve their communities more effectively. With the right strategy in place, schools and districts can not only be at the forefront of innovation, but they also have more money to spend directly on the success of their students.

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## Endnotes

1. All quotes from George Zaferos from CDE interview conducted on July 1, 2013.
2. [www.reuters.com/article/2012/07/09/idUS127982+09-Jul-2012+BW20120709](http://www.reuters.com/article/2012/07/09/idUS127982+09-Jul-2012+BW20120709)
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