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PERFECT YOUR NETWORK MODERNIZATION

When it's time to refresh your network, be sure to fine-tune your vendor selection and product evaluation processes.

THERE ISN'T A SCHOOL DISTRICT IT leader in the country who isn't keeping a sharp eye on the state of the network within his or her schools. In fact, CoSN, the Consortium for School Networking, designated the network as one of its top three priorities as specified by its membership for 2017, and it's not the first time that has been top priority.

To better understand the processes K-12 schools and districts follow when making major network purchases, THE Journal surveyed IT leaders and professionals earlier this fall. The questions were intended to elicit insights about why they bought what they did, the most popular and valuable sources of potential vendors, steps taken during the evaluation process, and the duration of the buying and implementation steps. THE Journal also interviewed an expert in education network purchasing to find out how the survey's "typical" results compared to his techniques.

The difference is startling. The survey found many IT buyers don't realize the amount of power they have throughout the purchasing process. Whether it's pondering a move to a different network vendor, ensuring the budget is being spent on features that really matter, or putting new equipment through its paces before signing the contract, it appears many district leaders need to start testing their "superpowers" to make the right buying decisions and get the best deals for their schools.

WHAT'S BEING BOUGHT AND WHY

Over the last two years, seven out of 10 districts have done major additions or replacements in their network infrastructure, defined as a project costing $5,000 or more. Sixty-nine percent of those projects were paid in part with E-rate funds.

The network was the most common component updated in that infrastructure project. Fifty-nine percent of respondents said they did a wireless network refresh or addition. And 34 percent referenced work on their wired networks. Network security appliances showed up in 27 percent of projects, and network access management in 22 percent.

Pat Karr isn't surprised by the number of schools focusing on wireless networks. As the director for Network Services and Support at Texas-based McAllen Independent School District, which serves nearly 24,000 students, staff and teachers, that's what he has done. "I'm done building for the wall," he says. "When people ask me, 'Are you buying copper cable?' [I tell them], 'I'm building for the air.'"

Schools take on network infrastructure projects for many reasons. No single purpose dominated this

TOP 7 REASONS FOR PUTTING IN A NEW NETWORK

1. **To gain better performance**
2. **For higher reliability**
3. **To implement newer technology**
4. **Deploying in new school or classrooms**
5. **To better support learners**
6. **To better support all users**
7. **For improved manageability**

survey. The most common motives, however, are gaining better performance (cited by 41 percent of respondents), pursuing higher reliability, and obtaining newer technology (both selected by 24 percent of survey participants).

When THE Journal examined the data by district size (less than 2,500 students; between 2,500 and 10,000 students; and 10,000 or more students), increasing performance was the top motivator across the board. The next most important driver differed depending on school system size. In small districts, implementing newer

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technology came in second, Mid-sized districts rated achieving higher reliability as more important. And in large districts, deploying in new construction and attaining better reliability tied for second place.

In Karr's situation, network manageability drove the district to kick off its network refresh. "We had no capacity to manage our own network, even though we built it," he says. "Things became very complex. Because of that complexity, a lot of other factors were affected, such as the ability to resolve issues quickly and the fragmentation of the data path. When we would do an upgrade, we had to make sure all products could update at the same time. In some cases, we saw if we upgraded a wireless solution, we'd find our authentication solution would break. If we updated the authentication solution, our wireless controllers would break or our firewalls or filtering would get overtasked."

Now Karr's mantra is, "Keep it simple and secure." In the process of pursuing that philosophy, his team's choices saved the district a million dollars when comparing the price tag of the incumbent vendor's solution to the one the IT organization ended up choosing.

LOOK BEYOND THE USUAL SUSPECTS

The number one manner in which district and school officials develop their vendor list was to start by contacting their current vendors. Nearly a third of respondents (31 percent) said they reached out to the incumbents as part of that process. A full third who worked with their existing vendors on the new project designated other sources of recommendations as being more valuable.

McAllen's Karr had no intention of breaking away from his district's incumbent vendor, whose equipment had been in place for nearly two decades. A couple of factors turned the tide for him.

First, his team sat down to determine the feature set the school system really needed for its newest wireless solution. "We found a lot of the stuff we had was a bunch of fluff coined by the industry as being needed when in reality it wasn't," he says. "You look at a list of a hundred items and the reality is you aren't going to use all of them. You may only use [a handful] of those items, yet you're spending an additional 85 to 90

> ## "We had no capacity to manage our own network, even though we built it."
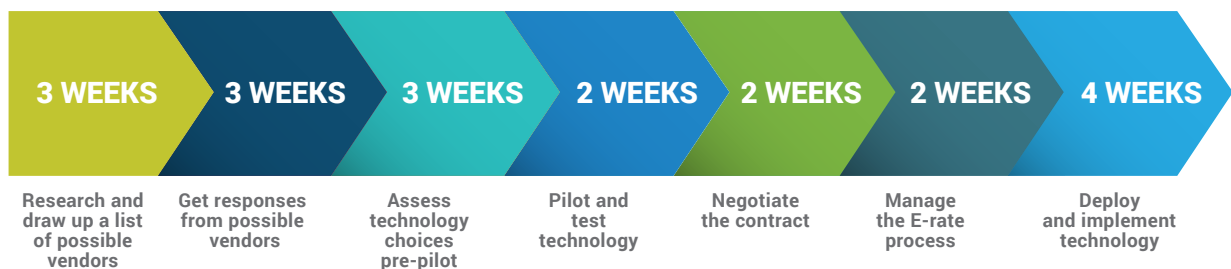> **—Pat Karr, director of network services and support, McAllen Independent School District"**

percent of the cost on something you may never use. It changes the perspective of your purchasing."

Second, when the school system went out for bid, Dell EMC came in with a quote that was "much less." "That played a big role in the procurement," says Karr. "Now, not only can we look at not having to pay for maintenance contracts and warranties and other crazy stuff we had under the incumbent, but we can allocate those moneys into further training or shelf stock, which minimizes time for remediation."

A solid quarter of survey respondents also said their organizations compiled vendor lists through the E-rate competitive bidding process. However, a third also didn't find that particularly important to the final outcome.
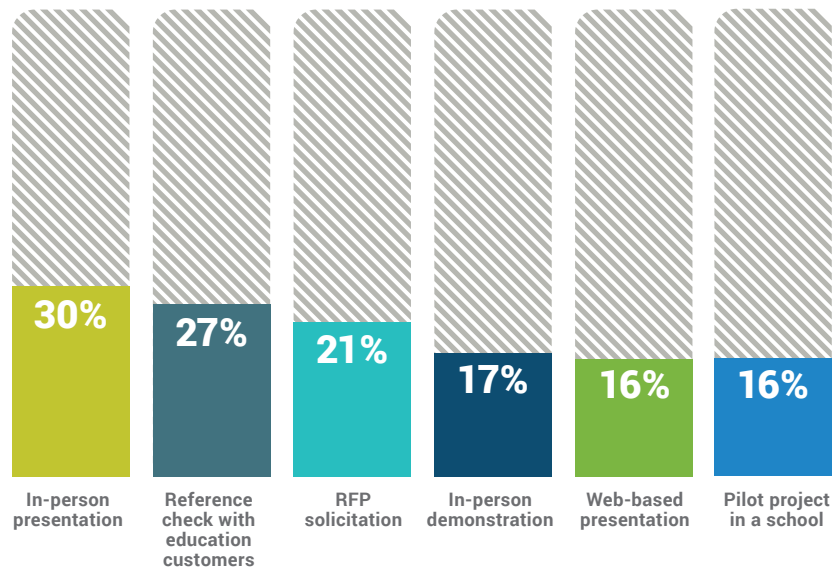
Far fewer respondents reported reaching out to

10 MONTH AVERAGE TIMELINE FROM CONCEPTION TO PROJECT COMPLETION

3 WEEKS	3 WEEKS	3 WEEKS	2 WEEKS	2 WEEKS	2 WEEKS	4 WEEKS
Research and draw up a list of possible vendors	Get responses from possible vendors	Assess technology choices pre-pilot	Pilot and test technology	Negotiate the contract	Manage the E-rate process	Deploy and implement technology

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EVALUATION PROCESSES USED

School districts employ a variety of strategies for vetting new networking solutions and technologies prior to making a purchase and beginning the deployment process.

30% In-person presentation

27% Reference check with education customers

21% RFP solicitation

17% In-person demonstration

16% Web-based presentation

16% Pilot project in a school

IT colleagues in their own district or another for recommendations. Yet those two information sources turned out to be the only ones more survey participants found beneficial. The lesson here: Reach out to your school and district peers for company referrals when you're undertaking a network infrastructure project.

As they whittle down their list of possible vendors, most schools and districts (71 percent) prefer to keep their "short lists" of possible vendors to three choices or fewer. In fact, the average count on the short list among all respondents was 3.4. The median was three.

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>
> —**Pat Karr, director of network services and support, McAllen Independent School District**

Eight percent reported they considered only a single vendor when it came time to sign a contract. Only a handful of schools reported having more than 10 companies as finalists.

No vendor makes it on Karr's short list unless they've proven to have lasting power in the industry

with a sensible roadmap, live onshore support (which he tests as a "secret shopper"), and compelling pricing.
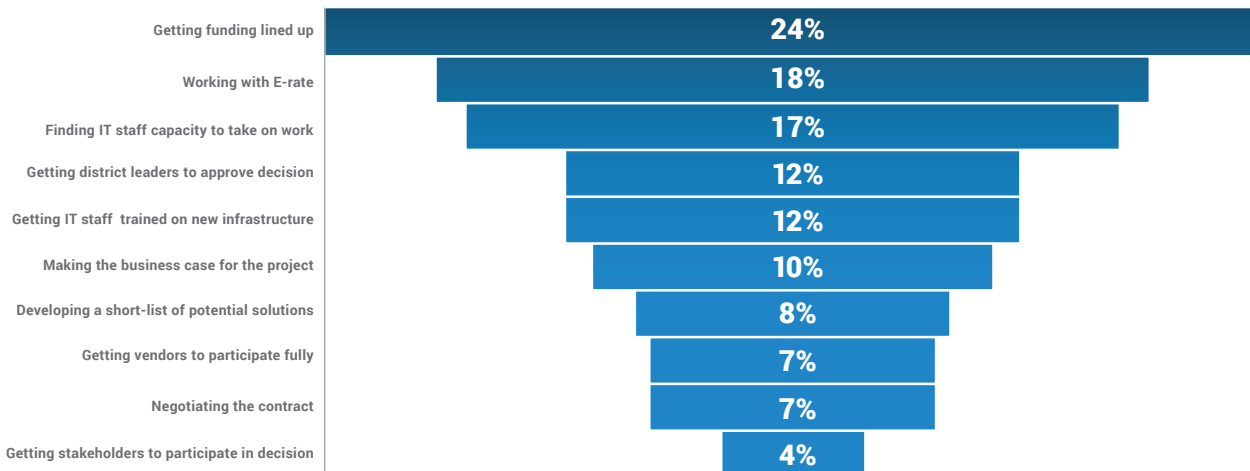
PUT THE PEDAL TO THE METAL

Network infrastructure projects require major time investments. Respondents say the average duration from project initiation to completion was 10 months; the median was 7.5 months. The bulk of those initiatives took between three months and a year to be completed.

How was that time spent? Very little—just under a quarter (23 percent)—was dedicated to deploying and implementing technology. That was followed by researching and drawing up a list of possible vendors (18 percent of the total time spent). If you were to take the average 10 months to complete a project and break it into work weeks, there would be more time spent on drawing up the vendor list and getting them to respond to inquiries than assessing deploying tech.

Viewing slides is apparently more compelling than seeing technology in action. IT leaders ranked in-person presentations at the top factor in making network gear evaluations. Roughly half as many said they also get in-person demonstrations. Actual pilot projects are even less common.

Karr considers that a big mistake. His district performs hardcore evaluations that last up to four months. "We get sample equipment in and test it, beat it up, put it under some sort of load. Our job is to break it at that time. If we can break it, then something is

BIGGEST CHALLENGES

Challenge	Percent
Getting funding lined up	24%
Working with E-rate	18%
Finding IT staff capacity to take on work	17%
Getting district leaders to approve decision	12%
Getting IT staff trained on new infrastructure	12%
Making the business case for the project	10%
Developing a short-list of potential solutions	8%
Getting vendors to participate fully	7%
Negotiating the contract	7%
Getting stakeholders to participate in decision	4%

wrong, because we're still considered novices on that piece of equipment."

Several respondents reported failing to fully test gear was a mistake on their part. As one district CIO says, the biggest blunder he or she ever made was "listening to the vendor and not verifying." Another said, " Not fully piloting with all the district's equipment."

Here there were also variations by district size. While districts of all sizes relied on in-person presentations as one of the top two ways to do evaluations, large districts also refenced the RFP solicitation process as nearly as important. Small and mid-sized districts cited reference checks with education customers as a vital aspect of their evaluations.

OVERCOME THE CHALLENGES

There has yet to be a K-12 implementation that didn't count funding as a primary challenge. That's true here as well. Nearly a quarter of respondents (24 percent) state lining up funding was the tallest hurdle on the way to success. Working with E-rate came in second, referenced by 18 percent of survey participants. Finding time in the IT staff schedule to do the work was third, as specified by 17 percent.

While there are obstacles to success, plain mistakes can keep success at bay. Among the errors respondents owned up to were failing to determine the "true costs for follow-up and upgrade maintenance," "forgetting to read the fine print," "giving into pressure from sales people," and "going with the local vendor out of loyalty."

McAllen's Karr is certainly not shy when it comes to offering guidance to other district leaders as they flex their purchasing power. "Go in and meet with all the manufacturers," he says. "Make sure they hit [most] of features you truly need. Evaluate the rest of the product but then say, 'OK, where's this going? Why are you implementing it? How is it going to help me?"

While price can't be the only thing that matters, ensure it's comparable across those shortlist contenders. Updating your network infrastructure is not an impulse purchase, says Karr. "You're not buying a little hard drive. You're buying something that is mission critical."

Notes about methodology: The survey results were based on responses to an online questionnaire developed by THE Journal and taken this fall by 138 school and district leaders and staff working in U.S.-based districts and schools. A third of respondents are in districts with fewer than 2,500 students; nearly a third are in districts with between 2,500 and 9,999 students; and slightly more than a third are in districts with 10,000 or more students.