

PEEL OFF  
&  
PASS AROUND!



# FORGING THE FUTURE

In the Pittsburgh Public Schools, HP's Education Enterprise solution is solving *real* problems using the latest information technology. BY VICTOR RIVERO

PHOTOS: COURTESY OF HP

"OUT OF EACH pot roared alternately a ferocious geyser of saffron and sapphire flame, streaked with deeper yellow. From it a light streamed—a light that flung violet shadows everywhere and made the gray outside rain a beautiful blue. A fountain of sparks arose, gorgeous as 10,000 rockets, and fell with a beautiful curve, like the petals of some enormous flower." Sound like the Fourth of July? The writer of this 1893 excerpt from *McClure's* magazine was describing something else that made America strong: a new process for making steel.

In a mere 110 years, an entire industry has come and gone. But to understand the Pittsburgh of today, the mind's eye needs only to replace those bits of steel with cascading bits and bytes of digital information. Now, information technology-based businesses form a network across the city. Clusters of steel mills have been replaced with clustered computer servers.

Some of those server clusters are found humming around the clock at

Pittsburgh Public Schools (PPS), where HP technology is powering a new education enterprise. Pittsburgh has long been synonymous with steel, but now it's the strength of a K-12 educational computing system that indicates a new revolution is underway—and this revolution is no less spectacular.

### An Agenda for Action

When John W. Thompson, Ed.D. took over the Pittsburgh schools three years ago, he inherited a \$40 million budget deficit and waning test scores in a district of more than 35,000 students. Not one to dither, this superintendent quickly established an agenda for action. With a lot of help from some very advanced technology, Thompson built a new mold and today, after many tough decisions and much strategic technology planning, his district stands \$93 million in surplus and stronger than steel.

"The vision is there," Thompson says. "Our kids will be able to address technology in the most sophisticated

way, and we are closing our digital divide."

To help execute his vision, Thompson relies on chief technology officer Elbert "Elbie" Yaworsky, whose IT strategies were honed in the remnant metal process industry. New to the school culture, Yaworsky had his hands full: issues of virtual environments, dispersed computer systems, as well as duplicated, stale, or simply omitted data. Incomplete student records meant some students were at risk of slipping through the academic cracks. Mobility, especially within the inner city, was causing real problems, as was the tracking, monitoring, and reporting of attendance.

Under Thompson's direction, Yaworsky put those issues into a blast furnace of problem-solving strategies—and in the process, helped refine his district's data, information, knowledge, and instructional systems and built a model for other districts to follow.

At PPS, there's been a shift away from a mentality that placed them at



## AHEAD OF THE PACK

"WE MAY BE 18 MONTHS TO TWO YEARS AHEAD OF ANY OTHER DISTRICT IN THE COUNTRY," says PPS superintendent John W. Thompson, Ed.D.. "We have a real-time data and application solution framework that works. We've also put together curriculum frameworks that tell every student what we expect them to know and do in each course. We've aligned that with state and national standards so at any time of the day, a teacher can pull together an assessment that is inclusive of all those requirements. We no longer have to sit around and wait. We are also helping network the community to make sure that the digital divide will be closing as fast as we can get the achievement gap to close. All of our schools have web sites and our district's web site allows visitors to access continually updated information in real time. That's key; the system is not going to be any good unless all of our data is accurate."

## Why HP?

### LONG-STANDING COMMITMENT TO THE EDUCATION MARKET

- HP's expansive education unit is committed exclusively to solving the unique problems of K-12 schools.
- Value-added initiatives include customer reward programs such as BonusPoints and LearningPaq software, as well as TechBuilder, a free technology planning tool.
- HP's philanthropic efforts to bridge the digital divide total \$60 million annually and include pioneering initiatives that emphasize community and sustainability.

### LEADERSHIP IN ENTERPRISE PRODUCTS

- HP is the industry leader in Windows, Novell, and Linux servers.
- HP is the top-selling server platform for Exchange, SQL Server, Oracle, SAP, and PeopleSoft.

### LEADERSHIP IN ENTERPRISE SERVICES

- HP is the only prime integrator for Microsoft, .NET, Windows, Exchange, and BizTalk technologies.
- HP employs 28,000 Microsoft-trained service personnel, and over 18,000 UNIX engineers.

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least 15 years behind the corporate world in the application of information technology. Today, the district runs a student data warehouse and an integrated application solutions portfolio that is both modern and cost-efficient. Deployment of a new generation of data-driven solutions is empowering educators with tools to enhance the academic potential of each individual student.

### How It Works for Pittsburgh

Pittsburgh public schools invests approximately \$10.5 million each year in technology. Why? Because technology buys time for teachers, students, and administrators—a return on investment that is measured in productive learning hours and a re-investment in instructional time.

The district's "Real-Time Information" (RTI) data and application solution framework serves as a 24/7 learning resource for students, teachers, parents, families, and administrators. That means Thompson can measure the benefits through three process areas:

**Outreach**—the ability to reach any parent, student, teacher, or administrator anywhere, anytime, and on any device via a personalized web portal.

**Accountability**—the ability to understand a student's progress through an analysis of trends, test scores, and individual needs.

**Alignment**—a foundation for applications, solutions, and programs based on instructional management systems and other standards.

Thompson and Yaworsky are currently in the process of moving servers and virtual desktops to HP technology. A new HP server environment will power 40,000 "virtual desktops" to deliver easy-to-manage thin-client computing services to any school, library, community group, or home. And to help close the digital divide for Pittsburgh students, the district is in the process of providing more than 8,000 desktop computers to needy families.

"For those students who can't afford to buy one, we're revamping more than 8,000 computers for home use," says Thompson. "Based on need and academic performance, students can get a computer put in their home."

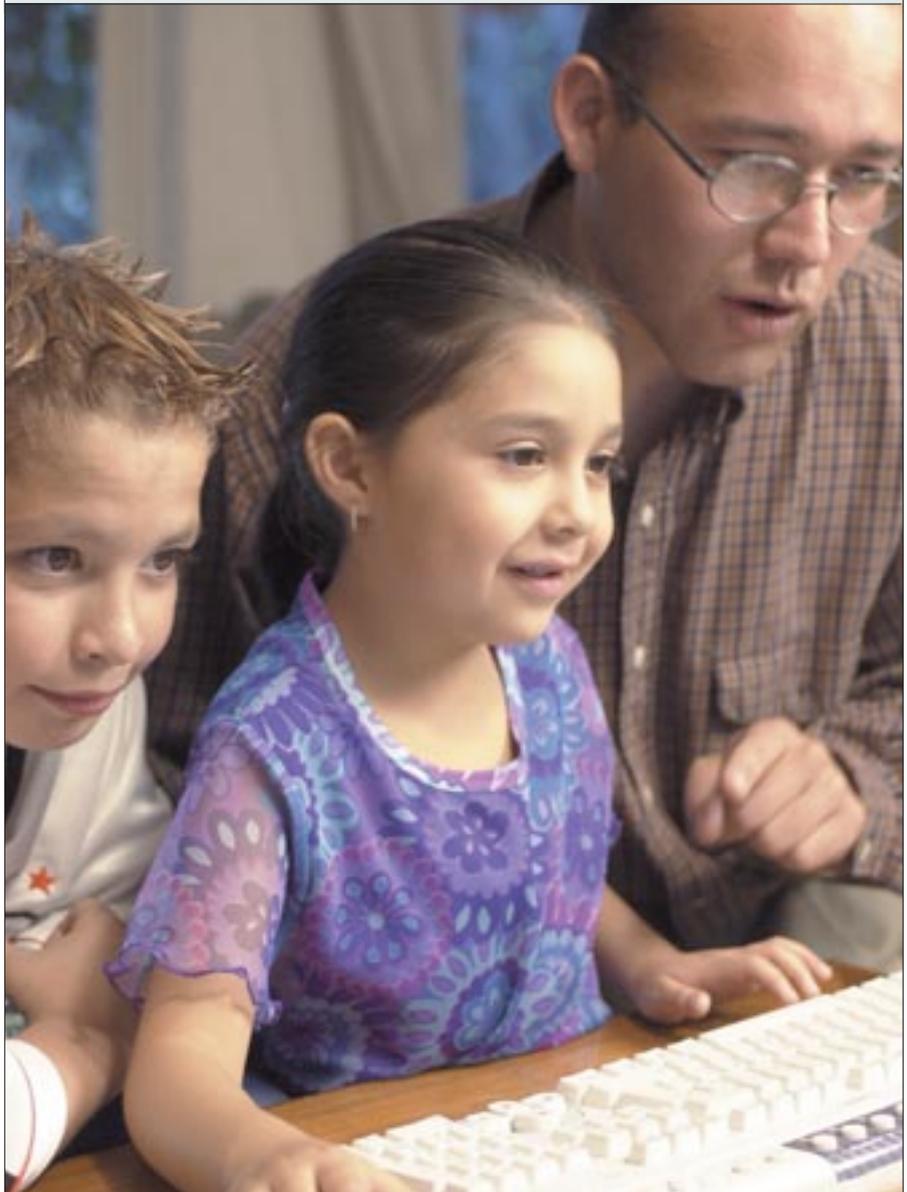
Leveraging the entire spectrum of

## MONEY WELL SPENT

**FOR PITTSBURGH PUBLIC SCHOOLS**, leasing is a winning Total Cost of Ownership strategy. "We've gone into a leasing program because we don't want to waste any money buying our equipment," says Superintendent John W. Thompson, Ed.D.. "We're probably going to move to an overall program with HP in which they will buy back and replace all our equipment as time goes on, whenever a generation needs to be replaced. That will be helpful to us, because it's very difficult to get rid of all those old computers," he says.

What about return on investment? Thompson's chief technology officer Elbert Yaworsky points to studies showing that students who have 24/7 access to online academic resources end up spending many additional hours of instructional time at home, outside of school hours.

"Our goal is to add another 30 hours of online learning through these seamless educational environments by creating this 24/7 environment," Yaworsky says. "If we invest about \$2 million in providing that environment, then we get a return on our investment within the first year. Seamless educational environments empower students to invest instructional time on their own. We believe that these online resources provide a cost-effective way to promote that."



devices from PDA to Tablet PC, the district is making it possible for parents to connect through a web portal and engage in intervention and remediation processes in collaboration with teachers and administrators. The district is also fast becoming an after-school resource partner, extending the curriculum into local community centers via these virtual environments.

### The Home-School Connection

As any administrator knows, what matters in the end is real solutions to real instructional problems—not technology for its own sake. Pittsburgh public schools has established a partnership with HP to help ensure this focus on results.

“We post all homework online for students,” Yaworsky says. “Parents can choose to be notified if their children are absent or if they have missed or skipped any of their classes, and parents can also be notified when their kids’ grades are available. When we implemented that feature last spring, it just blew parents away,” he says.

Yaworsky found that this functionality helped initiate a more mature parent-teacher interaction, and that it made for more productive conferences. “It’s a different engagement process. As a parent, I am able to see information on all of my children, all their classes, their schedules, and their homework assignments,” he says.

This fall, PPS rolled out these features throughout the district. And parents aren’t the only ones taking note—kids love it, too, Yaworsky says: “Students want up-to-date information immediately. They think it’s smart.”

Another smart move: As PPS prepares to provide more than 8,000 desktop computers to needy Pittsburgh families, the district is requiring participating parents to commit to cable modem connectivity. The computers will provide access to “virtual desktop” applications running on the district’s HP server farm, Yaworsky says. Families also must sign up for an account on the personalized web portal for parents, he adds: “There’s no sense in providing a computer if parents aren’t going to engage in their child’s academic health.”

“For us, having connectivity in the homes is really important—as is

providing devices for those houses,” says Yaworsky. “We are moving toward zero-client computing: web-based applications that will work on any connected computer. That’s really where we’re taking this,” he says.

### Forging a 24/7 Future

For Thompson and Yaworsky, information technology has become a utility. “Whether it’s for servers, desktops, or peripheral devices, you should take those monies out of your capital budgets and refrain from using bond issues for acquiring technology,” Yaworsky says. In the process, they recognize that education is now a 24/7 resource. “Schools are no longer 7-to-3 or 8-to-5. These resources have to be available as in any vertical industry,” Yaworsky says. “All stakeholders need

access to them.”

That means administrators can no longer afford to view school in terms of the school day. “‘Anywhere’ means the network has to be right. And ‘anytime’ means that the systems have to be available,” Yaworsky says. “The ‘any person’ part is about the digital divide. As we move to seamless educational environments, we have to figure out how we’re able to transition the student’s environment. You’re really starting at school, going to the after-school programs that might be in community groups or libraries, and continuing your education window all the way through to home.”

*Victor Rivero, of Los Angeles, wrote HP’s “Data Driven” supplement in the September issue of Scholastic Administr@tor.*



Pittsburgh Schools Superintendent John W. Thompson (left) and his CTO, Elbert Yaworsky.

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