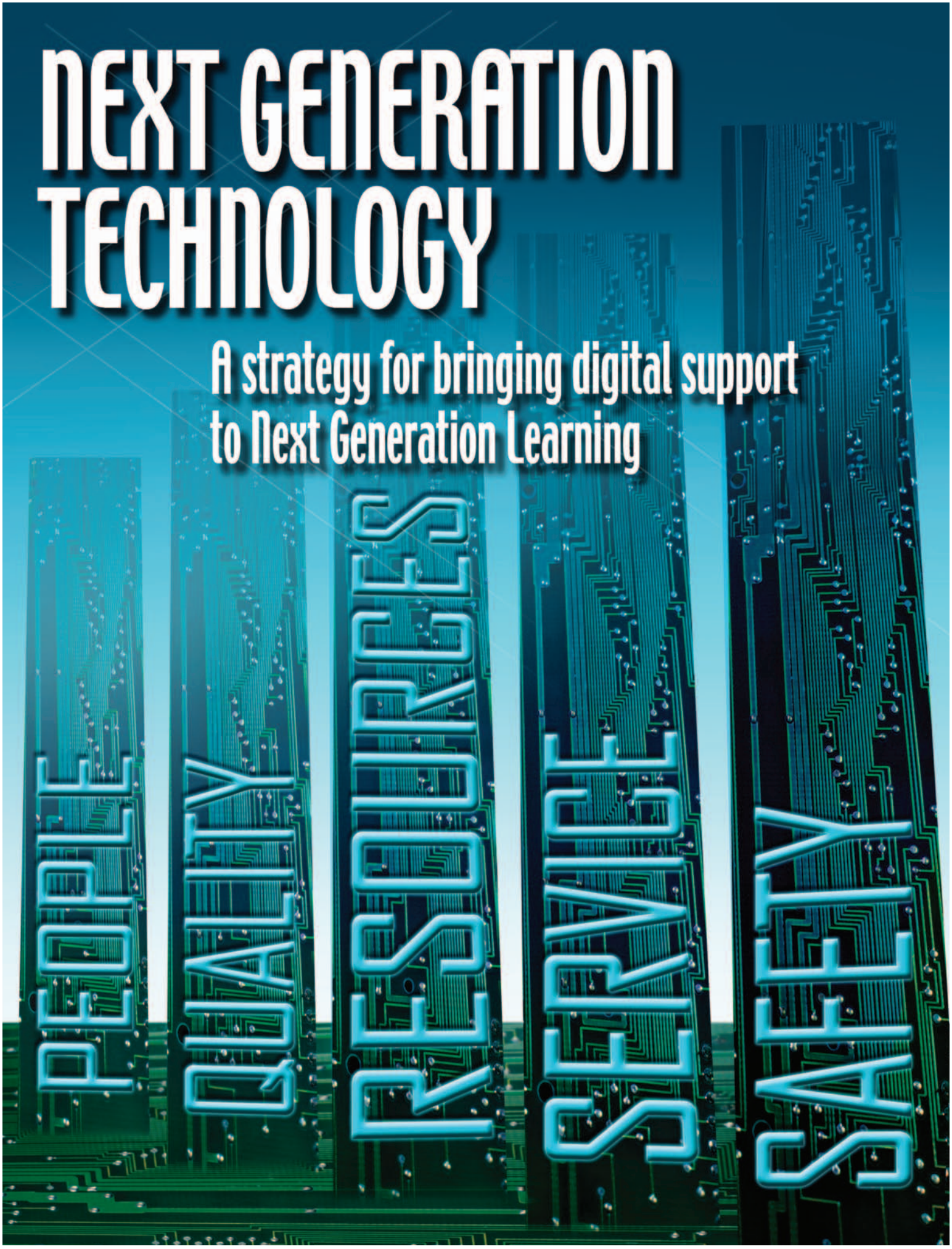
NEXT GENERATION TECHNOLOGY

A strategy for bringing digital support to Next Generation Learning



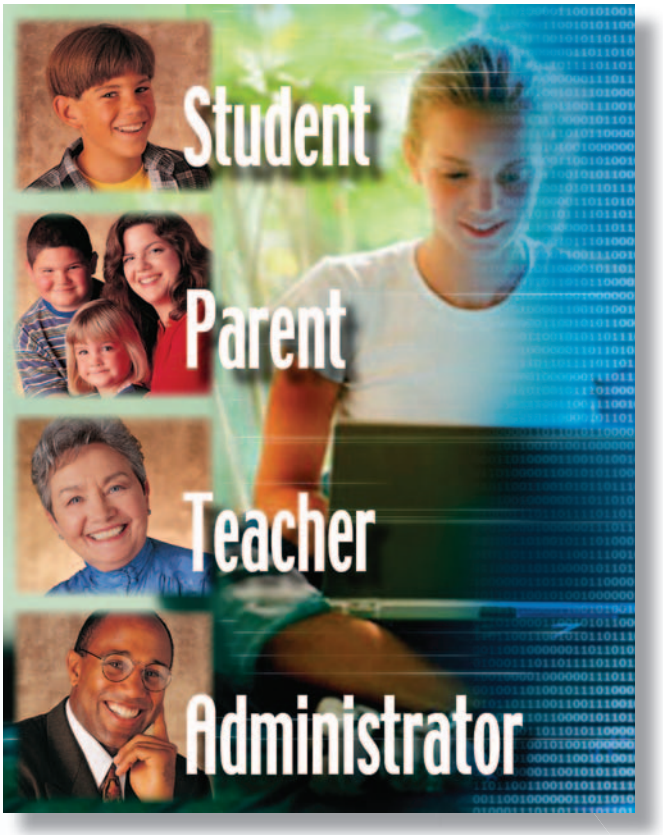
A message about this document from Dr. Gary Norris

Superintendent, Sarasota County Public Schools

This is the first in a series of strategy documents driving our progress toward the Sarasota County school district's five-year vision through 2010. Each strategy will focus on a different functional area essential for achieving Next Generation Learning.

While the five-year vision provides an eagle's eye view of what we hope to achieve, the supporting strategies will clarify direction for key functional areas such as human resources, curriculum and finance, among others. We will also document tactics, tools and resources to drive our efforts in the desired direction. Additionally, the strategies will reflect leadership and organizational structure required to implement tactics and tools, seek and apply resources, and expand our capacity for innovation.

This strategy document presents opportunities, tools, leadership and structure to help us achieve Next Generation Technology, a support function and teaching/learning tool that is pervasive throughout the school district and that is vital to our success.



Next Generation Technology

A strategy for bringing digital support to Next Generation Learning

"Sarasota County has excellent educators, administrative professionals and technology experts. We have the energy, resources, talent and enthusiasm to advance excellence in learning."

— *Dr. Gary Norris*

Next Generation Technology is agile. It adapts to the fluid, changing demands of Next Generation Learning. It embraces and leverages the rapid evolution of technology in our community and culture. It supports every child equally, without regard to ethnic background, sex, economic status or the neighborhood where they live. It is a key factor in a high efficiency, high performance, highly individualized educational system.

Dr. Gary Norris established the following principles to guide the leadership team as it reviews and enhances tactics to advance information technology in our schools.

Provide Equal Access to Technology

We must level the opportunities for learning for all children across all schools. We need to eliminate disparate investments in technology available to our students from school to school. We need to refocus the variable funds from parent organizations and grant funding away from additional computers and software toward collaborative libraries of materials that help teachers.

Build Sustainable Capacity

We must create sustainable solutions that do more with the resources our community has. Instead of focusing on traditional, turf-based constraints, we must view technology resources as community assets to be used by all public service organizations.

Strengthen Tools for Learning

We must provide technologies that our teachers, students and parents can depend on for high performance, equipping students for a technology-driven age.

Empower Our Teachers

We must focus our investments on tools that integrate seamlessly into the art of teaching. We must invest in training our teachers, empowering them with tools that engage both student and teacher in this new model of instruction. Our success will derive only 35 percent from technology and 65 percent from focusing on our team.

Greatest Challenges

- Bridge the digital divide. Make technology available anytime, anywhere, across all of our schools and in the homes of our students.
- Make technology an aid and enabler that our teachers and administrators want to use.
- Integrate technologies into our curriculum to advance learning and help ensure our students are prepared for college or the workforce.
- Provide learning technologies to help parents participate more actively in their children's education.
- Move our technology team from reacting to problems and sudden needs to proactive planning in collaboration with educators.

PEOPLE

Judy is motivated, concerned and more than a bit anxious. Her success as a principal at her school caught the attention of the Superintendent and School Board, who assigned her to another school and another group of children that haven't yet made such progress. On the up side, she's confident that the staff reflects the same enthusiastic, engaged and caring professionalism that characterized every school she had been with in beautiful Sarasota. Plus, the district has eliminated the large disparities in technology and curriculum support that existed between schools only a few years ago. Judy is confident as she thinks about using the student assessment and collaborative education tools that now tie administrators, teachers and students together in such powerful ways. Focus on the student, she tells herself at the school's front door, happy that her focus need not be wasted figuring out an entirely different learning environment.

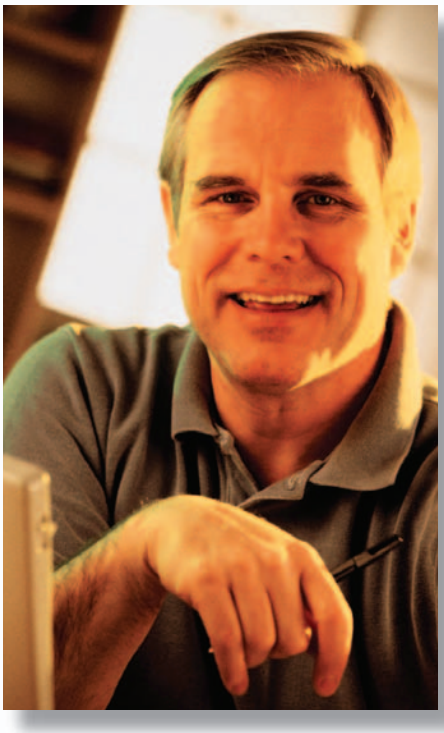
Equal opportunity is a critical founding principle of our nation. It must be returned to our learning environments. We must consider the investments the School Board makes in technology and training as investments in our students and their results, rather than administrative expenses to be minimized or eliminated. Our technologies must enhance teacher collaboration, facilitate an environment of sharing knowledge and expertise, and encourage continuous improvement and best-practice teaching.

Opportunities

- Invest money and time directly in educators, developing their ability to apply technology to analyze the needs of individual students; research supporting videos and information that will aid students' progress; and craft learning aids students can use.
- Provide appropriate compensation, working environment and investment in travel and training to keep technology experts current in a dramatically and rapidly changing technical world.
- Reinforce the system of selecting and managing our technology investments. Include in our advisory team not only a cross section of teachers and administrators, but also representatives from other talented segments of our community. Seek participation from retirees, professionals and parents.
- Train educators in the interpersonal skills necessary to collaborate with fellow teachers, parents and students.

"We want to raise the entire district to new heights. Raise the expectations of all administrators. Raise the competence and collaboration of all teachers. Raise the performance of all students."

— *Dr. Gary Norris*



Time was that Al always hedged his bets and crafted his lessons on paper. He thinks about the not-so-old days when the school district's computer system moved with all the speed of a land tortoise – or failed to budge at all. Now he can't imagine working without these "new world" tools. It didn't happen overnight, but those challenging, migratory steps of replacing the network, consolidating servers and following the cryptic and bureaucratic sounding ITIL processes really did have the impact the IT group had predicted. Systems seem to be constantly on and consistently accurate – as dependable and secure as the Internet banking systems he uses so regularly. It's even more amazing, Al marvels, to access these systems in a regional computing center miles away while sitting in his comfy den at home.

A strong, stable and agile technical environment is critical to tailoring curriculum and learning to the needs of each child.

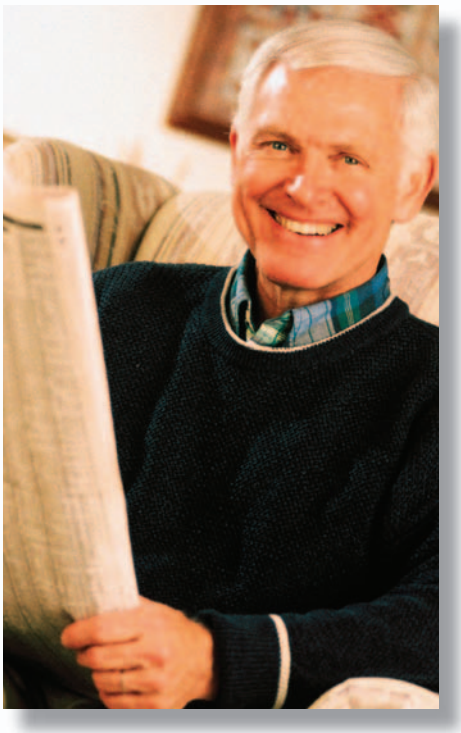
Technology can be a platform for a highly visual, interactive environment that closely correlates learning with students' individual interests and needs.

Opportunities

- Reunite our instructional, media and information technology teams to increase the human focus and results of our technology projects.
- Provide proactive, highly qualified leadership for Next Generation Technology implementation through the Chief Information Officer function (See Appendix.)
- Build and share a data center in the community that is resistant to category 5 hurricanes, is staffed by a shared team of highly trained technology experts, and is monitored 24 hours a day for slowdowns and outages.
- Create a technology support center with a single telephone "help" number. Implement processes for incidents, changes and communications like those used by the world's leading companies.
- Focus on the sciences of project management and human change to dramatically improve return on investment.
- Apply policy, process and technology to constantly improve the work processes and productivity of all district staff by leveraging best practices.

"Too often, technology has not delivered on stability or performance, leaving teachers scrambling for alternatives. We can and must change that. Technology should be as reliable as the electricity that powers our lights."

— *Bob Hanson, Chief Information Officer*



It's hard to believe all the things the district added, improved or changed in the last two years. Since the community voted to continue optional schools funding, stories in the news media are focused on the ability of students to pursue learning with the same materials and systems at home, on vacation and at their friends' homes. What a pleasant change of pace, Rob thinks as he pages through the newspaper, to read about exciting new things teachers are doing and students are learning.

We must harness the power of standards and automation to spend less of our valuable staff time on support while yielding higher service levels and enabling greater investments in new systems and tools. We will nurture the creativity, energy and enthusiasm of the many talented students we have who are interested in technology careers. Our community's investment in education and other public services gains efficiency and impact when our frame of reference expands beyond our own organization's resources. Talented, innovative thinkers are active throughout Sarasota County's many public and private organizations. We will reach beyond our traditional boundaries to establish partnerships based on trust and a common mission: improving results for our community.

Opportunities

- Bring parity to investments in technology across all schools to ensure we move ahead as a district, not just in isolated pockets.
- Use the abilities of the district's gifted and talented students and teachers to create new technologies for the Next Generation implementation. Create and use educational and apprenticeship programs in technology to strengthen district capacity while creating career and college opportunities for interested students.
- Create an online catalog of all educational tools available in the district.
- Unite overlapping investments in technology and services with other public sector services in our county. Together, we can accomplish more with less.
- Equip our schools with the same technology and methods that have fueled innovation and results in business and education worldwide.

"We are not in competition with the other public institutions in our community. We must collaborate and share resources to achieve true excellence."

— *James L. Ley*
Sarasota County Administrator

Steve is worn out after another 12-hour work day, but he's eager to sit down with his third-grade daughter, Lisa, at the computer. He knows that parental involvement in learning is critical to Lisa's success, and he's concerned that his busy work schedule keeps him away from many school activities. He knows the profile he created for Lisa at the beginning of the school year would cause the district systems to alert him via email or phone message if she were struggling with her studies. Plus, he could always reach her teacher or principal using the new system. But this is the best part of the school district's technology leap, he thinks as he and Lisa sit down to review the day's lessons and results on her class website.

"Our students and their families are accustomed to the convenience and high service of today's Internet banking and shopping companies. We will leverage the same technologies to help educators achieve greater results."

— *Mike Horan*
Educational Applications & Strategy

Our educators and administrators live in the real world of constant demands placed on adults. The systems, processes and tools used in educating children must be available to all parents, regardless of their ability to participate during the official school day. We will virtually unite the student, teacher, administrator and parent to achieve success in learning.

Opportunities

- Migrate to an entirely new way of managing technology in our schools (See Appendix). Manage the whole technology environment in schools rather than individual technology pieces.
- Create a high-speed, high-capacity fiber network providing on-demand access to research, voice and video information.
- Build an Enterprise Education Portal for the district to enable all students, parents, teachers and administrators to connect with each other and their respective online tools 24 hours a day from any Internet connection.
- Implement districtwide collaboration technologies placing web sites and communication tools in all the hands of all stakeholders consistently across the district.
- Migrate to state-of-the-art, accessible, friendly and rapidly scaleable Internet-based systems that will react quickly to our new, dynamic approach to education.

SERVICE

SAFETY

Joe is surprised but pleased as the school assistant principal walks around the remote corner of the building where Joe is replacing the service light that illuminates the area at night. Joe realizes he had forgotten to check in at the office first, and the assistant principal has arrived to validate Joe's identity and purpose. The district's new, automated security camera monitoring system detected Joe as he walked into the area carrying his ladder. The system sent a pager alert to the school's security staff. It gives Joe peace of mind to know his children are likewise protected at their school across town.

School safety is everybody's business and an intensive use of the valuable time and attention of our educators. We must leverage the advanced technologies being adopted in our nation's ports and airports to place "digital" eyes on our campuses to assist our staff in providing even greater vigilance to protect student safety.

Opportunities

- Implement security technologies and policies that protect all of our students' data and ensure that all who have access to systems see only what they have permission to see.
- Move security monitoring from the information technologies team to a team focused solely on security.
- Use our new fiber network to send camera video images from all of our campuses to a central monitoring and alert facility and staff.
- Partner with local businesses to apply advanced camera monitoring software that alerts our security staff to anomalies or exceptions to the normal view.
- Implement student and vehicle tracking technology to narrow the search area in the event of an emergency.
- Integrate background evaluation technologies that will allow security and administrative personnel to quickly ascertain the safety of vendors, contract workers, volunteers and visitors before they enter our children's educational environment.
- Continually improve technology capabilities to protect students from accidentally entering Internet sites that contain offensive material.

"Internationally renowned companies in our area specialize in advanced security technologies. We should explore partnerships to pilot and prove their technologies in our environment."

— *Bradford Schuette*
Director, District Applications & Strategy

APPENDIX

Recommendations for Achieving Next Generation Technology in Sarasota County Public Schools

Submitted by the
Center for Maximum Public Performance
Sarasota

The vision of Next Generation Learning in Sarasota County Public Schools is an exciting prospect. As a collaborative partnership of public service providers, the Center for Maximum Public Performance is pleased to offer recommendations for using technology to achieve this vision.

Sarasota County has excellent educators, administrative professionals and technology experts. We have the energy, resources, talent and enthusiasm to advance excellence in learning. Properly applied, technology can serve as a bridge to connect parents, teachers, students and administrators in ways that enhance learning and use resources more efficiently. *(Figure 1)*

To provide that bridge, technology systems and services must be consistent and uniformly available across all of our schools and beyond -- into the homes of our students, teachers and administrative professionals.

The process begins by examining the technologies that should exist in our schools. This would be a collaborative effort with the ultimate users of the system. Such participation would ensure that all critical elements are considered and to begin the process of buy-in that will help ease transition to a new technology culture. The result of this process would be technology architecture that delivers required functions and reliability. *(Figure 2)*

With the technology architecture in place, we can introduce its capabilities to schools in staged releases. We propose a five-year cycle to bring all of the schools on board with equal access and capabilities. *(Figure 3)* The cycle never ends, as

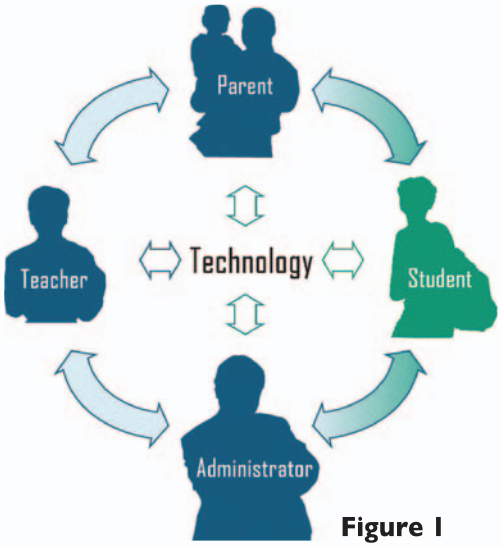


Figure 1

Next Generation Technology Architecture

Sample Systems and Subsystems

Administrative Systems

HR / Payroll	General Ledger / Budget	Student Data	Special Education	Transportation	Food Services
• Personnel • Payroll • Benefits	• Accounting • Purchasing • Asset Mgmt.	• Attendance • Grades • Test Scores • Transcripts	• Individual Education Plans • Services	• Assignments • Field Trips • Routes	• Point of Sale • Inventory • Cash Mgmt.

Middleware and Data Extraction Software

Web Publishing Software

Communications and Delivery Systems

E-Mail	WAN/LAN		Web Presence	
• Password / Security Calendar • News • Services	• Physical Layers • Internet and Internet Service Provider Connection • Remote Access Servers	• Network Servers • Thin-Client Application Servers • Other Application Service Provider Connections	• Administration and Central Offices • Information and Services • School Web Pages • Educational Organization Links	
Telephony	**Video**		**Intranet**	**Internet**
• Land Lines • Intranet • Cellular • Automated Systems	• School System News • Instructional Programming • Service Programming • Distance Learning • Public Education Programs		• Upper-Level Management • Admin. and Staff • Teachers • Support Staff	• Parents • Community • Stakeholders • Vendors

Curriculum and Instructional Support Systems

Computer/Technology Studies	Computer/Technology-Supported Instruction	Professional and Staff Development
• Computer Science (.NET, etc.) • Network and Support Studies (Cisco Acad., MCSE) • Applications • Personal Technologies • Communications	• Grade-by-Grade Baseline Standards • Content Area Standards • Research and Library Support • Teacher Productivity • Instructional Delivery Support • Student Productivity Resources • Distributed Learning and E-Learning	• In-Service Training • Seminars • Online Courses • Online Mentoring

Figure 2

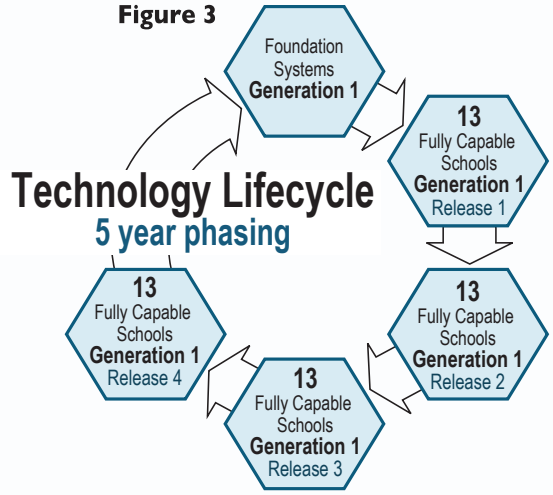
we seek to continuously improve the system and introduce those improvements to the schools. Ultimately, we will achieve what we call "fully capable" schools across the district. At a "fully capable" school, students, parents, teachers and administrators have access to all of the system's relevant functions at school, work and home. And perhaps most importantly, everyone is competent in using the functions they need.

The district's fiscal planning function has done an outstanding job of anticipating and allocating the capital dollars we believe will be required to support the five-year approach. This approach capitalizes on those investments efficiently, levels out the spikes in investments and establishes a predictable cycle around which principals, teachers and administrative professionals can plan. In addition, the school district's opportunity to share in the advanced technology infrastructure already in place in Sarasota County, will provide a cost-effective way to quickly improve the reliability and function provided to the district's stakeholders.

The ideal of fully capable schools does not reflect the current state of technology in our schools. Technology is unevenly distributed and is often unreliable. It does not serve to connect school stakeholders or maximize educator and student performance. The foundation for the current state appears to be a shift in management authority and decision-making for technology away from districtwide standards to individual schools. In the world of technology systems and services, this decentralized approach is often devastating to capacity, functionality and resource management.

The Next Generation Technology strategy moves accountability for technology investments

Figure 3



toward an ideal that is neither purely centralized nor purely distributed. The ideal is a participative decision-making process focused on ensuring districtwide solutions. This does not imply abandoning individual attention to student needs or educator creativity. On the contrary, this leadership and management approach enables the functionality, reliability and equal access that aids innovation and speeds work.

Figure 4 describes the organizational structure we propose to oversee the migration to Next Generation Technology. This structure includes the key user/investors in the technology partnership represented by the Center for Maximum Public Performance. The leadership team takes full advantage of existing talent, offering better, larger opportunities for all involved. The team oriented environment encourages relationships that will nurture growth and development of the partnership. To set the foundation for equitable sharing of technology resources between the partners, we will expand the "Information Technology as a business" model we employ in county operations.

Next Generation Technology Leadership Structure

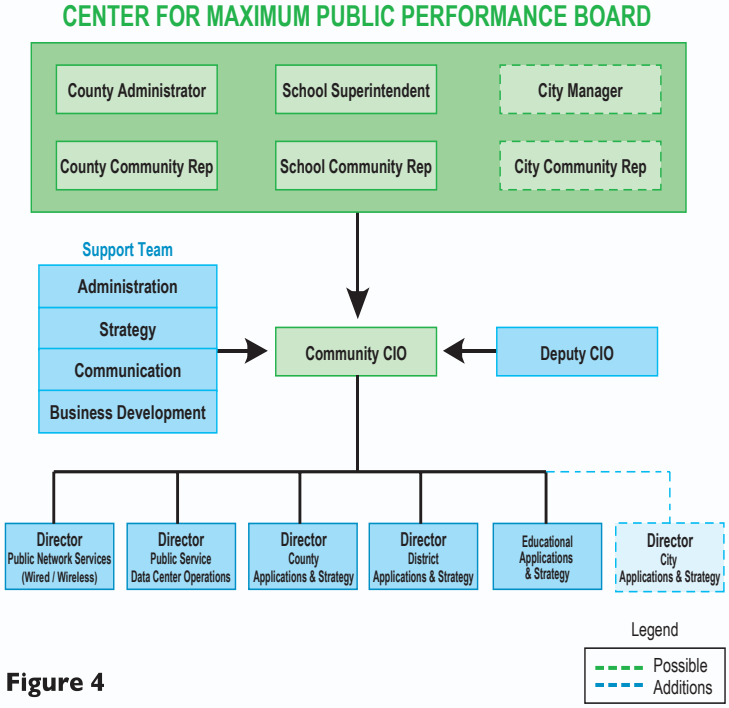


Figure 4

Notes for Figure 4

- Early stages of the effort will focus on the school district and Sarasota County Government.
- The Community CIO is a cost-shared position. While the scope of the CIO efforts will increase significantly with the addition of the school district effort, the position's salary will increase modestly. The school board and county government will evenly split the total costs of CIO compensation, providing excellent value to both institutions.
- Aggressive objectives will be set between the CIO and the County Administrator and between the CIO and the Superintendent of Schools. The performance and contributions of the CIO will be the measure of value and success, rather than any specific attempt to track hours or days spent at each institution.
- Aside from the CIO, all other employees will remain compensated by, and employees of, their existing employer.

Please direct questions, comments or meeting requests to the Center for Maximum Public Performance.

CMPP

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