

Office of Technology and Information Services

Program Overview

The Office of Technology functions across all areas of the organization including: Instruction, Operations, Maintenance, and Administration. The diverse responsibilities include: providing technology hardware and software for instruction and operational support; developing techniques for infusing technology tools into curriculum and effective delivery; providing and maintaining the Wide Area Network (WAN) and Local Area Networks (LANs and WLANs); installing and maintaining communications systems (email, voice, public address, etc.); deploying interactive multi-media systems (interactive whiteboards and real-time feedback responders, document cameras, projectors, etc.); complex auditorium theatrical lighting and sound systems; technical TV studios; maintain information security safeguards; development of application programs/data analysis reports; maintain operational and system support for administrative/business systems; and provide professional staff development/support across all functional areas of the organization.

Office of Technology recognizes the necessity for continuous instructional technology training as a part of professional development. In addition, the goal of developing technology-rich, authentic and relevant learning environments is a crucial part of the instructional program to help to engage the learner and provide students with 21st Century work skills. Digital transformation of HCPS' classroom, curriculum, and delivery will become the center focus of the Office of Technology.

Highly skilled and trained network administrators, engineers and technicians are responsible for the design, installation, operation, and maintenance of the enterprise infrastructure including the wide and local area networks; virtualized environments and storage area networks; instructional and administrative support systems such as email messaging, Student Information System, Enterprise Resource Planning and SharePoint; telephony and public address communications; and multi-media systems. Additionally, a team of regionally based computer technicians provide just in time support for all end user computers, printers, and related peripherals. Outside contractors are used to augment the existing staff's ability to service and support the wide variety and highly technical equipment/systems.

The Office of Technology is responsible for the processing of all student data, including federal and MSDE reporting; financial records, payroll, requisitions, purchase orders, warehouse, inventory, accounts payable, budgeting, e-mail, and wide area network (WAN) while maintaining a secure computing environment.

Accomplishments – FY 2014

Application Development:

- **Special Admissions v2**
Redesign and process improvement for special admissions processing.
- **Student Enrollment Options**
Formerly Student Waivers - workflow for application review process.
- **Online Employee Handbook**
Interactive digitized HCPS employee handbook with electronic acknowledgement.
- **News and Event Management on HCPS.org**
Feature which allows Communications Office to manage content on hcps.org website.
- **Partnerships Network**
External facing hcps.org application to match business partners with school opportunities.
- **Non-Public Data Management**
Application, processes and data stores to manage data related to non-public Special Education students.
- **Out-of-District Course Request workflow**
Workflow application to process out-of-district course additions for in-district student transcripts.
- **Teacher Evaluation Observation System (TEOS)**
Performance management system to administer teacher evaluations, observations, development plans and objectives.
- **Course Catalog Sync**
Workflow process to standardize a district course catalog.
- **Lawson Security**
Conversion of security model from class to role based as lifecycle management activity.

Technology Support:

- Received and completed 14,653 technology related work orders.

Office of Technology and Information Services

Instructional Technology:

- Developed a vision, mission, and belief statements to direct the future of digital conversion in HCPS, branded Digital Harford by engaging a group of HCPS stakeholders. The team, referred to as a ThinkTank, identified the areas including budget, hardware and infrastructure, communications, curriculum and instruction, and digital leadership that will be the focus areas to build the foundation for digital conversion.
- Conducted a tablet pilot, supported through extensive professional development and classroom coaching with 6 teachers to determine the recommended tablet device for use in HCPS classrooms as well as to determine the necessary aspects of professional development needed for teachers implementing tablets.
- Installed four ViewPath camera and audio systems so that professional development sessions could be recorded and delivered to those teachers not in attendance.
- Implemented video conferencing systems to provide instruction to home bound students at Bel Air High, Joppatowne Elementary and Red Pump Elementary.
- Evaluated various curriculum/learning management systems and entered into a partnership with its Learning.
- Collaborated with the Office of Mathematics to provide to over 100 teacher leaders, mentors, teacher specialists, and department chairs a 21st Century Teaching and Learning Seminar focused on incorporating mathematics and pedagogy with instructional technology in a meaningful, supported environment.
- Design and installed music technology/audio production labs at C. Milton Wright and North Harford HS.
- Designed and retrofitted a computer lab into repurposed space at North Harford Middle School.
- Conducted 11,328 hours of technology literacy and integration professional development to 2287 employees.

Technical Infrastructure:

- Installation of Wi-Fi (wireless) networks at Joppatowne High, Bel Air Middle, Edgewood Middle, Fallston Middle, Havre de Grace Middle, North Harford Middle, Southampton Middle, Emmorton Elementary, Havre de Grace Elementary, Homestead-Wakefield Elementary, and Meadowvale Elementary.
- Refreshed network switches at Joppatowne High, Bel Air Middle, Edgewood Middle, Fallston Middle, Havre de Grace Middle, Magnolia Middle North Harford Middle, Southampton Middle, Emmorton Elementary, Havre de Grace Elementary, and Homestead-Wakefield Elementary.
- Installed network components to support security camera installations at Abingdon Elementary, Churchville Elementary, Darlington Elementary, Dublin Elementary, Emmorton Elementary, Forest Hill Elementary, Meadowvale Elementary Norrisville Elementary, North Bend Elementary, North Harford Elementary, and Prospect Mill Elementary.
- Deployed 802.1x wireless authentication to enable device and user authentication.
- Migrated from Microsoft radius servers to Aruba ClearPass, including guest wireless access and onboarding of iOS devices.
- Implemented Aruba Airwave, for monitoring and support of Aruba wireless access points.
- Installed and configured network components for demand response systems and network drops for remote control of LCD projectors at 27 schools.
- Installed network communications for waste water treatment plant at Harford Technical High School.
- Expanded Lync 2013 infrastructure for growth and redundancy.
- Implemented software updates for third-party applications, i.e. non-Microsoft products, Adobe Reader, Adobe Flash, etc.
- Updated Active Directory infrastructure to Server 2012 R2, replaced central office domain controllers.
- Collapsed domain controllers from eight schools to a single server at central office.
- Expanded server virtualization environment.
- Installed a prototype mobile TV system at Bel Air High School.
- Installed local sound systems with record/playback capability in three music rooms at North Harford High School; music room at North Bend elementary school; gymnasiums at Jarrettsville and Homestead Elementary Schools.
- Upgraded phone system at Alternative Education School.
- Installed digital signage systems at Aberdeen, Bel Air, Edgewood, Fallston, and Patterson Mill High Schools.
- Upgraded and standardized lecture mode capability at North Harford High School's auditorium.
- Upgraded wiring and controller for auditorium projector at Bel Air High School.
- Refreshed 65 phones on Havre de Grace Middle School's phone system.
- Upgraded and rewired audio patch bay at Edgewood High School's auditorium and music technology/audio production lab.
- Upgraded overhead paging for emergency notification with A. A. Roberty building.
- Refreshed LCD projectors in Board of Education meeting room.

Office of Technology and Information Services

Print Services:

- Received over 7,800 print orders for a total of 37,720,752 impressions; an average of 4,800 impressions per order at a total combined average cost of 1.58 cents per page.
- Assisted the Office of Safety and Security in the creation and printing of the Critical Incident Flip Charts used in all of the Central Office locations.

Goals – FY 2016

- Develop plan for Print Shop operations to align with HCPS conversion to the Digital Harford model.
- Reduce district print costs by moving in-school volume printing to high capacity centralized Print Center.
- Maintain and support the infrastructure and hardware devices to service our organization.
- Reduce school-based servers to decrease maintenance/support costs.
- Architect and implement single sign-on authentication with vendor hosted systems.
- Explore feasibility of BYOT (bring your own technology) to enhance instruction.
- Explore app deployment for Windows 8 devices.
- Centralize Visitor Management system to expedite updates insuring accurate and timely information.
- Create test authentication environment for analyzing various Microsoft systems.
- Continue system enhancement for Teacher Evaluation Observation System.
- Maintain lifecycle roadmap of ERP (enterprise reporting system) system and platform.
- Process improvement and revenue cost recovery for Special Education billable services.

Objectives – FY 2016

- Develop and deploy second release of enhancements identified in version one of Teacher Evaluation Observation System.
- Upgrade on-line print job submissions by deploying web-based ePrint solution.
- Provide continued technical support and training to HCPS employees maintaining a high level of customer satisfaction.
- Provide QC testing and support for new internally developed software applications.
- Set up Active Directory Federation with outside vendors, i.e. Microsoft, Atomic Learning, Discovery Education, its Learning.
- Enroll in Microsoft program to deploy Windows 8 apps via System Center Configuration Manager.
- Stand up test Active Directory domain for testing of future versions of Exchange, System Center, etc.
- Deploy enhancements identified in FY 2015 of Teacher Evaluation Observation System.
- Upgrade INFOR (ERP system) to version 10 and remediate all Lawson interfaces.
- Develop Special Education medical assistance billable services system.
- Set up and deploy Office 365 to enhance productivity.
- Pilot BYOT at Edgewood High School.
- Continue converting schools WAN (wide area network) connections from Verizon to county owned Harford Metropolitan Area Network (HMAN).
- Continue upgrading remaining school-based local area networks (LANs) to accommodate installation of wireless network (Wi-Fi).
- Collapse school domain controllers as more schools are attached to HMAN.
- Accommodate unforeseen projects which require in-house development.
- Accommodate MSDE "Race to the Top" (RTTT) longitudinal data initiatives.
- Upgrade SharePoint to Office365 cloud deployment.
- Remediate in-house developed applications with SharePoint dependencies to be Office365 based.
- Install gymnasium sound systems to meet instructional requirements at Aberdeen and Bel Air Middle schools.
- Reconfigure gymnasium sound systems to meet instructional requirements at Aberdeen and Patterson Mill High Schools.
- Install local sound systems with record/playback capability in three music rooms at C. Milton Wright HS.
- Refresh auditorium projectors at C. Milton Wright and North Harford High Schools.
- Replace phone system at Edgewood Middle School.
- Replace antiquated theatrical lighting system with high efficient system at C. Milton Wright High School.
- Deploy remote monitoring and shutdown capability for all LCD projectors.

Office of Technology and Information Services

FY 2016 Funding Adjustments

The changes to Technology and Information Services for fiscal 2016 include:

Wage Adjustments of \$104,375:

- Salary/wage adjustments of \$110,472. .
- Turnover savings, (\$6,097).

Base Budget Adjustments of \$355,835:

- Funds transferred from School Library Media - Library Media Supplies, (\$279,335), School Library Media - Professional Library Supplies, (\$12,000); and OTIS - WAN account, (\$250,000). Funds transferred to OTIS – Materials of Instruction – Software, \$541,335.
- Funds transferred from Safety and Security – Software Maintenance, (\$29,000). Funds transferred to OTIS – Software maintenance, \$29,000.
- Funds transferred from Psychological Services – Other, (\$35,500). Funds transferred to OTIS – Materials of Instruction – Materials of Instruction – Software, \$35,500.

Cost Saving Measures of (\$20,000):

- Remove software expense related to Performance Matters, (\$20,000).

Cost of Doing Business of \$227,060:

- Annual hardware maintenance increase for Lexmar scanners, network electronics and wireless components for wireless network project, \$114,000.
- Annual software maintenance increase for all Microsoft products and Naviance software utilized by the guidance department, \$55,200.
- Funds to centralize the purchase of school library software and reduce the burden at the school level, \$43,460.
- Software maintenance for transportation routing software, \$14,400.

The increase in expenditures from the fiscal 2015 budget for Technology and Information Services is \$667,270.

Summary Report

Office of Technology and Information

By Object Code	FY13 Actual	FY14 Actual	FY15 Actual	FY15 Budget	15-16 Change	FY16 Budget
Salaries	\$3,575,933	\$3,495,572	\$3,559,966	\$3,681,187	\$104,375	\$3,785,562
Contracted Services	\$2,270,421	\$2,078,241	\$2,025,150	\$2,203,763	\$172,900	\$2,376,663
Supplies	\$1,154,778	\$1,032,288	\$1,519,174	\$1,525,452	\$639,995	\$2,165,447
Other Charges	\$1,589,902	\$1,265,042	\$1,524,909	\$1,498,936	(\$250,000)	\$1,248,936
Equipment	\$222,028	\$761,864	\$199,451	\$237,675	\$0	\$237,675
Total:	\$8,813,062	\$8,633,008	\$8,828,650	\$9,147,013	\$667,270	\$9,814,283

Budgeted Full Time Equivalent Positions

	FY13	FY14	FY15	15-16	FY16
Administrator	1.0	1.0	1.0	0.0	1.0
Assistant Supervisor	3.0	3.0	3.0	0.0	3.0
Clerical 12 Month	2.0	2.0	1.0	0.0	1.0
Director	1.0	1.0	1.0	0.0	1.0
Printer	4.0	4.0	4.0	0.0	4.0
Teacher/Counselor	1.0	2.0	3.0	0.0	3.0
Technology Prog/Analyst/Tech	42.5	41.5	41.0	0.0	41.0
	54.5	54.5	54.0	0.0	54.0

By State Category	FY13 Actual	FY14 Actual	FY15 Actual	FY15 Budget	15-16 Change	FY16 Budget	FY16 FTE
-------------------	----------------	----------------	----------------	----------------	-----------------	----------------	-------------

ADMINISTRATIVE SERVICES

Contracted Services	\$1,200,849	\$1,194,326	\$970,061	\$993,741	\$(20,000)	\$973,741	
Equipment	\$82,874	\$86,206	\$80,763	\$93,937	\$0	\$93,937	
Other Charges	\$17,904	\$16,320	\$30,485	\$17,250	\$0	\$17,250	
Salaries	\$2,147,951	\$2,135,514	\$2,212,557	\$2,270,537	\$55,381	\$2,325,918	
Supplies	\$104,106	\$123,987	\$134,203	\$146,500	\$0	\$146,500	
TOTAL:	\$3,553,685	\$3,556,354	\$3,428,068	\$3,521,965	\$35,381	\$3,557,346	32.0

INSTRUCTIONAL SALARIES

Salaries	\$163,526	\$145,536	\$133,508	\$186,158	\$9,308	\$195,466	
TOTAL:	\$163,526	\$145,536	\$133,508	\$186,158	\$9,308	\$195,466	0.0

TEXTBOOKS AND CLASS SUPPLIES

Supplies	\$815,036	\$718,394	\$1,138,110	\$1,021,693	\$639,995	\$1,661,688	
TOTAL:	\$815,036	\$718,394	\$1,138,110	\$1,021,693	\$639,995	\$1,661,688	0.0

OTHER INSTRUCTIONAL COSTS

Equipment	\$136,233	\$503,929	\$113,417	\$113,941	\$0	\$113,941	
Other Charges	\$2,887	\$574	\$690	\$7,500	\$0	\$7,500	
TOTAL:	\$139,120	\$504,503	\$114,107	\$121,441	\$0	\$121,441	0.0

OPERATION OF PLANT

Other Charges	\$1,554,394	\$1,230,679	\$1,479,050	\$1,454,311	\$(250,000)	\$1,204,311	
TOTAL:	\$1,554,394	\$1,230,679	\$1,479,050	\$1,454,311	\$(250,000)	\$1,204,311	0.0

MAINTENANCE OF PLANT

--	--	--	--	--	--	--	--

By State Category	FY13 Actual	FY14 Actual	FY15 Actual	FY15 Budget	15-16 Change	FY16 Budget	FY16 FTE
Contracted Services	\$1,069,572	\$883,915	\$1,055,088	\$1,210,022	\$192,900	\$1,402,922	
Equipment	\$2,920	\$171,729	\$5,271	\$29,797	\$0	\$29,797	
Other Charges	\$14,717	\$17,468	\$14,685	\$19,875	\$0	\$19,875	
Salaries	\$1,264,456	\$1,214,522	\$1,213,902	\$1,224,492	\$39,686	\$1,264,178	
Supplies	\$235,636	\$189,908	\$246,861	\$357,259	\$0	\$357,259	
TOTAL:	\$2,587,300	\$2,477,542	\$2,535,807	\$2,841,445	\$232,586	\$3,074,031	22.0
Grand Total:	\$8,813,062	\$8,633,008	\$8,828,650	\$9,147,013	\$667,270	\$9,814,283	54.0