

BOARDS OF COOPERATIVE
EDUCATIONAL SERVICES
REGIONAL TECHNOLOGY PLAN
MID-HUDSON RIC REGION



2023-2028

**Mid-Hudson Regional Information Center
Dutchess BOCES
Orange-Ulster BOCES
Sullivan BOCES
Ulster BOCES**

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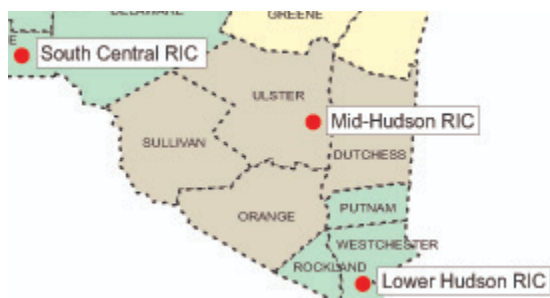
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INTRODUCTION

PURPOSE OF THIS PLAN

Boards of Cooperative Educational Services (BOCES) are required by law and regulations to prepare a regional plan for providing technology services in the supervisory district. Plans must address the requirements outlined in Education Law 1950(4)(c) and the related Part 115.1 of the Commissioner's Regulations. In the Mid-Hudson Regional Information Center (MHRIC) region, the MHRIC, under the direction of the District Superintendents, is responsible for facilitating planning processes and plan development for the 4 BOCES within this service region.

MHRIC REGION



The MHRIC region includes 47 school districts and 4 BOCES.

- Dutchess BOCES
- Orange-Ulster BOCES
- Sullivan BOCES
- Ulster BOCES

SECTION 1: REGIONAL PLANNING PROCESS

The Planning Process:

Several groups have input to the 793 planning process, these include:

- The Joint Management Team (JMT) is comprised of the four District Superintendents. Provides direction to their representatives on the RIC, BOCES Asst. Superintendents of Instruction, and Directors of Technology. These groups meet on a regular basis to plan, coordinate and execute regional initiatives.
 - Dr. Charles Khoury - Ulster BOCES
 - Jason Schetelick - Dutchess BOCES
 - William Hecht - Orange-Ulster BOCES
 - Robert Dufour - Sullivan BOCES
- BOCES Directors of Technology and the MHRIC Director meet regularly to identify areas of mutual concern.
 - Cynthia Farrell - Ulster BOCES
 - Mark Stein - Dutchess BOCES
 - Forrest Addor - Orange-Ulster BOCES
 - Robert Cosh - Sullivan BOCES
 - Susan Zieres - Sullivan BOCES
 - Danielle Yeomans - MHRIC
- Each MRHIC service holds regular User Group meetings that provide input into the future development of the service. Suggestions gathered in these meetings further inform the 793 process.
 - Financial Services
 - Student Management Systems
 - District Data Coordinators
 - Special Services (IEP, RTI)
 - Food Services
 - Security Services
 - Automated Calling/Emergency Broadcast
- The MHRIC administers annual customer satisfaction surveys that go to users of the services.
- The MHRIC and BOCES Technology Directors reviewed the district's technology plan goals to develop our regional priorities.
- An informational session was held on October 4, 2022 for the Technology Directors in the region to provide an overview of the 793 Plan and receive feedback from them.
- The goals and objectives were shared with all of the Technology Directors in the 4 county region along with the Superintendents to provide any additional feedback.

SECTION 2: CURRENT CONTEXT

The question that our region focused on when creating the plan is, “What are the needs and priorities within our districts and BOCES and how can we address those needs through our plan?” Many districts in our region rely on collaborative purchasing and staffing. Additionally, even if a district is able to afford to meet their needs on their own, they have a fiscal responsibility and desire to be cost effective in order to make their budgets go further. In our region, we want to ensure we support our geographic and economically diverse populations through our shared services.

Current Challenges

- Pandemic - During the pandemic, the districts and BOCES had to quickly adjust priorities to ensure equitable access for all students for both instruction and technology. This included purchasing devices, looking closely at their networks and data security, and internet connectivity. The district’s technology plans that were submitted in June 2022 reflect the change in direction of priorities.
- Cybersecurity which includes a range of cyber incidents including data breaches, phishing attacks, denial-of-service attacks.
- Staffing - There is a technical talent shortage across the region due to multiple factors. School districts are competing with private sector salaries which has created a staffing shortage. School districts face multiple challenges due to the existing Civil Service processes and procedures including the inability to share job opportunities across country boundaries and outdated job descriptions.
- Data - Overall, the amount of discrete data points collected between 2008 and 2022 has increased by a whopping 3,260%

Part of the review for the regional needs was looking for common needs and priorities using the 2022-2025 technology plans from our 47 districts. This assisted us with forming the four main areas of focus.

The focus of the next five years will be on four areas to improve student learning opportunities, cost effectiveness and regional collaboration:

1. Technology Leadership
2. Instructional Leadership
3. Data Leadership
4. Data Privacy and Security

SECTION 3: FIVE YEAR PLAN

Focus Area 1: Technology Leadership

Our plan focus for this area is the Technological Ecosystem.

Regional Priorities:

- Reliable Technology that Enables Equity
- Anywhere Learning

NYSED Alignment:

- NY State Priority 1: Improving digital equity, including increasing student and teacher access to devices and broadband internet both in school buildings and in place(s) of residence.

Goal: Evaluate and update the technology ecosystem to support instructional and administrative needs.

Overall Objectives:

1. Equitable access to technology resources
2. Work with municipalities or cable providers to enable internet to student homes
3. Offer guidance and demonstrations of industry best practices
4. Explore current regional staffing challenges

Technology Leadership Performance Objectives for the first 2 years:

Timeline	Responsible Party	Objective	Measurement for Evaluation
Year 1	MHRIC, BOCES	Analyze the digital equity survey results for our 4 county region to identify areas of need	Summary of data and create visualizations
Year 2	MHRIC, BOCES	Develop partnerships and advocate with the municipalities and Internet service providers to provide high-speed internet in underserved areas	Attendance at meetings providing summary data
2 x's yearly	MHRIC, BOCES	Provide presentations for districts on industry best practices	Presentations; feedback surveys
Year 1 & 2	MHRIC, BOCES	Collect technical civil service titles from the four counties to align and update to better meet district needs	Original job descriptions; Modified job descriptions

Focus Area 2: Instructional Leadership

Our plan focus for this area is Instructional Technology which includes Teaching and Learning Technology, Teaching Practices, and Learning Experiences.

Regional Priorities:

- Enhanced teaching and learning
- Remote Learning
- Rollout and implementation of NYS Computer Science and Digital Fluency Learning Standards

NYSED Alignment:

- NY State Priority 2: Increasing access to technology-enhanced, culturally- and linguistically-responsive, differentiated, and personalized learning environments to support improved teaching and learning for all students, including students with disabilities and English language learners (ELLs).
- NY State Priority 3: Increasing equitable access to high-quality instruction, courses, and multi-modal learning experiences through digital technology, including but not limited to advanced courses, for all districts, including small, rural, and/or high-needs districts.
- NY State Priority 4: Providing access to relevant and rigorous professional development to ensure educators and leaders are proficient in technology for both instructional and administrative purposes.

Goal: Encourage effective use of learning technology to support instructional needs.

Overall Objectives:

1. Provide professional development to build the capacity of teachers, staff and community
2. Help to meet requirements and build capacity for the implementation of NYSED priorities
3. Provide support for instructional devices and software

Instructional Leadership Performance Objectives for the first 2 years:

Timeline	Responsible Party	Objective	Measurement for Evaluation
Year 1	Model Schools	Review regional use of Instructional Technology solutions and identify regional training priorities and resources	Review and summary of Appendix C; List of training priorities
Year 2	Model Schools	Develop training resources for school districts	Instructional content
Annual	BOCES	Review of NYSED priorities and mandates	Annual report to NYS on professional development

Annual	MHRIC; BOCES	Work collaboratively as a consortium to review and recommend new products for regional use	Informational sessions; surveys
Annual	MHRIC; BOCES	Share new products and resources across the region to build knowledge and capacity	List of products and services; informational sessions

Focus Area 3: Data Leadership

Our plan focus is the Data Ecosystem which includes information systems, data management, data analytics, and accountability systems.

Regional Priorities:

- Data-informed educators and staff
- Enhanced data quality

NYSED Alignment:

- NY State Priority 4: Providing access to relevant and rigorous professional development to ensure educators and leaders are proficient in technology for both instructional and administrative purposes.
- NY State Priority 5: Utilizing, maintaining, and continuing to enhance a robust data environment, including but not limited to the multiple data collection points within the Student Information Repository System (SIRS) and all data applications within the New York State Business Application Portal, to positively impact instruction and decision-making.

Goal: Modernize the data environment to support instructional and administrative needs

Overall Objectives:

1. Support implementation of new information systems
2. Improved interoperability between data systems
3. Provide relevant, rich, timely and actionable data views
4. Support educators and staff in managing and analyzing data

Data Leadership Performance Objectives for the first 2 years:

Timeline	Responsible Party	Objective	Measurement for Evaluation
Year 1	MHRIC Data Warehouse Staff	Build up the professional library and resources for the data warehouse	Professional library of resources

Year 1	MHRIC Data Warehouse Staff & BOCES Model Schools Staff	Collaborate to develop trainings for districts	Type of training developed and number of times offered
Year 2	MHRIC; BOCES	Provide professional development to teachers to better understand and utilize data	Compare year 1 data and develop additional professional development based on feedback

Focus Area 4: Data Privacy and Security

Our plan focus for this area is taking a Security Posture which includes Information Security, Information Privacy, and Cybersecurity.

Regional Priorities:

- Data Protection
- Technology Protection

NYSED Alignment:

- NY State Priority 4: Providing access to relevant and rigorous professional development to ensure educators and leaders are proficient in technology for both instructional and administrative purposes.
- NY State Priority 6: Implementing and maintaining data privacy and security controls ensuring compliance with all applicable privacy laws and regulations including, but not limited to, New York Education Law 2-d.

Goal: Maintain robust privacy and security initiatives to support the protection and reliability of our systems

Overall Objectives:

1. Work with districts to assist with adherence to all applicable data privacy and cybersecurity laws and regulations
2. Build awareness around data privacy and cybersecurity culture across region

Data Privacy and Security Performance Objectives for the first 2 years:

Timeline	Responsible Party	Objective	Measurement for Evaluation
Annually	MHRIC; BOCES	Offer collaborative purchasing and training of cybersecurity solutions	CoSer membership; attendance at training sessions;

Annually	MHRIC; BOCES	Provide support for federal, state and local policies and regulations	Coser membership; Online resources; Professional development sessions
Year 1	MHRIC; BOCES	Hold an annual cybersecurity event	Attendance at event

Plan Monitoring and Evaluation:

Throughout the year the MHRIC Director and BOCES Tech Directors will meet quarterly to monitor and evaluate the outcomes of the plan. This will include reviewing the plan measurements and timeline. This will be an ongoing process to ensure we are adjusting to meet the ever changing needs of our region. This process will also include seeking feedback from other stakeholders in our region.

SECTION 4: PLAN BENEFITS

Network Access and Communications Collaboration

Districts need access to a reliable high-speed infrastructure to support their students. To provide the most effective and efficient provision of services, the MHRIC continues to be the lead in the RFP process for Internet and WAN including the E-Rate Category 1 application.

Explore Opportunities for Emerging Technologies and CoSer Expansion

Through working with our districts, the BOCES and MHRIC will expand their offerings based on the identified needs to provide further efficiencies in purchasing. By collaborating to offer regional events on emerging technologies, districts will be able to ascertain knowledge and make informed decisions.

Maintain Infrastructure

By maintaining a Disaster Recovery site, the MHRIC is able to assist districts with restoring critical systems housed at the RIC.

Incident Response

Working together, the MHRIC and BOCES Technology departments will support any districts that require an incident response as appropriate.

Instructional Technology

The local BOCES work with component districts to leverage services such as Model Schools, Distance Learning, technology software purchases and hardware purchases. Participating in the NYSITCC and NYSDLC allows districts to purchase products and services using state-wide consortium pricing.

Cost Effectiveness

Sharing resources including people, allows for districts to be more cost effective. The goal of the MHRIC and the BOCES is to provide economies of scale.

Data Management

By working together the MHRIC and BOCES provide assistance with understanding data requirements for NYSED reporting and how to use the data in the instructional setting.

SECTION 5: RESULTS FROM PREVIOUS PLAN

MHRIC:

- Added Infinite Campus as a new service offering
- Added ParentSquare as a new service offering
- New cybersecurity services are being offered to our districts to provide 24 x 7 monitoring and more enhanced security for districts.
- Hosted a “virtual” Master Schedule Builder Workshop on January 12th & 13th.
- Work collaboratively with the 4 county districts and BOCES on security topics
- Requests from the MHRIC Broadcast support team for improved support from SchoolMessenger prompted SchoolMessenger to create a new support model for the MHRIC. Through continued collaboration and communication between the two parties, this support model has continued to develop; and as a result, the support we receive from the vendor has been greatly improved. Due to the success they’ve had in meeting our goals, they are planning to use the same support model for working with other Regional Information Centers (RICs).
- The Food Services support team set up the Student Information Repository System (SIRS) data warehouse exports of free/reduced/poverty program services for new districts and coordinated with the Student Services and Programming teams to get the data import to the Student Information Systems.
- Updated software systems to ensure compliance with regulations and/or new requirements
- Continued regional professional development classes for staff, parents and municipalities on various technology topics
- The MHRIC achieved the accolade of Champion Organization for cybersecurity awareness month from the National Cyber Security Alliance (NCSA). We continue to develop the monitoring service working with Checkpoint, and continue to evaluate products for multifactor authentication for financial applications
- In early December, a vulnerability referred to as Log4j was identified which impacted computer systems worldwide and if unmitigated would allow a cybercriminal to compromise vulnerable systems with relative ease. MHRIC technical staff proactively implemented additional firewall protections to prevent attackers from the outside from gaining access to any systems containing the vulnerability within the MHRIC network. MHRIC technical staff simultaneously began evaluating, patching, and hardening devices within the MHRIC infrastructure. Each time an updated firewall protection IPS (Intrusion Prevention System) was released, it was implemented and monitored continually. Over 400 systems were evaluated and patched, where necessary, and with the help of the Department of Homeland Security, external Log4j vulnerability scans were done and yielded zero vulnerable systems. During this time, MHRIC took part in a statewide RIC collaboration to share data and tools to strengthen and protect district networks.
- Held 4 MHRIC Cybersecurity Share the Knowledge events in February and May. Attendance was good with each of the sessions having between 40-70 participants. A

survey was sent to the districts who participated, and we have had 100% positive responses, most asking for more.

- Data Management Team kicked off the new Data Reporting Mentorship Program for District Data Coordinators! Six (6) districts and one (1) BOCES are participating in the intensive, year-long institute. Hands-on activities in the first training session included: Creating SMART Goals, and a deep-dive into the District Data Coordinator role and responsibilities via a Stoplight Activity.
- The Data Collection and Reporting team held their quarterly District Data Coordinator Meeting with representatives from nearly fifty-two (52) districts and BOCES in attendance.
- The Data Warehouse team held three demonstrations for the Illuminate Elevate Data Quality product, with over twenty districts attending. They also created a new Data Points video to assist districts with using NYSED's SEDREF system.
- Held four (4) virtual user group meetings for Frontline IEP which were well-attended with representatives from all forty-eight (48) districts and BOCES who participated in the service. The MHRIC was the only Regional Information Center in New York this year to offer a user group meeting for Frontline IEP.
- MHRIC's Special Services Team conducted six (6) Basic Educational Data System (BEDS) Day Snapshot Workshops to assist districts with their Special Education reporting requirements. These well-attended workshops were attended by thirty (30) school districts from across the four-county region.
- The programming team completed the first round of extracts necessary for the Infinite Campus conversion ahead of schedule. They also completed the massive project of extracting all tickets out of the defunct FreshDesk software product and migrating those tickets into the eHelpDesk software. They are currently working to upgrade Level 0 and create extracts for the Food Services and Student Services departments.
- The MHRIC Testing and Reporting Team launched the Paper-Based Digital Equity Service this year. Four districts have already signed up for English- and Spanish-Language Digital Equity Surveys which will be administered to parents per state requirements.
- Computer-Based and Paper-Based Testing administration started on March 14, 2022 with NYSAA and Grades 3-8 English Language Arts (ELA). The testing process has been very smooth this year, with no known statewide issues.

Sullivan BOCES:

- Created new Cybersecurity / NIST Compliance service to help districts comply with Education Law 2-D
- Support districts during the pandemic with professional development in remote learning best practices
- Assisted component districts with updating VOIP and telecommunication hardware and software.
- Provided Shared Technician Services to our districts
- Provide districts with Managed services support

Orange-Ulster BOCES:

- Supported remote learning initiative for component school districts to help mitigate COVID concerns
- Procured large quantities of devices to support school district one-to-one and remote learning initiatives
- Facilitated purchasing and implementation of cloud filtering technology for districts who wanted to filter offsite devices.
- Supported new IT help desk ticketing system called Incident IQ to assist school districts with handling requests for IT support
- Provided guidance, training and support for school district technology plan development
- Worked to improve cyber security posture of county network
- Provided data privacy and security services to school districts to help with NYS Ed Law 2-D Compliance

Dutchess BOCES:

- Supported districts during pandemic in the following ways:
 - Procured large volume of devices and hotspots
 - Facilitated purchasing and implementation of cloud filtering technology for districts who wanted to filter offsite devices.
 - Facilitated frequent county wide Technology Director meetings to collaborate on Pandemic related technology challenges.
- Onboarded a new BOCES Assistant Technology Director in order to improve support and responsiveness to component districts.
- Provided Shared Technician Services and Shared Data Privacy Specialist services to multiple districts.
- Assisted districts with improving VoIP vendor support.
- Led VoIP environment updates for multiple districts.
- Replaced mail gateway with cloud based solution with more security features including email encryption.
- Created new Cybersecurity / NIST Compliance service to help districts comply with Education Law 2-D, form district Cyber Governance Committees, and begin to expand culture of cybersecurity awareness. Several districts signed up and are participating.
- Assisted component districts with various technology related projects aimed at updating technology, increasing cybersecurity, and keeping environments current and patched.
- Coordinated Erate application process and procurement of technology via the federal Erate program.

Ulster BOCES:

- Support districts during the pandemic with professional development in remote learning best practices
- Provided online courses and online teachers for component school districts to ensure continuity of instruction during the pandemic.
- Purchased devices to support school district one-to-one and remote learning initiatives

- Supported a new IT inventory system called Follett Resource Manager to assist school districts with handling inventory of mobile devices.
- Provided guidance, training and support for school district technology plan development.

APPENDIX A: REGULATORY REQUIREMENTS SUMMARY

Required Element	Page(s)
1. A description of the regional collaborative planning process.	4
2. A description of how the regional technology plan supports efficient and effective provision of technology services, which includes a description of major challenges to be addressed by the plan;	5
3. A description of how the regional technology plan addresses the technology and data priorities and needs of the state, and how such plan will increase school district access to technology and assist school districts in developing and maintaining robust information privacy, information security, and cybersecurity controls;	
<ul style="list-style-type: none"> ● State Priority 1: Improving digital equity, including increasing student and teacher access to devices and broadband internet both in school buildings and in place(s) of residence; 	6
<ul style="list-style-type: none"> ● State Priority 2: Increasing access to technology-enhanced, culturally- and linguistically-responsive, differentiated, and personalized learning environments to support improved teaching and learning for all students, including students with disabilities and English language learners (ELLs); 	7
<ul style="list-style-type: none"> ● State Priority 3: Increasing equitable access to high-quality instruction, courses, and multi-modal learning experiences through digital technology, including but not limited to advanced courses, for all districts, including small, rural, and/or high-needs districts; 	7
<ul style="list-style-type: none"> ● State Priority 4: Providing access to relevant and rigorous professional development to ensure educators and leaders are proficient in technology for both instructional and administrative purposes; 	7,8,9
<ul style="list-style-type: none"> ● State Priority 5: Utilizing, maintaining, and continuing to enhance a robust data environment, including but not limited to the multiple data collection points within the Student Information Repository System (SIRS) and all data applications within the New York State Business Application Portal, to positively impact instruction and decision-making; and 	8
<ul style="list-style-type: none"> ● State Priority 6: Implementing and maintaining data privacy and security controls ensuring compliance with all applicable privacy laws and regulations including, but not limited to, 	5, 7

New York Education Law 2-d.	
4. A list of regional priorities and needs that the regional technology plan will address;	Interspersed 7-11
5. A description of the methods used to identify and prioritize needs in the region, which shall include engagement with key stakeholder groups;	6
6. A list of quantifiable goals and a description of how the goals will directly address the regional technology needs and improve service delivery over the next five years;	7-11
7. Performance objectives for the first two years of the plan;	7-11
8. A description of the procedures which will be put in place to monitor the plan's implementation;	11
9. An evaluation of the performance objectives for the previous two years; and	12-15
10. Appendix A	16-17
11. Appendix B	18
12. Appendix C	19-26

APPENDIX B: COOPERATIVE PLANNING ASSURANCES

I approve the regional collaborative planning process used to develop and maintain our regional technology plan.

I assure that my BOCES participated fully in the development of this regional plan.

I assure that users, as defined in guidance, were substantively involved in the development of this plan.

I assure that all technology services offered by my BOCES and the Regional Information Center are cost-effective.



District Superintendent Signature

Mr. Jason Schetelick
District Superintendent Name

11/17/22
Date

Dutchess BOCES
BOCES



District Superintendent Signature

Mr. William J. Hecht
District Superintendent Name

11/16/2022
Date

Orange-Ulster BOCES
BOCES

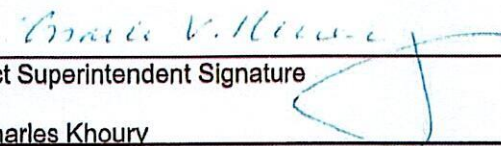


District Superintendent Signature

Dr. Robert Dufour
District Superintendent Name

11/16/22
Date

Sullivan BOCES
BOCES



District Superintendent Signature

Dr. Charles Khoury
District Superintendent Name

11/16/2022
Date

Ulster BOCES
BOCES