Technology in Utah Schools

Utah State Office of Education

Broadband Advisory Council
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UTAH EDUCATION NETWORK
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Why Technology? Why Now?

- Equal Educational Opportunities

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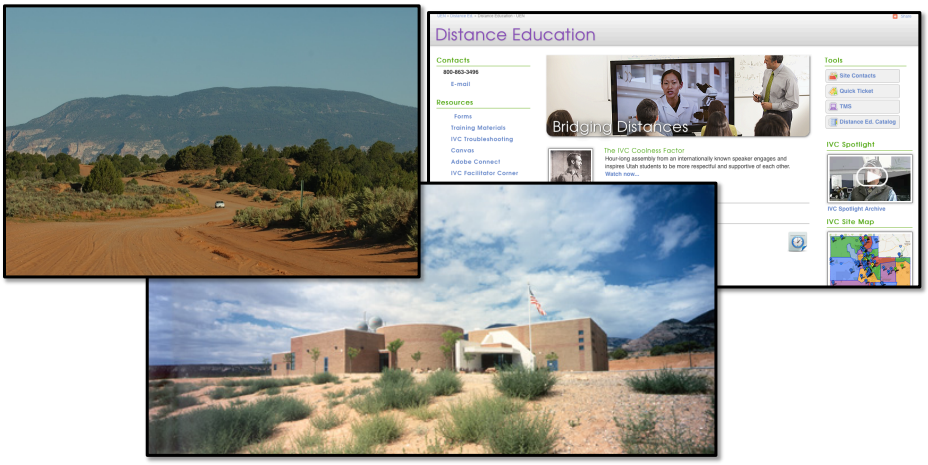
- Equal Educational Opportunities



Catalysts for change

- **Less than half** of the US population **have the technology skills to compete for the jobs available** in today's global economy. (Alliance for Education)
  - Are we preparing students with the skills they need to be ready for opportunities in their future?
- **Digital Learning** is necessary to approach higher levels of critical thinking within in College and Career Readiness standards, to address the individual learning needs of students, and to support teachers in improving their practice. Professional Development must not separate technology-related PD as distinct from the instructional process. (SETDA, policy brief 12/4/12)
- Efforts to expand **world language immersion initiatives, blended learning** and **online dual credit** opportunities require increased bandwidth and device access.

Educational Technology Infrastructure Recommendations

- Ensure that every student has adequate access to a computing device and the Internet at school and home, with sufficient human capital in schools to support their effective use
- State should have an up-to-date technology plan and policy that is reviewed on a pre-determined timeline
- States and districts should address the interoperability of devices, software and data

- Upgrading Internet Infrastructure of America's Public Schools – NASBE Commentary September 2013 – specific to Infrastructure needs related to blended learning (hand out provided)

Utah Technology Standards

For teachers and students to utilize technology in an efficient and effective manner, and to fully take advantage of the benefits of using technology to improve the education of students, three components must be present:

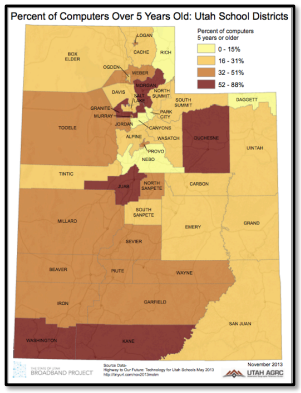
- ***Access to technology*** *for educators, students, and parents, i.e., hardware, software, and infrastructure.*
- ***Professional learning*** *opportunities for educators, students, and parents in the use of the technology.*
- *Ongoing* ***technical support*** *to maintain the systems provided by public education.*

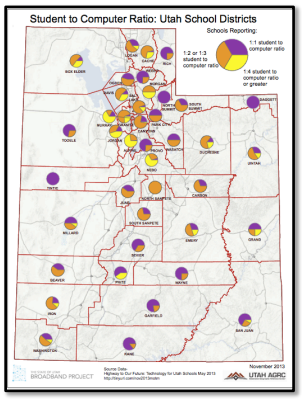
Computers in Schools

Total # of Students: 612,551 **Total # of Computers: 242,009** **89,000 Square Miles**

Technology Standards

1:1 student to computing device ratio to support high quality instruction and assessment in preparing students to be college and career ready.





Future Computer Needs

200,000 computers will be needed to replace aging computers and to maintain our current 3:1 ratio of students to computers

	Year 1	Year 2	Year 3			Annual Cost
Three-Year Rotation Cycle	66,666	66,666	66,666			$250 Device- $16,666,500 $500 Device- $33,333,000 $1000 Device - $66,666,000
	Year 1	**Year 2**	**Year 3**	**Year 4**		
Four-Year Rotation Cycle	50,000	50,000	50,000	50,000		$250 Device- $12,500,00 $500 Device- $25,000,000 $1000 Device - $50,000,000
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	
Five-Year Rotation Cycle	40,000	40,000	40,000	40,000	40,000	$250 Device- $10,000,000 $500 Device- $20,000,000 $1000 Device - $40,000,000

Future Computer Needs

300,000 computers will be needed to replace aging computers and reduce our ratio of students to computers to 2:1

	Year 1	Year 2	Year 3			Annual Cost
Three-Year Rotation Cycle	100,000	100,000	100,000			$250 Device- $25,000,000 $500 Device- $50,000,000 $1000 Device - $100,000,000
	Year 1	Year 2	Year 3	Year 4		
Four-Year Rotation Cycle	75,000	75,000	75,000	75,000		$250 Device- $18,750,000 $500 Device- $37,500,000 $1000 Device - $75,000,000
	Year 1	Year 2	Year 3	Year 4	Year 5	
Five-Year Rotation Cycle	60,000	60,000	60,000	60,000	60,000	$250 Device- $15,000,000 $500 Device- $30,000,000 $1000 Device - $60,000,000

Future Computer Needs

600,000 computers will be needed to replace aging computers and reduce our ratio of students to computers to 1:1

	Year 1	Year 2	Year 3			Annual Cost
Three-Year Rotation Cycle	200,000	200,000	200,000			$250 Device- $50,000,000 $500 Device- $100,000,000 $1000 Device - $200,000,000
	Year 1	Year 2	Year 3	Year 4		
Four-Year Rotation Cycle	150,000	150,000	150,000	150,000		$250 Device- $37,500,00 $500 Device- $75,000,000 $1000 Device - $150,000,000
	Year 1	Year 2	Year 3	Year 4	Year 5	
Five-Year Rotation Cycle	120,000	120,000	120,000	120,000	120,000	$250 Device- $30,000,000 $500 Device- $60,000,000 $1000 Device - $120,000,000

Network Infrastructure Needs

- **<u>Internal School Networks</u>**
- **$50,000 -** Average Cost to Install Wireless Internet Capacity in a school building (approx. 1000 Students)
- There are currently 1072 school buildings in Utah. A significant number of these will require wireless network upgrades.
  - **80% = $42,900,000**

Smart Schools

- 2012 Cohort
  - Gunnison Valley Elementary (Gunnison)
  - Dixon Middle School (Provo)
  - North Sevier High School (Salina)

Smart Schools

- 2013 Cohort
  - Newman Elementary (Salt Lake City)
  - Myton Elementary School (Myton)
  - North Davis Jr. High (Clearfield)
  - Pinnacle Canyon Academy (Price)
  - Beehive Science and Technology (Sandy)
  - Freedom Academy (Provo)
  - Utah Career Path High School (Kaysville)

Other High Access Schools

- Park City School District (Grades 5-12)
- Wasatch School District (Grades 5-12)
- North Summit School District (Grades 6-12)
- South Summit School District (Grades 6-12)
- Piute School District (Grades 9-12)
- Wayne School District (Grades 7-12)

Technology Framework

- Technology Framework
  - Purpose
  - 7 Guiding Principles
  - Cost
  - Vision
  - Planning
  - Implementation
  - Accountability

Technology Framework

- Purpose
  - Change/improve the **culture** of public education, classroom instruction, student engagement, teaching and learning processes, and accelerated digital learning
  - The full implementation of this framework supports the Governor's Education Plan: **On PACE to 66% by 2020**

Technology Framework

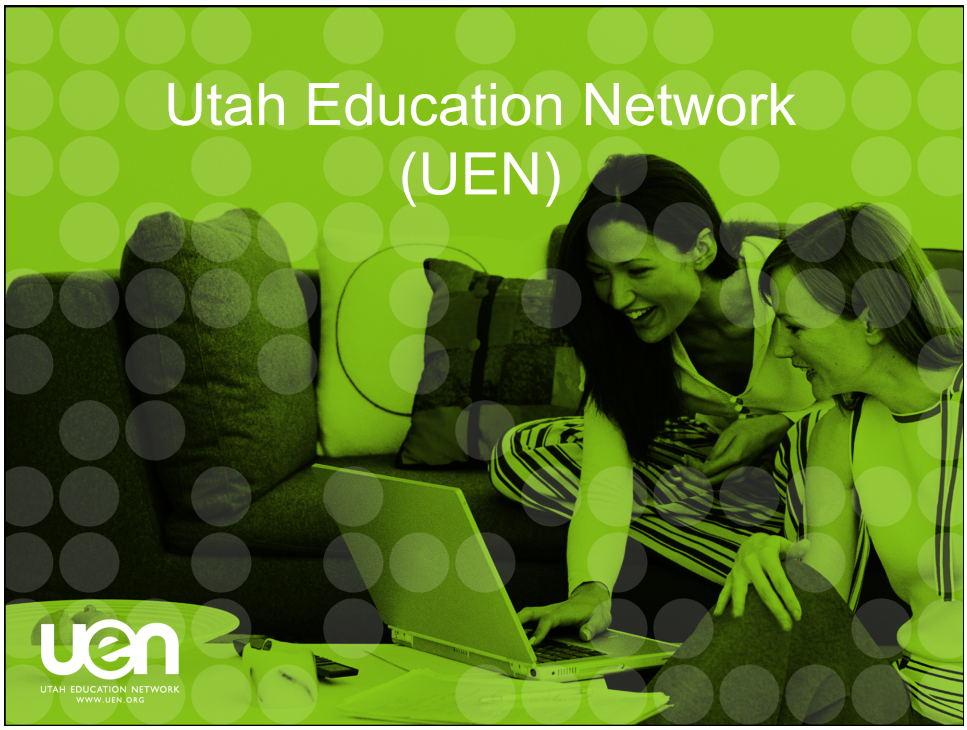
- 7 Guiding Principles
  - Public schools are managed by **local elected boards** with their own policies, priorities and constituents
  - Changes to processes require **thoughtful planning** and preparation to maximize success
  - Sustained **ongoing funding** and negotiating **multiple state contracts** provides economies of scale in support of local purchasing control

Technology Framework

- Build on the **infrastructure investments** LEAs have in their schools
- Provide flexible **implementation frameworks** for LEAs to craft their technology vision for teaching and learning
- Leverage **LEA expertise** in crafting technology processes and digital curriculum for evolving local needs
- Provide **accountability frameworks** for each phase of the change process

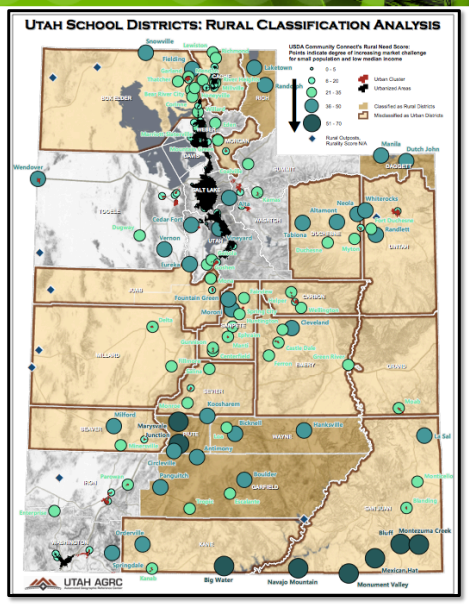
Technology Framework

- Cost
  - The total **annual** cost for **high** access is about **$500 per funded student**.
  - LEAs can deploy this framework with varied levels of access.
    - **High** access for grades 5-12 (376,000 students): state and LEA **shared cost** $188 million
    - **Group** access for grades K-4 (235,000 students): state and LEA **shared cost** $58.7 million



I-15 near Mesquite a few weeks ago

Utah: Rural and Frontier



How Broadband supports Equal Educational Opportunities

- Higher Education to Public Education
  - Concurrent Enrollment
- Public Education
  - Inter-District and Intra-District events provide access to quality teachers and classes
- Higher Education
  - Classes offered statewide by the larger universities and regionally by state colleges
- Ad-Hoc – Access to video network for meetings and ad-hoc events
- Medical – Extend operating/procedure room

Examples of class offerings

- Health Science
- American Sign Language
- Political Science
- Mandarin Chinese
- Medical Coding
- World Civilization
- Theater
- Nursing
- Calculus
- Special Education – Teacher certifications

Equal Educational Opportunites

A Final Thought….

Anything that is in the world when you're born is normal and ordinary and is just a natural part of the way the world works.

- Douglas Adams