

GETTING AHEAD OF THE CURVE: CLARK COUNTY SCHOOL DISTRICT'S TECHNOLOGY INFRASTRUCTURE

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Clark County School District: Basic Facts

- 5th largest district in U.S.
- More than 310,000 students
- 347 schools
- Covers 7,910 square miles
- 38,000+ employees
- Annual operating budget: \$2.3 billion

Build It and They Will Come

212 schools constructed since 1988

- 11 schools opened in 2005
- 11 schools opened in 2006
- 12 schools opened in 2007
- 10 schools opened in 2008

Need for Enhanced WAN: Getting Ahead of the Curve

- Provide infrastructure for “e-schooling”
- Changes in technology
- Steadily increasing demands for various types of information
- Cost effective approach to incorporating newer technologies
- Centralize traditionally school-based applications

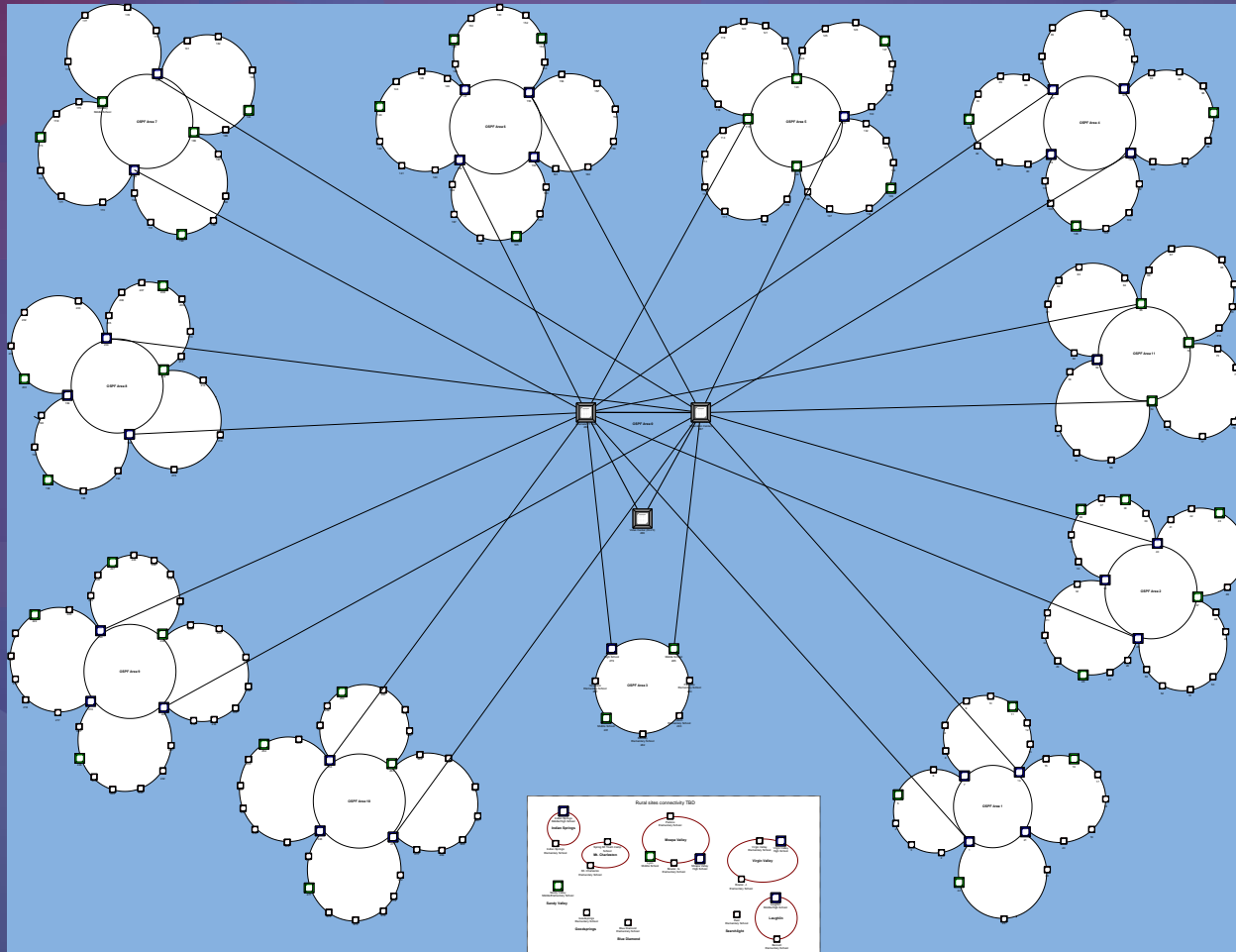
Guiding Strategies

- Improved instruction through advanced technologies
- Leverage existing CCSD resources
- Standardized services/economy of scale
- Rollout without disruption
- Minimize risk
- Recoup capital costs through operational savings

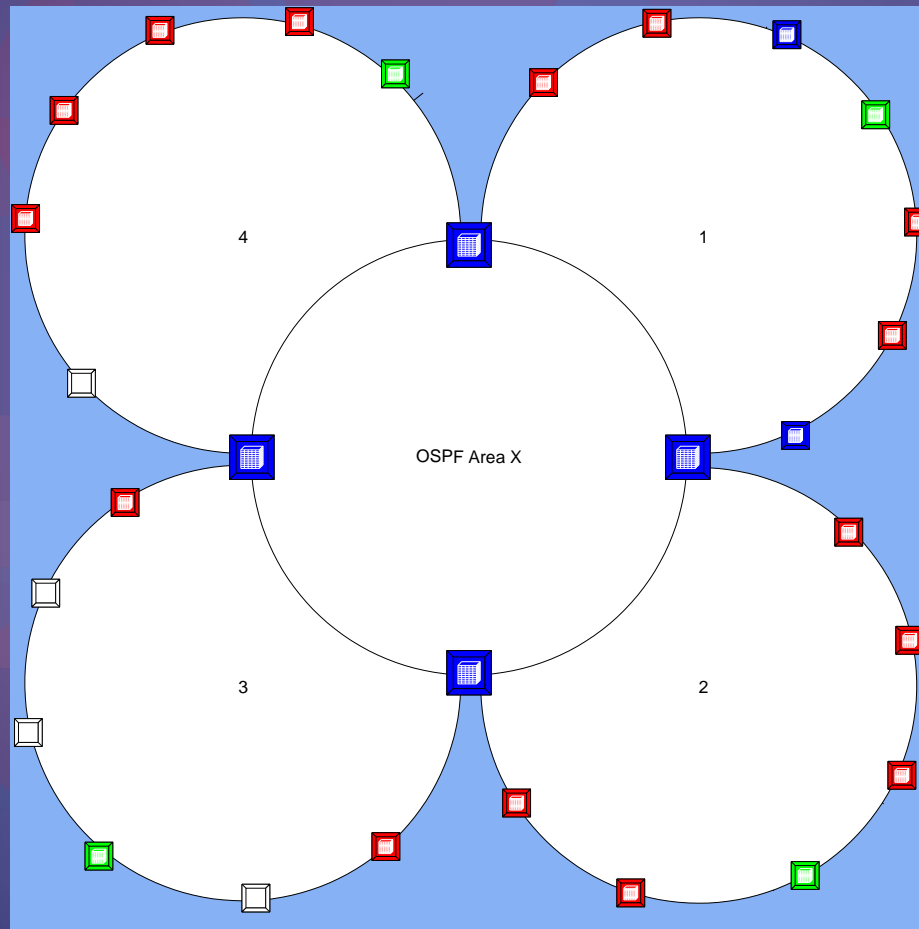
WAN: Technical Characteristics

- Gigabit Ethernet Architecture
 - SAIC: designer and integrator
 - More bandwidth for the \$
 - Easier support and maintenance
- Converged network supports voice, video, and data
- Focus on redundancy and backup
- No “network” single point of failure
- Fiber to all locations

Network Architecture



Sample Ring and Leaf



Voice

- Unified district-wide system
 - 31,000 handsets
- Voice mail for every teacher
- Blended system
 - VOIP between schools
 - Some schools primarily digital within building, others VOIP
 - Substantial savings over alternative systems

Phones in schools

- Phone in every classroom
- Centralized “do-not-disturb”
 - Limit incoming calls during instructional time
- E911
- Automated attendant
- Installed and maintained by district staff

IP Video

- Increase variety of video services
 - IP video network developed and in place
 - All schools “video conferencing ready”
 - IP video as routine communication
- Vegas PBS Streaming Video
 - Multiple sources (Discovery, Annenberg, Rainbow, PBS, Video, Scholastic)
 - 35,000 views per month and growing

Distributing cable over the WAN

- Saves considerable \$\$
- Cable in the Classroom distributed over WAN and LANs
- Use Video Furnace system
- Coax no longer installed in new or rehabbed buildings
- Distributed from one site to many

Technology Support: The Forgotten Infrastructure

- Easy to contact
- Competent
- Effective communicators; avoid technobable
- Respond to, and resolve, issues quickly
- Avoid being overbearing
- Try to look at issues from the client's perspective

Today's New Schools

- Wi-Fi in every classroom
- Ax the coax
- Phone in every classroom
- GigE connection
- Ceiling-mounted projectors
- Audio-enhancement
- Mobile laptop carts

Taking Advantage of Infrastructure

- Parent Communication System
- Video streaming and conferencing
- Virtual High School
- Web-based Library Management System
- Instructional Data Management System
- Special Education Management System
- Security cameras over WAN

Recent Changes to Infrastructure Model

- Moving wireless from “nice to have” to “must have”
- Greater emphasis on student laptops
- Increasing availability and accessibility of technology
- Looking at new technologies to include
- Moved from IBM mainframe to Sun Unix/Linux



DISCUSSION