21st Century Learning Environment

Marcus Lim
Director, Education and Capacity Development
Asia, Public Sector
marcuslim@cisco.com
The 21st Century Learning Environment

- Blurs the line between traditional learning methods and technology-enriched learning
- Lets learners choose and use resources that make sense to them
- Eliminates barriers to people, resources, and information
- Integrates on- and off-campus education resources
- Already exists
On- and Off-Campus Resources

- Next-generation libraries
- Smart classrooms
- Campus commons and dorms
- Flexible science labs
- Virtual museums
- Video zoos
- Research institutes
- Connected hospitals
Use of Virtual Reality and Gaming

- Second Life
  - Visit museums
  - Discuss book with author
  - Attend concerts
  - Participate in political campaigns and debates
  - Go to libraries, science centers, campuses

- Gaming applications
  - Chemistry
  - Business
Challenges for Education

- Student expectations for technology support
- First to feel the impact of new technologies
- Integration of new technologies into existing infrastructure and processes
- Assessment of learning outcomes
- Commitment of leadership
- Viability and long-term relevance
# Five Steps To Transformation

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Step 1

Create a Compelling Vision
Understanding Your Institution’s Needs and Gaining Consensus

- Educational Goals
- Mission
- Departments:
  - Curriculum & Assessment
  - Technology
  - Professional Development
  - Human Resources
  - Facilities
  - Transportation
- Funding
- Support from Board and Community
Benefits of Building the Vision

- Develops inter-departmental, administration and community consensus
- Establishes strong partnership with staff, students, parents and community
- Articulates long term plan that addresses: Support, scalability and sustainability
- Differentiates your institution from other
- Creates new support opportunities for institution as “hub” and economic driver in the community
Step 2

Connect All Buildings
<table>
<thead>
<tr>
<th>Faculty Workspace and Administration</th>
<th>Facilities</th>
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<tbody>
<tr>
<td><strong>Data</strong></td>
<td><strong>PA (Intercom)</strong></td>
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<td>Routers</td>
<td><strong>Clocks &amp; Bells</strong></td>
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<td><strong>Fire</strong></td>
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<tr>
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Connect All Buildings

Data
Voice
Video Streaming
Video Conferencing
PA (Intercom)
Video Monitoring
Building Controls
Clocks and Bells

IP Network
Secure the learners' environment

Object Video Video Analytics

Various Sensor Aggregation Vendors
- Vialogy
- Augusta

Cisco IPICS

HTTP

Cisco Video Surveillance Manager

MRCP

Nuance TTS

HTTP

Athoc

Berbee Informacast

Cisco Digital Media System

Cisco Unified Communications
Cisco Mobility – Anytime, Anywhere, Any device

Unifying the Mobility Network

Applications
- Conferencing
- Messaging
- Telemetry
- Alerting
- Inventory
- Management
- SCM
- CRM
- Device Mgmt/
- Troubleshoot
- Presence
- Assembly Line
- Monitoring
- ERP
- Physical Access
- control
- Secure Client
- Connectivity

Middleware

Open API

Mobility Services
- Mobility Services Engine
- Context Aware
- Adaptive Wireless IPS
- Secure Client Manager
- Mobile Intelligent Roaming
- Voice
- Guest Access
- Spectrum Intelligence

Unified Wireless Network
Controllers

Open Source Protocols

Network Access
- Ethernet
- Cellular/WiMAX
- Wi-Fi
- Zigbee
- UWB
- RFID

Device
- Cisco Compatible - Unified Mobility Client

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Next Gen Data Center: Network-Driven Service Orchestration

Coordinated provisioning and reuse of physical and virtualized compute, storage, and network resources

- Operational cost savings
- Faster and simpler service orchestration
- Robust virtualization scale-out
Benefits of Connecting the Schools

- Provide wired and wireless secure access to important data by authorized users anytime, anywhere
- Reduced number of wiring runs, management systems and expert resources
- Elimination of or reduction in operating costs
- Flexibility for your network to evolve as student population expands or declines
- Ability to offer new enhanced services
Step 3

Develop Staff and Teacher Proficiency
Empower Teachers with Technology

- **Applications**
  - Curriculum portal/software
  - Grade books
  - Student Information Systems

- **Devices**
  - Interactive white boards
  - PDAs
  - Touch screens
  - Laptops and/or tablet PCs
  - IP phones with communication applications
  - Projectors
  - Video conferencing/on demand

- **Robust professional development**
Benefits of Empowering Teachers

- Allows teachers to master technologies first, and then assimilate them into the classroom
- Integrated systems and curriculum, offer 24-hour access to data, opportunity for collaboration and best practice sharing
- Automates time consuming processes for more time with students
- Provides tools for teachers to create engaging learning environments
Step 4

Create Student Learning Environments
Student Centered Productivity

- 21st Century Skills
- Fluent users of Word Processing, Excel, PPT, Digital Integration
- Internet based Research
- Collaboration
- Anywhere, Anytime, Anyway Learning
Expanding the Classroom

- Video Conferencing
- Video on Demand Courses
- Video Streaming
- Digital Production
Expanding the Resources

- Centralized Resources: “Digital MarketPlace” Model
  - Amazon + iTunes
  - Smaller, Relational Portions of Specific Content
  - Media Rich
  - Rating and Ranking
  - Curriculum Builder
  - LMS Integration

- Publisher/Content – Direct Correlation to National/State Standards and Testing
Cisco TelePresence

- Collaborative research
- Administration and cabinet meetings
- Dissertation defense
- Campus interviews

- Professor office hours
- Student collaboration
- Distance learning
- One-on-one classes
- Cross-campus meetings
Cisco Desktop Video: Delivery of Live and On-Demand Video

Classroom Video/Distance Learning
Replace “Pushcart VCRs” with the Video Portal—extend the classroom and use video for College prep courses, missed classes, specialized virtual classes

Administration/Community Communication
Video on-demand for staff communication and community updates/information

School Event Broadcasts
Broadcasting videos of sporting events, graduation, theatrical productions, school board meetings

External Marketing
Provide video on-demand for potential students, donors, etc. to learn more about the school offerings and to position as a leader in technology
Cisco Digital Signage: Deliver Real-Time Schedules, News, and Information

Daily Updates/Promotion of Special Events
Highlight special events or information specific for that day and time such as schedule changes. Replace posters/flyers.

Directional
Digital campus maps that can be updated as necessary for various events such as sporting events, graduation, guest speaker events

Safety/Emergency Broadcasts
Instant and scalable notification and evacuation information
Step 5

Build a Community
Create 21st Century Learning Environments

- Live or on-demand
- Distance learning programs
- Simulations and virtual environments
- Collaboration and content creation
- Video/Rich Media
- Assessment and prescriptive learning
Extend to the Home

- On-Line Services
  - Access to Curricular Material
  - Access to Homework Files
  - Access to Attendance and Grades
  - Access to School/Home Financial Info
    - Bus Passes
    - Text books, Library Books
    - Fees & payment
  - Directories and Email
  - Access to meetings, conference calls
  - Collaborative Community Input
The Benefits

- Creates individualized education model for both students and teachers
- Expands breadth and depth of curriculum and professional development offerings
- Enables effective learning at any hour of the day or night, from anyplace, on or off school grounds
- Promotes lifelong learning
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Fact of the Matter…

- Technology is here to stay
- Technology will continue to accelerate and evolve rapidly
- Each generation of students will bring newer technologies
- Institutions are at the forefront and need a strategy to plan for and adapt to new technologies
Recommendations…

- Enable all learning resources
- Stimulate a culture of inquiry and exploration
- Inspire self-service learning outside campus boundaries
- Applaud experimentation with new mediums and technologies
- Encourage students to customize and take control of their learning experience