Breaking Down Borders in Education

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Education Faces Many Challenges

Cisco Connected Learning Can Help You Meet Your Goals

- Safety and Security
- Administrative and Operational Efficiency
- Next-Generation Learning
- Increased Performance Outcomes
- Enhanced Teaching Effectiveness
- Parent Engagement

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It's About Creating New Connected Learning Models

Student Experience and Learning Innovation

1. Acquire and retain students
2. Manage student experience
   - Drive innovative new teaching and learning models
   - Improve quality of student experience
   - Scale experience

Faculty and Administrative Productivity

3. Bridge/connect information siloes
   - Improve administrative efficiency by automation and interconnection of information
   - Staff development
   - Leverage global resources

The Key Change:
Increase the Engagement Level between Students and Teachers Leveraging Networked Media

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Placing the Interaction Where the Student Is

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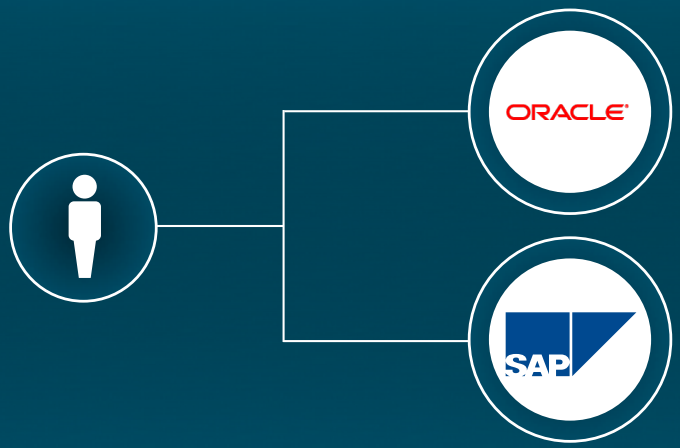
Market Transitions

From Printed to Digital

Then

- Purchase textbooks
- Buy and deploy an application



Now

- Download wirelessly with ebook readers
- Cloud services

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Transition to Collaborative Teaching and Learning Environments and Models

Not So Long Ago…		Today…
Primarily single source: teacher, text Largely asynchronous	**Information**	Multiple sources, multiple applications, multiple devices Non real-time and real time, interactive
Inside the classroom, school	**People**	Dispersed students, teachers, and knowledge sources around the world
Static and pre-defined	**Communities**	Dynamic work and project teams
You find information, people	**Context**	Right time, right people, right resource
Inside the firewall, walled off	**Security**	Inclusive, selective, fluid

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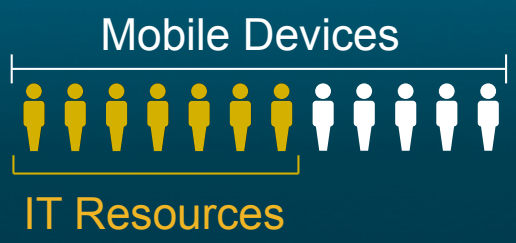
Expectations and Technology Drive Transformation

Mobility

- 1.3 Billion new networked mobile devices in next three years



Learning Experience

- Blurring the Borders:

  Expectations from learners, teachers and parents are shifting

Video

- 60% of all Cisco network traffic today is video

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The Transformation

The World Is Our New Classroom

CONNECTING

Students	Teachers	Staff/Administration

A Next Generation Architecture to Deliver the New Connected Learning Experience

The Borderless Network

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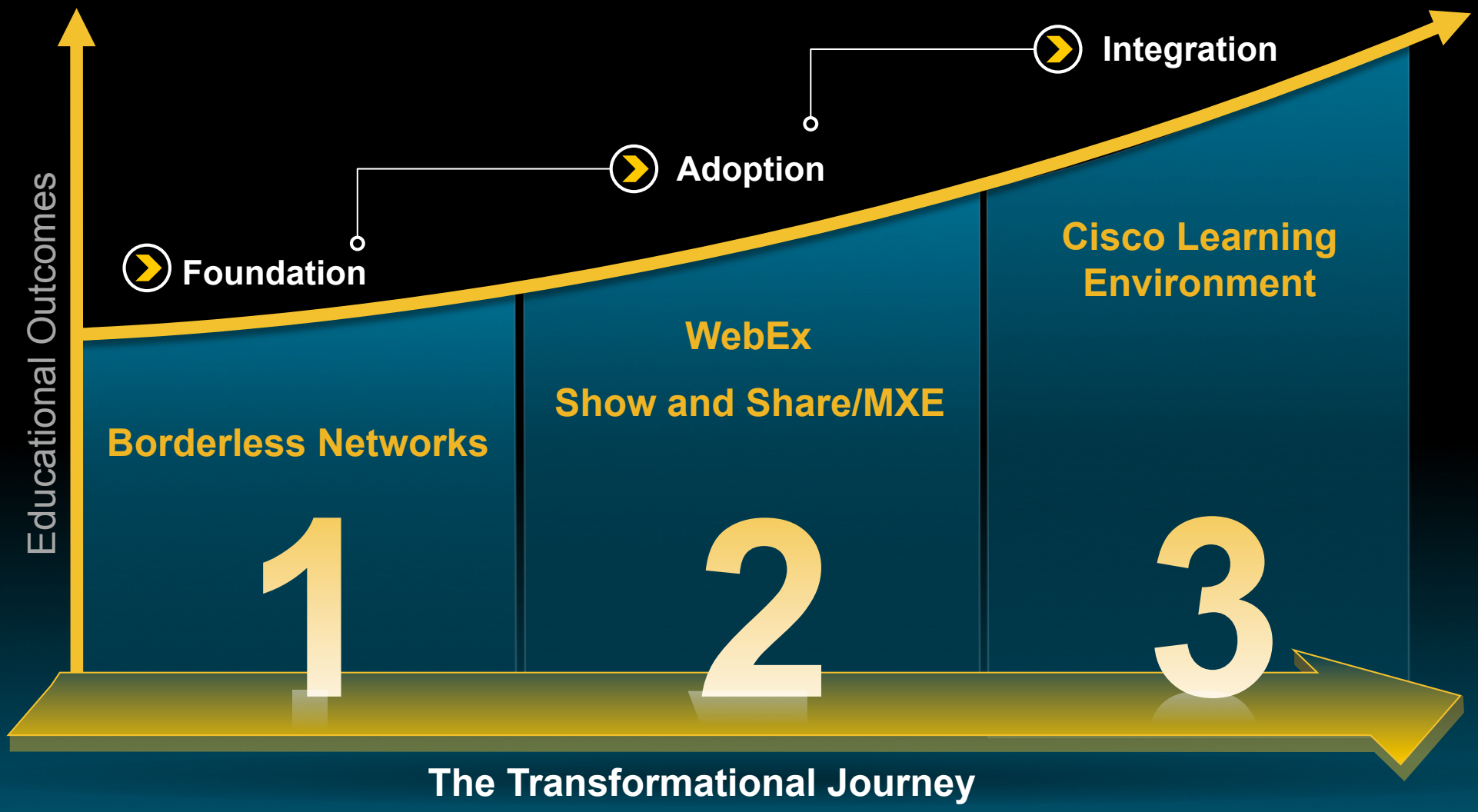
Using Video to Expand and Enhance Access to Learning



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Borderless Networks

Architectural Approach: Education Plus Technical

Education Architecture

- Enable next-gen learning
- Do more with less
- Enhance safety of students and staff

Technical Architecture

- Delivers flexibility to address shifting borders
- Enhances productivity
- Improves operational efficiency
- Provides high quality experiences

Borderless Networks Enables Educators to Increase the Learning Experience and Attract New Talent

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Borderless Networks

Architecture for Agile Delivery of the Borderless Experience

Borderless End-Point/User Services

Mobility

Workplace Experience

Video

Securely, Reliably, Seamlessly: AnyConnect

Borderless Management and Policy

Borderless Network Services

Mobility: Motion

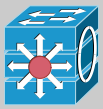
Green: EnergyWise

Security: TrustSec

Performance

Video: Medianet

Infrastructure

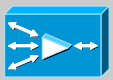


Switching

Routing

Wireless

Security



WAAS

Borderless Network Services

Mobility

- Deliver reliable, high performance wireless anywhere on campus with Cisco Aironet 802.11 access points
- Deploy access points cost-effectively with Power over Ethernet on Cisco Catalyst Series Switches
- Track assets and facilitate security with context-aware (location) services
- Unify schools wired and wireless networks with integrated services
- Support real-time video streaming with Cisco Media Ready wireless

Student/Teacher/Staff Productivity

- Anywhere information
- Anywhere applications
- Preferred device
- Network just works

IT Efficiency

- Network consolidation
- Optimized transport
- User Friendly
- Centralized Policy

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How Borderless Networks Enables the Learning Experience

Network Services
Reliable , Secure, Efficient Connectivity

User Services
Mobility, Workspace Experience and video on a Common Fabric

Policy
Dynamically Linking Users, Devices and Applications

Integration
Consolidated Data, Video, Energy, Automation

Experience
Virtualized Devices and Resources, Anytime, Anywhere

Borderless Networks for Education

Enhancing the Connected Learning Experience

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Cisco Mobility Solution

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The Choice is Clear

Only Cisco Delivers True Business Mobility

Device

Client

- 90% of laptops Cisco compatible
- Secure Services Client (CSSC)

Access

Access Points

- Indoor and Outdoor
- Modular, 802.11a/b/g/n

Control and Visibility

Wireless LAN Controllers and Management

- Centralized management
- Flexible, scalable (1000s of APs)
- Radio resource management

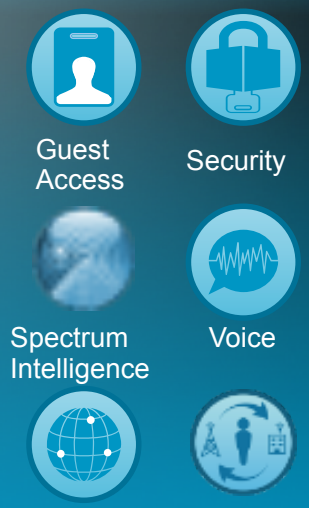
Service and Performance

Wired Network Services

- Unified Security and Management services
- Mobile Unified Communications

Mobile Applications

Mobility Services



- Mobility Services Engine

Professional Services

Increase the performance, scalability and ease of deployment of your 802.11n wireless network

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Ubiquity and Performance from Wireless

Cisco 802.11n Wireless Networks

More Throughput

Faster Transactions

Larger Scale

More Simultaneous Devices

Better Reliability

Consistent Application Experience Anywhere

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Cisco Compatible Extensions

Consistent Application Delivery on 90% of Mobile Devices

BlackBerry
NOKIA
SAMSUNG

WebEx Meetings for BlackBerry

Voice

CISCO
POLYCOM
SONY

Single Number Reach

Management

Intermec
Motion Computing
MOTOROLA

Inventory Management

Security

Cisco Unified Wireless Network

- Faster Roaming
- Ensures QoS
- Emergency Service

- Troubleshooting
- Remote Diagnostic
- Reporting

- Standardized Authentication Framework
- EAP Fast

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Introducing VideoStream Technology

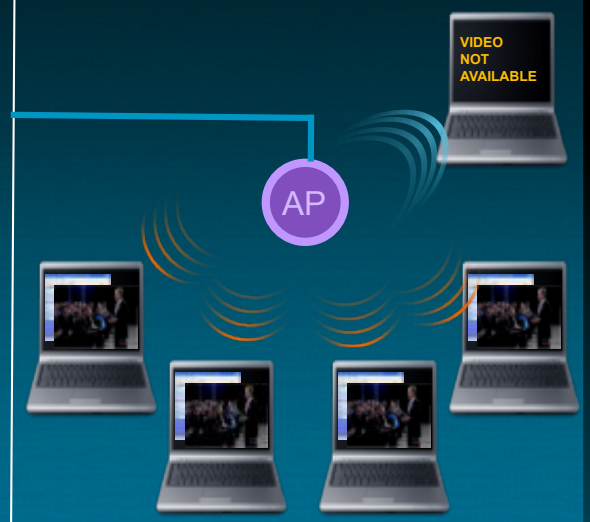
NEW 7.0

Cisco VideoStream Technology is a new system-wide set of features that enable reliable and consistent delivery of quality video over the wireless network

Multicast Direct or Reliable Multicast

Stream Prioritization

Resource Reservation Control



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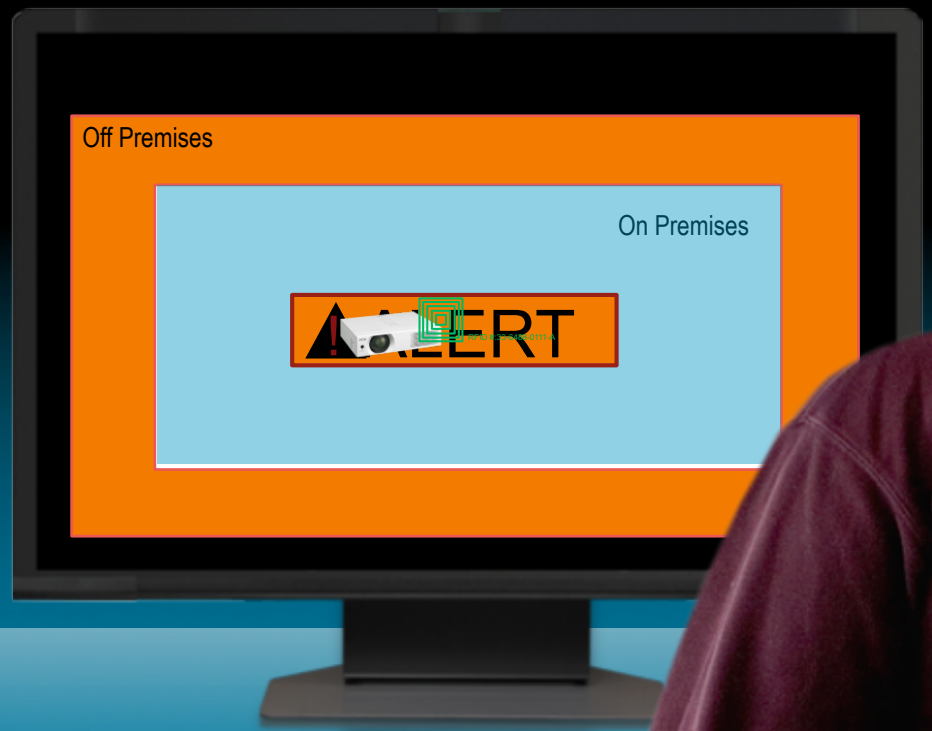
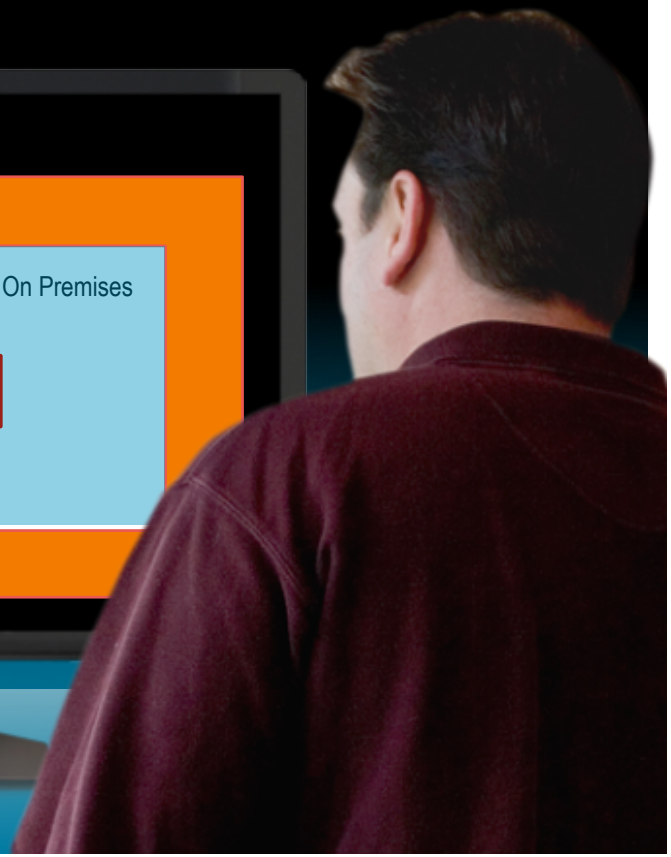
Context Aware
Improve Asset and Network Visibility

Use contextual information to improve business process and productivity:

- Protect intellectual capital and physical assets, improve loss prevention
- Get valuable insights about core business processes
- Improve customer service





Context Aware
Improve Asset and Network Visibility

Use contextual information to improve ideas and gain a competitive advantage

- Protect intellectual capital and physical assets, improve loss prevention
- Get valuable insights about core business processes
- Improve customer service

NetScout
ArcSight
OAT
AeroScout
ekahau

Cisco Wireless Uses an Open Platform that Allows Multiple Technology Partners Develop Applications that Can Run on a Services Oriented Architecture

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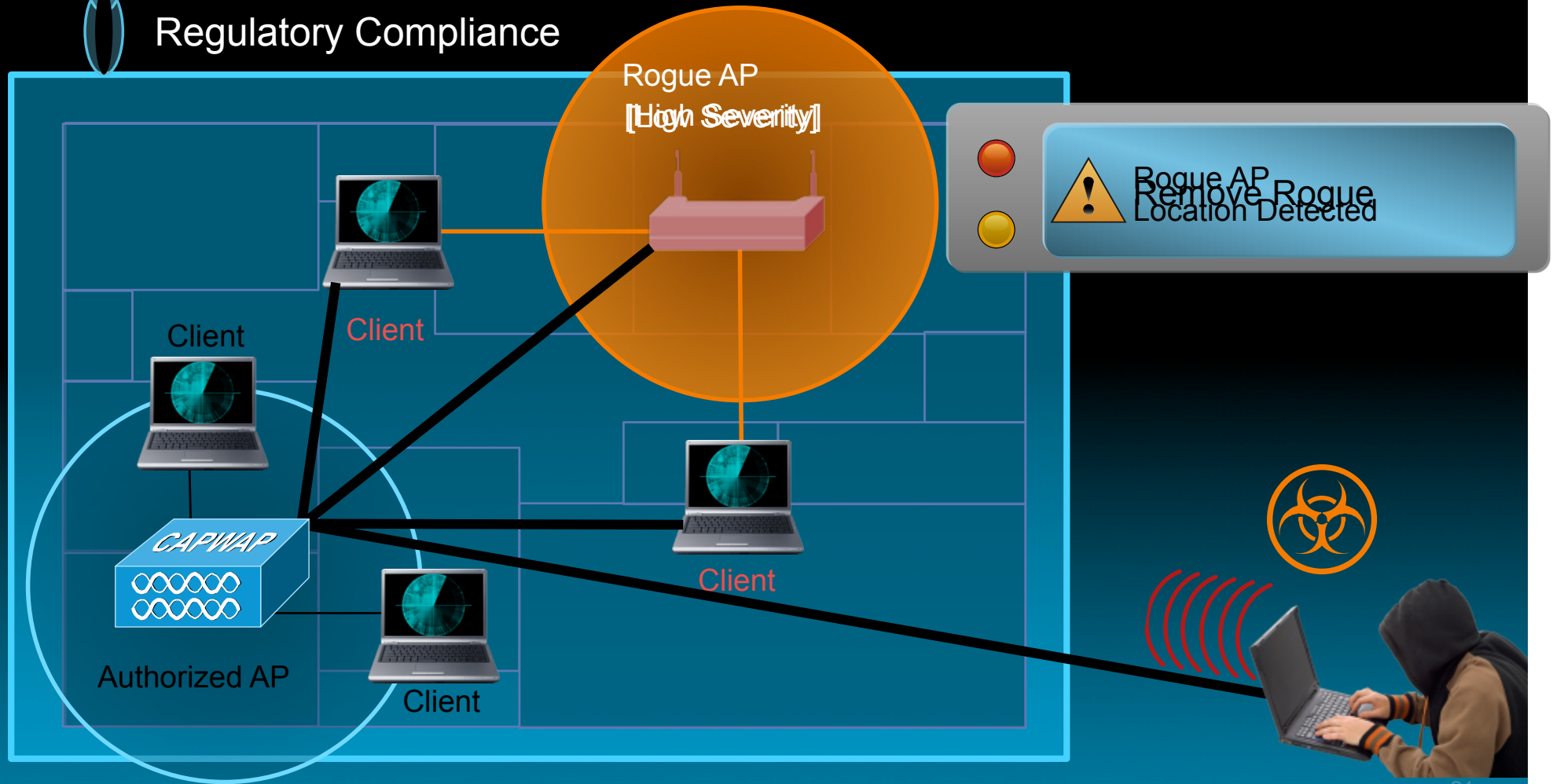
Simplify Security
Easily Track and Defend Against Attacks

- Integrated Security—No Overlay Network Required
- Comprehensive Threat Detection, Classification, Mitigation
- Regulatory Compliance



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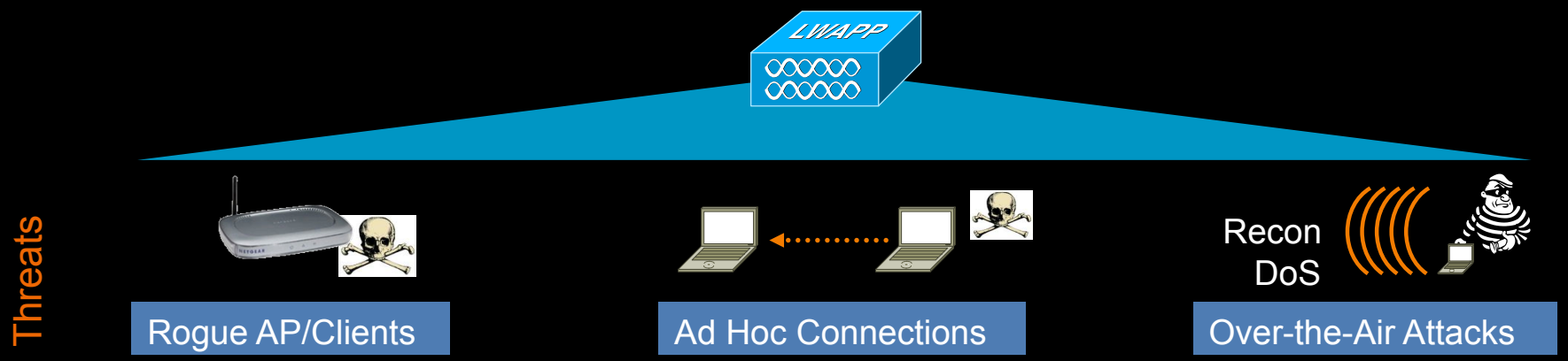
Wireless Intrusion Prevention

Purpose and Components



Threat Management Workflow

Detect → Classify → Notify / Log → Mitigate → Report / Archive

What Is the Threat?

How Severe Is It?

Alert Staff, Raise System Alarm, or Just Log?

What Action Must Be Taken?

End-to-End Record of Event and Actions

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Purdue University

Challenge

- Provide high-speed wireless pervasively on campus
- Support increased use of video and multimedia for learning and social activities
- Reduce costs for network operations
- Support future voice over WLAN capabilities

Solution

- High-performance wireless delivered campus-wide by Cisco Aironet 802.11n access points
- Fast, simplified WLAN deployment and cost-effective centralized management with Cisco Wireless Control System (WCS)
- Improved wireless reliability and predictability for legacy client devices with Cisco ClientLink

Benefits

- Created a highly collaborative education environment
- Improved student satisfaction in high-density areas by providing high-bandwidth wireless access
- Supports new innovative mobile applications that improve student success and retention (HotSeat and Signals)

PURDUE UNIVERSITY

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Summary

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The Transformation
New Borderless Learning Environment

Right User

Anyone

Employee,
Partner,
Customer
Communities

Right Device

Anything

Person / Device,
Device / Device
Information

Right Place

Anywhere

Work, Home,
On the Go…

Right Time

Anytime

Always Works,
Instant Access,
Instant Response

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Learning Without Boundaries

- Anytime, anywhere access to learning
  - Mobility to support administrative, academic, social functions
- Enables personalized and specialized learning
  - Advanced placement, college readiness, remedial instruction
- Provides greater course offerings
  - Remote or rural access
- Enables class participation for those who cannot be in the classroom
- Helps to address quality and staffing/resource gaps

Expect
Get
Save

MORE From Your Borderless Network

- Superior Education Experience
- Enables the Do More with Less
- Keeps Students and Staff Safe
- Optimize Assets and Investments
- Single Point of Service

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