Connected Campus of the University Goce Delcev

Zlatko Brezovski, Neocom
MSc. Zoran Zdravev, University Goce Delcev
Neocom Facts and figures

• Established in May 1990 as shareholder company.
• Complete ICT Solution Provider
• In 2002 Neocom opened own Business Center.
• Branch office in Bitola
• 46 Employees
• Long term partnership with leading vendors
• Cisco Partner since 1999, Premier Partner since 2007
Directions in certification & specialization

Current specializations

- Advanced Routing & Switching
- Advanced Security
- Advanced Unified Communications
- Advanced Wireless LAN
- Express Foundation
- ATP - MDS Fabric Switching

Current certified professionals

- CCSP, CCVP, CCNP
- CCDA x 4
- CCNA x 6
- CSE x 3
Technology Is Key To Development

“The two fundamental equalizers in the global economy are the Internet and education. The Internet is creating unprecedented opportunities for businesses, individuals and governments and the winners will be those with the right skills and knowledge to compete.”

John Chambers
President and CEO
Cisco Systems, Inc.
# 3-Step Strategy To Transforming Higher Education

<table>
<thead>
<tr>
<th>Step 1:</th>
<th>CONNECT</th>
<th>Build a global campus that ensures physical and virtual secure access to educational resources and personnel</th>
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<tbody>
<tr>
<td>Step 2:</td>
<td>ENABLE</td>
<td>Move to student-centric teaching and learning</td>
</tr>
<tr>
<td>Step 3:</td>
<td>TRANSFORM</td>
<td>Expand innovation to create a true 21st century college, a lifelong “campus without walls”</td>
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</tbody>
</table>
# 3-Step Strategy – ICT Implications

<table>
<thead>
<tr>
<th>Step 1: CONNECT</th>
<th>Enable Anytime, Anywhere Access</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Improve collaboration and provide continuous access to information and resources by students, faculty, and staff—anywhere, at any time with secure wireless access.</td>
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<tr>
<td></td>
<td><strong>Create Intelligent Buildings</strong></td>
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<tr>
<td></td>
<td>Deliver all building services over a single, centrally managed campus data network to reduce costs, increase safety and security, and support new services that enhance campus life.</td>
</tr>
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<table>
<thead>
<tr>
<th>Step 2: ENABLE</th>
<th>Create a Virtual Campus for Remote Learning</th>
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<tr>
<td></td>
<td>Reach students anywhere, any time, by blending fully interactive and recordable audio, video, and Web conferencing capabilities.</td>
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<tr>
<td></td>
<td><strong>Protect Staff &amp; Student Data and Intellectual Property</strong></td>
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<tr>
<td></td>
<td>Provide comprehensive protection with an integrated network security solution that includes secure connectivity, adaptive threat defense, and trust and identity management capabilities.</td>
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<tr>
<th>Step 3: TRANSFORM</th>
<th>Integrate Technology for Future Growth</th>
</tr>
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<tr>
<td></td>
<td>An integrated voice, video, and data network is a solid foundation for offering advanced services to help recruit and retain students and faculty, and to extend a school's reach into the community.</td>
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## Students Expect Technology

<table>
<thead>
<tr>
<th>What They Want</th>
<th>When They Want It</th>
<th>Where They Want It</th>
<th>How They Want It</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broad choice, personalized and simple</td>
<td>On demand, available always</td>
<td>Everywhere, follow me</td>
<td>Flexible, with no platform, access or device restriction</td>
</tr>
</tbody>
</table>

### Content
- Expand the breadth of offerings and services to a wider audience

### Collaboration
- Seamless integration of applications to ensure ease of use

### Communication
- Integrate technology into the teaching and learning environment
Connected Campus

Academic Excellence - Global competition/globalization of learning & research, creating leaders of tomorrow, university without walls, innovation

Administrative Efficiency – Offer scalable services that address highly diverse needs of different colleges & disciplines, cost effectiveness

Virtual Teaching & Learning Platform
- IP Video for Education
- Virtual Classroom
- Content Delivery Network

Smart Campus
- Campus Connect (CCRE for Edu)
- Campus Secure
- Wireless Campus
- Physical Security Solutions

Education Network Platform

IT Architecture
- Mobility
- Security
- Routing Switching
- Data Ctr & SANs
- Unified Comms

NRENs
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NRENs
Education Network Platform

Components and Characteristics

- Storage Computing for Research Labs and Data Centers
- Virtualized Network Services
- Collaborative Applications for Faculty, Students & Administrators
- Resilient Interactive
- Mobility, LANS, WANS
- Responsive Protected
- Secure Student Records & Research Data

Education Network Platform
Solid Architectural Foundation
Education Network Platform

- Virtual Classroom Server
- Call Manager
- Unified Messaging
- Network Management
- Location Services
- Content & Application Hosting

Virtualized Servers

- LAN Switch
- Firewall
- Content Engine & Filtering
- Content Delivery Manager
- Email, Web File Store
- Backup
- ERP
- Learning Management System

Education Data Center

- Campus Connect Network
- Virtual Classrooms
- Router with Content Engine Module

- Internet
- Libraries/Museums Research Institutes
- Remote Experts
- Mobiles/PDAs
- Desktop PCs
- Video Conferencing
- Wireless Access Points
- IP Phones
- IP CCTV

- National Research & Education Network (NREN)
- Research Clusters
- Virtual Server Clusters
- Leased Lines
- Satellite
- DSL
- Wireless

- Faculty/Student Homes
- Research Grids
What is Cisco’s Network Platform for Education?

- An optimized network architecture for the education sector.
- The foundation for a rich & highly scalable Connected Learning environment enabling real-time academic research, collaboration, experimentation and discovery.
Unique network-centric approach differs from server-based architecture.

Industry-leading scalability with virtually unlimited capacity for ingest, storage, and streaming.

Non-stop service availability by allocating resources across all Content Delivery Engine based on subscriber demand.

Exceptional network efficiency by delivering any content from ingest to play within 300 ms.
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NRENs
IP Video Solution

• Delivers educational video content live and on demand to classrooms anywhere.

• Addresses multiple learning styles by using a technology that enables a visual and aural learning experience.

• Enables faculty & students to communicate and collaborate more effectively with geographically dispersed audiences

• Provides for sharing of resources through digital storage and easy recall of lectures and course materials.
Video over IP Delivery Models

- TelePresence
- Unified Conferencing
- Digital Signage
- Live Webcasting
- Video on Demand

Cisco Network
Универзитет „Гоце Делчев“

- Идеја стара повеќе од 30 години
- Основан 27 март 2007
- Прва студиска година 2007/2008
- 14 факултети и 3 институти
- Интегриран универзитет, како и најголем дел од универзитетите во Европа
Универзитет „Гоце Делчев“

- Повеќе од 5500 студенти
- 95 професори,
- 142 асистенти,
- 97 административен и помошен персонал
- Објекти со повеќе од 25000 м² корисен простор
Факултет за информатика – јули 2007
Факултет за информатика - јули 2007
Факултет за информатика - май 2008
Факултет за информатика – мај 2008
ICT Инфраструктура...

 Во јули 2007 започнавме со планирање.
Баравме највисоки стандарди на светско ниво

  • Servers, Data storage
  • Network equipment
  • VoIP
  • Software
УГД – WAN
Штип – Ректорат - Факултети

ФРГП, ПФ, ЗФ

Ректорат

Фак. за информатика

Студентски град

Должина на оптичка патека
5000 м.

Моментална состојба на оптичко поврзување

Втора фаза на оптичко поврзување

Музичка академија

Библиотека

ВЗШ

Економски фак.
УГД WAN
Штип – Струмица - Кочани
LAN – пасивна опрема

- Гигабитна мрежа во сите објекти
- Пасивна опрема:
  - кабел Cat7
  - Patch panel / outlet Cat6a
- 65000m инсталиран кабел
- 2500 приклучни места
LAN – активна опрема, телефонија

- Активна опрема:
  - Switch Cisco Catalyst 4507R, 3560G
  - Router Cisco 3825
  - Cisco ASA 5520
- IP телефонија (Neotel VoIP + ISP)
  - Cisco Unified Call Manager 6.01
  - IP телефони Cisco
IBM System x3550

DS4800

TS3100
Инсталярирана Microsoft серверски технологии

- Windows Server 2008
- SQL 2005
- Exchange 2007
- SharePoint Server 2007
- Certified Authority
- ISA Server
- Front End + Forefront Antigen
- SCOM, SCCM, SCDPM
Инстилирањи Microsoft апликации

- Office 2007 Professional
- Македонски интерфейс
- Користење на македонска поддршка
- Интегриран со сите апликации
- Останати Office апликации по потреба
- Visual Studio 2008 – на Информатика
Инсталирани наменски апликације

- Е-Индекс - .NET, MS SQL
- DocuShare - Xerox
- E-learning - Learning Gateway + Moodle
- Финансиско работење - Linux
- HR / MS - .NET, MS SQL
- Контрола на пристап и на работно време
- Основни средства, телефонија, возила
- Приемни испити – Real Time информација
Настава,
Истраживања,
Конекција Универзитет-Стопанство
Кадри, подготвени веднаш да започнат со работа

- Образование + пракса
- Неформално образование:
  - Microsoft ИТ академија
  - Cisco академија
  - ИБМ академија
- Интегрирање во курикулумот
Нашата Визија

Универзитет,
современ, по Европски критериуми, организиран и базиран на информатичка технологија!
Благодарам!

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