



BUCKNELL UNIVERSITY

Building a One Card system... from Scratch

Jason Friedberg, Chief
Department of Public Safety,

Robert Pickering, Manager
Card Services Office, and

Steve Hoover, Business Services Analyst
Finance Office

March 10, 2009

Bucknell



7000 Cards...

300 Doors...

48 Buildings...

8 Months!!!

Bucknell



About Bucknell

- Bucknell is the largest liberal arts university in the United States
- 3400 Undergraduate & 200 graduate students
- 1700 Faculty & staff members
- Students from 46 states, 58 countries
- 27% selectivity rate (most selective)
- Campus is 650 acres
- 130+ buildings

Bucknell













Purpose & Objectives

- Discuss catalysts for the increases to awareness and spending security on campus
- How to begin a comprehensive security project
- Service vs. Security
- Marketing
- Technology Leveraging & other considerations
- Lessons Learned



The Catalysts

Salient Events that have increased awareness and spending

- Jean Clery 1986; subsequently the Clery Act
- September 11th 2001
- Pandemic Planning 2006
- April 16th 2007 & Valentines' Day 2008
 - Virginia Tech & NIU



Size & Scope

- Number of Buildings
 - 48 building (Phase 1)
 - 80 additional (subsequent phases)
- Number of Doors
 - 285 doors
- Wiring for laundry (pre-planning)
 - 33 readers
- Type of Doors
 - Access controlled v. Delayed Egress
- Scope Creep
 - Who has input should be established ahead of time



Usage

- On and off campus; or just one
 - What currently exists
 - How will it integrate
 - What's the timeframe for usage expansion
 - What are the Benefits
- Stakeholders & Buy-in
 - Students, Faculty, Staff, Trustees, Alumni
 - Dining & Vending; on campus
 - Off campus merchants
 - Financial Institutions



Budgeting

- Where are the funds coming from
- Quasi-endowment Budget
 - May require trustee level approval
- Multi-phased
- Capital Budget requests
- Multi-Year



Bid vs. Design-Build

- Design-Build
 - saves time
 - streamlines process
 - Issue/problem ownership
- Bid
 - Allows tighter pricing
- Questions
 - Trust & relationship
 - Availability of resources in the area (GC, EC's)
 - Industry Recognized Company



New v. Old Construction

- Existing standards v. creation of new standards
 - Who decides what works and what doesn't
- Existing system v. new install
 - Can there be integration
 - What are the cost associated with integration
- Compatibility
 - Legacy systems (technology)
 - Dining Services / Systems CSGOLD
 - Copier system



Integration

- Backend
 - Security, residential, finance
- Existing systems (Cbord, Blackbord, Software House)
 - Laundry
 - Dining
 - Vending
 - Cameras
 - Data migration
 - Data linkage
 - Allowable customization (or vendor creation only)
 - Data Synchronization



Technology

- What do you have and what do you need
 - Magstripe...Proximity...iClass...fobs...iButtons
 - Range for each system
 - Wired or Wireless
- How will you attach to building
 - Casing
 - Recessed, cover, box
 - What is the effect of recessed readers?
 - ADA bollards
- Do you have a One Card System
 - Will the upgrades be integrated into the system
 - Does the Manager understand how it will effect
 - Purposes (security or convenience)



Information & Data

- What should you have ready to begin the project
 - Building schematics/way finding/drawings/as-builts
 - What format are they in
 - Wiring structure (line runs)
 - Entity relationship diagrams
- Is your data standard and uniform
 - Campus infrastructure (utils/underground/capacities...)
 - Long-term campus master plans
 - Special considerations
 - Brown space/remediation information



Consultant choice

- The most important decision you will make!!!
- Questions to ask
 - Are you staffed to handle
 - Do you have the experience
 - DO YOU HAVE THE TIME...this is a full time job for our size project
- Will your Construction Department be providing personnel
 - Are they staffed to handle the project
 - Do you have the experience & understanding
 - Do they understand what is driving the process



Doors Types & Hardware

- Interior
- Exterior
- Double doors
- Historic considerations
- Code Requirements
- Fire doors
- Audible v. non-audible alarms
- Glass
- Automated (ezpass)
 - ADA Compliance
 - Religious Consideration
- Maglock v. Electric Strike



Windows

- Are they included in your assessment
 - All first floors access points
- How do you protect them
 - Bars
 - Screens
 - Transparent Film - 3m Ultrafilm to prevent sharding
- What are the costs associated
 - ~ \$500 per window



Network

- Is your network prepared for the upgrade
 - What type will it use
 - TCP/IP
 - Fiber
 - Copper
 - Redundancy
- Capacity (other institutions)
 - Current
 - Expected
 - Available
- Projections (usage/growth)
 - All usage and security upgrades



Construction Administration

- Who is responsible
 - Is it requested in your original proposal
 - Will affect bidding heavily
- Who oversees and processes
 - change orders
 - System sign-off for implementation
 - Warranty admin
- If not the consultant can your institution handle the workload and oversight???



Card Office Creation

- Migration of functionality and production
 - Registrar to Card Office
 - Card Office Location – Choose a **CENTRAL** location
 - Room design & lighting considerations
 - Outsource existing staff and student ID cards
- Policies and Procedures
 - Data migration
 - Card production and design
 - Laminating
 - Security processes
- Data migration
 - Moving current data to new system
 - Integrate with Banner and CSGold



Card production

- Type (plastic v. composite)
- In-house v. Outsourcing
- Printer type & functionality
 - 1 v. 2 sided
 - Thermal v. non
 - Laminating
 - Security film
- Batch production for first run
- Card layout & coloring – preproduction testing
- Creation failure rates (5%-10%)
- Testing (after production)



Schedule

- Overall timeframe (expected v. actual)
- Length & scope of project
- Time of year
- Breaks
- Study/quiet hours
- Daily work schedule (not 7am...)
- Conferences & events



Standards Document Creation

- Develop Standards documents
- Obtain Presidential sign-off
- Document should outline
 - Required inclusion mandatory for all construction new and retrofit from then on
 - Inclusion at *beginning* of all project Current, Future Retrofit construction
 - Cabling standards & runs
 - What if anything can be modified
 - Required v. planned growth



Maintenance

- Who owns it ... and what are the boundaries
 - Facilities
 - Lock-shop
 - Public Safety
- Security Integrator
 - Warranty work
- Problem identification
 - Response time
 - Who's job
- Preventative Maintenance Budget
 - On hand stock



Lessons Learned

- Think about door names & coding prior to installation
- Honest assessment of buildings and required doors
- Be careful of metal
- Be aware of fob and card ranges
- Be aware of iButton limitations
- Recessed readers
- Covers on readers



Other Considerations

- Marketing
 - Student
 - Faculty & Staff
- Handbook Creation & Modification
 - Student
 - Faculty & Staff
 - New v. existing
- Policy & Procedure Manual
 - Who owns
 - Who maintains
- Card Distribution
 - Team Approach



Summary

- These projects are large and overarching
- Hire & maintain a good consulting company
- Create a relationship with your integrator
- Chose a backend that can run new and existing systems across multiple platforms
- Make sure you have buy in from the top

Questions?

Jason Friedberg, Chief
Department Public Safety
Bucknell University

580 Snake Road
Lewisburg, PA 17837
jdf024@bucknell.edu
570.577.3333 or 1584

<http://www.bucknell.edu/PublicSafety>

