

Collaboration Using Electronic Messaging on Campus:



Yesterday, Today, and Tomorrow

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Presenters

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Background on WMU

- Carnegie Research Extensive Institution
- Seven Colleges
- Six Regional Campuses
- 25,000 Graduates and Undergraduates
- 3,500 Faculty and Staff
- Business Technology Research Park
- The Broncos!



The Vision

- Building the network infrastructure
- Then came Wireless Western and strongly recommended laptop program
 - Anytime, anywhere access to resources
- Yesterday – needing a better e-communication infrastructure
 - Multi-platform multi-vendor, end-of-life system
- Today - a new Student Information System and all that goes with it
 - a competitive advantage
- Tomorrow – which option is the right direction?
 - take advantage of the built infrastructure or start anew?



The Challenge

- Better our infrastructure
 - Enhance electronic communication – distribution lists, mass e-mail, single inbox, etc.
- The culture we had to contend with
 - A little “old school”
- The collaborative effort it took
 - Buy-in and leadership at the top



And then along came SIS

- Replace a much needed student information system
- But there were the budget challenges as well
- Not to mention staffing
- Captialized on the opportunity to address data access, assessment, information access and security



The Cultural Impact

- Changes within the administration
- Changes in state funding
- The necessity to work together – functional and technical
- A change of ERP vendors
 - PeopleSoft Financials and HR
- A rapid timeline



The Collaborative Effort

- Collaboration brings IT all together
 - Internal to the IT unit
 - Internal to the organization
 - External to the organization
 - IT and the vendor



The Collaborative Initiatives

- Services targeted to stakeholders
- Electronic Communication
 - Directory, Messaging, Calendaring and IM
- Student Information System
 - GoWMU, iWebfolio, TouchNet, Cognos
- Identity Management
 - ID cards, provisioning, roles-based access
- Sun Center of Excellence
 - Wireless mobility → JES → Identity Management



Initiative Timelines

- Determined the order and urgency with the collaborative dialog and implementation
- Sun JES (the Today) started in Spring 2004 with phased in services throughout the year
- Luminis portal – Summer 2004 with SSO to self-serve applications Summer 2006
- Anti-SPAM initiative – Summer 2006



Electronic Communication Initiative – Today's Intentions

- Implement enterprise directory, messaging and calendar solution
- Migrate existing OpenVMS and UNIX e-mail users
- Changing conventions
 - username@ delivery to firstname.mi.lastname@
 - No forwarding off-campus
 - Requiring all mail host on campus to use one mail gateway for incoming and outgoing delivery



The Collaborative Challenge – Lessons Learned

- Educational process
 - Salesmanship and marketing
- Take advantage of existing governing groups
- Formulation of new governing groups
- When contracting with professional services, allow time for acceptance/buy-in
- Can never start the dialog too early



The Computing Details - Yesterday

- What “technologies” were used to deliver the e-mail services of yester-year
 - Sun hardware
 - Sendmail
 - UW-IMAP
 - Digital/Compaq/HP/?? hardware
 - PMDF Mail
 - Anti-virus protection
 - Symantec SMTP for Gateways



The Computing Details - Today

- What technologies deliver all these various services
 - Sun hardware
 - V1xx, V2xx
 - V280, 480, 880
 - T1000 (CoolThreads)
 - Cisco Content Service Switches (Load Balancers)
 - Sun/StorageTek Storage Area Network
 - Sun/StorageTek Enterprise Backup



Foundation Services

- Enterprise authentication token – “Bronco NetID”
- Kerberos - MIT
- LDAP – Sun Java Enterprise Services Directory
- “Legacy” provisioning services
- IdM - Sun Identity Suite on the horizon



The Services View

- E-mail – (IMAP, SMTP, webmail)
- Luminis Portal – (gowmu.wmich.edu)
- Student/faculty Web Pages (homepages.wmich.edu)
- Blackboard Vista e-learning system
- Interactive Systems (bronco.wmich.edu)
- Departmental Systems (library remote db access, iTunesU)
- External Systems (e.g. iWebFolio)



The New Components

- Sun Communications Suite
 - Messaging
 - Calendar
 - IM
 - Delegated Admin
- Sun JES Directory Services
 - Directory Server Enterprise Edition
 - Directory Server Proxy
- Sophos PureMessage Anti-virus and Anti-SPAM
- GroupWise for administration



The Security View

- Three (plus) -tier network
 - Tier 0 – Internet and Residence Hall Network
 - ----- Cisco PIX Firewalls -----
 - Tier 1 – User Tier (Untrusted Hosts)
 - ----- Cisco CSS Load-Balancer -----
 - Tier 2 – Application Services (DMZ)
 - AuthN and AuthZ (Kerberos, LDAP)
 - User Services – IMAP, SMTP, portal, BB Vista, etc.
 - Proxy Services
 - Application Services
 - Tier 3 – Secure Network Services
 - Secure back-end (core LDAP, message store, databases)

The Current Purple Box Environment - Yesterday



The Current Purple Box Environment - Today





The Performance View

- Back-end services are clustered and highly redundant
 - SunFire V880 systems
 - Veritas HA Cluster
 - Veritas Volume Manager - QoS
 - Dual paths to SAN (HBA and switches)
 - Dual network switch stacks
- Front-end services are load-balanced
- Horizontal scaling wherever possible
 - Multiple SunFire V1xx and V2xx SFF servers



The Computing Details - Tomorrow

- What technologies will deliver what services?
 - Hosted or not
 - IdM
 - Redundancy
 - Need for DR capabilities



The Tomorrow of E-communication?

- Unified communications
 - One-device fits all?
 - Voice integration?
- Free or not to be free?
- Should the U offer e-mail services?
 - Gauranteed delivery for U business?
- Emergency communications
 - When is e-mail/text messaging appropriate?
- Presence in the virtual worlds



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