UNM Enterprise E-Mail, Messaging and Calendaring Assessment Task Force

Project Report

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Executive Summary

The University of New Mexico (UNM) Information Technology (IT) Leadership has received and is endorsing recommendations from an assembled Taskforce chartered to develop campus-wide consensus around the direction of our messaging/calendaring services. The Taskforce was chartered by UNM’s Executive Vice Presidents David Harris, Suzanne Traeger-Ortega and Paul Roth and sponsored by UNM’s Chief Information Officer, Gil Gonzales. A collaborative process was used to gather input and generate discussion about the direction UNM should take to best meet the needs of the students, faculty and staff for messaging and calendaring.

The Taskforce established working groups of technical experts with varied interests and an executive level steering committee representing a wide array of departments. Open forums were held across campus to discuss issues and possibilities for direction regarding our email and messaging environment. A survey was administered and almost 4,000 responses were tabulated along with thousands of individual comments. The discovery and discussion process was analyzed by UNM’s IT governance channel at every juncture of this process. The recommendations contained herein represent the community’s best way to maximize the return on UNM’s investment in tools for messaging and calendaring.

What brought about the discussion on the diversity of UNM’s email and messaging environment was that UNM’s current environment is highly inefficient and its effectiveness is inhibited unnecessarily by organizational boundaries. Four enterprise services are delivered by IT: Communigate for students and 3 GroupWise installations for faculty and staff. In addition to these enterprise services, there are approximately 35 additional e-mail systems in use across the campus. Across all of these platforms, management of roles and responsibilities, back-up and restore procedures, retention and other administration is inconsistent and therefore not reliable for UNM as a whole, from Emergency Management to Audit and Legal. We have a minimum of three redundant projects each time a feature is wanted across the UNM community (Blackberry servers, archiving solutions, etc.).

The administered survey gave us good insight into our users’ needs and preferences and helped us understand that the differences between student, faculty and staff eclipse the differences between organizational requirements of Hospital, HSC, Main Campus and Branches.

- Students are adept at creating their own preferred environments often facilitated by Google or a Mac. 95% of students use their UNM email even as 35% forward to another environment and 70% want a UNM email after graduation. Students express most satisfaction with online services and demand mobility. Many students are concerned about privacy and security for their files online.
- Faculty want greater flexibility in their tool set and is as mobile and connected as students. They have a need for identity with a discipline as much as with the University as a whole, and collaborate across the world. Faculty is very protective of their time and therefore is hesitant to use enterprise calendaring.
Staff are displeased with UNM’s disparate tools, preferring that standards are set and adhered to that will allow their time spent coordinating people and resources be standardized across our organizational boundaries.

The Taskforce reviewed sixteen of our peers’ approach to messaging and calendaring. What we found was that UNM is behind its peer institutions in our failure to move beyond seeing messaging and calendaring as stand-alone applications and understanding that these tools are additionally a platform from which to extend and expand our enterprise systems to connect and communicate more effectively across all our constituencies. Two thirds of our peers are leveraging, and others are planning to use Microsoft’s directory and messaging architecture to include Exchange and Active Directory. Most of our peers have moved or are planning to move student services to a “cloud” service using either Google or Microsoft’s Live@edu.

The Taskforce recognizes significant lost opportunity for UNM by its keeping our fragmented approach to messaging and calendaring. Our teams are busy keeping our systems up to date and communicating with one another, where their efforts could be focused on expansion and modernization. There are applications that could benefit from messaging today (Time Matters for University Counsel, Events Management System for the Health Sciences Center and Student Union Building) but only provide off-the-shelf integration for Exchange and not GroupWise. Our student and faculty are looking for robust mobile solutions that include web clients that work as well from Australia as from Albuquerque, and don’t want to wait until months after this functionality is available to the market leaders.

UNM’s new focus needs to be a reorientation of its investments in messaging and calendaring toward a reimplementation of market leaders (specifically Exchange and Google/Live@edu) and toward a balance of in-house and cloud offerings. A common core infrastructure should be deployed that can be leveraged across all of our organizations so that time and energy can be redirected at enabling our enterprise applications with messaging, including texting appointment times to patients, notifying students real-time of class openings, and letting the EOC know to convene and where. The opportunity costs and efficiency gains mean that this project will invest time and money and still have a favorable return.

The best vision for UNM’s future is one where the UNM community share common directory services infrastructure in support of shared email, messaging and calendaring. This common directory services infrastructure needs to be driven by enterprise level identity management process that provides single UNM wide electronic identities that are provisioned and de-provisioned at an enterprise level. An enterprise Active Directory design has been approved which should serve as the basis for future state directories. However, the identity management process needs to be completed to ensure the solid infrastructure is in place for an enterprise messaging system. The Email Technical Team will be evaluating Microsoft and Google components and recommends the following phased conversion schedule to be complete no later than fall of ’12, with migrations available to departments starting in the fall of ’10, beginning with University Counsel, School of Law and UNM Foundation. Fixes to GroupWise should be rolled out as a final package if the payback is demonstrated over 24 months. Once the implementation is complete, resource requirements across the organization will decrease.
Notably, the vision must be implemented in a way that demonstrates global thinking and local action. Departments must be able to exercise reasonable control of the administration of their users, provided compliance with applicable requirements. This includes, but is not limited to domain identities such as cs.unm.edu, customization web/file and print services, and global access to resources via federated ID projects. At the same time, central IT must be able to have minimum requirements for participation in enterprise systems and ensure that distributed efforts are endorsed and held to security and other standards. To maintain this balance, a Messaging Governance Committee should be established to advise the IT Cabinet and the CIO based on input from the myriad of messaging stakeholders on campus.

The CIO should report on this effort quarterly to the EVP’s.
Problem Statement

The Taskforce identified the following initial problems as a starting place in their discussions with the UNM community.

- Without a common tool set, we work harder.
- Hard to find resources because of lack of easy to use, complete, and authoritative directory.
- Need for complementary technologies to work well with solution (unified messaging, BES, etc.).
- Need for easier mobility of the workforce.
- Need for better integration into our backend systems (ERP / CRm / Marketing).
- With investing in a common core, systems can be unreliable.
- Need for solution to be scalable.
- Increased cost effectiveness.
Background

The E-Mail, Calendaring and Messaging Taskforce was created by the UNM Chief Information Officer on behalf of EVP’s David Harris, Susan Traeger-Ortega, and Paul Roth. The taskforce’s mission was defined by discussions propagated from current state conditions relating to email, calendaring, and messaging. These open discussions revealed dissatisfaction among faculty, students, and staff regarding most of our incompatible communication tools.

The Taskforce is comprised around three groups. The Technical Core team was established to carry out the core work of the task force. The Technical Advisory team was established to assist the Technical Core team and provide additional expertise at the end user level. The Steering Committee was established to provide overall direction and guidance to the Technical Core and Advisory teams. This was one of the first CIO initiatives to use the collaborative roadmap designed by the CIO’s office to facilitate UNM wide collaborations.

Members of the three groups, steering committee, core technical team and technical advisory team are shown in the following tables:

<table>
<thead>
<tr>
<th>Enterprise Email Steering Committee Representatives</th>
<th>Core Technical Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Department</td>
</tr>
<tr>
<td>Kevin Stephensen</td>
<td>VP for Research</td>
</tr>
<tr>
<td>Dale Hendrickson</td>
<td>Zimmerman Library</td>
</tr>
<tr>
<td>Michele Hunley</td>
<td>Human Resources</td>
</tr>
<tr>
<td>Carol Parker</td>
<td>Law School</td>
</tr>
<tr>
<td>Ron Margolis</td>
<td>UNMH</td>
</tr>
<tr>
<td>Mary Ann Castillo</td>
<td>Valencia Campus</td>
</tr>
<tr>
<td>Owen Ellard</td>
<td>HSLIC</td>
</tr>
<tr>
<td>Chris Vallejos</td>
<td>Institutional Support Services</td>
</tr>
<tr>
<td>Anne Murray</td>
<td>University Counsel</td>
</tr>
<tr>
<td>Kim Kloeppe</td>
<td>Student Affairs</td>
</tr>
<tr>
<td>Linda Pardo</td>
<td>Finance &amp; University Controller</td>
</tr>
<tr>
<td>Tim Thomas</td>
<td>Faculty Computer Use Committee</td>
</tr>
<tr>
<td>Alex Han</td>
<td>Los Alamos</td>
</tr>
<tr>
<td>Kenedi Pollard</td>
<td>Health Sciences</td>
</tr>
<tr>
<td>Prof. Rob Del Campo</td>
<td>ASM</td>
</tr>
<tr>
<td>Prof. Karl Benedict</td>
<td>Arts &amp; Sciences</td>
</tr>
<tr>
<td>Cinnamon Blair</td>
<td>University Marketing</td>
</tr>
<tr>
<td>G. Christine Chavez</td>
<td>Internal Audit</td>
</tr>
<tr>
<td>Prof. Jedediah Crandall</td>
<td>SOE</td>
</tr>
</tbody>
</table>

Administrative Support: Sally Bowler-Hill, Jane McGuire, Virgie Pino
The Taskforce documented the current state using both internal and external scans. Eight open forums throughout the UNM campus and an extensive survey were used to engage campus stakeholders. Finally, the Taskforce synthesized this information, performed a gap analysis and looked at options. This project report and a pending proposal report are the two primary documents produced by the Taskforce.

The detailed reports of the internal scan, external scan, synthesis / gap analysis and options are included in the appendix of this report, as well as a summary of the survey. This report summarizes the key points of each of these reports.
Based on feedback from both the forums and the survey, the Taskforce identified the following requirements as being important for any enterprise e-mail, calendaring and messaging solution.

- Local administration of e-mail
  - Manage own distribution lists (groups)
  - Ability to quickly add users
- Ease of use / simplicity / intuitive
- Integrated calendar systems (instead of separate EMS, UNM Today, etc.)
- Cross-platform solution for clients (Windows, MAC OS, Linux, web access)
- Secure
- Reliable (extremely high up-time)
- Better archive / storage ability
- Standards around e-mail and calendar systems
- Ability to interface with a variety of systems (such as EMS, SharePoint, TimeMatters)
- Ability to access from anywhere
- Single contact list / source
- Ability to aggregate external accounts into a centralized system

One of the key features that should be included in a solution is the ability to interface with other systems. This is a key driver to having standards around the e-mail and calendar systems. It is important to understand that the market sets these standards as vendors write interfaces to those products they perceive as the market leaders.
UNM's messaging and calendaring environments have been decentralized for some time. While the largest installation holds accounts for nearly all students, staff and faculty, many departmental and organizational units have had their own email and/or calendaring systems that meet their particular needs. Largest amongst these is the salud.unm.edu GroupWise system, which serves UNMH and HSLIC. In addition, there are approximately 35 more mail systems of varying size and description serving specific departments and groups. We were unable to determine exact number of users for those departments, but believe most are of similar scope to Anderson School of Management (ASM).

<table>
<thead>
<tr>
<th>Domain/Dept/System</th>
<th>Students</th>
<th>Staff</th>
<th>Faculty</th>
<th>Affiliates/Alumni</th>
</tr>
</thead>
<tbody>
<tr>
<td>unm.edu/UNM-wide Main Campus/CommuniGate</td>
<td>50,056</td>
<td>18,453</td>
<td>2,134</td>
<td>2,513</td>
</tr>
<tr>
<td>salud.unm.edu/UNMH/GroupWise</td>
<td>N/A</td>
<td>6,070</td>
<td>N/A</td>
<td>632</td>
</tr>
<tr>
<td>salud.unm.edu/HSLIC/GroupWise</td>
<td>2,373</td>
<td>2,596</td>
<td>2,304</td>
<td>1,647</td>
</tr>
<tr>
<td>unm.edu/Main Campus/GroupWise</td>
<td>434</td>
<td>2,400</td>
<td>79</td>
<td>291</td>
</tr>
<tr>
<td>law.unm.edu/College of Law/Exchange</td>
<td>350</td>
<td>155</td>
<td>75</td>
<td>15</td>
</tr>
<tr>
<td>mgt.unm.edu/ASM/Exchange</td>
<td>0</td>
<td>75</td>
<td>45</td>
<td>30</td>
</tr>
</tbody>
</table>

Key points about having these multiple systems are:
- There is no uniform method for account creation and maintenance, and users potentially have multiple user ids and passwords to maintain (audit finding)
- No consistent method for syncing with mobile devices
- No consistent method for leveraging tools
- A lot of manual work, mainly on the administrative side

Based on feedback from the forums, the following key items were identified as important to the participants:
- Decision around centralized single system vs. separate system for students – leadership must drive the overall strategy
- Solution must encompass mobile devices / access from anywhere, anytime
- Solution must allow local administration of distribution lists and possibly users
- Solution must include ability for departments to have their own e-mail identity (i.e. mgmt.unm.edu, law.unm.edu, etc.)
- Integration / interfacing is a key requirement – especially for the calendar piece but also e-mail – single interface was the top choice on the survey and in the forums
- Client needs to be intuitive, simple, easy to use and possibly offer independence of client and multiple platforms (Windows, MAC OS, Linux); good web access
- System must be secure – students are concerned about security / does this potentially draw us back toward a single system
- Training is a key to success of any system selected – must be fully integrated in the solution.

The survey had 3,863 responses, including 2,606 students, 421 faculty and 764 staff. Of these 73% had @unm.edu as their primary account and 12% had @salud.unm.edu as their primary account. Additionally, 75% used windows as their client computing platform and 22% used the MAC OS. Faculty was the highest MAC users at 30%. Salud users reported 85% windows use.

Similarly, 97% responded that it was critically important or important that UNM provide a common tool for e-mail. When asked the same question about calendaring, 79% thought it was important and 8% indicated they didn’t use calendaring. However, staff response was 94% favoring common tool, with only 3.2% not using calendaring.

The satisfaction rating for e-mail and calendaring is presented in the following tables:

<table>
<thead>
<tr>
<th>E-Mail</th>
<th>Student</th>
<th>Faculty</th>
<th>Staff</th>
<th>Salud Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google/online</td>
<td>97%</td>
<td>97</td>
<td>97</td>
<td>95</td>
</tr>
<tr>
<td>Exchange</td>
<td>79</td>
<td>89</td>
<td>85</td>
<td>78</td>
</tr>
<tr>
<td>GroupWise</td>
<td>70</td>
<td>60</td>
<td>70</td>
<td>71</td>
</tr>
<tr>
<td>WebMail</td>
<td>53</td>
<td>59</td>
<td>68</td>
<td>69</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Calendar</th>
<th>Student</th>
<th>Faculty</th>
<th>Staff</th>
<th>Salud Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online</td>
<td>92%</td>
<td>93</td>
<td>94</td>
<td>91</td>
</tr>
<tr>
<td>Exchange</td>
<td>79</td>
<td>78</td>
<td>84</td>
<td>70</td>
</tr>
<tr>
<td>GroupWise</td>
<td>69</td>
<td>48</td>
<td>70</td>
<td>69</td>
</tr>
<tr>
<td>WebMail</td>
<td>75</td>
<td>57</td>
<td>68</td>
<td>63</td>
</tr>
</tbody>
</table>

We have three quite distinct user groups:

- **Staff**
  - Prefer order and predictability in community usage of tools
  - Don’t understand why we are so fragmented since it impacts their productivity
  - Are more likely to use a Desktop and hence are less mobile
  - 80% use GroupWise, 92% use Windows
  - Spend time bridging systems manually

- **Students**
  - 95% of students “use” their UNM email (and hated the Portal to Webmail move)
  - Most students (2/3) do not forward their mail meaning the other 1/3 does prefer to stay in their environment.
  - Expect THEIR mobile device to reflect their data wherever they store it
  - More than 70% want a UNM email address after graduation

- **Faculty**
  - Identity and Local control/flexibility are essential
  - Do not like the idea of a public calendar
  - Half of faculty use GW
- Use cloud tools to coordinate with colleagues at other institutions
- Are just as “connected” as students; they use the cloud just as much
- Client independence is important to faculty

In conclusion, UNM’s current messaging/calendaring remains distributed and inefficient from a management and user-to-user communication standpoint. There is no UNM IT standard for messaging, calendaring, instant messaging or associated communications, thus there is no guidance for how to set up and manage a single system. Because of this patchwork landscape, resources are not available to provide the support needed to take full advantage of even the simplest and most centralized system.
External Scan

The vast majority of UNM’s peers are using or are expected to transition to Microsoft Exchange as their messaging/calendaring collaboration system. A rich campus-wide directory provided the base for the transition and enabled the exploration of cloud computing strategies. They also are looking at cloud computing strategies as a way to contain costs and offer certain cohorts an experience more in line with their expectations. While there is no perfect, one-size-fits-all solution, most campuses trust that as the market leader, Exchange will continue to provide all of the robust enterprise features it is known for, as well as the flexibility to accommodate emerging technologies and solutions.

One of the key points, in looking at the general industry trends, is that the market has set standards based on how vendors are coding their products. Vendors are writing their code to work with Microsoft Exchange, whereas a lot of other e-mail solutions aren’t included in those vendors’ offerings.
Gap Analysis

The following highlighted gaps were identified by the task force:

• As a service, UNM messaging/calendaring is radically distributed and fundamentally inefficient
• Training and support is inconsistent and ineffective and there is significant confusion about how to communicate effectively across campus
• The current foundation cannot support important strategic initiatives such as cloud computing or integrated applications that are enabled by a truly centralized messaging/calendaring system
• We can’t get off the shelf integration with GroupWise
  – Time Matters (Legal)
  – EMS (Events)
  – SharePoint
• The lack of integration between current systems and inability to invest current resources in any of these systems compromises their functionality and utility to end users. For example:
  – Our communications folks can’t send to “all UNM nurses”
  – Why can’t I wirelessly sync my Palm Pre and other handset operating systems with GW?
  – Lack of mobile functionality impacts faculty productivity

When viewed collectively, the reports from the Internal Scan, External Scan, Survey and Forum working groups suggest that the gap between UNM’s current state and a more cost effective, efficient and productive future state is developing a cohesive strategy to consolidate, structure, standardize, train and support a campus-wide solution. There are many variables to consider when choosing a strategy for that solution and they are discussed in the options report, which is summarized in the next section.
Alternatives

As the task force looked at options, the following important points were considered:

- 84% of constituents want a “single interface” (88% for Salud) and 77% want a common systems (71% for Salud)
- Our constituents are looking for more integration with messaging/calendaring
- Although satisfaction with GW per se is not bad, the system lags
- Student expectations are high and in-house expenses to support them are growing, thus making that cohort a strong candidate for an integrated outsourced solution

In broad strokes, and remaining solution-agnostic, there are really only two options. Both are part of a progression that is part technological, and part organizational or procedural. With either option we have an opportunity to work more closely together and share the support burden across units. Potentially this represents a new model of support for enterprise systems (shared support across IT support organizations) where that service is provided in a more holistic way.

**Option 1: Consolidate and connect our multiple systems**

The first option is to stay with existing products, continuing efforts to consolidate services and provide strategic connections or connectors between services. The first option continues efforts that are already underway to consolidate systems and organize architecture in a more logistical manner. This option would involve inviting everyone to the table, but also looking for new ways to improve existing services. It would include:

- Continue status quo, but with a clearly defined direction toward consolidation
- Build interfaces, based on standards, between centralized messaging/calendaring platforms and potential applications that may tie into them
- Advantage example: less disruptive, less initial project outlay
- Disadvantage example: more cost over 5 years in maintaining integration and potentially continued user confusion/efficiency.

**Option 2: “One System.”**

The second option is to move all centralized systems to what is determined as an ‘ideal single system’ and structure the move to be accompanied by a top level mandate to use the system in a certain way when business critical workflow depends on it. Note that the ‘ideal single system’ may not be a single product and may not be on site, so therefore it may merit further investigation. Those are more granular choices that apply to both options (though the One System approach scales better and costs less – economies of scale and reduction of administrative overhead).
Key components of this direction are:

- Provides a platform for consistent and efficient collaboration
- Integration between directory foundation and applications are done on a one-to-one, not one-to-many basis and thus are more cost effective
- Current software can now be better “tailored at the edges” with client independence
- And... students in the cloud can still be considered a component of “one” system with a stronger likelihood of fully addressing their security and privacy concerns.
Recommendations

The task force, in conjunction with IT leadership, is recommending the following direction be considered and adopted by UNM leadership:

• Functional/Organizational
  – Look at email/messaging as a means to strategic ends
  – Create a common core infrastructure – a common directory needs to be a part of this
  – Design in flexibility and control for academic departments: ease up on “controls”
  – Design to enable Departmental identity
  – Allow client options with parameters
  – Govern the one solution formally

• Technical
  – Adopt the market leader(s) solution set
  – A higher priority is to enable integration other UNM systems
  – Evaluate cloud options
  – Platform must sync with “all” mobile devices
  – Platform must be reliable: Business Continuity/Disaster Recovery

The task force recommends the following next steps:

• Form team to assess the costs, ROI and technical fit and schedule for these possible components
  – Exchange, local, hosted and Software as a Service (SaaS)
  – Google, Live@edu
  – How these options can integrate with our directory services and our applications
  – How these options will be properly resourced

• Finalize toolset decisions and implementation plan
  – Learn from peers, search out best practice
  – Upgrade local Exchange 2010 and meet immediate needs (Legal, Foundation)
  – Make improvements to GroupWise environment(s) when there is payback

• Prepare final recommendations in the form of a project proposal to EVP’s
• Form solid project team …. With good PM skills to implement more than just a technical project
• Make IDM / AD implementation a priority
  – Identity management must be in place with clear policies regarding identity and provisioning (single identity across campus, automatically provisioned and de-provisioned, common directory)
  – Accomplishing the common identity must be an enterprise priority and properly resourced
• Where possible, roll out aggressively to minimize total cost of conversion
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Appendix A - Survey Summary

General

3,863 responses of which
- 2,606 were students
- 421 were faculty
- 764 were staff
- 487 were Salud only (50 students, 113 faculty, 294 staff)

The e-mail accounts were distributed as follows:
- 72.9% were @unm.edu
  o 81.9% for students
  o 55.5% for faculty
  o 52.2% for staff
- 12.1% were @salud.unm.edu
  o 1.9% for students
  o 27.0% for faculty
  o 38.5% for staff
- 5.0% were other UNM affiliated (i.e. @law.unm.edu or @mgmt.unm.edu, etc.)
  o 3.4% for students
  o 10.5% for faculty
  o 7.5% for staff

44.9% had 2 or less e-mail accounts and 55.1% had 3 or more accounts
- 57.4% students with 3 or more accounts
- 48.0% faculty with 3 or more accounts
- 51.4% staff with 3 or more account

The client computing platform used most by each group were:
- Windows - 75.3%
  o 72.5% for students
  o 66.9% for faculty
  o 89.1% for staff
  o 84.6% for Salud only
- Mac OS – 21.9%
  o 24.5% for students
  o 30.0% for faculty
  o 8.8% for staff
  o 13.4% for Salud only
98.1% responded e-mail was critically important or important, and 77.8% responded that calendaring was critically important or important. 10.9% said they didn’t use calendaring.

- Students – E-mail importance was 97.4%, Calendar importance was 73.8% (12.0% didn’t use)
- Faculty – E-mail importance was 99.5%, Calendar importance was 75.0% (16.1% didn’t use)
- Staff – E-mail importance was 99.3%, Calendar importance was 92.5% (4.3% didn’t use)
- Salud only – E-mail importance was 99.6%, Calendar importance was 88.9% (6.7% don’t use)

Other messaging tools importance (critical or important) was:

- Instant messaging / chat – 49.8% with 21.5% saying they don’t use
- Texting – 60.0% with 20.0% saying they don’t use
- User / group updatable web sites (such as SharePoint) – 26.7% with 54.2% saying they don’t use
- Social networking sites – 40.6% with 26.5% saying they don’t use
- Class websites, including WebCT – 71.9% with 19.7% saying they don’t use
- Departmental websites – 73.1% with 14.7% saying they don’t use
- Google / Yahoo groups – 40.8% with 40.6% saying they don’t use

97.4% responded that it was critically important or important that UNM provide a common tool for e-mail.

- Students – 97.3% favor common tool
- Faculty – 95.4% favor common tool
- Staff – 98.8% favor common tool
- Salud only – 99.4% favor common tool

78.8% responded that it was critically important or important that UNM provide a common tool for electronic calendars, with 8.1% saying they don’t use electronic calendaring.

- Students – 74.8% favor common tool, with 9.0% not using tool
- Faculty – 75.8% favor common tool, with 11.0% not using tool
- Staff – 94.0% favor common tool, with 3.2% not using tool
- Salud only – 91.0% favor common tool, with 4.6% not using tool

83.6% responded that they strongly agree or agree that the next generation of e-mail/messaging/calendaring should be implemented as a single interface for all. 12.6% responded they are neutral on this.

- Students – 84.3% want single interface
- Faculty – 78.6% want single interface
- Staff – 84.1% want single interface
- Salud only – 88.0% want single interface

77.1% responded that they strongly agree or agree that the next generation should be a common e-mail/messaging/calendaring solution. 17.3% responded they are neutral on this.

- Students – 78.1% want common systems
- Faculty – 68.5% want common systems
- Staff – 78.3% want common systems
- Salud only – 71.1% want common systems
E-Mail

Importance of messaging / e-mailing with following groups:

- Faculty
  - 95.4% students rated as critical or important, 2.4% don’t use this
  - 98.8% faculty rated as critical or important, 0.2% don’t use this
  - 86.5% staff rated as critical or important, 8.4% don’t use this
  - 89.4% Salud only users rated as critical or important, 7.0% don’t use this

- Staff
  - 82.2% students rated as critical or important, 6.8% don’t use this
  - 96.9% faculty rated as critical or important, 0.7% don’t use this
  - 99.2% staff rated as critical or important, 0.0% don’t use this
  - 97.9% Salud only users rated as critical or important, 0.4% don’t use this

- Student
  - 88.5% students rated as critical or important, 2.8% don’t use this
  - 95.7% faculty rated as critical or important, 1.0% don’t use this
  - 75.5% staff rated as critical or important, 12.4% don’t use this
  - 73.3% Salud only users rated as critical or important, 14.8% don’t use this

- Colleagues at other institutions
  - 54.5% students rated as critical or important, 22.6% don’t use this
  - 92.5% faculty rated as critical or important, 1.7% don’t use this
  - 84.7% staff rated as critical or important, 6.4% don’t use this
  - 85.4% Salud only users rated as critical or important, 7.8% don’t use this

- Community members
  - 55.0% students rated as critical or important, 20.3% don’t use this
  - 82.7% faculty rated as critical or important, 3.2% don’t use this
  - 77.5% staff rated as critical or important, 8.6% don’t use this
  - 74.1% Salud only users rated as critical or important, 9.4% don’t use this

How often they use the following e-mail services for their UNM work or school:

- UNM WebMail / Portal Mail – 67.9% multiple times or daily; 10.2% don’t use
  - Students – 81.0% percent multiple times or daily; 4.4% don’t use
  - Faculty – 45.6% percent multiple times or daily; 19.6% don’t use
  - Staff – 33.8% percent multiple times or daily; 25.7% don’t use
  - Salud only – 26.9% percent multiple times or daily; 34.1% don’t use

- GroupWise – 27.8% multiple times or daily; 58.2% don’t use
  - Students – 11.5% percent multiple times or daily; 71.8% don’t use
  - Faculty – 36.2% percent multiple times or daily; 53.9% don’t use
  - Staff – 77.5% percent multiple times or daily; 15.6% don’t use
  - Salud only – 97.1% percent multiple times or daily; 1.0% don’t use
· Exchange – 18.8% multiple times or daily; 77.0% don’t use
  o Students – 11.7% percent multiple times or daily; 73.7% don’t use
  o Faculty – 19.4% percent multiple times or daily; 74.5% don’t use
  o Staff – 17.7% percent multiple times or daily; 74.1% don’t use
  o Salud only – 6.3% percent multiple times or daily; 82.8% don’t use
· Gmail / Yahoo / online service – 60.7% multiple times or daily; 19.9% don’t use
  o Students – 67.7% percent multiple times or daily; 15.1% don’t use
  o Faculty – 50.0% percent multiple times or daily; 29.3% don’t use
  o Staff – 42.2% percent multiple times or daily; 31.3% don’t use
  o Salud only – 44.7% percent multiple times or daily; 32.5% don’t use

How satisfied they are with these e-mail services:
· UNM WebMail / Portal Mail – 55.8% very satisfied or satisfied
  o Students – 52.9% very satisfied or satisfied
  o Faculty – 58.8% very satisfied or satisfied
  o Staff – 67.7% very satisfied or satisfied
  o Salud only – 69.1% satisfied or satisfied (291 users)
· GroupWise – 68.9% very satisfied or satisfied
  o Students – 70.2% very satisfied or satisfied
  o Faculty – 59.7% very satisfied or satisfied
  o Staff – 70.4% very satisfied or satisfied
  o Salud only - 71.5% satisfied or satisfied (480 users)
· Exchange – 81.6% very satisfied or satisfied
  o Students – 79.5% very satisfied or satisfied
  o Faculty – 88.8% very satisfied or satisfied
  o Staff – 85.0% very satisfied or satisfied
  o Salud only – 78.2% very satisfied or satisfied (55 users)
· Gmail / Yahoo / online service – 96.7% very satisfied or satisfied
  o Students – 96.6% very satisfied or satisfied
  o Faculty – 96.7% very satisfied or satisfied
  o Staff – 97.3% very satisfied or satisfied
  o Salud only – 95.5% satisfied or satisfied (308 users)

Calendar

Importance of calendaring / scheduling of people and resources with following groups:
· Faculty
  o 75.2% students rated as critical or important, 19.4% don’t use this
  o 83.5% faculty rated as critical or important, 13.8% don’t use this
  o 71.7% staff rated as critical or important, 20.4% don’t use this
  o 76.8% Salud only users rated as critical or important, 19.3% don’t use this
• **Staff**
  - 64.1% students rated as critical or important, 25.0% don’t use this
  - 77.7% faculty rated as critical or important, 16.9% don’t use this
  - 92.3% staff rated as critical or important, 5.7% don’t use this
  - 85.4% Salud only users rated as critical or important, 11.6% don’t use this

• **Student**
  - 76.2% students rated as critical or important, 17.1% don’t use this
  - 75.4% faculty rated as critical or important, 16.9% don’t use this
  - 52.8% staff rated as critical or important, 33.4% don’t use this
  - 50.1% Salud only users rated as critical or important, 37.9% don’t use this

• **Colleagues at other institutions**
  - 42.6% students rated as critical or important, 41.3% don’t use this
  - 57.6% faculty rated as critical or important, 25.1% don’t use this
  - 51.0% staff rated as critical or important, 29.1% don’t use this
  - 52.0% Salud only users rated as critical or important, 31.1% don’t use this

• **Community members**
  - 48.2% students rated as critical or important, 35.9% don’t use this
  - 47.6% faculty rated as critical or important, 28.5% don’t use this
  - 49.4% staff rated as critical or important, 31.2% don’t use this
  - 44.9% Salud only users rated as critical or important, 33.7% don’t use this

How often they use the following calendaring services for their UNM work or school:

• **Portal calendar** – 6.4% multiple times or daily; 77.1% don’t use
  - Students – 7.1% percent multiple times or daily; 74.6% don’t use
  - Faculty – 2.7% percent multiple times or daily; 88.3% don’t use
  - Staff – 5.7% percent multiple times or daily; 79.7% don’t use
  - Salud only – 6.4% percent multiple times or daily; 81.3% don’t use

• **GroupWise** – 20.2% multiple times or daily; 77.1% don’t use
  - Students – 5.5% percent multiple times or daily; 83.7% don’t use
  - Faculty – 21.8% percent multiple times or daily; 68.9% don’t use
  - Staff – 68.8% percent multiple times or daily; 20.8% don’t use
  - Salud only – 68.7% percent multiple times or daily; 18.9% don’t use

• **Exchange** – 9.3% multiple times or daily; 80.7% don’t use
  - Students – 7.8% percent multiple times or daily; 80.9% don’t use
  - Faculty – 11.4% percent multiple times or daily; 82.5% don’t use
  - Staff – 13.5% percent multiple times or daily; 78.9% don’t use
  - Salud only – 4.9% percent multiple times or daily; 88.7% don’t use

• **Gmail / Yahoo / online service** – 19.3% multiple times or daily; 61.7% don’t use
  - Students – 19.6% percent multiple times or daily; 59.4% don’t use
  - Faculty – 22.2% percent multiple times or daily; 64.2% don’t use
  - Staff – 16.7% percent multiple times or daily; 68.1% don’t use
  - Salud only – 20.4% percent multiple times or daily; 64.8% don’t use
How satisfied they are with these e-mail services:

- **Portal calendar** – 72.7% very satisfied or satisfied
  - Students – 74.7% very satisfied or satisfied
  - Faculty – 56.8% very satisfied or satisfied
  - Staff – 68.3% very satisfied or satisfied
  - Salud only – 62.8% very satisfied or satisfied (78 users)

- **GroupWise** – 67.3% very satisfied or satisfied
  - Students – 69.1% very satisfied or satisfied
  - Faculty – 47.8% very satisfied or satisfied
  - Staff – 70.4% very satisfied or satisfied
  - Salud only – 68.8% very satisfied or satisfied (417 users)

- **Exchange** – 79.9% very satisfied or satisfied
  - Students – 78.8% very satisfied or satisfied
  - Faculty – 77.8% very satisfied or satisfied
  - Staff – 84.2% very satisfied or satisfied
  - Salud only – 70.4% very satisfied or satisfied (54 users)

- **Gmail / Yahoo / online service** – 92.6% very satisfied or satisfied
  - Students – 92.3% very satisfied or satisfied
  - Faculty – 92.8% very satisfied or satisfied
  - Staff – 94.0% very satisfied or satisfied
  - Salud only – 90.7% very satisfied or satisfied (162 users)
Appendix B - Internal Scan Report

UNM Enterprise E-Mail, Messaging and Calendaring Assessment Task Force

Internal Scan

Purpose

The purpose of this document is to describe the current state of UNM’s email and calendaring environments. With a description of the users, uses and technological dependencies, we will be able to understand how to prepare that environment for future needs of UNM’s students, staff and faculty.

Summary

UNM’s messaging and calendaring environments have been decentralized for some time. While the largest installation holds accounts for nearly all students, staff and faculty, many departmental and organizational units have had their own email and/or calendaring systems that meet their particular needs. Largest amongst these is the salud.unm.edu GroupWise system, which serves UNMH and HSLIC. In addition, there are 30-40 more mail systems of varying size and description serving specific departments and groups.

I. Overview

From a network point of view, which provides a large-scale picture that leaves aside any evaluation of the size or uses of the various systems on campus, there are a total of 36 active mail servers on campus allowed to receive mail from the Internet. This is restricted by an Access Control List (ACL) on the network routers that control the flow of traffic inbound to the UNM network. There is not restriction for sending mail to the Internet.

Folding in the perspective of number of users, most (35 or so) of these are relatively small installations (under 200 users). The next largest are those that serve an entire campus or have a presence in a larger department: Law, ASM, etc. Finally, there are the two largest systems: CommuniGate (aka, “Webmail”) and GroupWise.

<table>
<thead>
<tr>
<th>Domain/Dept/System</th>
<th>Students</th>
<th>Staff</th>
<th>Faculty</th>
<th>Affiliates/Alumni</th>
</tr>
</thead>
<tbody>
<tr>
<td>unm.edu/UNM-wide</td>
<td>50,056</td>
<td>18,453</td>
<td>2,134</td>
<td>2,513</td>
</tr>
<tr>
<td>Main Campus/CommuniGate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>salud.unm.edu/UNMH/</td>
<td>N/A</td>
<td>6,070</td>
<td>N/A</td>
<td>632</td>
</tr>
<tr>
<td>GroupWise</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>salud.unm.edu/HSLIC/</td>
<td>2,373</td>
<td>2,596</td>
<td>2,304</td>
<td>1,647</td>
</tr>
<tr>
<td>GroupWise</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
II. Usage and Technical Detail

**CommuniGate**

IT’s CommuniGate mail system serves over 70,000 users and is the mail account that parallels UNM NetIDs. That is, every NetID correlates to a CommuniGate account with the address netid@unm.edu. The vast majority of accounts are students, and that number exceeds the number of registered students due to rules that govern how long a student is allowed to retain their NetID. This system is used by an average of 38,000 users per month (30,000 per week, on average). Users connect to CommuniGate through one of two ways: using a desktop client (25%) and through the Web via [http://webmail.unm.edu](http://webmail.unm.edu) or MyUNM (75%).

Mail inbound to @unm.edu is first filtered for spam and viruses by Sophos PureMessage, an installation of four Red Hat Enterprise Linux (RHEL) servers. The CommuniGate system or “cluster” consists of six RHEL servers that balance load. Mail data is stored on NetApp storage appliances.

**GroupWise**

UNM’s installation of Novell GroupWise covers three major areas: Main Campus (IT, 3500 users), UNM Hospital (UNMH, 4000 users) and the Health Sciences Library and Informatics Center (HSLIC, 4000 users). All mail bound to these systems is spam filtered by the same Sophos gateway.

IT’s installation consists of 3 SUSE/OSE servers and utilizes that OS’s clustering technology. Two additional servers provide Web access to GroupWise.

HSLIC and UNMH’s combined system account for 16 separate domains, 15 post offices and 8 gateways. HSLIC currently has 6000 active users comprising both staff and student accounts. UNMH has about 6500 accounts on their post offices of which around 200 belong to the UNM Medical Group (whose internet domain name of unmmg.org is different than the rest of the system whose internet domain name is salud.unm.edu). The UNM Medical Group does not participate in the HSLIC/UNMH Archiving system and they have a separate post office as they need to maintain some separation between them and UNM, UNMH and HSLIC especially with regards to e-discovery issues. UNMH maintains about 280 non-UNMH employee accounts for contact labor staff and around 100 accounts for VA, Tricore, CNM, First Choice, APS and other affiliates.

<table>
<thead>
<tr>
<th></th>
<th>unm.edu/Main Campus/GroupWise</th>
<th>law.unm.edu/ College of Law/Exchange</th>
<th>mgt.unm.edu/ASM/Exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Users</td>
<td>434</td>
<td>155</td>
<td>0</td>
</tr>
<tr>
<td>Active Users</td>
<td>2,400</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Registered Users</td>
<td>79</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>Additional Users</td>
<td>291</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>
**GroupWise Account Management:**

UNMH employee and Contract Labor accounts are automatically provisioned and de-provisioned with Novell's IdM product. IdM connectors to the UNMH HR system (emPath) and to the Contract Labor data are in place and provide zero day start/stop for employee and contract employee staff. In addition IdM adds/removes users from distribution lists based on position/role. Post Office placement for new users is balanced among post offices by IdM.

Neither IT nor HSLIC has an automated provisioning system. Thus account provisioning (adding) and deprovisioning (deleting) is a manual process.

**Departmental/Organizational systems**

Anderson Schools of Management (ASM) and College of Law are two larger departmental systems (of 250 and 600 users, respectively). Notably both are Exchange systems. ASM’s Exchange environment has recently completed migration to IT’s AD tree and Exchange cluster, but it is still administered by ASM staff.

The remainder of departmental accounts are typically one-server installations, often Linux/Unix and on average below 100 users. The departments and organizations that run their own mail servers do so for similar reasons that pertain to local services they provide. While some administrators of these systems would happily “outsource” the service to central IT, others see more hurdles (technical or cultural) that would be prohibitive. Many of these administrators were amenable to the idea of moving services if there is a clear communication of what IT can offer and what components of the management each administrator would like to retain or relinquish.

**III. Auxiliary and/or “Integrated” systems**

There are many systems that need to be kept on the radar of the current state review.

Primary amongst these is Directory Services/Identity Management. Currently the systems listed above all use different mechanisms for provisioning/de-provisioning and authentication. The CommuniGate system is the only system that uses the main LDAP directory for authentication. The IT/Main campus GroupWise uses LDAP for authentication, but via an indirect feed. The other GroupWise systems are dependent on Novell eDirectory that is separate, and the ASM and Law systems use different AD trees. Departmental/Organizational systems are most likely maintained manually. The bottom line is that there is no uniform method for account creation and maintenance, and users have potentially multiple user ids and passwords to maintain.

Mobile Devices: IT and HSLIC currently maintain Blackberry Enterprise Servers (BES) to provide “over the air” synching with GroupWise. Other devices have different methods for retrieving email, calendaring and contact information from other mail systems, but there is no other consistent method used on campus.
Instant Messaging: GroupWise Instant Messenger is available to GroupWise users, but because of the E-directory configuration, UNMH/HSLIC users cannot IM with IT users.

UNM Alumni Association provides a “forwarding service” to any UNM alumni. One registers with a new username (not based on the NetID) and then tells the system where to forward mail to.

WebCT: While not a messaging system per se, the electronic classroom tool has its own internal messaging and calendar system, which instructors and students frequently use to communicate and collaborate.

Integrated third-party applications: Some desktop applications are tightly integrated with the major players in the email and calendaring market, facilitating a seamless environment between the desktop and other specialized systems. For example, the Event Management System (EMS) used by the SUB can integrate with Exchange via the Outlook client, and the UNM Council’s office uses TimeMatters, which can integrate with several different email and calendaring applications.

Simple mail relaying/Notifications: There are many third-party applications that make use of a separate mail server for notifications and/or business process functions. For example, PPD uses a monitoring tool that emails them regarding environmental conditions in certain facilities; UNM Ticketing sends a summary of tickets sold at the conclusion of every performance at Popejoy Hall, which is then used as the basis for payment to the performing group.
Appendix C - External Scan Report

UNM Enterprise E-Mail, Messaging and Calendaring Assessment Task Force

External Scan

Purpose

The Messaging and Calendaring taskforce conducted an external scan of Commission on Higher Education (CHE) peer institutions to determine the current state, future plans, and new approaches in delivering messaging and collaboration services to their constituents. Both a preliminary scan of peer institutions and detailed scan of selected institutions were conducted. The Taskforce also captured messaging and calendaring industry trends.

Summary

The vast majority of UNM’s peers are using or are expecting to transition to Microsoft Exchange as their messaging/calendaring collaboration system to support faculty and staff cohorts. They also are looking at cloud computing strategies as a way to contain costs and offer certain cohorts an experience more in line with their expectations. The targeted audiences for cloud computing primarily are students, retirees and alumni.

External Scan Current State Matrix

<table>
<thead>
<tr>
<th></th>
<th>Local Exchange</th>
<th>Hosted Exchange</th>
<th>Live@edu</th>
<th>Google Apps</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staff &amp; Faculty</strong></td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td><strong>Students</strong></td>
<td>7</td>
<td>0</td>
<td>3.5</td>
<td>1.5</td>
<td>4</td>
</tr>
</tbody>
</table>

Regarding industry trends, ECAR’s (Educause Center for Applied Research) study describes a “growing divergence in respondent institutions’ electronic communications practices, as the faculty and staff members’ environment evolves in a different direction from the student environment. The most striking example is in the explosive growth of outsourcing of the student email environment, with nearly 2 in 10 respondents reporting that their primary student email systems are now hosted by commercial providers. The story was very different for the primary faculty/staff email system, with only 2.3% reporting that it is hosted commercially. Confidentiality of faculty/staff communications was a concern for institutions that otherwise might consider outsourcing of email services for those constituencies, as were issues of control, security, and support. With students, fewer institutions appeared to be concerned about these issues.”
Preliminary Scan of Peer Institutions

The following 16 public institutions were chosen as peer institutions by the New Mexico Commission on Higher Education (CHE) because they have a similar mix of programs, are comparable in size, and their missions are close to that of UNM. A preliminary current state scan indicating presently used messaging and collaboration tools in use was conducted with these institutions with and without medical schools.

With Medical Schools:

- University of Arizona
  - Faculty/Staff - Pine
  - Students - CatMail, Google Enterprise Apps
- University of Iowa
  - Faculty/Staff - Exchange
  - Students - Exchange
- University of Kentucky
  - Faculty/Staff - Exchange
  - Students - Exchange
- University of Missouri—Columbia
  - Faculty/Staff - Exchange
  - Students - Microsoft live@edu
- University of South Carolina —Columbia
  - Faculty/Staff - Exchange
  - Students - Microsoft live@edu
- University of Tennessee
  - Faculty/Staff - Exchange
  - Students - Exchange OWA
- University of Utah
  - Faculty/Staff - Exchange
  - Students - Exchange OWA
- University of Virginia —Main Campus
  - Faculty/Staff - Exchange
  - Students - Gmail and Microsoft Live@edu
- University of Washington —Seattle Campus
  - Faculty/Staff - Exchange
  - Students - WebPine

Without Medical Schools:

- University of Arkansas
  - Faculty/Staff - Exchange
  - Students - Couple of web mail options
- University of Colorado—Bolder
  - Faculty/Staff – Mirapoint, Exchange for a monthly fee
  - Students – Mirapoint
• University of Kansas Main Campus  
  o Faculty/Staff - Exchange  
  o Students - Exchange  
• University of Nebraska at Lincoln  
  o Faculty/Staff - Lotus Notes  
  o Students - Exchange OWA  
• University of Oklahoma—Norman Campus  
  o Faculty/Staff – Exchange  
  o Students – Exchange OWA  
• University of Oregon  
  o Faculty/Staff – Not clear what it is but not GroupWise or Exchange. They’re beta-testing a new email solution.  
  o Students - Not clear what it is but not GroupWise or Exchange. They’re beta-testing a new email solution.  
• University of Texas at Austin  
  o Faculty/Staff – Exchange  
  o Students – A form of webmail. Project underway to replace it with Microsoft Live or Google.

**Detailed Scan of Peer Institutions**

A detailed scan was conducted using phone interviews. Institutions surveyed include:

• University of Arizona  
• University of Iowa  
• University of Missouri  
• University of Colorado  
• University of Virginia

The questions that were used during each interview focused on campus demographics, messaging and collaboration delivery model, support model, platform/storage/security profiles, other services integration, history/future, and user feedback. The following scripted questions were used in all interviews:

**Campus Demographics:**

1. Number of campuses, student population, faculty/staff population?  
2. How is IT delivered—centrally, departmentally, hybrid, are separate campuses managed centrally, etc.)

**Delivery Model:**

3. How are messaging/calendaring (M/C) services provided?  
   a. centrally provided service? Have you tried before?  
   b. campus-wide outsourced service?
c. departmentally-provided service?
d. student mail outsourced?
e. faculty/staff email centralized internally?

Support/Training Model:

4. How is messaging/calendaring supported?
   a. central helpdesk support?
   b. departmentally supported?
   c. both?
5. Is training provided with M/C solution? If yes, how?
6. What is your strategy for supporting alumni/retirees? How long do they keep their accounts?

Platform/Storage/Security Profile:

7. Which platform?
8. Total server/storage profile?
9. Mailbox quota policy?
10. Archiving policy/systems?
11. Encryption policy/systems?

Other Services Integration:

12. Does your institution provide any integrated services such as SharePoint, some webconferencing services, customer relationship management systems?
13. Is M/C provided as an integrated service or as separate services?

History/Future:

14. How has the M/C delivery model evolved at your institution?
15. What are your future plans for M/C services? Focus on strategy rather than product.

User Feedback

16. What do you perceive your users believe is your system/solution’s greatest strength/weaknesses are?

Conclusion

17. Given your current solution and near term plans, what are the three main factors that define why you are where you are and where you are headed.
Detailed External Scan Results

UNM’s sixteen officially recognized peer institutions were scanned to identify their current email and calendaring system(s) and strategies. The scan consisted of a thorough review of services as described on institutional websites and any associated documentation linked to those websites.

Based on this analysis, twelve use Microsoft Exchange as the primary messaging/calendaring collaboration system for faculty and staff. Of the four institutions currently not providing Exchange to faculty and staff, one offers Mirapoint as a basic service with Exchange being offered as a premium service for a fee; one uses Lotus Notes and has plans to move to Exchange or ‘Hosted Exchange’ (to be described later); one uses Cyrus and intends to change to Hosted Exchange or Google provided services. The fourth is beta testing an undefined new solution.

Five of the sixteen were selected for in-depth interviews with technology managers who could best articulate the current solution, the rationale behind it and the institutions near term plans for developing the service. The team took a balanced approach and interviewed three Exchange schools and three that were not currently running Exchange. The three Exchange schools had no plans to change to a different product or adopt a new strategy in the near future. As noted above, both of the non-Exchange schools that were interviewed by telephone, one running Notes and the other running Cyrus, had plans to change product/strategy to Exchange (either local or Hosted) or in one case, Google services.

There was greater differentiation among all of the institutions when it came to supporting the student cohort, though the dominant product and vendor remained Exchange and Microsoft. When it came to students, schools tended to be much more open to ‘cloud’ like services, be it Software as a Service (SaaS) or hosted services (outsourcing the maintenance of an institution specific system). Of the sixteen peer institutions, seven of the peers use Microsoft Exchange as their primary messaging/calendaring tool for their students. Of the remaining nine peers, three offer Microsoft live@edu; three use some form of web mail on Linux, one offers both Microsoft live@edu and Google Apps; one offers Google Apps and one is in the process of deciding between Microsoft live@edu and Google Apps.

Beyond the simple tally of systems and strategies, several common themes emerged from the telephone interviews:

a) Regardless of organizational structure or solution, the interviewed institutions had well established campus-wide rich directory service in place. The calendaring and messaging solutions were expected to thoroughly integrate with the directory, even if SaaS or Hosting became a better long-term strategy. As important, user communities had valued integrated services over stand alone services. In fact, only one institution did not use an integrated messaging and calendaring platform and this was the primary driver of replacing their current solutions by end of calendar year 2010. None of the interviewed institutions were providing or contemplating centrally provided archiving or encryption services as an integral part of their current programs.
b) All but one of the scanned institutions provided students with email through an external Software as a Service (SaaS) provider such as Google Apps for Education or Microsoft Live@edu. Retirees, alumni and affiliates were also encouraged to use this particular type of outsourced service and falls under the umbrella term ‘cloud computing.’ Please note that conceptually, the more robust the integration between the SaaS solution and the Enterprise solution, the better. The rich directory service mentioned above facilitates this. Also note that a couple of institutions are considering SaaS for faculty and staff cohorts at the next opportunity to reconsider their core email/calendaring solution. Another outsourced ‘cloud solution’ known as hosting is also being considered. The advantages are more of reduced administrative costs than capital investment, but it is clear that peer institutions are actively thinking about how to utilize new cloud computing solutions to contain costs.

c) While the vast majority of peers were using Microsoft Exchange or were planning on moving to an Exchange solution, there were a couple of concerns that should be noted. Currently the lack of an equally robust experience on non-Windows platforms has proven frustrating for the small, but significant number of users not running a Windows operating system. That said, institutions are confident that the latest release of Exchange will offer a much more robust experience for non-Windows users as well as a number of other features that lend themselves to tighter integration with other services, including hosted and cloud computing services.

Industry Trend Scan

The group used the study that was conducted by ECAR (Educause Center for Applied Research) *Spreading the Word: Messaging and Communications in Higher Education* as the primary resource for industry scan. The study offers guidance and direction by examining the institutional messaging and communications environment at large, as well as detailing current and anticipated practices in email, landline telephony, mobile communications and emergency communications and how they fit with institutional strategies. The section on email was particularly useful for our purpose.
Appendix D – Synthesis / Gap Analysis Report

UNM Enterprise E-Mail, Messaging and Calendaring Assessment Task Force

Synthesis / Gap Analysis

Introduction

Many agree that synthesizing internal and external scan information as part of a gap analysis will help an institution compare actual performance with potential performance. At its core, the analysis describes the tension between two questions: "Where are we?" and "Where do we want to be?"

Justifying a gap analysis is often based on an observation that the available resources and service deliverables are not aligned with the organization’s strategic direction. Typical explanations for misalignment include: limited investment in capital or technology maintenance, inefficiencies inherent in current workflow or service delivery systems, operational personnel unable to perform to their potential or an inadequate understanding of customer needs.

The preceding Internal Scan, External Scan and Survey/Focus group sections along with a description of industry trends generally suggest that UNM will benefit from an effort to realign it Enterprise Messaging and Calendaring services. This report summarizes and then synthesizes the information from preceding reports to define gaps in the delivery of these services that should be addressed in the near future.

Synthesis

Internal scan – define current state from systems/service perspective

UNM IT currently offers faculty and staff the option of using any of three UNM email systems: CommuniGate as accessed through UNM Webmail (or various IMAP clients), GroupWise or Microsoft Exchange. The latter two represent full fledged collaboration tools with integrated calendaring and can be used alongside a CommuniGate account, or setup as a primary system.

Students are provided with a CommuniGate account and are also able to communicate with Faculty using the internal messaging tool provided with that system.

Provisioning CommuniGate is an integral part of creating a UNM NetID, but at this time the other systems are provisioned and managed manually. Training for all systems is relatively limited on main campus, though GroupWise has a relatively robust training program established at UNMH. It should be noted that as part of the Microsoft Campus Agreement, official Microsoft online training for Outlook/Exchange is available to all faculty and staff. However, from a support standpoint, the more complex systems have a significant amount of simple account management associated with them, very little end user orientation/training and limited front line support expertise. This compromises the cost/value equation of these systems.
Perhaps most notable is the distribution of system management responsibilities. As previously stated, CommuniGate email, while functionally limited, is completely centralized, available to all cohorts, automatically provisioned and is simple enough so that support overhead is relatively minimal. This is not meant to imply that it is robust enough to meet UNM’s needs; rather it is the only system that is truly centralized and managed with some efficiency.

GroupWise effectively has three deployments: IT, UNMH and HSLIC. While they are integrated to a certain degree, provisioning is different with each installation. Different groups manage each installation thus the features, services and training/support standards differ by each installation.

Microsoft Exchange is a new offering and currently only has one major department using it. However several other departments running their own Exchange servers are fully prepared to consolidate into the UNM IT installation (as opposed to linking/integrating systems e.g. GroupWise).

Perhaps the most distressing finding during the internal scan is that while GroupWise may represent the largest installation of an integrated system and thus a possible de-facto standard, that standard has never been declared and ultimately UNM’s messaging/calendaring framework remains radically decentralized. Currently there are 30-40 departmental messaging/calendaring systems run by departments effectively duplicating the services offered by the three centralized systems. While many of these departments have expressed an interest in consolidation, a number have not for a variety of reasons. As important, usage statistics suggest that often the UNM services are used for one specific function (e.g. calendaring or a specific type of messaging) and the ‘primary’ service is not hosted at UNM. The survey and focus group report describes this in more detail, but it is important to note here when one tries to account for the cost of the administration of all of these systems, let alone the associated end-user support and training. At best, from a system/service delivery standpoint it is costly, confusing and inefficient.

Summary: UNM’s current messaging/calendaring remains distributed and inefficient from a management and user-to-user communication standpoint. There is no UNM IT standard for messaging, calendaring, instant messaging or associated communications, thus there is no guidance for how to setup and manage a single system if there was such. Because of this patchwork landscape resources are not available to provide support needed to take full advantage of even the simplest and most centralized system.

External Scan – Objectively describe current and near term messaging and calendaring systems/strategies for officially recognized peer institutions. Industry trends treated as separate summary identifying current norms future strategies

UNM’s sixteen officially recognized peer institutions were scanned to identify their current email and calendaring system(s) and strategies. The scan consisted of a thorough review of services as described on institutional websites and any associated documentation linked to those websites.
Based on this analysis, twelve use Microsoft Exchange as the primary messaging/calendaring collaboration system for faculty and staff. Of the four institutions currently not providing Exchange to faculty and staff, one offers Mirapoint as a basic service with Exchange being offered as a premium service for a fee; one uses Lotus Notes and has plans to move to Exchange or ‘Hosted Exchange’ (to be described later); one uses Cyrus and intends to change to Hosted Exchange or Google provided services; the fourth is beta testing an undefined new solution.

Five of the sixteen were selected for in-depth interviews with technology managers who could best articulate the current solution, the rationale behind it and the institutions near term plans for developing the service. The team tried a balanced approach and interviewed three Exchange schools and three that were not currently running Exchange. The three Exchange schools had no plans to change to a different product or adopt a new strategy in the near future. As noted above, the both of the non-Exchange schools that were interviewed by telephone, one running Notes and the other running Cyrus, had plans to change product/strategy to Exchange (either local or Hosted) or in one case, Google services.

It should be noted that there was greater differentiation among all of the institutions when it came to supporting the student cohort, though the dominant product and vendor remained Exchange and Microsoft. When it came to students, schools tended to be much more open to ‘cloud’ like services, be it Software as a Service (SaaS) or hosted services (outsourcing the maintenance of an institution specific system).

Beyond the simple tally of systems and strategies, several common themes emerged from the telephone interviews:

a) Regardless of organizational structure or solution, the interviewed institutions had well established campus-wide rich directory service in place. The calendaring and messaging solutions were expected to thoroughly integrate with the directory, even if SaaS or Hosting became a better long-term strategy. As important, user communities had valued integrated services over stand alone services i.e. GroupWise calendaring/email in one screen over separate web browser windows. In fact, only one institution did not use an integrated messaging and calendaring platform and this was the primary driver of replacing their current solutions by end of calendar year 2010. None of the interviewed institutions were providing or contemplating centrally provided archiving or encryption services as an integral part of their current programs.

b) All but one of the scanned institutions provided students with email through an external Software as a Service (SaaS) provider such as Google Apps for Education or Live@edu. Retirees, alumni and affiliates were also encouraged to use this particular type of outsourced service falls under the umbrella term ‘cloud computing.’ The advantages for these cohorts are the ability to not be constrained by institutional procedures and limitations on how the systems are used. By their nature, these services tend to be more ‘social’ in their orientation and cater to a broader, less restrictive, but more casual use of their features. The major benefit to the institutions is significantly reduced cost in terms of storage and being able to focus on the more complex, integrated collaboration tools that are mature and
focused for other cohorts in the enterprise. Please note that conceptually, the more robust the integration between the SaaS solution and the Enterprise solution, the better. The rich directory service mentioned in a) above facilitates this. Also note that a couple of institutions are considering SaaS for faculty and staff cohorts at the next opportunity to reconsider their core email/calendaring solution. Another outsourced ‘cloud solution’ known as hosting is also being considered. The advantages are more of reduced administrative costs than capital investment, but it is clear that peer institutions are actively thinking about how to utilize new cloud computing solutions to contain costs.

c) While the vast majority of peers were using Microsoft Exchange or were planning on moving to an Exchange solution, there were a couple of concerns that should be noted. Currently the lack of an equally robust experience on non-Windows platforms has proven frustrating for the small, but significant number of users not running a Windows operating system. That said, institution are confident that the latest release of Exchange will offer a much more robust experience for non-Windows users as well as a number of other features that lend themselves to tighter integration with other services, including hosted and cloud computing services.

**Summary:** The vast majority of UNM’s peers are using or are expecting to transition to Microsoft Exchange as their messaging/calendaring collaboration system. They also are looking at cloud computing strategies as a way to contain costs and offer certain cohorts an experience more in line with their expectations. A rich campus-wide directory enabled this exploration. While there is no perfect, one-size fits all solution, most campuses trust that as the market leader Exchange will continue to provide all of the robust enterprise features it is known for as well as the flexibility to accommodate emerging technologies and solutions.

**Survey/Forums – capture information about end-user satisfaction about current state services and desired future state.**

Perhaps the most critical feature of this process was to better understand user expectations of current services, how well they are being met and what they would like to see improved. User satisfaction and expectations dramatically shape the overall value equation of any new solution.

The survey/forum workgroup recognized that a survey of any reasonable length could not capture the important qualitative information that they needed for such a broad topic. They chose to survey on general quantifiable topics and glean qualitative information from structured focus groups.

The survey was available from mid-February through the end of March. The response rate was remarkably high (more than 3600 responses). Detailed analyses about the survey responses are included in that section, but very generally the survey suggests:

- Robust messaging and collaboration tools are important to all of the cohorts

- Respondents seemed generally comfortable working with a solution that is readily available, may not be a UNM service and works for them. Thus the level of dissatisfaction with UNM services may not have been what some might have expected because an alternative non UNM solution was satisfactory.
However, this implies a lack of coordination to support more sophisticated collaboration which is impossible to determine in a survey and was more clearly articulated in the forums. In the absence of a centralized, coordinated solution, users make their own choices that seem work, yet they do not necessarily know what they may be missing and they bear the burden of effectively creating and maintaining their own collaboration solution that may or may not align with the people they need to work with.

- The majority of all cohorts selected the most extreme option ‘strongly agree’ that UNM’s next generation email/calendaring system should in effect have a ‘single interface’ and in effect work as a campus-wide system. This sentiment was expressed with equal strength in the forums.

The eight forums over the same period as the survey elucidated more detailed feedback that focused on problems, needs and visions for the future. Opportunities for improvement over the current state included:

- The computer client software needs to be intuitive, integrated and easy to use. Browser access to calendaring and email must also be easy, intuitive and equally capable on a range of browsers. Cross-platform functionality is important.

- The solution needs to provide more localized administration of granular contact lists (e.g. workgroups, classes, departments).

- The solution must be accessible from mobile devices and functionality should not be significantly compromised.

- The system must be secure. Interestingly enough this sentiment was most strongly expressed by the student cohort and is something to keep in mind when considering an outsourced solution for students as many of our peers have. Outsourcing may be a good idea, but it must still feel ‘integrated’ as part of the UNM system and known to interoperate with the rest of the system securely.

Summary:According to the user population is room for improvement in UNM’s current collection of calendaring and email systems. In fact, they, especially students and staff, consider it important for UNM to provide common tools for e-mail and calendaring. While staff find a robust calendaring solution critical, faculty and students did not consider it quite as important, though as stated above, this could be a function of simply not knowing what tools and features are available to them (e.g. students potentially integrating their class schedule with their personal schedule on their phones). Finally, a lack of readily available training for the more feature rich systems was listed as a significant barrier to using them effectively.
Gap Analysis

At a very high level it appears that UNM’s current distributed strategy of allowing users and departments to choose a calendaring/messaging system that they believe meets their needs is inconsistent with strategies employed by UNM’s peers and industry trends for consolidation.

With UNM several large schools/departments are already working with IT on consolidation strategies and survey as well as forum feedback suggest that the UNM community is be ready for a clear messaging/calendaring strategy with minimal overhead and maximized utility and ease-of-use. It has become clear to all that maintaining three centralized systems and approximately 30-40 distributed systems without any interfaces between them is extremely expensive from both an administrative/capital resource standpoint and in terms of the opportunity cost of users not being able to work with each other efficiently. That many UNM faculty and staff must email each other several times to pin down a time to meet is literally 10-15 years behind current practice.

The External Scan and their understanding of industry trends as it applies to higher education likely contain the most useful information in terms of how to refine the current strategy. While it is important to note that Exchange is the solution preferred by the significant majority of peers, it is more important to note how it is used. In some cases it is a ‘premium’ offering with a secondary solution that is not quite as robust. In other cases the student cohort is supported by a separate, sometimes outsourced solution. A couple of peers are considering cloud computing (outsourced) solutions for all of their systems though no firm plans for taking that step have been made. Finally, it is relatively clear with many peers that their strategies are backed by standards, support tracks and training.

The Survey/Forums should not be overlooked as critically important to developing a more cohesive strategy. While all cohorts appear to want a ‘single interface/single solution, many are most pleased with their individual solutions. This suggests a gap in their understanding of what a cohesive strategy could bring them in terms of ease of collaboration with their peers, let alone the power of a tool such as Exchange which integrates with a myriad of other tools. In the current environment user simply do not know what they don’t know because they’ve not been exposed to the type of solution that they seem to recognize is out there. This suggests that while training and support will be critical in helping the community understand how to fully take advantage of an integrated cohesive solution, it will be even more important for UNM leadership to define the foundation of how UNM will communicate and collaborate efficiently. This is as much a change in cultural perspective as it is defining a new strategy, selecting product(s), identifying resources, developing a project plan and rolling out the new service(s) within a carefully coordinated schedule. It starts with a top level expectation that the system will be used and the community will grow with the system and associated changes. In that regard this process is no different than the transition to the Banner ERP.
Summary: When viewed collectively, the reports from the Internal Scan, External Scan, Survey and Forums working groups suggest that the gap between UNM’s current state and a more cost effective, efficient and productive future state is developing a cohesive strategy to consolidate, structure, standardize, train and support a campus-wide solution. There are many variables to consider when choosing a strategy for that solution and they will be discussed in the following Choices report.
Appendix E – Options Report

UNM Enterprise E-Mail, Messaging and Calendaring Assessment Task Force

Options

Introduction

History - UNM has a long history of supporting a variety of centralized and decentralized messaging and calendaring systems. The centrally managed systems have traditionally been considered baseline services that were offered to everyone and the products were selected to meet a broad set of needs at minimal cost. Ten years ago this approach was considered appropriate. It was accepted that schools and departments might need their own solutions to meet specialized needs, not unlike departmental financial systems that shadowed the centralized equivalent. At the time cross-campus collaboration and identity management were not considered to be as important as providing departments the freedom to use systems that met their specific needs. From a high level perspective, the costs of the functional overlap and administrative overhead were justifiable because departmental systems were relatively simple and often provided functionality that centralized systems could not.

While this fragmented approach toward messaging and calendaring was a reasonable strategy at the time, the implementation feature-rich, complex, campus-wide systems such as Leaning Central, WebCT and SharePoint began to change the cost/benefit justification for departmental systems that had begun to represent a higher level of functional duplication when compared to their upgraded centralized counterparts. Unfortunately, by the time the campus-wide approach had matured into a strategy, the ‘incidental’ departmental messaging and calendaring installations had grown into more than 40 relatively sophisticated systems. Integrating them into something that represented a campus-wide service had become a significant technical, political and financial challenge.

Today - The current approach of central IT supporting three non-integrated systems while consolidating willing departments when possible and allowing other departments to continue to use their own systems seems less than ideal. Like its peers, UNM understands the value of a single solution messaging and calendaring strategy. Unfortunately the inertia of a decade of choice has made unification almost impossible without a high level mandate and additional resources.

Beyond the obvious administrative inefficiency of UNM’s current state is the significant confusion among users about how to communicate, schedule meetings and ultimately work effectively with others across campus. This confusion represents considerable user-level opportunity cost (e.g., sending multiple emails to set up a meeting). While it is hard to assign a monetary value to their frustration and lost time, it is significant and it undermines morale and their sense of community.
Perhaps as important, the fragmented current state limits UNM’s ability to capitalize on new trends and technologies which could further streamline administrative costs and provide end users with even more functionality such as rich integration with other departmental and campus-wide systems. UNM’s peers have reached this conclusion and without exception they have rallied around the strategy of a centralized solution that positions them to take advantage of future best practices.

The following sections define important terminology needed to make informed decisions about how to fill what has been identified in the Synthesis/Gap Analysis report as a significant gap between UNM’s current state and a more cost effective, efficient and productive future state. They also identify dependencies and factors that must be considered for this kind of project to be successful. Finally, the two options that the committee believes are viable solutions are described in comparative, high-level detail.

**Definitions**

*Integrated solution or stack* – While the terms ‘integrated’ and ‘stack’ have many definitions, for the purposes of this document they are considered synonymous. As such they describe a collection of services, APIs, protocols and applications that collectively create a feature rich environment that is relatively transparent to the end user, flexible and extensible.

A tightly integrated service stack manages the user experience from a centralized directory through the desktop into the messaging/calendaring service and forward to all of the applications and services that can take advantage of messaging/calendaring. The foundation underneath this level of integration is a rich directory that supports applications designed to take advantage of other applications’ features.

*Cloud computing* – As with ‘integrated’ above, ‘cloud computing’ has many definitions, but for the purposes of this document cloud computing represents a strategic, coordinated change in the way resources are allocated to support messaging/calendaring services. This shift introduces a third party that can support some portion of the service, typically in a more cost effective manner because of economies of scale. As one might expect, there is a range of cloud solutions including:

- Leasing off-site storage and processing capacity
- Hosting the application off-site while it remains fully integrated into to the on-site UNM directory
- Running a portion of the service on-site and having the rest run off-site (e.g. faculty and staff on-site and students off-site)
- Turning everything over to an off-site vendor, but acknowledging that the potential for a rich, integrated experience will be limited relative to other approaches

Regardless of which messaging/calendaring option is selected, the associated project plan must include a strategy to take advantage of cloud technologies. This will require a degree of organization and consolidation not present in the current state.
Critical Success Factors and Dependencies

To ensure long-term success, the project plan must acknowledge several factors and dependencies.

Limited IT Personnel and Resources: Even with the relative success of ongoing grassroots efforts to consolidate systems and develop UNM’s core directory/integration technologies, central IT resources dedicated to messaging/calendaring administration, support and training are inadequate. While consolidation will improve efficiency and potentially free distributed IT employee time, that time will not be directly available to central IT. Thus central IT’s system administration and support personnel will need to be augmented to properly implement the options below and fully realize their long term value. Even with additional resources, structured cooperation and coordination with distributed IT resources will be critical to achieve the desired results. This must be a campus-wide initiative.

Training: Training should focus on developing a baseline comfort with the tools and how various features are used at UNM. It should be as structured and in-depth as Banner and LoboMart training. While training on messaging and calendaring may appear more useful to administrative personnel, cohort specific courses can be developed for faculty and students. They have to understand how they are part of the UNM messaging/calendaring community. Given the readily available online tools, courses can be developed to be easily accessed so that everyone can learn how to request and accept appointments and understand how to maintain address books/contact lists and when to use an email list manager (listserv). Finally, training and orientation is an opportunity to teach fundamental email etiquette and security/privacy best practices.

Rollout Planning and Communication: The messaging and calendaring project will compete for IT personnel time as well as user attention and investment. The rollout plan must carefully coordinate milestones with other projects to ensure that the right resources are engaged at the right time.

Lessons learned from the Banner implementation suggest that an aggressive rollout plan that fully engages the community and has clear cutover dates is best, no matter how significant the changes may appear. Straddling systems through a protracted rollout drains everyone and has the potential to further confuse users.

Student Email: Currently students represent the largest number of messaging users and thus potentially the highest portion of the messaging/calendaring system cost. Commercial services developed specifically for student use have matured to the point that most peers are either considering outsourcing student email or have already done so.

The project plan for either option must seriously consider integrating an outsourced/’cloud’ solution for students, both for the potential cost savings and as a way to provide students with a richer set of tools. However, using commercial ‘cloud’ services should not separate students from working effectively and transparently within the overall UNM solution and standard. They should be integrated into the UNM directory and the outsourced system should be developed to faculty staff system standards for security and privacy. In surveys students were clear about having their messaging/calendaring solution reflect
that they are part of the UNM community and provide them with access to address books etc. that
faculty, staff use in a secure and transparent manner.

Identity Management: As mentioned in the Internal Scan document, currently there is no single source
or process for provisioning and managing accounts across the current messaging and calendaring
systems. A single solution/strategy will require a robust identity management system that provisions a
rich directory that can be leveraged to manage accounts within messaging/calendaring systems. This
includes students, even if their solution runs in the cloud.

Workstation Management: The rich, seamless integration of the various features of a one-system
solution all come together in the client interface. For many, the quality of the service is ultimately
defined by the robustness of the client experience, be it a desktop or laptop computer, Smartphone or
smartbook. Standards for the use and management of these devices must be in place for the project to
succeed.

Executive Sponsorship: IT Governance will likely provide ongoing oversight for this project. However,
support for a single solution and standard must come from the top tier of UNM administration.

Financial Support: Both options will require new funding for the initial capital, software, consulting, staff
augmentation and/or service purchases. Cost savings will be realized in short order through improved
workflow efficiency as well as the freed time of distributed IT resources. This time can be captured to
specifically assist with the project or focus on other central IT projects that need support in the
school/department.

If implemented properly, the 5 year cost (initial outlay plus ongoing maintenance) should pale in
comparison to both real cost savings and overall benefit/value. The business case is not unlike the
justification for a centralized ERP or learning management system. Startup costs can be funded in a
number of ways, though redirecting too much to departments could compromise their willingness to
participate at the level required. Ongoing maintenance cost models should also be considered as part of
the project plan (e.g. a Banner tax, fee-for-service). Ideally a relatively transparent, centralized, low
overhead process will engender departmental willingness to participate in ways that can actually help
offset costs (e.g. committing to train locally according to a centrally managed programs or committing to
purchasing only UNM standard equipment and which saves the University hundreds of dollars at
acquisition and thousands over the lifetime of the system).

Options

In view of the full reports internal and external scan information, survey/ forum data and the gap
analysis findings; UNM is ready for a single messaging and calendaring solution. Given the conclusions
throughout and the factors above, the committee believes that there are two distinct options which will
take advantage of this readiness and address the significant need to redesign a currently unsustainable
service.
**Option 1: Consolidate and Connect:** This option identifies specific resources to accelerate ongoing efforts to consolidate systems, develop technical connectors between systems and provides clear strategic direction. The significant costs for this option in view of the factors and dependencies above will be augmenting technical and support staff as well as developing clear training on each system that is considered part of the standard.

While this option may appear to be ‘low cost’ in that the amount of new money required will be less than the cost of expanding a current solution into single system and migrating a portion of the services to the cloud, the five year cost/benefit suggests that it will be most expensive over the long term. Multiple systems, no matter how seamlessly connected will continue to dilute the collective user experience, stretch training/support and potentially require more resources as the technology becomes more complex.

Furthermore this option is not agile in that it cannot easily take advantage of new technologies developed in the cloud or even on-site because each system, no matter how connected to the others, will require a vendor specific approach to utilizing the new technologies. Thus each step will require several distinct reengineering projects as well as a re-connection project.

Finally, this option will not realize the value of an integrated stack of services. It will be impossible to connect each new system in a way so that the set could be enhanced by other systems. It is not cost effective and in some cases impossible to integrate applications that leverage a messaging/calendaring service. Finally, no matter how carefully planned and communicated, the user perception will be that there are still several fundamentally different systems to choose from. User preference will dominate this strategy rather than efficiency and productivity.

In light of current budgetary limitations, this may be the only solution and it is a step that begins to fill the stated gap. It will put UNM more in line with its peers and at some level address the community’s concerns. However, it does not do so with the completeness found at UNM’s peer institutions, nor will it be as rich and robust over the long term as a single system where a partnership is developed with a market leading vendor that will ensure that UNM is able to keep up with user ever changing technology and expectations.

**Option 2: One System**

This option effectively moves/migrates all decentralized and centralized systems to a single solution that is supported by a vendor/partner that can ensure that the solution will meet UNM’s current and future needs. Note that migrating departmental systems can initially be optional, but maintaining a separate system should be documented and justified. Support and training will focus on this one system only and similar to what Banner has become for finance, payroll, HR and students, it will be UNM’s official communications/collaboration tool.
The fundamental difference between this option and option 1 is the need for significant startup investments in equipment, software/off-site services and consulting.

Offsetting these costs will be the benefit of UNM to work with its partner and quickly adapt to changes in technology and user requirements. As important, this option can effectively leverage an existing stack of services to create a rich work environment that is easy to use, manage and support. The initial costs may be higher, but the long term costs in terms of support and training will be significantly lower and the potential benefits exceed the first option.

Summary

The UNM community is ready for IT to deliver a more structured messaging and calendaring service. The collective preference is for a single, centralized solution that is fully supported and backed by robust orientation and training. UNM’s peers have adopted this approach and logically it will save money by reducing duplication of services and provide additional benefit by creating a campus community where users do not have to devise their own way to communicate with each other. Taking this step is ultimately a culture shift where the community can see that UNM has a clear strategy for how messaging and calendaring should be used to support its mission.

It is important to note that the window of opportunity to efficiently capitalize on this readiness is closing. Soon both distributed and centralized systems will begin to evolve into even more complex solutions and attempt to integrate other applications. This will make it harder to consolidate, connect or migrate in the future, especially when that future is likely defined as after Banner 9 which is scheduled for 2012. Equally important, user willingness to engage in the change will likely erode over time as students, faculty and staff effectively give up believing that a single solution is possible.

There are two options which can develop the standards and resources needed to support a unified messaging and calendaring strategy. Both require careful consideration of the factors stated earlier in this section.

The first option carefully consolidates, connects and re-structures systems in place. The strategy will require clear definitions of the way each system can and should be used. The major investments will be providing resources needed to consolidate, integrate, train and support multiple systems as a single solution. This option appears to have a lower cost of entry, but is likely to have higher ongoing costs and will not realize several key benefits of a single system including the agility to adopt new technologies to meet University needs. As important, it will not be able fully realize the potential of applications that are enhanced by a fully integrated calendar/messaging system.

The second option is based on identifying a partner that will work closely with UNM to develop a single system solution that consolidates all centralized and decentralized systems into a single campus-wide solution. This solution can be easily integrated into a tight stack of services that enable each other for a richer environment. Because of its single, rich directory foundation it will also be flexible enough to distribute features of the service to the cloud. For this reason, the partner needs to be a market leader committed to working with UNM to understand the community’s expectations, now and in the future.
Option one will save money over the current state and will improve the current user experience. It is fundamentally limited in terms of long term value and cost savings. Option two creates a campus community experience, develops a framework for dramatically improved workflow/efficiency and provides a foundation for a user environment that is rich, easy-to-use and completely UNM.