DIVISION OF INFORMATION TECHNOLOGY

Office of the Vice President and Chief Information Officer

June 23, 2022

MEMORANDUM

TO: M. Katherine Banks, Ph.D.
President

FROM: Ed Pierson
Working Group Chair

SUBJECT: Implementation Memo – Working Group #35

Recommendation to be Implemented: Consolidate Information Technology

The summary of recommendations is presented below with the full subgroup report presented in the Appendix.

Strategic Considerations:

The current IT organization is highly decentralized with over 30 IT groups. The ability of the different IT groups to provide support to our Faculty, Researchers, Staff and Students is highly variable across the different groups. As the University continues to grow, the IT organization must have the ability to provide better and more consistent support to our customers.

The key issues considered in this recommendation address: how to create a centralized IT organization, how to ensure that each segment of the University is supported, define what that support looks like, and identify feedback loops to ensure that we are meeting the true needs of the Faculty, Staff and Students. To address these considerations, the committee divided into four sub-groups, with each group focusing on a specific area of the recommendation.

The key issues considered in this recommendation address:

- How to identify IT services that would be appropriate to move into a unified infrastructure and how to identify those that should remain in the embedded support teams.
- How to enable platforms that better support our Academic customers.
- How to enable platforms that better support our Research customers.
- How to enable platforms that better support the needs of our employees.

Unification / Centralization Recommendations to be implemented:

- Recommendation 1: Define IT service categories: Community IT Services, Shared IT Services, and Specialized IT Services. Separating IT services into three categories is a practice that will help accomplish the goal of IT centralization while still providing the nuance needed to support the functions of a wide variety of client groups. Moving forward, the locally embedded IT staff should continue to support and manage specialized services.

113C J.K. Williams
1365 TAMU
College Station, TX 77843-1365

- Recommendation 2: Evaluate IT Services using the Bulk IT Services Assessment Tool. The purpose of this tool is to begin the process of sorting IT services. It is intended to be used as a starting point for discussion among a group of people, not as a final recommendation.

- Recommendation 3: Identify IT services for early consolidation. The working group identified a group of IT services that are good candidates for centralization as soon as possible. We chose these services because they clearly hold all the characteristics of Community IT Services and centralizing them will have a long-term positive impact on the university community as a whole.

- Recommendation 4: Establish a periodic review process of IT services to be executed by the Enterprise Services Committee. The three categories were intended to accommodate changes to a growing university community; as such, we anticipate that IT services should have the ability to move from one category to another based on the needs of clients and demands of the time.

Logistical Issues Addressed:

Mechanism for Implementing the Recommendations:
The working groups reinforced the need for a centralized, strategically-focused IT organization that empowers each IT professional to do what's necessary and right to meet customer expectations at the lowest level. Thus, our recommendations all assume that our "last mile" of support will remain embedded in our customer groups. Therefore, we recommend a deliberate, phased approach of unifying IT groups over a 18-24 month window in order to build a strong centralized team while preserving the familiar sense of local customer care and teamwork.

Customer/Stakeholder Feedback Mechanism:
Stakeholder and customer feedback should be gathered throughout while developing the centralized IT process. Identifying the needs of the various stakeholders will be challenging since many of them may not fully understand the level of services available or how some of those services could apply to their activities. We will need to work closely with Faculty groups like the CPI, Faculty Senate and Council of Deans to ensure that our outreach programs are effective.

Budget Impact:
The working group identified the following items that will impact the budget:

- Creating support groups targeted to particular customer groups will result in the need to shift roles within the IT organization.
- As the different IT groups are unified, equity issues will need to be resolved.
- The dedicated research support teams will need access to specialized training and technology resources to support the unique needs of our research programs.
- There will be expanded needs for productivity tools and support systems.
- There will be expanded costs associated with new technology in areas like data warehousing, artificial intelligence, machine learning and 5G.

Organizational Impact:
These are noted areas of impact that a unification of IT will affect. Key needs include business/process

analysis, project management, technology architecture, and deployment expertise.

Major Challenges Encountered and Resolutions:

The working group identified three anticipated challenges associated with the proposed recommendations:

Most IT groups have implemented technical solutions to meet the needs of their individual units and have not tried to integrate those solutions with other groups. This results in a highly fragmented and complex IT environment for common needs like storage, backups, and endpoint management, which leads to significantly higher costs for the University and the inability to share resources and staff between teams. A unified IT approach will result in consistency across the university, reducing costs and enhancing services. Centralizing IT services at the enterprise level will increase the likelihood of providing consistency in customer service, endpoint management, and product or service performance/quality.

The distributed IT construct significantly limits staff career development and promotion opportunities. Currently, IT professionals seeking career growth usually have to leave for another campus IT group or pursue employment opportunities outside of Texas A&M University. A unified IT team approach increases opportunities for employees to experience greater career diversity at Texas A&M; ensures ALL employees are given the opportunity to learn new skills through periodic professional development; and builds career progression consistency by establishing a central career management process that balances employee and unit mission needs while also minimizing or eliminating "circular poaching" between units.

The current project manager career ladder should be revised to better support IT project management career progression. The working group provided detailed recommendations on how to restructure this career ladder and design professional development and training that supports the success and growth of project managers.

Key Logistical Issues to be Completed and Timeline:

The consolidation / unification process will be phased over the next 18-24 months.

June – September 2022 - Phase 1: Define and Evaluate

- Determine TAMU's preliminary community IT services baseline.
- Create a repeatable service migration / consolidation process and validate.
- Establish design and support teams needed to build community IT services.
- Assess people skills and fill gaps through training and personnel assignments.

October 2022 – December 2023 - Phase 2: Migrate / Consolidation

- Design, build, operate and run new community IT services.
- Identify campus organizations likely to benefit the most from migration to community IT services.
- Sequence migration groups as required, based on benefit and required effort.

- Create an IT shadow, mentorship, and transfer program to allow cross training opportunities, leadership enrichment, and conduits to move into new roles based on identified skill sets.

January – June 2024 - Phase 3: Integrate additional skills and services

- Identify all campus shared and specialized IT services.
- Where feasible, identify opportunities to establish additional shared IT services from existing specialized IT services.
- Assess shared and specialized IT services support requirements and fill skill and equipment gaps accordingly.
- Establish service availability monitoring or reporting of medium to high impact services for organizational awareness.
- Continue with migration and consolidation of IT Services as needed.

Summary

Working Group 35 agrees with the recommendation proposed by MGT that the IT units on campus need to unify and consolidate to create a true IT career path for our employees, to enable faster implementation of key technology needed by our customers, to lower our costs of operations, and to deliver higher quality and consistency of support.

Approved:

M. K. Banks

August 22, 2022

M. Katherine Banks, Ph.D.
President

Date

APPENDIX of Sub-Group Reports

May 11, 2022

Working Group 35 – Sub-Group 1 Memorandum

Recommendation to be Implemented: The **organizational design** Our task was to identify commodity Information Technology (IT) services that should be centralized as well as specialized services that need to remain with local support and any issues pertaining to those subjects.

Strategic Considerations: *Broad overview of the problem statement, the key strategies considered, why the recommended approach was taken, what we expect the outcome to be based on the recommendation.*

Recommendation 1: Define IT service categories: Community IT Services, Shared IT Services, and Specialized IT Services.

Separating IT services into three categories is a practice that will help accomplish the goal of IT centralization while still providing the nuance needed to support the functions of a wide variety of client groups.

Additionally, there are outside organizations with comparably complex systems who use a similar IT structure today—namely the Department of Defense and University of California at Berkeley.

The characteristics developed for each category were based on four central issues:

1. **Usage** – How many people need this service or are currently using this service?
2. **Funding** – At what level is it most cost effective to fund these services?
3. **Management** – At what level is it most effective to manage these services?
4. **Customer Service** – How will customer service be impacted?

Specific criteria used for sorting IT services into categories are provided below.
Criteria that apply to all three categories:

- Must comply with state and federal requirements (e.g., IT security, accessibility).

<u>Community IT Services Characteristics</u>:

- This service is needed by or currently available to a majority or all of the university community.
- This product or service is currently managed at the enterprise level.
- The service contract is funded at the enterprise level.
- Centralizing this service at the enterprise level **DOES** increase the likelihood of providing consistency in customer service and/or product or service performance/quality.

- **Examples of Good Candidates for Community IT Services:** Active Directory, end point management tool(s), VoIP, and the campus network.

Shared IT Services Characteristics:

- The product or outcome of the IT service is used by two or more units but not adopted by the entire university community.
- This product or service is currently managed between several units.
- The service contract is funded by several units.
- Centralizing this service at the enterprise level MIGHT increase the likelihood of providing consistency in customer service and/or product or service performance/quality.
- **Examples of Good Candidates for Shared IT Services:** Adobe Creative Suite, Trimble, lab IT hardware shared by two units.

Specialized IT Services Characteristics:

- Provides a product or outcome that only fulfills requirements for a single unit.
- This product or service is currently managed by a single unit.
- The service contract is funded by a single unit.
- Centralizing this service at the enterprise level **DOES NOT** increase the likelihood of providing consistency in customer service and/or product or service performance/quality.
- **Examples of Good Candidates for Specialized IT Services:** Axium (Health Science Center), Cleopatra appointment scheduling system (University Writing Center), JRSO Sample Planning Tool (SPLAT).

Sub-Recommendation for Specialized IT Services >> Moving forward, the locally embedded IT staff should continue to support and manage specialized services because they are funded by individual units.

Recommendation 2: Evaluate IT Services using the Bulk IT Services Assessment Tool.

Instead of using our limited time to try to categorize every IT service, Team 1 decided to focus our time and effort on coming up with a tool that will help IT stakeholders and decision-makers begin the categorization process.

Since there are over 30 independent IT organizations on campus, the description, scope, and categorization of IT services varies widely, making it difficult to properly sort each service given the time constraints of the working groups.

Team 1 has begun the process of listing current IT services within the assessment tool linked in this document, although the list is not complete. The purpose of this tool is to begin the process

of sorting IT services. It is intended to be used as a starting point for discussion among a group of people, not as a final recommendation for any one IT service.

Housed in the assessment tool document are three tabs:

1. Tab 1 “Instructions” – an explanation of how to use the spreadsheet
2. Tab 2 “Assessment” – the assessment tool
3. Tab 3 “Logic” – an explanation of how the logic works for the auto-populated answers

Go to the Bulk IT Services Assessment Tool now.

Recommendation 3: Identify IT services for early consolidation.

Team 1 has identified a group of IT services that are good candidates for centralization as soon as possible. We chose these services because they clearly hold all of the characteristics of Community IT Services and centralizing them will have a long-term positive impact on the university community as a whole.

- Active Directory
- Help desk ticketing system
- End point management tool(s)
- Classroom Audio/Video Call Management Platforms
- Standard Classroom Equipment Technology (e.g., podium phone/support, microphones)
- Room reservation systems
- Standard common-use TAMU meeting space equipment technology
- Bulk hardware purchases (computers, printers, etc.)
- Asset management and tracking tool(s)
- License management tool(s)
- Network file storage
- Instant messaging systems
- Project management tools
- Service monitoring processes and tools
- Systems for managing digital signage on campus

Recommendation 4: Establish a periodic review process of IT services to be executed by the Enterprise Services Committee.

The three categories were intended to accommodate changes to a growing university community; as such, we anticipate that IT services should have the ability to move from one category to another based on the needs of clients and demands of the time.

That process should be closely governed, however. Therefore, as a long-term goal, we recommend that a governance body periodically review IT services to ensure they are housed at the correct service level based on user numbers, management, cost, and customer service.

Since the Enterprise Services Committee (ESC) is a governing body that already exists, they would be a good candidate to handle this process initially.

Sub-Recommendation >> Additionally, a process should be created that allows IT clients to submit formal proposals to add or change categorization levels of any given IT service.

For example, if a growing number of units on campus are paying for and using Slack as a form of communication, a group of clients could submit a proposal to move that product out of Shared IT Services and into Community IT Services, potentially freeing up crucial resources for individual units.

Creating a process like this will ensure that clients have a voice in this important change. It also helps IT service staff to better understand and meet client needs.

Date May 11, 2022

Working Group 35 – Sub-Group 2 Memorandum

Recommendation to be implemented:
On Feb 4, 2022 this subgroup was formed with the following charge: Identify the Academic areas of Focus that would support the Working Group #35 objectives

The sub-group recommends the following actions in response to the charges of identifying services that should be consolidated to centralized services and identifying services that require localized support specific to unique needs.

- Establish a Project Management Office (PMO)
    - Maintain the PMO after IT consolidation to support ongoing IT projects
- Provide a consistent and supported classroom technology experience
- Provide a consistent and supported set of tools for faculty and students to use, along with a mechanism for input and feedback
- Create a consistent user experience (support and training)
- Develop a consistent, four-year refresh plan for technology upgrades that leverage the buying power of the university

Strategic Considerations
Strategies:

- Evaluate and recommend IT and academic services to review for consolidation.
- Based on the evaluation, determine which services are best for early consolidation.

Approach:
The sub-group interviewed and surveyed relevant stakeholders and peer institutions which successfully completed a consolidation process to assist with the evaluation of IT and academic services currently used by colleges, divisions, and departments.

Based on feedback, the group prioritized the needs for IT and academic support and created recommendations for consolidation and improved services.

Logistical Issues Addressed: e.g., new organization structure, updated processes and mechanism for centralized services, process for moving personnel to new reporting structure, budget impact and realignment, etc.

Create processes to evaluate IT and academic services for consolidation.

Budget impact: Reduction of cost, time, and effort.
Realignment: Identified services will align with reorganization of business units.

Major Challenges Encountered and Resolutions: e.g., ensuring that all current duties are covered, resources needed, space, resistance from stakeholders, etc.

Major Challenges:

1. Resource needs will increase, which is especially difficult while retaining current employees
2. Buy-in
    a. IT human resource resistance to the consolidation
    b. Faculty adoption
3. Timeline

Resolutions:

1. Offer competitive compensation with alternative work location and career progression opportunities
2. Convince IT human resources and faculty of the improved solutions
3. Provide a dedicated staff and increased financial resources

Key Logistical Issues to be Completed and Timeline: e.g., Rules/SAPs to be updated, personnel to be moved in organizational structure, personnel/labs to be moved to new physical location, communication plans, performance metrics, etc.

Establish a PMO: May 1, 2022
Provide a consistent tech stack across the university: May 1, 2024
Identify a set of tools and services to provide: September, 2022
Initialize a centralized ticketing system: September, 2022
Identify refresh cycle timeline: September, 2022

Recommendations	Support
1. Establish a Project Management Office (PMO)	https://tamucs.sharepoint.com/:w:/r/teams/Team-MGT-InformationTechnology-Recommendation1/Shared%20Documents/Recommendation%201/Sub%20Team%202/Recommendations%20-%20%20Working%20Group%2035%20-%20Sub%20Group%202.docx?d=w349330a2e91246ac992b2a9407cd0131&csf=1&web=1&e=MfWRPW
2. Provide a consistent and supported classroom technology experience	https://docs.google.com/forms/d/10aGPNmV824Ry0KI8FzulOolDMrsZs9xrngonZUCNzk0/edit
3. Provide a consistent and supported set of tools for faculty and students to use, along with a mechanism for input and feedback	https://tamucs.sharepoint.com/:w:/r/teams/Team-WorkingGroup35-AcademicSupport/Shared%20Documents/General/WG35.2%20March%2023%20Canvas%20Meeting.docx?d=w72337c5b47b64ff69c8169577d8dce58&csf=1&web=1&e=jOAql7
4. Create a consistent user experience (support and training)	https://tamucs.sharepoint.com/:w:/r/teams/Team-MGT-InformationTechnology-Recommendation1/Shared%20Documents/Recommendation%201/Sub%20Team%202/Recommendations%20-%20%20Working%20Group%2035%20-%20Sub%20Group%202.docx?d=w349330a2e91246ac992b2a9407cd0131&csf=1&web=1&e=MfWRPW
5. Develop a consistent, four-year refresh plan for technology upgrades that leverage the buying power of the university	https://tamucs.sharepoint.com/:w:/r/teams/Team-MGT-InformationTechnology-Recommendation1/Shared%20Documents/Recommendation%201/Sub%20Team%202/Recommendations%20-%20%20Working%20Group%2035%20-%20Sub%20Group%202.docx?d=w349330a2e91246ac992b2a9407cd0131&csf=1&web=1&e=MfWRPW

May 11, 2022

Working Group 35 – Sub-Group 3 Memorandum

Background

MGT Working Group (WG) #35 divided the consolidation of information technology into multiple domains of focus areas as part of the analysis for shaping the implementation recommendation. Sub-group #3 – Research, was established and comprised the following members:

Agatha Alonso (Staff)
Aaron Brender (Staff)
Dr. Jean-Luc Guermond (Faculty)
Dr. Daniel A. Jiménez (Faculty)
Dr. Joshua Kissee (Staff)
Kathy Leath (Staff)

This recommendation centers on the research domain and utilizes information from survey data collected from members of the research community, namely research faculty, in partnership with the Council of Principal Investigators (CPI).
On March 23, 2022, a Qualtrics survey was distributed using a survey design instrument reviewed by a CPI representative, using the CPI email distribution list. The anonymous survey, using a combination of qualitative and quantitative methodology questions intended to address the core questions assigned to MGT #35, closed on April 1, 2022.
The 18-question survey resulted in 301 responses, of which, 172 responses were fully completed. The resulting analysis focused on fully completed responses in order to reduce polling bias. WG #35, Sub Group 3 was divided into 3 groups of 2, with each group assigned a set of related survey questions. Each response was evaluated and assigned a category using a themed approach. The resulting recommendations are objective-based, using survey data from the research community to drive all recommendations to ensure the voice of the faculty, specifically those associated with the Council of Principal Investigators.

Objectives

The following objectives were assigned to the sub group by Ed Pierson, Chief Information Officer. The objectives were used to develop the survey instrument and all recommendations in this memo are derived from the pursuit of addressing the objectives below.

1. Determine the IT assistance needed for grant proposal support.
2. What are the information technology needs among principal investigators for services?
3. Recognize research technologies that are not working well, technologies that should be replaced, new technologies that would enable strategic growth, and technologies that should begin planning for future replacement.
4. How best should research technology support staff meet the needs of principal investigators?
5. What do PI's need from IT to ensure compliance in their research environment?

Findings

The following findings provide necessary background information in support of the recommendations section. These findings do not represent all known sentiment regarding consolidation of IT in the research domain. Only the most notable findings are presented.

Finding 1 - Consistent access to both research software applications and common software applications, such as the Adobe Creative Cloud Suite, is lacking among the research community. Further, most respondents seemed unaware of existing research software available to them.

Finding 2 – Pre-proposal compute, storage, budget estimation, compliant (e.g. with respect to security) resources, and the associated support personnel resources are needed across the institution. At present, access to these resources vary by College or Division, with most Colleges or Divisions experiencing inconsistent access to these resources.

Finding 3 - Research faculty recognize the importance of secure and compliant practices, however, the current restriction of administrative access to research computers has created a barrier to overall productivity. Coupled with inconsistent access to research software, faculty generally have a negative experience attempting to resource software, install and update the software without barriers, and continuously run the software without the need for information technology professionals to intervene.

Finding 4 – IT support personnel embedded within Colleges lack the required competencies and personnel to support specialized research software, computing configurations, and operating systems in a timely manner to facilitate research grant delivery deadlines without undue delays. Software application development resources are needed to provide specialized software in support of research initiatives.

Finding 5 – IT support personnel should remain physically embedded where they are presently assigned to support research operations. In many Colleges, no IT support personnel are devoted to research, highlighting inequity in access to research information technology and further requiring faculty to source their own IT support using grant funds and related means. Having personnel embedded locally improves accountability and the assurance of research support outcomes.

Finding 6 – Periodic IT engagement and communication with the research community, including the CPI, is needed to address the disparity in access of research information technology.

Finding 7 – Timely IT support that does not first require use of a ticketing system or sending requests to a central help desk ticket routing system is important to research faculty in order to receive support that is familiar with their research computing environment, as opposed to receiving support from IT generalists who lack specialization in the research domain.

Finding 8 – A research storage and computing platform that provides low-cost/no-cost resources for the lifecycle of research is necessary. The concept of the Virtual Data Access Library (ViDaL) was well-received, however, the need for a sustainable, long-term solution that provides the outcomes intended of the ViDaL system is important. A customizable research data storage system is needed to store data beyond the lifecycle of the grant.

Finding 9 – Secure information resources are needed institution-wide to meet compliance requirements for regulated data, such as HIPAA and FERPA. These resources must also satisfy custom compliance requirements that will meet external contractual security obligations.

Finding 10 – Significant improvement is needed in the communication of secure computing practices and access to secure data storage options. Training programs, events, and workshops are needed to educate research faculty to make informed decisions during proposal submission, management of active grants, and long-term storage of data.

Recommendations

The following recommendations are based on the interpretation of survey findings. Each recommendation is unique and non-prioritized.

Recommendation 1 – Create a new research technology support model that minimizes barriers to access support and ensures IT personnel are physically proximate to their respective College or Division.

- Develop a comprehensive training program for IT support personnel to raise competency across Windows, Macintosh, and Linux operating systems.
- Designate or contract IT resources to provide custom support for research environments, serving to educate faculty and ensure secure and compliant research operations.
- Enable a solution(s) to provide faculty autonomy and flexibility through a form of elevated computing access (e.g. administrator rights) while retaining a reasonable level of assurance for secure and compliant computing.
- Unify IT support for research computing to both raise the quality of service provided and to create equity in research support across Colleges and Divisions. Minimize the requirement for faculty to enter support tickets that route to a general helpdesk, using an alternate method for ensuring that support requests are documented.

Recommendation 2 – Publish compute, data storage, data management, software deployment, compliance assurance, and endpoint support systems into a collection of resources that offer timely, low-cost, rapid access to research information resources.

- Curate a collection of information resource systems and services presented through web publications, periodic communication, and training events.
- Provide a centralized solution to enable an increase in computing privileges to provide installation of software, establishing a consistent standard for access rights.
- Offer data management plan resources, training, and support that is integrated with compute and data storage options.

Recommendation 3 – Unify research software access, methods of software deployment, and re-negotiate software contract pricing to enable cost advantages for the research community.

- Conduct a subsequent survey centered on research software that results in a prioritized listing of software contracts to consolidate or re-negotiate.
- Identify and deploy a software distribution solution integrated with procurement system(s) to enable ease of access to software, timely installation, and clear support for installation and software management.
- Develop a web publication that provides a comprehensive catalog of research software available, associated costs, methods for purchase, and the related security and

compliance ratings for the software.

Recommendation 4 – Build a research data compute and storage platform leveraging the ViDaL concept to provide a long-term, low-cost, research platform that contains both on-premise and cloud resources with the intensity of secure computing practices determined by regulated data requirement (e.g. HIPAA, FERPA, DoD, DFARS, etc.).

- Build a virtual research resource that contains data compute and storage options, data analytics tools, data collaboration and dataset sharing options, and the ability to partner with collaborators at external institutions with start-up package allocations for research.
- Create a package of basic computing options at no-cost to all researchers beginning at the pre-proposal stage with low-cost options for those with greater needs.
- Establish specialized hardware, software, and software development IT resources that will leverage this platform and integrate the movement of data between segmented research environments with a centralized platform.

Recommendation 5 – Establish continuous improvement of research technology services through accountable leadership within the new centralized IT organization to ensure the voice of researchers are prioritized.

- Incorporate periodic survey methods to gauge faculty following IT service delivery.
- Identify an accountable leader with appropriate authority to enact change in the delivery IT services used by the research community.
- Require IT leadership to engage the research community through attendance of research related committees, advisory groups, and governance bodies.

Implementation Planning

Effective implementation planning for the above recommendations will require 1) supplemental and comprehensive planning through partnering with faculty across the institution, 2) developing information technology plans with existing technology functions and resources, and 3) building new organizational functions and services that are not available at present.

The recommendations in this document warrant additional partnership with researchers to develop a new funding model, requested cost allocation for the implementation, and a technology implementation plan that will span people, process, technology, and policy. Supplemental plans and accountability for each action item are required. Additional funding may be required through repurposing of resources or new allocations. Specific cost estimates should accompany each supplemental implementation plan.

The table below outlines the general recognition of responsibility across these domains.

Implementation Planning Key

RP - Comprehensive planning initiative through partnering with researchers across TAMU and TAMUS
IT - Developing information technology plans with existing technology functions and resources
New - Building new organizational functions and services that are not available at present.

Recommendation	Item Key	Comments
R1 - Develop a comprehensive training program for IT support personnel to raise competency across Windows, Macintosh, and Linux operating systems.	IT	Ability to develop training initiatives through community of practices is under development. Capability to deliver IT training program exists within IT at present, though organizational adjustments will be required.
R1 - Designate or contract IT resources to provide custom support for research environments, serving to educate faculty and ensure secure and compliant research operations.	RP	Research faculty and staff must be consulted further to determine specific coding languages, levels of support, and required security/compliance responsibilities between researchers and IT.
R1 - Enable a solution(s) to provide faculty autonomy and flexibility through a form of elevated computing access (e.g. administrator rights) while retaining a reasonable level of assurance for secure and compliant computing.	RP	Supplemental planning is required to identify existing technology solutions, new solutions, self-service methods for installation, and the associated costs and resources required to support an environment that will provide a solution to this long-standing dilemma.
R1 - Unify IT support for research computing to both raise the quality of service provided and to create equity in research support across Colleges and Divisions. Minimize the requirement for faculty to enter support tickets that route to a general helpdesk, using an alternate method for ensuring that support requests are documented.	New	A new function must be created within the future IT consolidation structure that unifies IT professionals in support of researchers. Deep participation in Working Group #36 – Help Desk Ticket Management implementation is required to ensure efficient routing and methods to enable faculty to work directly with IT professionals locally in support of research environments.
R2 - Curate a collection of information resource systems and services presented through web publications, periodic communication, and training events.	IT	Capability for the development of web publications, periodic communication, and training events exist within IT today. Additional resources may be required depending on the size of the program developed.
R2 - Provide a centralized solution to enable an increase in computing privileges to provide installation of software, establishing a consistent standard for access rights.	New	Following completion of Recommendation 1 – Item 3, this item requires implementation of the solution identified, related policy development, training, and communication.
R2 - Offer data management plan resources, training, and support that	IT/New	The TAMU Library offers Data Management Plan training at present. However, these efforts are not

is integrated with compute and data storage options.		integrated with IT operations, data compute or storage resources.
R3 - Conduct a subsequent survey centered on research software that results in a prioritized listing of software contracts to consolidate or re-negotiate.	IT	This recommendation can be completed using existing IT resources and capabilities to identify, negotiate, and consolidate research software offerings.
R3 - Identify and deploy a software distribution solution integrated with procurement system(s) to enable ease of access to software, timely installation, and clear support for installation and software management.	RP/New	Research faculty and staff must be consulted further to determine specific requirements that will inform technology selection. Solution(s) must be both compatible and scalable across TAMU and TAMUS to meet the diverse requirements for software distribution and installation.
R3 - Develop a web publication that provides a comprehensive catalog of research software available, associated costs, methods for purchase, and the related security and compliance ratings for the software.	IT	This recommendation can be completed using existing IT resources and capabilities to develop the catalog. The IT services cataloging tool, developed by Working Group #35, should be leveraged to evaluate each research software to apply consistency in presentation of resources.
R4 - Build a virtual research resource that contains data compute and storage options, data analytics tools, data collaboration and dataset sharing options, and the ability to partner with collaborators at external institutions with start-up package allocations for research.	RP/New	A comprehensive planning and selection effort in partnership with researchers across TAMU and TAMUS is required to develop a transformational solution as sought by the research community.
R4 - Create a package of basic computing options at no-cost to all researchers beginning at the pre-proposal stage with low-cost options for those with greater needs.	RP/New	A detailed analysis of faculty recruiting factors, benchmarking against peer institutions, and negotiation with technology vendors is required to develop the most impactful package offering to recruit world-class faculty researchers.
R4 - Establish specialized hardware, software, and software development IT resources that will leverage this platform and integrate the movement of data between segmented research environments with a centralized platform.	RP/New	A comprehensive planning and selection effort in partnership with researchers across TAMU and TAMUS is required to develop a transformational solution as sought by the research community.

R5 - Incorporate periodic survey methods to gauge research faculty following IT service delivery.	IT	The ability to modify survey form generation is a present capability within IT. New, supplemental, custom surveys may be required.
R5 - Identify an accountable leader with appropriate authority to enact change in the delivery of IT services used by the research community.	New	At present, no IT executive leaders are appointed with the responsibility to be accountable to the research community. A new position should be created to serve this function. Additional funding is required for the position.
R5 - Require IT leadership to engage the research community through attendance of research related committees, advisory groups, and governance bodies. IT	New	With the completion of Recommendation 5 – Item 2, once an accountable IT executive leader has been identified, this role will be responsible for ensuring that IT leadership and services engage the research community through planning, development, implementation, and operation of new research technology programs and services.

Date May 11, 2022

Working Group 35 – Sub-Group 4 Memorandum

The Charge
The charge given for this sub-group, as defined to focus on Student / Staff / Faculty Outcomes.

Recommendation to be implemented

Recommendation 1: Identify employee skillsets.

In a newly consolidated IT organization, a comprehensive assessment of skillsets will be needed. The need is threefold: 1) to identify what skillsets exist, 2) where skillset deficiencies are, and 3) to see where dense pockets of skillsets can be strategically positioned to efficiently support the university.

To identify those skillsets:

1. Create a skills bank. This is a common set of skills to use for the employee assessments. A suggested skills bank is attached.
2. Create a skillset survey. This is the survey tool that will be used to collect employee skillsets. Assessments should be electronically conducted so that they can be analyzed both at the department level and the university level. An example survey is attached.
3. Conduct the survey. Each employee takes a skills assessment of themselves using the included skills bank set of skills. The frame of reference needs to be employee focused. Ex. What is the employees' vision for their career?
4. Supervisors refine the employee's assessment to normalize the assessment.

Post analysis of the assessment can be used to build the new IT organization. Suggested outcomes including professional development, finding pockets of IT expertise, cross training, and a comprehensive gap analysis.

Periodically, skill assessments should be conducted to keep information current. Opportunities include incorporating the skills assessment process into the annual performance review process or sending out the survey again. This assessment can lead to the review and setting of individual employee career goals (technical, managerial, database administration, developer, etc.).

Recommendation 2: Conduct a comprehensive IT career path review.

Knowing where employees are, where they can go, and how to advance through their chosen career ladder is another way to ensure a top tier IT organization is developed. The Information Technology Advisory Committee (ITAC) has completed an IT title and career ladder path study and those recommendations are attached.

Recommendation 3: Create a transfer portal

A transfer portal would allow staff to inform IT that they are interested in moving to a new area, learn new skills, and/or discuss job shadowing opportunities.

Utilizing the information collected IT Skills Assessment database, create a place where:

- Staff can submit a request to join another team.
- Staff can post their profile with skills and experience.
- Staff can submit a request to job shadow another person or team.
- Team Leads, Managers, etc. can search for employees with a particular set of skills or who are interested in transferring – example: "show me everyone with >=75% proficiency in Linux".
- Team leads, Managers, etc. can post about upcoming opportunities.

Success of the transfer portal would yield an organization that encourages staff movements across the units without repercussion and hold supervisors accountable. Leadership should drive a culture that values the division over team, willingly shares quality staff, does not try to hide employees to protect their unit, and seeks to develop employees to progress in their careers within the organization whenever possible.

Recommendation 4: Create an IT shadow program

This program would give IT professionals across the organization the opportunity to learn from other IT professionals in different disciplines. Some can utilize the shadow program to simply foster awareness of different disciplines that exist. For example, a software developer shadowing a security analyst can gain a larger appreciation for security controls. A secondary use of the shadow program is to present opportunities for IT professionals that may want to change career paths a chance to see those career paths in action. For example, a systems administrator that wants to get into project management. Shadow program visits are short but meaningful.

Key points of the program:

- Shadow program of IT professionals.
- One or two one-day visits.

- Cross discipline.
- Can optionally be junior level to senior level in the same discipline.
- Low barrier to entry. Anyone who wants to shadow, can.
- Approved list of IT professionals to shadow.

Recommendation 5: Create an IT mentorship program

This program is about training future leaders in the IT organization. IT professionals that desire or have shown a propensity for managerial or leadership competencies should be given the opportunity to learn from existing IT leadership thereby transferring institutional knowledge and practical experience. For example, an IT Manager that is looking to advance to a director or executive level position at some point in the future. Induction into the mentorship program should be done by nomination. Mentorship program visits are longer and are designed to immerse the mentee into the world of the IT leader.

Key points of the program:

- Mentor program for future IT leaders.
- Two, one-week or multi-day visits.
- Nomination required.
- Mentee can come from any IT discipline.
- Mentors should be assistant director or higher.

Recommendation 6: Encourage promoting internal staff into opening whenever possible

The idea here is simple, promote within where it makes sense. Although strategically hiring from outside the organization can be useful, hiring and promoting from within can ensure an IT organization that values its own employees and provides ample opportunities to retain employee talent. Recommendations include:

- Post vacant positions both internally and externally.
- Make posting notifications easily available to all internal staff.
- In addition to posting positions, actively recruit candidates through on-line services
- Find innovative ways to advertise positions and provide network opportunities
- Reference Transfer Portal for potential matches

Recommendation 7: Form subgroups composed of faculty, staff, and IT subject matter experts (SME) to advise on specific training needs.

- Budget training funds for every employee.

- Provide ‘How to videos’ for items most frequently requested.
- Find a way to leverage TAMU’s scale and obtain training at a lower cost.
- Training is not limited based on an employee's current role in the organization.
- Make more extensive Technical and Professional training available.
- Create a consolidated resources directory that includes a list of available training and available SMEs.
- Provide mentorship and Leadership Development opportunities to IT employees. Review the initiative (Division of IT Mentor program); coordinate with the Center for Teaching Excellence (CTE) for similar service; HROE Progressive Leadership Development.
- Explore contracting with external training vendor to come on-site and train for an extended period to leverage the size and volume of IT training needs.
- Create tailored training recommendations/program for different groups of employees. (I.E. Technical, Faculty, Staff, etc.)