IT Assessment
Future State
Recommendations
GO IT

OCTOBER 7, 2020

NOVEMBER 19, 2020

UCLA
AGENDA

Current State Summary
Future State Recommendations
Next Steps
IT Governance Deep Dive
Current State IT Landscape at UCLA

UCLA maintains a complex IT operating model* that reflects the degree of federation and diversity of needs across campus.

*Note: Illustrative and Not to Scale

**Note: Includes 27 direct-report IT staff and 25 IT staff in distributed research groups

**Enterprise Support**: Support campus-wide operations, not necessarily only for IT

**Admin/Shared IT**: Administrative IT functions

**Academic IT**: IT provided within a specific academic unit or department

**Intra-department IT support**: Enterprise IT services provided

**Note: Groups without specified subdivisions indicate the unit has one localized IT group.

Key:
- Enterprise Support
- Admin / Shared IT
- Enterprise IT

*Note: FTE spokes / unit data is based on self-reported data from each department or HR data for departments that did not report

**Note: Enterprise IT: centrally provided common computing services to campus units and departments**
IT at a Glance

UCLA spends $210M on IT, $135M of which is toward staff salaries and benefits. 33% of total IT spend is attributable to ITS, 9% of total IT spend is attributable to OIT, and 58% is incurred by 47 local IT units and departments*

UCLA has 15+ different groups that have at least some IT decision making or advisory capacity, yet lacks a well understood model for coordinating and executing IT decisions

Of 952 IT staff FTEs across UCLA, 34% are employed by ITS and 7% are employed by OIT

UCLA’s IT workforce has 105+ Job Titles and 385+ unique working titles

IT staff at UCLA are distributed among 47+ different IT, academic, and administrative units across campus, many of which have their own help desks and systems

UCLA maintains at least 10 data centers and ~205 server rooms among unit IT groups, ITS, and OIT, requiring adequate funding and staffing to meet management, maintenance, and support needs

UCLA has a distributed computing environment, inclusive of a distributed network design, more than a third (37%) of servers being managed outside of central IT, and 57% of storage space at UCLA being managed by individual IT units comprising of more than 21 different storage device vendors

*Note: Totals may not add due to rounding
The Imperative for Change

1. Strengthen the Core
   - Recognize risks and impacts of current operations
   - Improve the delivery of reliable, cost-effective core infrastructure and services
   - Define a shared vision of IT

2. Increase Collaboration
   - Increase alignment between central IT and the units
   - Establish clear IT governance and clear mandates of roles and responsibility for IT across campus

3. Enhance the Mission
   - Enhance the end-user experience through deploying leading-edge technologies and practices
What Will Change with IT Transformation?

**IT Today**

- Lack of an **enterprise IT Strategy** aligned to the UCLA mission
- Multiple **CIO’s and CTO’s** across campus
- $200M+ spent annually on IT services in a fragmented manner
- 900+ IT staff operating in a decentralized manner limiting career growth and learning opportunity
- Major **information security risks and compliance gaps** across campus

**Potential for Tomorrow**

- An **enterprise IT strategy** based on collaboration and innovation to serve the UCLA mission
- A **UCLA CIO** responsible for leading academic, research and administrative IT services
- Opportunity to reduce $20-30M through reduction of duplicate services and reinvest those savings in **IT innovation**
- Streamlined **hub-and-spoke** organization of IT staff to maximize potential and improve workforce satisfaction
- Improved **information security posture** and **risk reduction** related to cyber threats

Modernizing UCLA’s IT Ecosystem
FUTURE STATE RECOMMENDATIONS

IT Governance
IT Finance
IT Talent
Technology
IT Service Management
1.1 Refine IT Operating Model to Enable Improved Coordination
- Provides for a cohesive and coordinated operating model that clarifies authority over various services, creates efficiency and consistency in the customer experience, and allows for local IT groups to focus on value-added services for end users

1.2 Enhance IT Governance Model to Promote Greater Effectiveness and Transparency
- Promotes transparency and effectiveness through a clear and comprehensive interaction model between groups comprised of the right people to make decisions around shared IT investments, standards, and priorities

1.3 Standardize IT Enterprise Project Management Office and Enterprise Architecture Functions Across UCLA
- Provides clarity over foundational IT disciplines that are either immature or not well understood across UCLA, enabling structure over operational and technical IT decision making and direction while promoting use of leading practices across campus
1.1 Refine IT Operating Model to Enable Improved Coordination

Guiding Criteria:

DEPARTMENT IT*
- Enables support for department-specific research and pedagogical applications and infrastructure
- Embedded with faculty and department staff to seamlessly support their work

UNIT IT*
- Responsible for all IT operations within the Unit including the departments
- Support the Unit Leader (e.g., Dean) in their role as the IS-3 accountable individual
- Enables support for IT needs that are not common across units

CENTRAL IT
- Supports governance and facilitation of a campus-wide IT strategy
- Reduces fragmentation in delivering common IT services
- Provides a shared infrastructure for unit and department-specific needs
- Enables economies of scale and standardization across campus
- Drives information security and compliance with policies, procedures, and standards

*Note: As used here and elsewhere in this report:
- “Unit” refers to UCLA administrative offices overseen by a Vice-Chancellor or Director that reports directly into the Chancellor and schools and divisions with Deans or equivalents that report directly into the Executive Vice-Chancellor and Provost as illustrated on this organizational chart: https://dnn.uclanet.ucla.edu/Portals/90/Documents/chancellor.pdf
- “Department” refers to the sub-units that report into these units
1.1 Refine IT Operating Model to Enable Improved Coordination

The model presented outlines a potential scope of responsibilities across various IT tiers at UCLA. Given the volume and diversity of unique applications and services at the unit and department level, only illustrative examples are provided for these tiers.

**Potential Scope:**

**Dept.-Specific Apps: E.g.,**
- ASHE Electronic Medical Records
- VR applications to support course-specific learning

**Dept.-Specific Services: E.g.,**
- Digital preservation of historical manuscripts
- Dept.-specific dev and test environments for students
- Research infrastructure to support quantum Chemistry research

**Unit-Wide Apps: E.g.,**
- Industry-specific career services COTS solutions
- Non-IT inventory management solutions for facilities, capital projects, or lab equipment

**Unit-Wide Services: E.g.,**
- Shared electronic media storage, hosting, and transfer solutions for unit departments
- Single tenant administration of a multi-tenant cloud solution

**Unit-Wide Info Security Policy Compliance**

**Central IT (IT Services)**

**Strategy, Planning, & Operations**
- IT Governance
- Strategic Planning
- Enterprise Architecture
- Policies and Standards
- Enterprise PMO
- Enterprise IT Finance and Procurement
- Enterprise IT Talent

**Information Security**
- Identity and Access Management
- Security Operations

**Teaching & Learning**
- Classroom Technologies
- Learning Management System Tool

**Enterprise Products**
- HCM, Finance, SIS
- Student Apps
- Research Admin
- Mobile and Web
- Accessibility

**Infrastructure Support**
- Network
- Data Center / Storage

**Research Computing**
- Shared high-performance computing infrastructure
- Cloud services

**Campus Collaboration**
- E-mail
- Collaboration tools
1.2 Enhance IT Governance Model
2.1 Rationalize IT Funding Model for Core Services in Support of New Operating Model
   - Develops a funding model that allows for greater stewardship of IT funds and encourages more effective financial planning

2.2 Source IT More Collaboratively and Strategically to Reduce Costs and Improve Compliance
   - Creates a unified approach to IT procurement and vendor management and aligns policies and processes to support the strategic sourcing of IT goods and services
IT Talent

3.1 Develop and Deploy a New IT Organizational Model to Increase Efficiency of Current IT Workforce

- Improves understanding of the IT org and operating model across UCLA, creating a central IT hub by consolidating resources and rationalizing services
- Supports more effective resource management to address demands by centralizing IT staff performing enterprise IT activities in distributed units

3.2 Create a Cross-Campus IT Learning and Development Program to Standardize and Enhance Workforce Skillsets

- Grows a workforce that keeps pace with innovation and emerging technologies, gaining economies of scale through consolidation and standardization of training

3.3 Enforce and Enhance the Current Performance Management Process

- Standardizes rewards and mobility related to performance, encouraging top performers while addressing underperformance through enhanced accountability

3.4 Launch a UCLA Gig Network to Foster IT Communities of Practice

- Drives technical excellence and provides a sense of stability in a dynamic environment by connecting individuals in similar functional groupings
- Provides IT staff with opportunities to gain and develop new skills through problem solving, mentorship, and innovation via the Gig Network
3.1 Develop and Deploy a New IT Organizational Model

IT Strategic Partners will liaise between functionally-aligned departments and ITS to promote unified decision making across UCLA.

The IT Strategic Partner function is comprised of CSG representatives who have a matrixed reporting structure to inform and advise ITS on the IT needs of their units and departments while still being accountable to their Unit Leadership.

A strong partnership between ITS and IT Strategic partners will be paramount to success; business agreements and governance around ownership of various activities and functions will allow groups to work together more seamlessly.

*Note: The Level 2 Strategic Partners Role would be directly reporting to the CIO and the Level 3 Strategic Partners would indirectly report to the Level 2 role. Level 3 Strategic Partners would still maintain their direct report relationships with Unit Leadership.
3.1 Develop and Deploy a New IT Organizational Model

IT Strategic Partners will liaise between functionally-aligned departments and ITS to promote unified decision making across UCLA.

**What remains the same through the solid line:**
- Reporting relationship to the unit leader
- Responsibilities aligned with the mission of the unit
- Responsible for IT funding, staffing and services within the unit
- Performance reviews conducted by the unit leader

**What changes through the dotted line:**
- Generates awareness of enterprise needs, challenges, gaps, and strengths across campus
- Aligns unit IT strategy and priorities to enterprise IT priorities
- Promotes a culture of One IT across UCLA as brand ambassadors
- Advises and consults ITS on strategic planning as well as portfolio and project management
- Assists with projects impacting home departments and units

**Benefits of Matrix Reporting Structure**

The matrixed reporting structure proposed for the IT Strategic Partner function can formalize the role of CSG members in influencing the IT strategy & investments made by ITS in a coordinated fashion for the university.

**Example: Department Wants to Implement a New Student Success Platform**

- IT Strategic Partner raises awareness to ITS and other IT Strategic Partners that the department is searching for a new student success platform. The process identifies if something similar already exists and allows for collaboration accordingly, leveraging governance groups where appropriate.
- If it does not exist, the IT Strategic Partner works with the department to determine business and technical requirements, then partners with other IT Partners and ITS to evaluate the possible options, begins procurement, and implements the tool following enterprise security, data and architectural standards.
Technology

4.1 Redesign Network Infrastructure Architecture and Support Across Campus
--- Develops an approach to re-design the UCLA network and consolidate network operations across campus into a single unit within ITS

4.2 Consolidate Data Centers and Server Rooms; Establish a Cloud Fit-For-Purpose Model to Improve Efficiency, IT Security, and Cost Savings
--- Consolidates data centers and establishes a campus-wide cloud strategy to enable greater agility and reliability

4.3 Establish an Enterprise Data Strategy and Data Governance Model to Support Advanced Analytics Initiatives and Advancing Research Capabilities
--- Defines data governance and modernizes data warehousing capabilities to assist in data quality and availability and research data management campus-wide.

4.4 Establish a Common Enterprise Integration Layer to Enable Access to Data Across Campus Platforms
--- Adopt a single middleware application to improve application functionality through data consistency across distinct application environments
4.5 Consolidate Email Applications Across Campus Into a Single Email and Collaboration Platform
   - Adopts a common email and directory service to reduce risk and drive cost savings for campus units

4.6 Develop an Application Modernization Program to Rationalize Duplicate and Remediate Legacy Applications
   - Eliminates redundant and unsupported software applications and deploy modern applications to meet unmet user needs

4.7 Develop and Implement a UCLA-Wide Customer Relationship Management (CRM) Strategy for Common Use Cases
   - Leverages current capabilities and a common approach to expanding CRM functionality across campus
Service Management

6.1 Enhance IT Service Management (ITSM) Platform to Accommodate Central and Unit IT Needs; Redesign the Service Catalog to Include Service Level Agreements (SLAs) and Service Rates to Enable a Better Customer Experience and Business Decision Making
- Improves effectiveness through improved usability of the tool and sets the foundation for adding key features within the ITSM platform

6.2 Implement Formal Asset Management Process and Tool
- Increases accuracy in data to plan renewal and replacement investments and increases efficiency by streamlining Asset Lifecycle Management strategy and tracking all UCLA IT assets from deployment to retirement
Transformation Benefits

- Streamlined service delivery that reduces duplicative services and creates a common IT experience for all customers
- Improved collaboration and transparency in decision making
- Investments and processes that save UCLA time and money
- Stronger data protection
- Improved monitoring, detection, alerting, and response capabilities

- Adoption of cloud, artificial intelligence (AI), and other leading-edge practices and technology capabilities to transform the student experience, catalyze a digital campus, and advance the future of work
- State-of-the-art services for faculty to advance research and teaching
# High Level Implementation Plan

## Key Implementation Priorities

### Strengthen the Core
1. Refine IT Operating Model to Enable Improved Coordination and Quality and Reduce Duplication Across UCLA (1.1)
2. Enhance IT Governance Model to Promote Greater Effectiveness and Transparency in Strategic Decision Making (1.2)
3. Reorganize and Enhance IT Workforce, Learning and Performance Management (3.x)
4. Standardize IT Enterprise Project Management Office and Enterprise Architecture Functions Across UCLA (1.3)
5. Rationalize IT Funding Model for Core Services in Support of New Operating Model (2.1)
6. Strengthen Enterprise IT Solutions (e.g., Email, Network, Data Center, Compute, Applications) (4.x)
7. Enhance Enterprise Information Security Services and Solutions (5.x)
8. Enhance Current IT Service Management Platform to Meet Central and Unit IT Needs (6.1)

### Increase Collaboration
9. Source IT More Collaboratively and Strategically to Reduce Costs and Improve Compliance (2.2)
10. Rationalize Relevant Administrative IT Services into The “Strengthened Hub” (multiple)
11. Rationalize Relevant Academic IT Services Into the “Strengthened Hub” (multiple)

### Advance the Mission
12. Establish an Enterprise Data Strategy and Data Governance Model to Support Advanced Analytics Initiatives (4.3)
13. Establish a Common Enterprise Integration Layer to Enable Access to Data Across Campus Platforms (4.4)
14. Develop an Application Modernization Program to Rationalize Duplicate and Remediate Legacy Applications (4.6)
15. Develop and Implement a UCLA-Wide Customer Relationship Management (CRM) Strategy for Common Use Cases (4.7)

### Implementation Timeline

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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<tbody>
<tr>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
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<tr>
<td>Q4</td>
<td>Q1</td>
<td>Q2</td>
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<td>Q3</td>
<td>Q4</td>
<td>Q1</td>
</tr>
<tr>
<td>Q2</td>
<td>Q3</td>
<td>Q4</td>
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</tbody>
</table>

### Key
- Indicates opportunity to begin earlier based on progress with higher prioritized activities
- Implementation Timeline

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**UCLA**
Where to begin?

There is an opportunity now to move forward by leveraging the large degree of engagement and interest across campus generated by the IT assessment.

**Executive Alignment | What is the shared vision of IT across UCLA?**
- Gain alignment and approval from UCLA IT Assessment Leadership (i.e., EVCP and Admin. VC)
- Socialize the case for change with key stakeholders (e.g., Academic Senate, Deans Council, Administrative Leadership, UCLA Health) to inform future state planning
- Finalize timing for gaining alignment on future state vision

**Program Funding | How will we finance the transformation?**
- Identify high-level budget and funding required for program initiation and various scenarios for implementation

**Organizational Considerations | What steps can we take to mobilize any staff reorganization?**
- Assess and communicate org. academic, research, and administrative unit impacts (i.e., OIT, BTO, SAIT, ORA-ORIS etc.)
- Finalize dotted line reporting relationship to Unit Leadership for IT Strategic Partners role
- Assess organizational transition approach to determine HR constraints and considerations for future planning

**Program Initiation | What structures will be in place to support implementation?**
- Define program structure and change management approach, inclusive of governance, risk/issue management, communications, and project management standards
IT GOVERNANCE

Recommendations to Enhance UCLA’s IT Governance Model
# IT Governance: Summary of Recommendations

Recommendations are aligned to current state assessment finding areas, taking into consideration the guiding principles and ongoing UCLA initiatives impacting IT.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Summary</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>1. Governance</td>
<td></td>
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<tr>
<td>1.1</td>
<td>Refine IT Operating Model to Enable Improved Coordination, Improved Quality, and Reduced Duplication Across UCLA</td>
<td>Articulate clear roles and scope of services provided by central, unit, and department IT service providers across UCLA</td>
</tr>
<tr>
<td>1.2</td>
<td>Enhance IT Governance Model to Promote Greater Effectiveness and Transparency in Strategic Decision Making</td>
<td>Augment the current governance model by establishing clearer decision escalation and communication paths between groups, establishing discrete domain-focused oversight over common technology needs, and aligning to funding process</td>
</tr>
<tr>
<td>1.3</td>
<td>Standardize IT Enterprise Project Management Office and Enterprise Architecture Functions Across UCLA</td>
<td>Create an Enterprise Project Management Office and Enterprise Architecture group within ITS to provide clear oversight of UCLA-wide IT initiatives and facilitate development of enterprise architecture-based standards, frameworks, and principles</td>
</tr>
</tbody>
</table>
1.2 Enhance IT Governance Model

The model below represents a potential design based on the identified needs and focus areas for UCLA with regards to enterprise IT needs.*

The **Executive IT Governance Board** oversees and makes decisions on enterprise-wide IT strategy, enabling executive-level sponsorship of IT initiatives, deciding on projects above certain thresholds, determining exceptions from approved standards, and providing oversight of IT investments and their impact.

**Subcommittees** are cross-functional recommendation groups comprised of IT, administrative, and academic representatives that provide oversight, coordination, and collaboration on specific domain and mission-focused areas. These allow for broad stakeholder representation in IT decision making and direction setting.

**Working Groups and Steering Committees** are operational and provide recommendations to support the development of a common approach to specific domains and functions of IT across UCLA. Working groups may be standing or ad-hoc and convened to drive standards for processes around specific initiatives and projects (e.g., IT Funding Model – See recommendation 2.1 or IT Learning and Development – See recommendation 3.2).

**Advisory and Alignment Groups** may function to identify opportunities or issues to be escalated to IT governance groups, advise on certain decisions, or align on enterprise standards.
1.2 Enhance IT Governance Model

A key element of any governance structure is promoting diverse membership with both IT and non-IT staff to facilitate IT/university mission alignment.

<table>
<thead>
<tr>
<th>Enterprise IT Group</th>
<th>Scope</th>
<th>Proposed Membership*</th>
</tr>
</thead>
</table>
| **Executive IT Governance Board** | • Facilitates alignment of IT strategy with university priorities and mission  
• Decides on projects above certain thresholds  
• Adopts IT standards and policies across campus  
• Oversees the return on UCLA's IT investments  
• Promotes transparency of university IT decision making  
• Implements a priority-setting process and accountability mechanisms  
• Encourages knowledge and information sharing across campus  
• Makes decisions on issues that cannot be resolved by the other IT governance groups | • Provost  
• Vice Chancellor, Research  
• Administrative Vice Chancellor  
• Chief Financial Officer (CFO)  
• CIO  
• Faculty Representatives  
**Total: 4-6** |
| **Data Governance Committee** | • Reviews and approves data management strategy, standards, and policy  
• Promotes/facilitates intra and inter-unit cluster and campus data sets and sharing opportunities, inclusive of opportunities to research data management capabilities and standards  
• Advocates for stakeholder data needs and concerns, inclusive of data access and protection | • Representatives from data-intensive functions (e.g. HR, Student, Finance, Research)  
• Chief Information Security Officer (CISO)  
• Unit IT Service Leaders/Providers  
• Faculty representatives  
**Total: 5-7** |
| **Administrative Technology Committee** | • Provides oversight of enterprise applications at UCLA inclusive of projects, policies, or standards related to finance, human capital management, customer relationship management, student, or other business systems and applications supporting the shared administrative functions across UCLA  
• Streamlines application sourcing and supports ongoing portfolio management (e.g., identifying applications in the portfolio that can be shared across campus)  
• Supports life cycle management for critical system-wide business applications | • Executive Representative, Administration  
• Executive Representative, External Affairs  
• Executive Representative, Research  
• Executive Representative, CFO  
• Executive Representative, Student Affairs  
• Executive Representative, Campus Human Resources  
• ITS and Unit IT Service Leaders/Providers  
**Total: 6-8** |

*Note: Representative model only; actual participants should be finalized and appointed by UCLA leadership
1.2 Enhance IT Governance Model

A key element of any governance structure is promoting diverse membership with both IT and non-IT staff to facilitate IT/university mission alignment.

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| Research Technology Committee | • Focuses on advanced information technology to support research across campus, inclusive of research data  
• Establishes priorities, identifies initiatives, and recommends funding of innovative technology projects that support the advanced information technology needs of research at the university | • Vice Chancellor, Research  
• CIO or designee  
• Executive Director, IDRE  
• Unit IT Service Leaders/Providers from computationally research-intensive disciplines  
• Faculty representatives from computationally research-intensive disciplines  
• Total: 6-9 |
| Academic Technology Committee | • Provides oversight of teaching and learning technologies at UCLA, inclusive of projects, policies, or standards related to UCLA-wide classroom and lab technologies, the learning management system, and collaboration tools available to students and faculty  
• Develops policies and standards related to the adoption and use of campus technologies across the campus that facilitate interoperability and standardization | • Representative, Center for Education Innovation and Learning in the Sciences  
• Representative, Center for Advancement of Teaching  
• Representative, Library Teaching & Learning Services  
• Representative, Center for Excellence in Pedagogy and Innovative Classrooms  
• Unit IT Service Leaders/Providers  
• Faculty representatives  
• Total: 6-8 |
| Information Security Committee | • Align IT security practices with UCLA’s tolerance for risk  
• Establish accountability, authority, and responsibility for information protection  
• Identify, prioritize, and develop IT security standards and enforcement mechanisms to be implemented across UCLA  
• Communicate new IT security processes, practices, and standards across UCLA | • CISO  
• Chief Privacy Officer  
• Provost or designee  
• Faculty representatives  
• Unit IT Service Leaders/Providers  
• Representative, Audit and Advisory Services  
• Total: 7-9 |

*Note: Representative model only; actual participants should be finalized and appointed by UCLA leadership
1.2 Enhance IT Governance Model

Effective IT governance is determined as much by the supporting tools and processes as it is the membership and designated groups.

- **Thresholds**
  To help bring the right decisions to the right group/level, a set of thresholds should be defined to differentiate between decision types on projects, policies, standards, and initiatives. Thresholds can be based on estimated hours to complete, risk, estimated cost, strategic impacts, etc. Once defined, the interaction model can use this information to determine who should have visibility into which types of decisions.

- **Templates**
  A set of templates should support all activities. Templates should include: a project request form, a business case template, a project health check form, a technical standard template, a post mortem, or lessons learned template. UCLA should leverage existing templates where available.

- **Charters**
  A charter template defines the key elements of each group including: responsibilities, membership, decision rights, inputs and outputs, and reporting requirements. This helps clarify each group’s purpose.

- **Committee Training**
  As part of the initial launch of a committee and as membership changes, members are trained on committee charter elements, supporting processes, and the overall governance model. This helps members understand committee operations within their specific group and how they fit into the larger governance model.

- **Defined Interaction Model**
  As part of the governance design, UCLA needs a model for governance interactions: how the individual groups interact with the business units represented, how the committees interact with one another, how and to whom decisions are escalated between IT governance groups, and how decision outcomes are communicated across campus.

- **Process Ownership**
  To be effective, committees need a person or group of people to support the actual operations. This includes activities such as developing materials for meetings, taking meeting minutes, tracking metrics, and moving decisions from one committee to another.
THANK YOU