

D R A F T

**UCLA IT Principles
IT Planning Task Force**

2 June 2009

IT Principles

In developing a set of principles that will guide UCLA's future planning, it is important to establish a common vocabulary that will be used to describe IT and how it is deployed. Critically important are several key assumptions and understandings that must be understood as foundational considerations. Presented first is the vocabulary that the IT Planning Task Force has agreed to so that various options could be discussed with the required clarity of understanding. The key Assumptions and Understandings follow and finally, the Principles.

UCLA IT Vocabulary

Institutional or campus IT – a general term that refers to any information technology service deployment or impact that has institutional considerations.

Local IT – a general term that refers to any informational technology service deployment or impact that has only local considerations.

IT Service – any use of IT systems and staff support to deliver an IT capability that enables or supports an end-user activity.

Application & Data IT Service – IT application, database and staff support that enable an end-user activity.

Integrated Application & Data IT Services – applications & databases that need to interface and/or interoperate to form a complete end-user service.

IT Enabled Business Process – an orchestration of integrated application and data services within a unit or across units.

IT Infrastructure Service – IT services and staff support that enable Application & Data Services and Processes.

Centralized IT Service – a campus wide service that is provisioned and delivered to the end-user and functional support staff without involvement of a local IT operation. These can still have impact if the assumed infrastructure is not consistent, i.e. web browser.

Decentralized IT Service – a locally deployed service that is provisioned and delivered to the end-user and functional support staff without the involvement of a centralized or regionalized IT operation. These can have upstream impacts (e.g. impacts on integrated applications or infrastructure.)

Blended IT Infrastructure Service – an Infrastructure IT service formed by sharing institutional components of a centralized service and components of local services to

form an overall service that is provisioned and delivered with joint accountability to the end user.

Regionalized IT Infrastructure Service – a form of blended service in which a subset of unit-based infrastructure services are consolidated for the region formed by those units.

Federated IT – a general term referring to an organization structure in which staff reporting lines and service provisioning can be independently operated and distributed but still operate in concert to form an institutional capability.

Operating Model – The necessary level of business process integration and standardization for delivering goods and services to customers (Ross & Weill) - *for our purposes, the operating model is the methodology by which we implement the principles that follow.*

Institutional IT Architecture – The organizing logic for business process and IT infrastructure capabilities reflecting the integration and standardization requirements of the firm’s operating model (Ross & Weill) - *for our purposes, architecture is an IT consideration that follows from the Operating Model. Technical recommendations for a specific IT architecture are beyond the scope of this document.*

IT Assumptions

In developing a set of principles that will guide UCLA’s future planning, the following are key assumptions and understandings that are foundational considerations:

1. The commissioning of the IT Planning Task Force is fundamentally driven by the belief that (1) UCLA’s current operating model is becoming divergent from external trends and academic aspirations in research, education and civic engagement and (2) there is significant capacity to realign resources for a greater return to UCLA.
2. At the time the IT Planning Task Force was commissioned, the current negative budget climate was not a fundamental driver. However, it has now come strongly into play. Realigning resources for greater return is now a high priority driver.
3. Local autonomy at the research and education frontlines is highly valued in UCLA’s primary economy of innovation and disciplinary competitiveness.
4. Privacy is highly valued in UCLA’s research and education economy as a vital component to open comment and scholarly pursuit.
5. The campus network is an important strategic capability (and not just “plumbing”) viewed as the fundamental nervous system of the campus. It must evolve to reflect UCLA’s research, education and civic aspirations, culture,

- policies on privacy, communication and security and the operating models of the campus.
6. Data and knowledge are primary products of the university. "Institutional data" refers to the concept that data are key institutional resources that should be managed and exploited to drive self-directed, self-managed review and decision-making. It must be accessible and maximized to influence behaviors and have impact and be organized, structured and provisioned through useful applications for people to build constructive relations with the university. Managers of data are stewards of data on behalf of the campus and the user community.
 7. Institutional IT and centralized IT are not synonymous.

IT Principles

The following high-level principles will be used to guide UCLA's future planning. While the vision articulates what we want to accomplish, the principles define how we wish to accomplish it. They reflect not only the elements of the culture we choose to preserve, but also the areas where we want to effect change.

1. Institutional Strategic IT Investment
2. Federated and Blended IT Services Model
3. Shared Core Communications Connectivity
4. Data is an Institutional Asset
5. Adherence to a Campus IT Architecture
6. Innovation and IT Project Risk
7. Robust IT Project Management
8. IT Oversight and Governance

1	Name	Institutional Strategic IT Investment
	Statement	<p>Fostering innovation and discovery with and through IT in research, education and civic engagement are institutional and local priorities. The capacity for widely varying, rapid and responsive deployment of IT in support of innovation and discovery must be carefully balanced with investment and deployment in common use, standards-based, collaboration-oriented information technology infrastructure and IT enabled processes. While local variation, rapid experimentation and responsiveness, especially regarding research and education, are critically important to innovation and the success of UCLA’s mission, so are intra- and inter-institutional connectedness, collaboration, shared infrastructure and processes. In most cases there are local, regional <u>and</u> institutional IT needs that need be addressed in planning investment and deployment. To appropriately plan, invest and ensure areas of needed alignment locally, regionally and institutionally while protecting valued autonomy, especially for research and education, all IT plans with impacts or implications beyond a strictly defined local implementation must be visible and within consideration of the campus operating model.</p> <p><i>Every organizational unit strategic plan must include an IT plan that incorporates any infrastructure or systems-enabled process investments that have general use or multi-user impacts. Local and institutional IT planning should be done together. Planning and budgeting for IT in any shared use, common application or multi-user enabled process must be integrated with the institution’s overall planning and budgeting processes. Alignment with a campus-wide IT strategic plan must be a prerequisite for approval of funding for institutional IT projects.</i></p> <p>Local and institutional IT projects regardless of funding source will be justified on the basis of the value they generate for the university and not driven by purely technical considerations. IT proposals will be approved only when there is compelling cost/benefit substantiation.</p>
	Rationale	<p>IT is a critical and strategic tool for the campus and the local units. It represents a significant collective investment of our resources. The nature of IT is such that local decisions can often have implications for the institution and institutional decisions often have implications for local units. Institutional and local IT efforts and capabilities therefore should be aligned to share and leverage each to the extent that value in achieving goals and objectives can be derived. The value of common or shared infrastructure and of integrated or shared process services should be an equally strong</p>

	<p>consideration in achieving our mission and maximizing the overall benefit of IT investments when compared to the value of local deployment. Considering strategic long-range needs in addition to short-term tactical needs is a requirement for the development of robust and responsive institutional IT capabilities that can be shared and leveraged by the campus community. Cooperation and collaboration across units is also needed to make this a practical reality and avoid “silo” IT solutions that sub-optimize our institutional IT capabilities.</p>
<p>Implications</p>	<ul style="list-style-type: none"> • This principle requires a commitment to the IT Governance structure and process. • The IT planning process must involve faculty, staff, and students. • The planning process should include a transparent and understood process for setting and reviewing priorities for funding. The prioritization should be driven by evaluations of alignment to the institution’s strategies, regulatory needs, and other similar stated benefits and desired outcomes. • There should be a tool that can report institutional level IT investment is at any given time and that provides guidance on what the level of IT investment needs to be. • There is an important distinction between long term investment needs (depreciation reserve) and annual project costs. • Some activities and investments are in the best interests of the institution and must be supported by all units irrespective of level of use or perceived benefit. • Local IT decisions should not be made to the detriment of institutional goals and likewise institutional decisions should not be made the detriment of local goals. • Costing practices and related allocation parameters should be easily understood, and all necessary local and institutional financial, operational and systems data should be available on a timely basis and easily accessible for use in the strategic planning and budgeting process. • Costing should be end-to-end and comparisons of costs between alternative options should include all hidden subsidies. • IT funding should address the Total Cost of Ownership (TCO) over the life of the IT solution including: initial capital investments, implementation support, operational funding and depreciation. TCO should be considered from the broadest perspective to avoid the “Domino Effect” where a unit fails to consider the cost of system implementation across other affected units. • Replacement cycles should be established for each of the

	<p>different components of the technology infrastructure (i.e., hardware, software, implementation costs for lifecycle replacement, etc.) and funding that includes the cost of replacement should be incorporated into IT budgets.</p> <ul style="list-style-type: none">• A contingency or reserve fund should be accumulated to provide for unanticipated institutional IT expenses that arise that were not funded as part of the strategic planning and budgeting process.• The campus should collaborate from an institutional perspective on the purchase of infrastructure hardware and software whenever feasible, enabling cost efficient purchasing practices and support for ongoing maintenance. The budget process for these purchases and ongoing support should be coordinated across all organizational units based on an established institutional funding model.
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2	Name	Federated and Blended IT Services Model
	Statement	<p>Local autonomy at the research and education front lines is highly valued in UCLA’s primary economy as a critical component of innovation. A high degree of individualized and responsive end-user support is also a critical part of this economy.</p> <p><i>To address this need and simultaneously create strong overall institutional IT capabilities, the university will operate in a federated IT deployment model. Moreover, the campus will subscribe to a model of blending central and local services to achieve value-based unit level variability of centralized services.</i></p> <p>Shared infrastructure services will be collaboratively deployed using a "Blended IT Services Model" that enables core services to be operated institutionally but supported and managed by local service providers in a timely manner. For institutional processes, i.e. admissions, local variation will be based on exception.</p> <p>The Blended Services Model will be based on a blending of local, regional, and centralized IT services and staff. IT services will be delivered and managed through a shared accountability structure comprised of centralized and local providers.</p> <p>As stated earlier, local autonomy, especially at the research and education front lines, is highly valuable and will remain explicitly embraced at UCLA. The IT service model will respect and enable this key operating principle with a perspective of also enabling local units to lever institutional capabilities.</p>
	Rationale	<p>From the perspective of the institution, unplanned and redundant provisioning of common IT services by multiple service providers increases overall IT support costs and also inhibits the ability to gain economies of scale or important cross-unit interoperability.</p> <p>Today there is a false dichotomy between IT services provided centrally versus those being provided by units or divisions. The Blended IT Services Model is a hybrid model that allows for the appropriate balancing of centralized and decentralized approaches for delivering IT services. IT services will be created as components on top of shared institutional service components, allowing regionalization and specialization at the local level.</p> <p>While blended services may in some cases be more costly (IT costs only) than strict centralized services, significant value accrues in local responsiveness and by allowing for different priorities and capabilities for local competitiveness. The model will better enable the campus to balance institutional and local IT costs and to make timely decisions to address local requirements for disciplinary competitiveness. Shared, common IT services should render better</p>

	<p>economies of scale and allow local IT services to be built more rapidly and cost effectively upon a common institutional IT infrastructure.</p>
<p>Implications</p>	<ul style="list-style-type: none"> • Blending is heavily applicable to campus infrastructure services. However, the principle can be useful when shared infrastructure benefits research and education. For example, it is a deployment principle for research and education cyberinfrastructure. • Close collaboration and accountability will be required across units to identify opportunities and determine appropriate balances in blending to realize this IT principle. • The provisioning of key commodity or shared services as blended services will need to ensure appropriate baseline levels of service for the campus to meet its responsibilities and to remain aligned with established refresh models. • The campus should consider the possibility of providing support and incentives (grants etc.) to enable local and central units to collaborate and exchange expertise on IT innovation and IT service development. • Our current funding models cannot be a barrier to the implementation of this IT principle, especially where they require separation of funds on an instruction, research, or other basis. • We need to be proactive in considering when purely local IT solutions or purely shared solutions or a blended mixture would provide more appropriate value to a unit. • The design of the federated and blended model should consider blending IT services among campuses within the UC system as well as broader research and teaching communities. • An ongoing review of potentially duplicative efforts and multiple provisioning models for broadly prevalent technologies and services should be evaluated by established IT oversight committees and reported on annually. • The cost structure for the provisioning and support of institutional IT services, whether provided centrally or locally, should be incorporated into the institution's IT funding strategy. • Consolidations should not be undertaken at the expense of service quality or without an understanding and assessment of the risk/reward tradeoffs.

	<ul style="list-style-type: none">• The beneficiaries of institutional IT services should pay their fair share of the costs of those systems. Cost allocation methodologies should create desirable incentives and avoid undesirable incentives.• All institutional IT Services will need to meet agreed institutional production standards.
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3	Name	Shared Core Communications and Network Connectivity
	Statement	<p>UCLA’s communications and data network infrastructure will be planned and developed to create a shared institutional connectivity capability. It will be built on common IT architectural principles and will be managed to consistently reflect UCLA’s policies on privacy, electronic communications and security. Furthermore, UCLA’s network is part of a state, national and global fabric and will ensure compatibility and interoperability to maximize scholarly activity. UCLA will strive to ensure that network policies are consistent with innovation, discovery, scholarly interaction, collaboration, and accessibility</p>
	Rationale	<p>Connectivity is an essential IT contribution to the UCLA Mission and networking provides a wide array of critical services the selection and operation of which can have a dramatic impact on shared and collaborative activities. The provisioning of connectivity is therefore a campus-wide exercise. The campus should strive to facilitate and maximize self-directed innovation, discovery, scholarly activity and sharing among global communities and prevent barriers to institutional effectiveness in the form of restrictive connectivity – except where unique local security requirements pertain.</p> <p>The communications and data network infrastructure should act as a UCLA “central nervous system” and enable individual units to take advantage of a robust shared capability when building more specialized local IT solutions. This principle is supported by the principle of a Federated and Blended IT Service Model.</p>
	Implications	<ul style="list-style-type: none"> • UCLA communications and data network architecture and supporting standards will need to be developed. • As an enterprise endeavor there will need to be appropriate access and visibility for institutional operation. • The shared communications infrastructure needs to be designed to support a wide variety of common use cases yet allow specialization by local units. • While network security must be adequate to protect critical assets it cannot trump all other considerations. Security and the avoidance of risk must be balanced against the need for appropriate access and capability. • Network security must be an institutional activity.

4	Name	Data is an Institutional Asset
	Statement	UCLA is in the data and knowledge business. Data is a currency that has to be managed, available and accessible as an institutional and strategic resource that underpins our business and academic mission. As an institutional resource, data accessibility and availability should be determined based on its value to the university but always in the context of privacy and the protection of personal or restricted information.
	Rationale	UCLA is a knowledge and data dependent organization. Lack of appropriate data integrity, quality, and security can compromise the university’s reputation and impede operational efficiency. Additionally, though, when exploited constructively, data is a strategic asset that can build and enhance the reputation of the university in terms of the impact of intellectual content, the ability for new discovery or better decisions, and the relationship each individual has with the university. Moreover, the campus must find a way to deal with the “digital data deluge ¹ ” that is a consequence of UCLA’s role as a leading research university and the increasing need for institutional data archival, appraisal, and stewardship. Individual efforts and investments to deal with this issue will be insufficient.
	Implications	<ul style="list-style-type: none"> • There must be a consistent campus-wide policy and behavior for provisioning and access to institutional information regardless of where it is collected or stored. • Guidelines, policies and processes will need to be established for institutional data management. For example, the demand for data storage continues to outstrip storage capacity. This situation requires data appraisal processes and policies to determine what data is worth keeping. • Accessibility and availability must take place in a trusted environment along with the protection of data integrity. • There will be trust issues to overcome in building shared capabilities for data management. Researchers and institutional data owners will need assurance that they can put their data into a trusted system and at the same time will need to understand how to provision data at varying levels of verification and validation. • The campus must strive to achieve an appropriate balance among privacy, openness, transparency, and safeguarding confidential information.

¹ Berman, Francine. Got Data? *A Guide to Data Preservation in the Information Age*. Communications of the ACM, December 2008, Vol. 51 No.12, 50-56.

5	Name	Adherence to a Campus IT Architecture
	Statement	<p>IT Architecture refers to the specification of the organizing logic for technologies, approaches and operations that define the integration and standardization requirements of the operating model. To ensure and improve the synergy of shared IT solutions and infrastructure, local and institutional IT deployments will adhere to an IT architecture defined for the campus. The campus IT architecture will be defined for both institutional and local requirements and will provide a blueprint for integration and sharing of solutions to create robust local and institutional IT capabilities.</p> <p>Where there is potential for solutions with campus wide impact, these solutions should be aligned with the IT architecture. Prior to acquisition or development of an IT software, hardware or service solution, there will be a review of opportunities for the solution to be leveraged more broadly and the circumstances that maximize the potential. Such solutions must also be designed to be scalable and should consider that they may be used outside the originating unit, or, potentially, by another campus.</p>
	Rationale	<p>Uncoordinated acquisition or building of servers, platforms, operating systems, applications and interfaces and the creation of redundant IT solutions for shared, interconnected, or integrated services waste valuable resources. A well-defined IT Architecture enables better top-down planning and bottom-up coordination for developing robust institutional IT capabilities and avoids the development of piecemeal and redundant IT solutions. The IT Architecture is also a powerful tool to enable the University to increase its return on IT investments and IT assets.</p> <p>This principle is primarily aimed at shared processes and infrastructure. Specialized research and education applications and tools are, of course, exempted when needed to pursue research and education objectives. However, research and education often benefit from a defined campus architecture because it is possible to be more agile and it is easier to build on top of a standardized architecture. This principle recognizes that standardization and technical diversity need to co-exist especially in the research and education functions.</p> <p>When architecture is defined and applied properly, the use of standards and a consistent user interface (UI) reduces IT end-user training needs and support costs, provides a superior user experience and creates consistent UCLA branding.</p> <p>Unplanned technological diversity impedes connectivity and increases IT support costs. Limiting the number of supported</p>

	<p>components simplifies maintainability and reduces support costs.</p> <p>The advantages of minimizing technical diversity include: standard packaging of components; predictable implementation impact; predictable valuations and returns; redefined testing; utility status; and increased flexibility to accommodate technological advancements. Common technology across the enterprise brings the benefits of economies of scale to the enterprise. Technical administration and support costs are better controlled when limited resources can focus on this shared set of technology. Security and other regulatory requirements are better addressed.</p>
<p>Implications</p>	<ul style="list-style-type: none"> • A UCLA IT Architecture must be defined and developed • Specialized research and education IT deployments should not be impeded by the architectural definition or processes. • In order to reduce complexity in the IT architecture by reducing the number of similar or identical technologies in use we will need to find solutions that can support a wide variety of campus needs beyond a specific local or central need. • It is a misconception that locally defined architectures and the need to integrate across many architectures leads to greater agility and responsiveness and lower costs. • Divisional and Unit IT plans must be visible for IT planning purposes and subject to architectural alignment. • Agile processes must be in place to capitalize on shared IT opportunities and IT funding must support and encourage these types of projects. • Examination of reuse of IT solutions must be incorporated in all IT projects and supported regardless of funding sources. IT solutions should be documented and designed for reuse. • Effective continuing processes for standards setting and enforcement must be implemented. • Campus leaders must sponsor and support the adoption of IT standards. • Standards must be developed and implemented for all web solutions to guide the creation of a consistent user experience for broadly used institutional transactional processes, while permitting some level of local/school interpretation when required to address a more focused audience or need. A recognizable UCLA identity and functionality should be achieved with just a few interface and design requirements and accompanying guidelines to allow for nimble local-level changes.

6	Name	Innovation, IT and IT Project Risk
	Statement	<p>UCLA is in the business of innovation and represents a dynamic marketplace of ideas. Given the embedded importance of IT, UCLA should be externally and internally viewed as innovative in the application of IT to further its mission. IT innovation should therefore be encouraged and supported locally and institutionally and for academic and administrative purposes.</p> <p>It is recognized that all innovation entails some degree of risk. Innovation through information technology will be encouraged through an appropriate tolerance for risk and through ways to mitigate risk while still allowing for innovation</p> <p>However, IT innovation should be “informed” in that related commercial, UC, other university and open source developments should be understood and applied. Innovation, even if innovative for UCLA, should not be reinventing a wheel already invented somewhere else.</p>
	Rationale	<p>Risk is part of innovation and innovation is an inherent function of a research university. The challenge is identifying true innovation and then balancing the risk against the potential benefit of a positive result. For any innovative project there should be an effort to understand the degree of risk and whether the degree of risk is appropriate to the degree of benefit.</p>
	Implications	<ul style="list-style-type: none"> • Most innovation in support of UCLA’s academic mission will begin locally without input from the central campus. The campus does not want to impede this innovation. • A recognition of innovation must extend and be informed beyond the boundary of the campus to avoid the replication of solutions already developed by other institutions. • The problem is when there is an unanticipated (not budgeted) need for institutional resources to support the innovation. • Innovative projects with significant risk should start as pilot projects to minimize risk exposure and to gain a better understanding of the risks and challenges involved in a full-scale implementation. • There should be mechanisms to handle and encourage innovation with local, central and external resources. • Wherever possible, campus resources should be augmented with opportunities for external funding. • If innovation is supported centrally, a mechanism should be developed to allow for “grant” applications for central support. The availability of this type of central support needs to be widely known to the faculty.

	<ul style="list-style-type: none">• Innovative projects must still be defined with a budget and time line.• For innovation that uses campus support in real dollars or campus support of applications for external funding, it should be determined in advance how the pilot will advance to a full campus resource and how that full campus resource will be funded.
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7	Name	Robust IT Project Management
	Statement	UCLA will apply a robust, project management methodology and approach for IT projects. The difficult element and therefore the practical essence of the principle when applied to UCLA has been that IT initiatives must have an unambiguous leader/PM charged with the authority, accountability plus the aligned budget for successful implementation.
	Rationale	<p>At the outset, a core principle of project management seems out of place in terms of granularity. However, UCLA’s culture and current fiscal and organizational models make cross-unit project management very difficult. It is because of UCLA’s culture and history that this principle must rise to a strategic level.</p> <p>It is understood and perhaps obvious to state that the campus must apply project management to its IT endeavors, but in practice this has proved difficult. Clearly defined project management is essential to successfully managing complex IT projects. Furthermore, a formally appointed single point of authority and accountability for every project will accelerate their progress and improve their probability of success. Clear project management role definitions are necessary but not sufficient; there must also be assigned accountability. There is also a need to develop robust institutional project management competencies and capabilities.</p>
	Implications	<ul style="list-style-type: none"> • UCLA must define what is meant by a “campus project”. • UCLA must then define and clarify what is meant by a Project Leader/PM i.e. define the distinction between a Project Sponsor and a Project Manager and their relative responsibilities. • The selection process for IT initiative leaders must ensure that they are trained in consistent project management approaches and are empowered with all three aspects, authority + accountability + budget, before the project is launched. • Requires the development and implementation of a standard project management methodology. • The campus needs to invest in the training and development of IT project management competency.

8	Name	Institutional IT Oversight and Governance²
	Statement	<p>Institutional oversight of IT will be in place to guide the realization of the IT strategic vision and ensure close alignment of IT efforts in support of the campus strategic direction.</p> <p>This will be achieved through an institutional IT governance structure (institutional entities/processes and units/processes) in which decision rights are allocated and understood. The institutional IT governance structure will provide a nimble and effective decision-making framework.</p> <p>Additionally, campus wide application development projects, infrastructure services, blended service approaches, application and data services, and the specification of the IT architecture all involve executive sponsor(s), functional oversight and project management structures.</p> <p>Final accountability for the IT governance structure and allocated decision rights rests with the Chancellor/Executive Vice Chancellor and Academic Senate Chair.</p> <p>The CIO and the Office of Information Technology (OIT) will be responsible for management oversight of the execution of the UCLA IT Strategy and the IT governance framework to actively engage campus leaders to achieve the strategic IT vision. The Office of Information Technology will be responsible for and have oversight of the IT architecture definition and standards, project management standards and the standards, oversight, review and reporting structures for projects.</p>
	Rationale	<p>IT governance is the framework of decision rights and accountability that drives desirable behaviors around the use of IT (IT strategic direction, policy, collaboration, architecture, standards, needs, initiatives and investments).</p> <p>Successful achievement of the strategic IT vision requires the orchestration and integration of the governance process, many different UCLA stakeholders, needs and initiatives to create appropriate synergy and forward momentum towards the vision. At times this will also require difficult trade-offs to be made between local needs and the overall needs of the campus. The CIO will provide a single point of accountability and the leadership to accomplish this task in a objective manner that maximizes the benefits of IT for the entire institution.</p>

² ‘Institutional IT Oversight and Governance’ should not be confused with Management Oversight or Operational Management

Implications	<ul style="list-style-type: none">• The current IT governance framework should be reviewed for its effectiveness and efficiency in meeting this IT principle in terms of structure, process and alignment with the new vision, principles and strategies.• The distinction between IT governance and operational management responsibilities for IT efforts must be clarified to avoid conflict and enable organizational agility. In some cases today the lines are blurred between the responsibility of IT governance entities and the fiduciary obligations of operational managers. All key IT stakeholders and sponsors need to understand and know how to use the UCLA IT governance structure when required and how it will integrate with operational management.• There is a compelling need to have strong oversight and buy-in from faculty. Having faculty representation and participation in the governance entities is crucial.• IT governance “calendar” may be required to manage expectations on the timeline for decisions by the governance bodies and to accelerate the process.
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