

Common Solutions Group – January 4, 2006

# Technology Strategic Planning

## The Search for IT Governance in Higher Education

Jack McCredie  
and Shelton Waggener  
UC Berkeley

<http://technology.berkeley.edu/>

# How to Search for Governance

1. IT Governance: definitions, models, and options
2. Technology Strategic Planning and the relationship to IT Governance
3. Self Study: Past IT Governance at UC Berkeley
4. The Quest for Governance: Berkeley's approach and options

# Six aspects of IT management



1. **Strategic alignment** focuses on ensuring the linkage of business and IT plans.
2. **Value delivery** is about ensuring that IT delivers the promised benefits against the strategy.
3. **Resource management** is about the optimal investment in, and the proper management of, critical IT resources.

# Six aspects of IT management



4. Risk management requires a clear understanding of the enterprise's appetite for risk, and requirements and responsibilities of IT.
5. Performance measurement tracks and monitors strategy implementation, project completion, resource usage, process performance and service delivery.

# Governance is at the center

## 6. Governance ...



So how do you define IT Governance?

# COBIT defines IT Governance

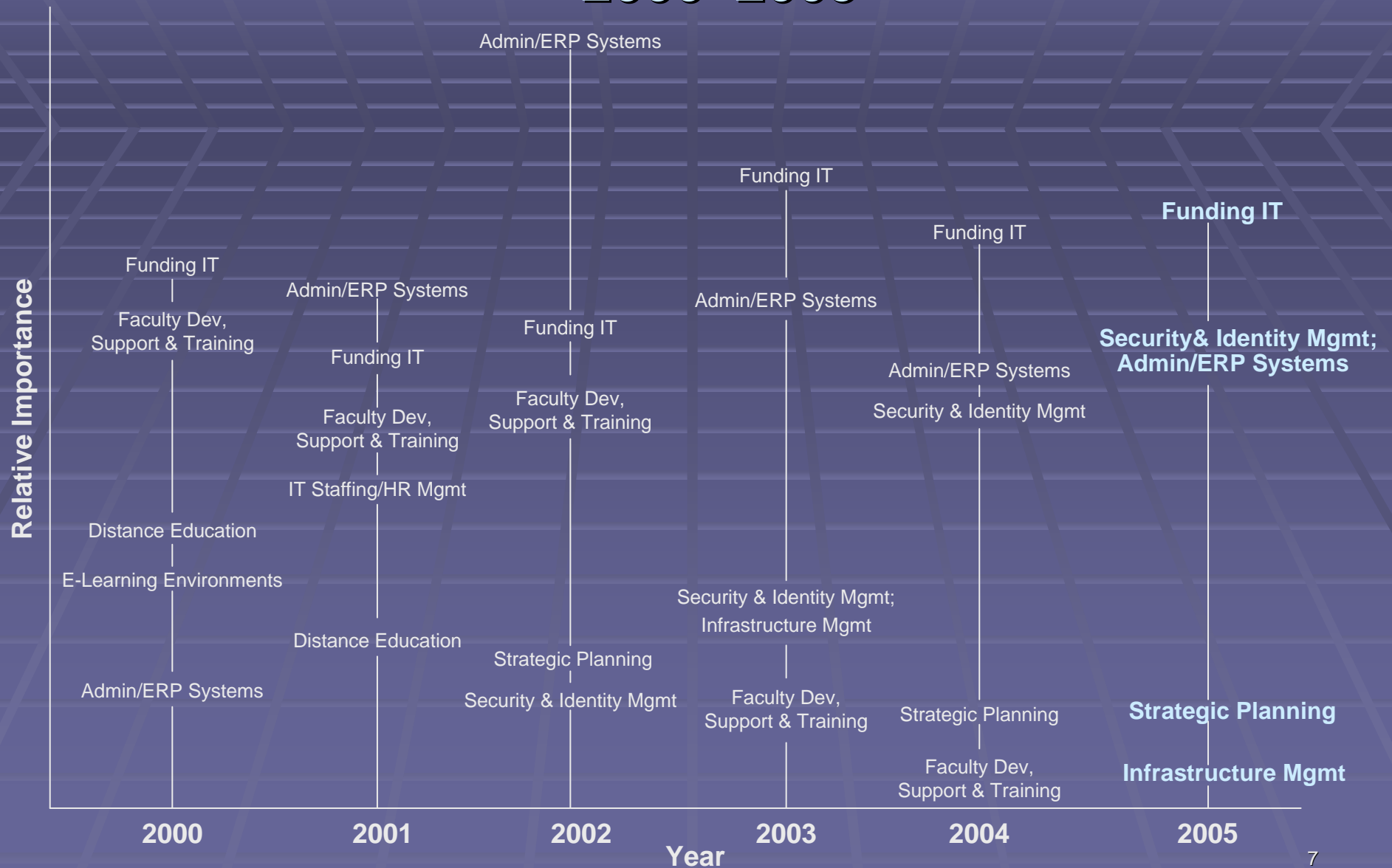
**“ IT governance is the responsibility of executives ... and consists of the leadership, organisational structures and processes that ensure that the enterprise’s IT sustains and extends the organisation’s strategies and objectives. Furthermore, IT governance integrates and institutionalises good practices to ensure that the ... take full advantage of its information, thereby maximising benefits...to the enterprise.”**

Source: [www.itgi.org](http://www.itgi.org)

# EDUCAUSE 2005 top IT issues in higher education

1. Funding
2. Security & identity management
3. Administrative/ERP/ systems
4. Strategic planning
5. Infrastructure management
6. Faculty development & support
7. E-learning
8. Governance, organization & leadership
9. Enterprise portals
10. Web systems & services

# EDUCAUSE Critical IT Issues Surveys 2000–2005



Source : <http://www.educause.edu/ir/library/powerpoint/CI5in05.ppt>

# Question?

(1) If IT governance is an issue on many research universities, what are some of the most prevalent symptoms of this problem?

(1a) What percentage of your campus community could describe the IT governance structure on your campus?

# Jack's Top IT Opportunities & Challenges - 2006

- Security & privacy
- Re-invent central IT organizations
- Transform teaching & learning environments
- Governance & Structure

# Weill & Ross Governance Model

## Key Issues for each IT Decision Area

- IT Principles
- IT Architecture
- IT Infrastructure Strategies
- Customer Application Needs
- IT Investment and Prioritization

Source: MIT Sloan Management Review – Winter 2005

# Weill & Ross Governance Model

## Six IT Governance Archetypes

- Business Monarchy
- IT Monarchy
- Federal System
- IT Duopoly
- Feudal System
- Anarchy

Source: MIT Sloan Management Review – Winter 2005

# UC Berkeley Background circa 2003

"We do not have enough budget to do the job correctly, but somehow we scrounge the resources to do it multiple times in half-baked ways."

Anonymous Berkeley observer - 2003

# Multiple Application Development & Hosting Sites

- Hundreds of departmental Web sites designed, hosted, & supported independently => uneven, no UCB style, etc.
- Easy-sure-pay local and at UCOP
- Travel system
- Course management systems (WebCT, Blackboard, Haas, Campus OMS, etc.)
- Portals (BIS Reporting, HRMS, Haas, etc.)

# Other Illustrative Examples

- Payroll processing (campus and at UCOP)
- Active Directory root support
- Local access points for wireless network
- Credit card payment systems
- GIS systems
- Independent efforts for development of IT support for academic collections
- Multiple approaches to off-site data storage and backups
- Management of hardware and software maintenance contracts

# Question?

(2) Could large universities save significant money if they could enforce important IT standards throughout their campuses?

Phase 1, Spring 2004

## Current and desired future state of IT

### **IT on campus now**

Complex

Confusing

Fragmented

Unaligned

Underfunded

### ***IT on campus in 5 yrs***

*Accessible*

*Collaborative*

*Easy to use*

*Ubiquitous*

*Well funded*

# Jack's UCB IT assessment

## Very Good

- IT policies
- Central operations facilities
- Res Halls IT support
- General data network
- Financial mgt systems

## Good

- Wireless data network
- Security of IT systems
- HR mgt system
- Collections mgt systems
- Library technologies
- Course mgt systems

# Jack's UCB IT assessment

## Needs significant improvement

- Support of research
- Faculty support for developing educational software
- Student computing
- Student admin systems
- Classroom technology
- Web/portal environment
- Integrated help desk facilities
- Faculty desktop support
- Staff desktop support

# Question?

(3) Could we improve services by coordinating IT personnel throughout the campus? What about the quality of our IT personnel?

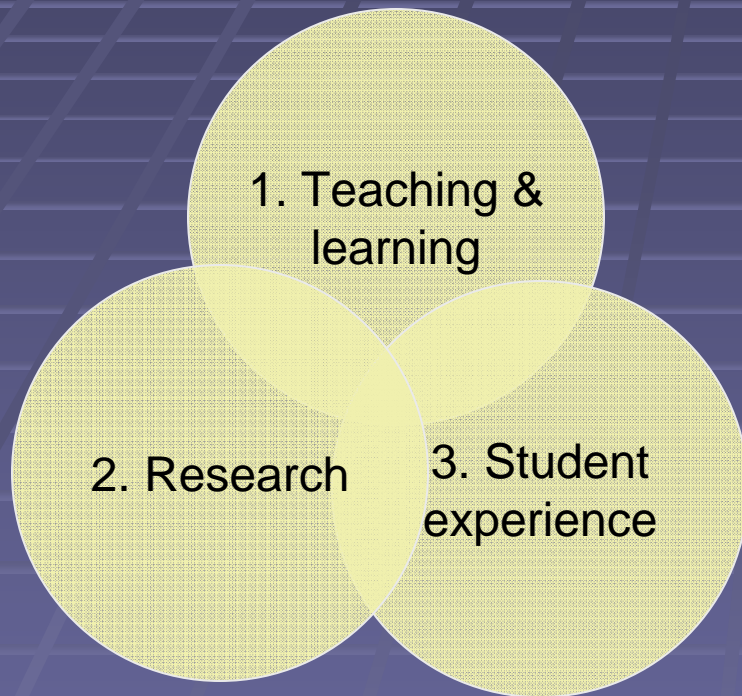
# IT guiding principles for UC Berkeley

Competing information technology needs must be carefully evaluated and information technology decision makers must balance:

Innovation vs. Stability/reliability  
Standardization vs. Autonomy/experimentation  
Accessibility vs. Security/privacy  
Consensus vs. Efficiency in decision making  
Centralized services vs. Distributed services  
Proprietary vs. Open source

# Six critical campuswide IT issues

IT support of these 3 areas:



We worked with each area to answer these questions:

- *What are the trends in this area?*
- *What are the implications of each trend for UC Berkeley?*
- *What are the specific implications for IT?*

And to

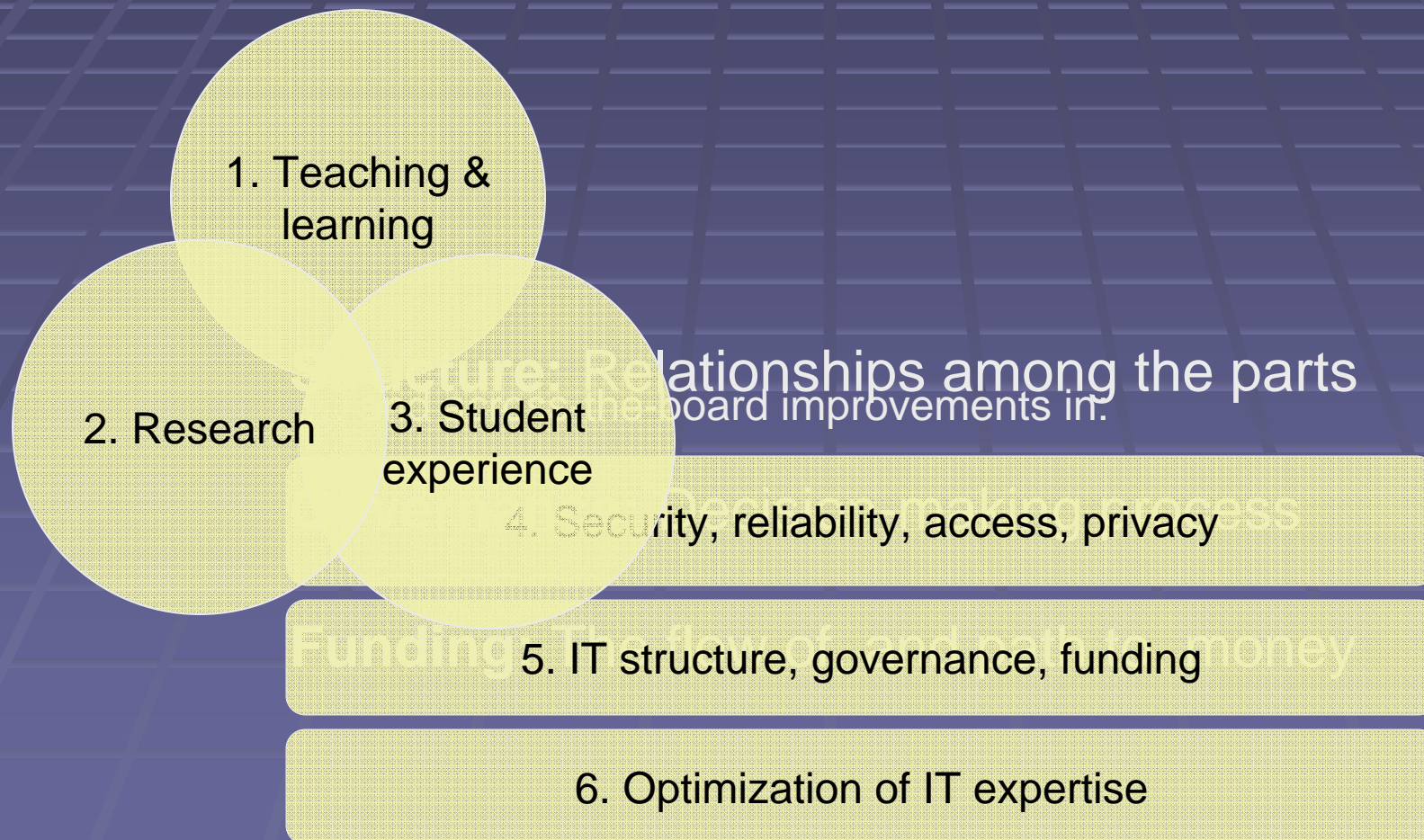
- *Develop specific goals & IT plan*

# Critical campus trends

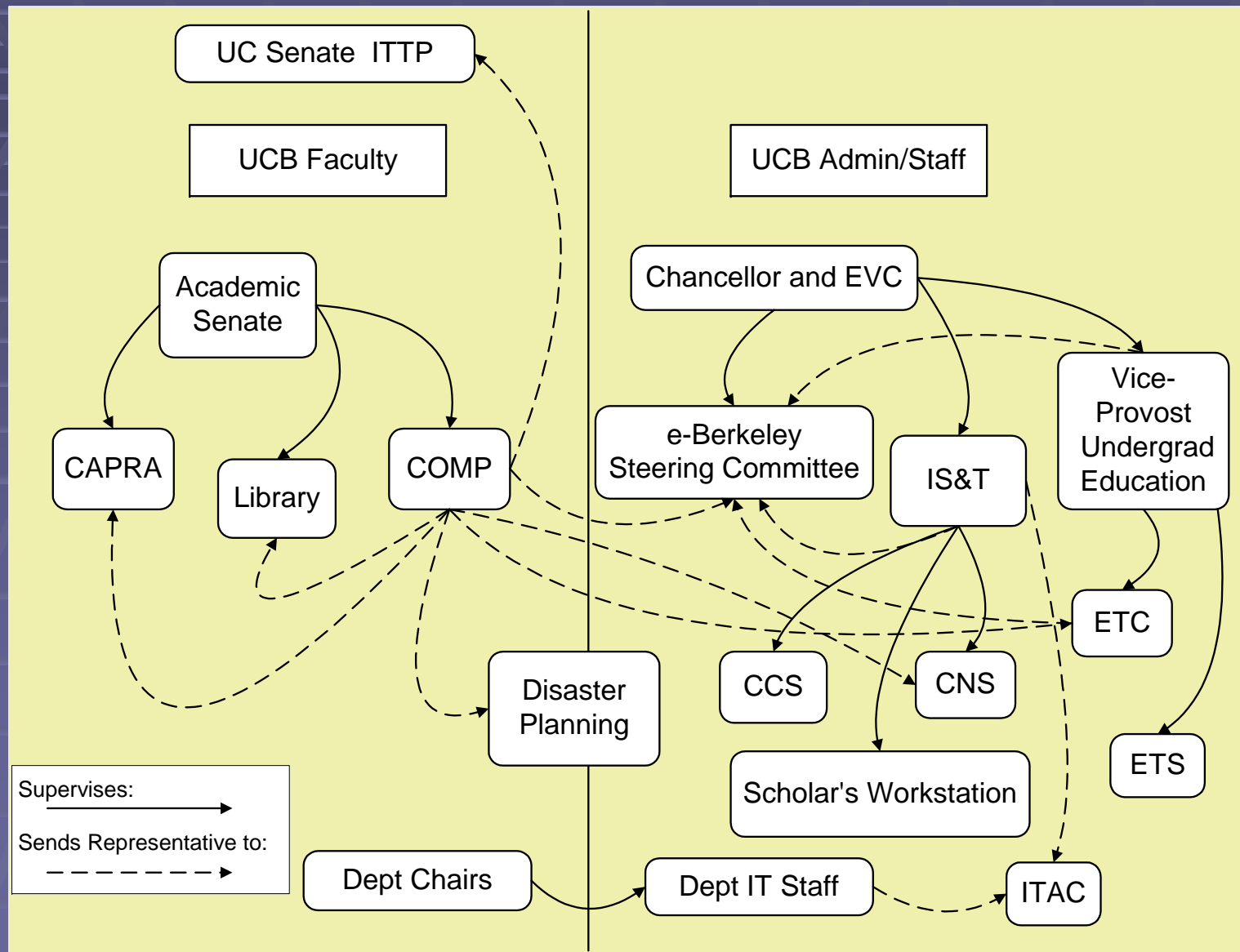
- Increasing emphasis on discovery-based learning rather than traditional lecture modes
- Multidisciplinary/interdisciplinary teaching and research
- Digitization of massive data sets and collections
- “Anytime, anywhere” access to teaching and research resources
- Distributed and mobile data

# Six critical campuswide IT issues

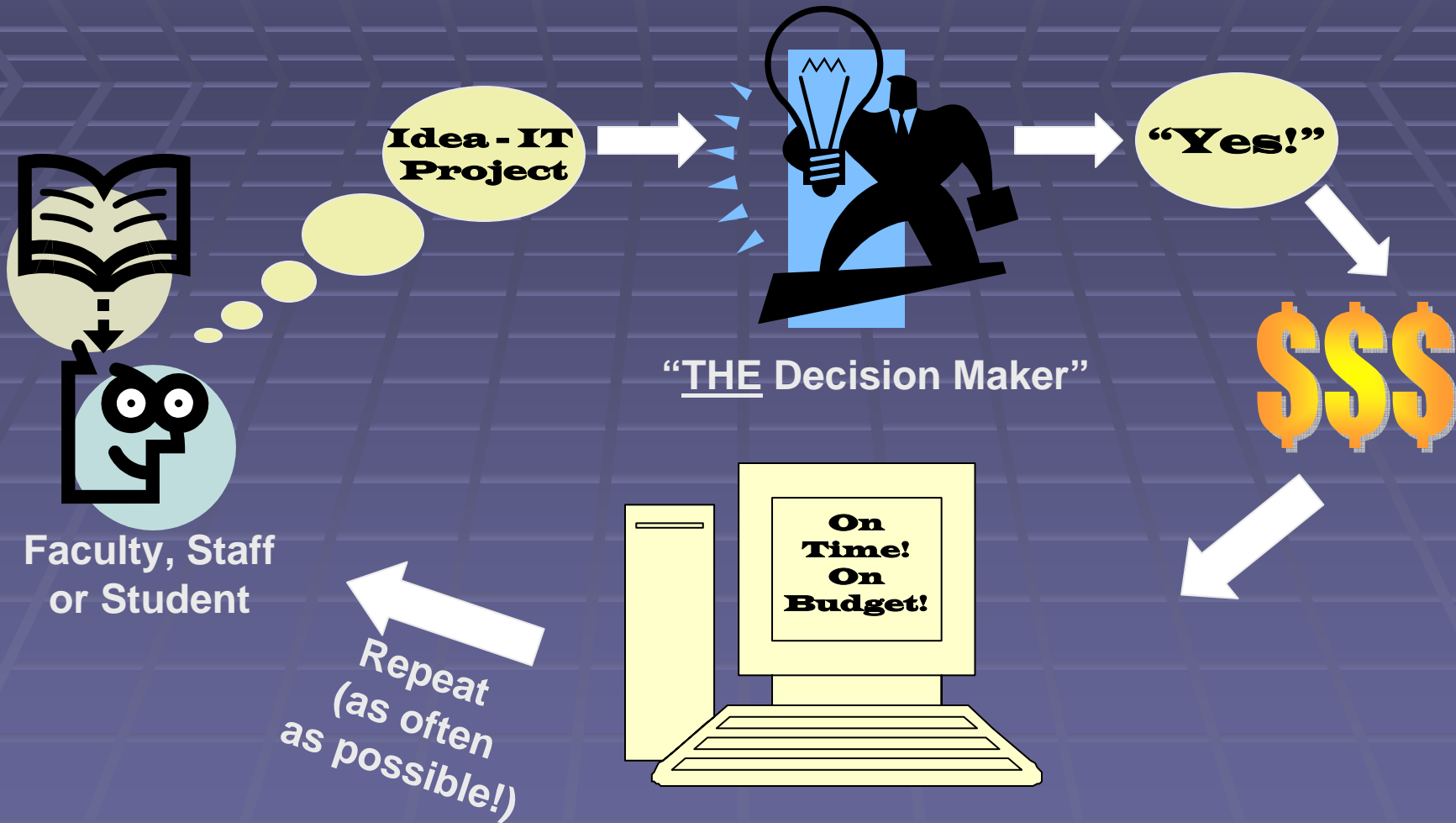
IT support of these areas...



# Fall 2004 Academic Senates Committee on Computing view of IT decision making

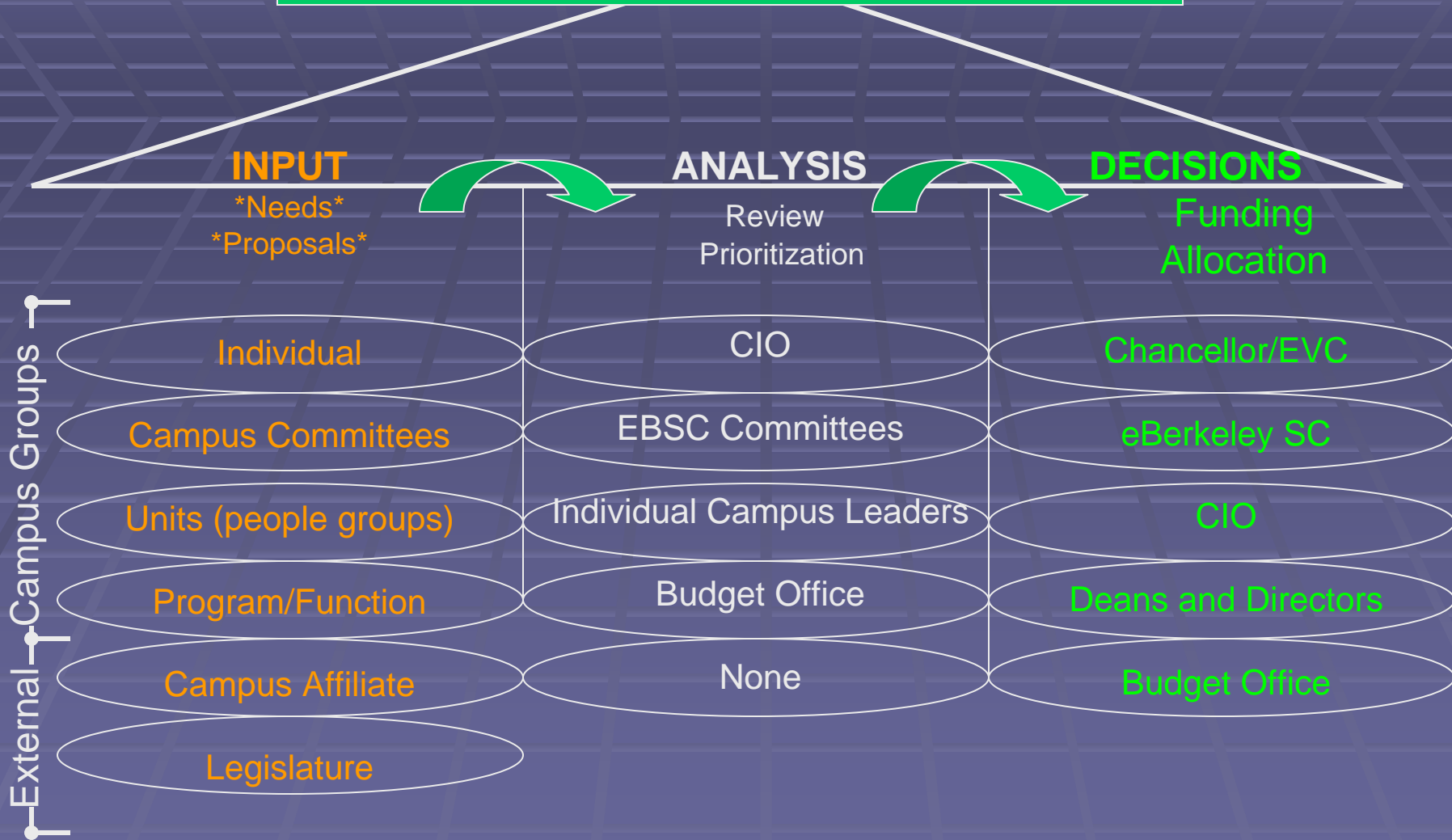


# The customer view of ideal IT governance



# GOVERNANCE

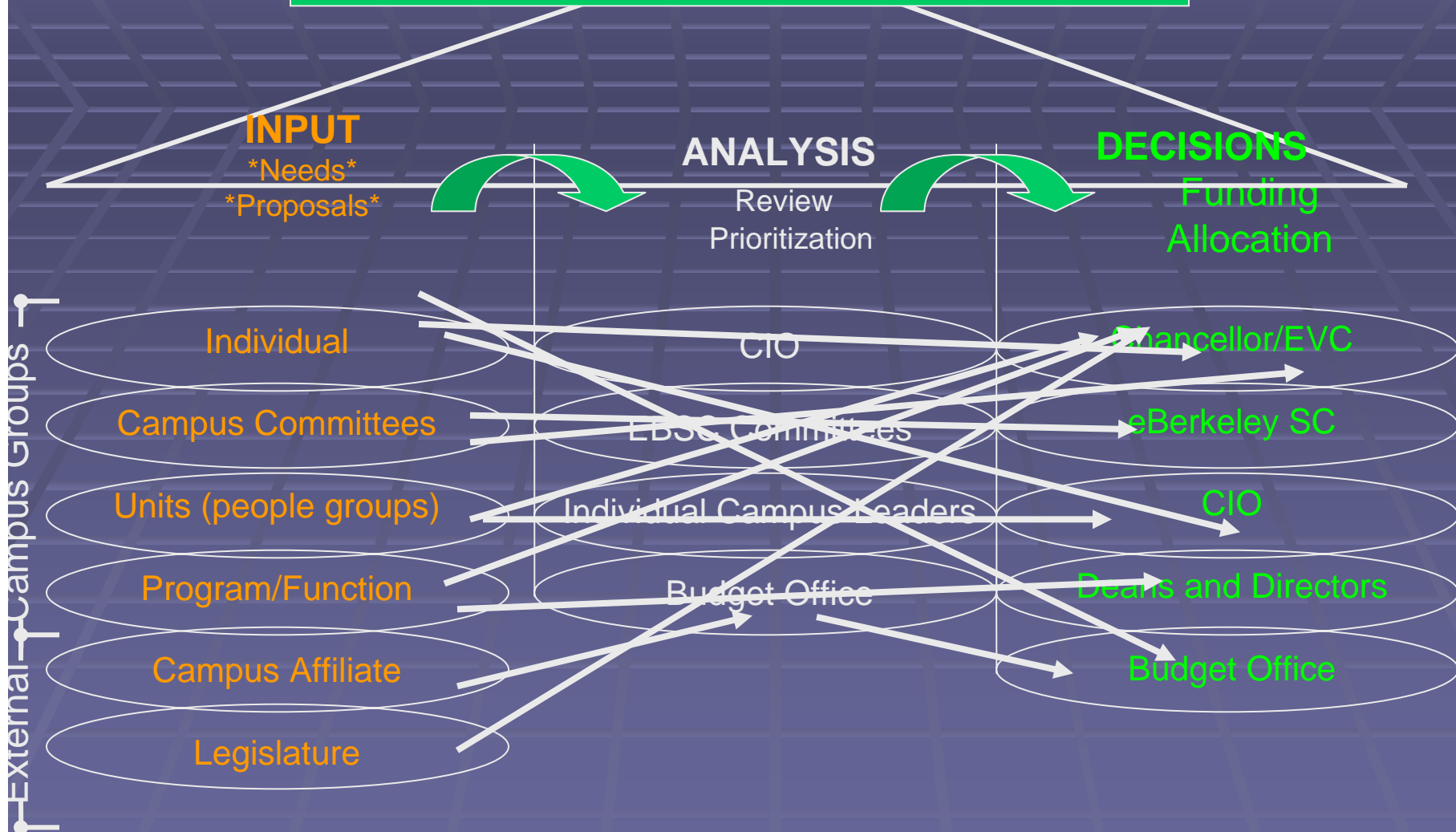
How are technology decisions made in 2005 UC Berkeley?



Today any combination of the above groups may work together to make technology decisions at UC Berkeley

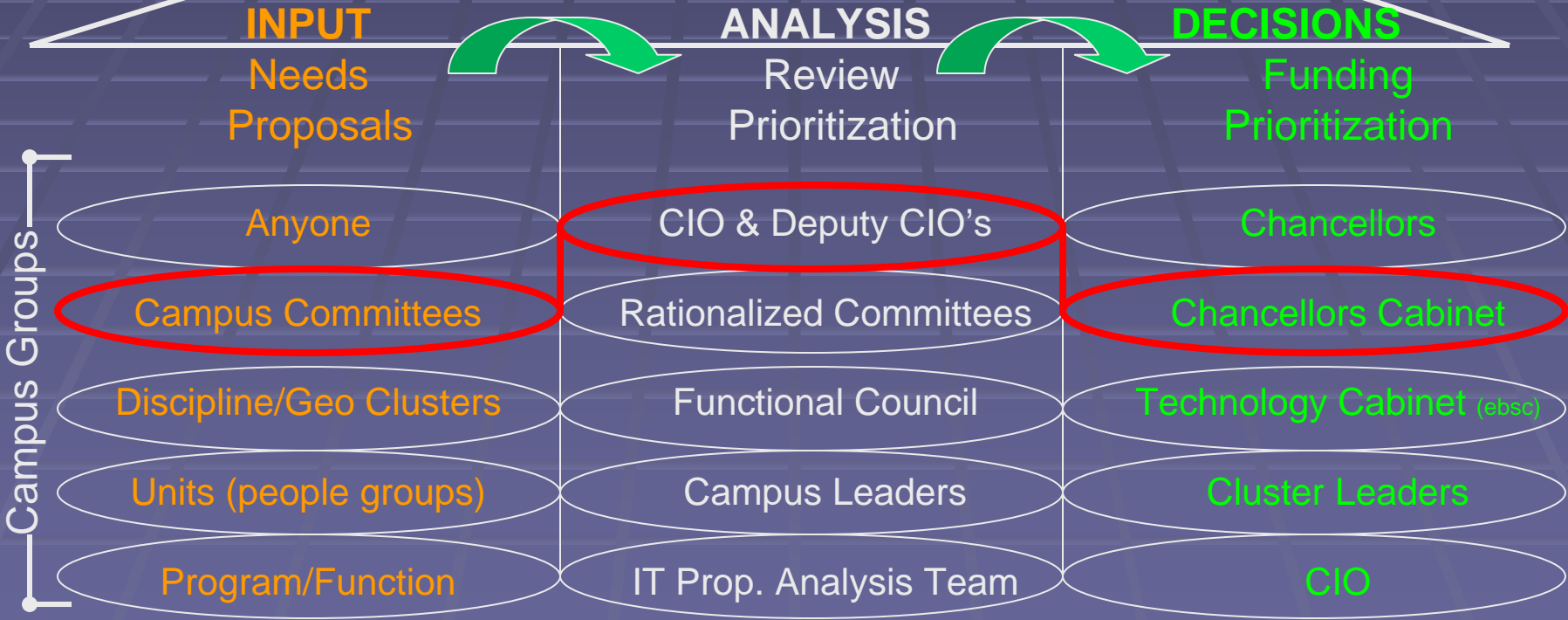
# GOVERNANCE

How are technology decisions made in 2005 UC Berkeley?



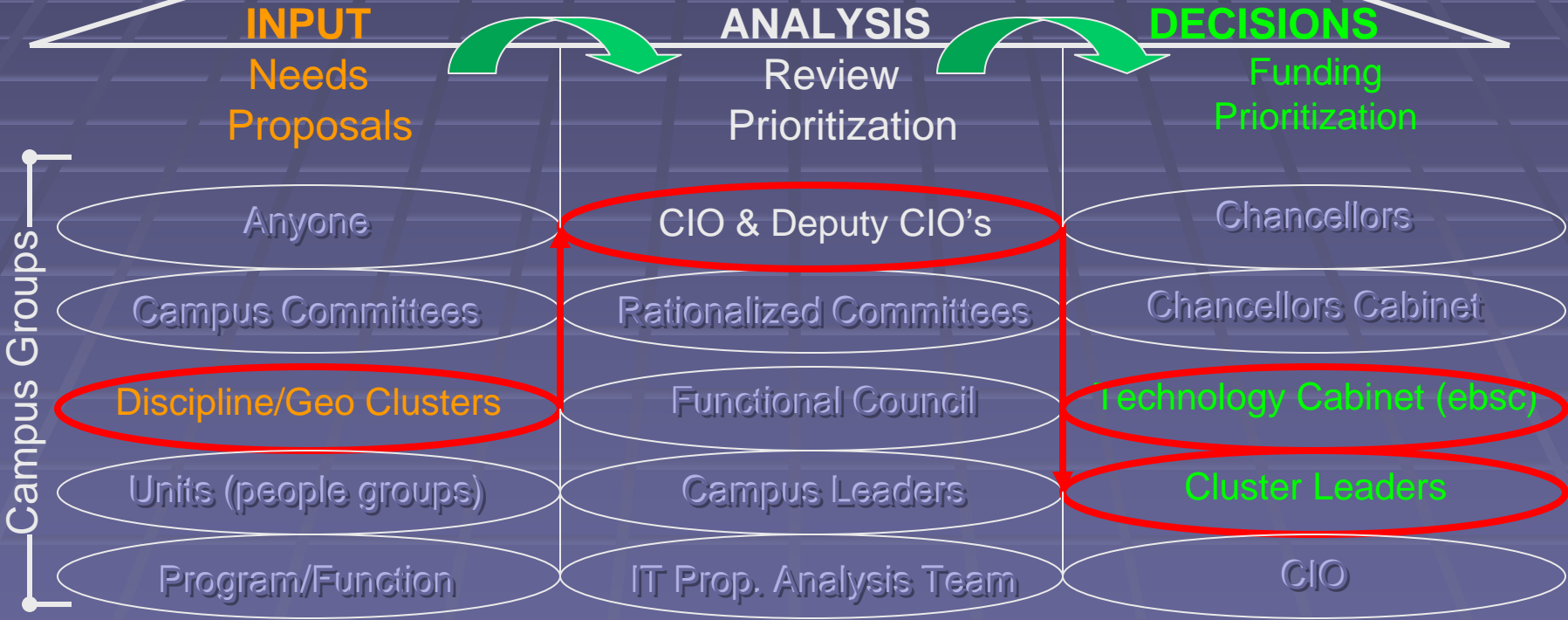
The reality its never that clear - with the many combinations of the above groups working directly together, the results are often cost, confusion, and technical chaos.

**GOVERNANCE**  
 How *might* technology decisions be made at UC Berkeley?

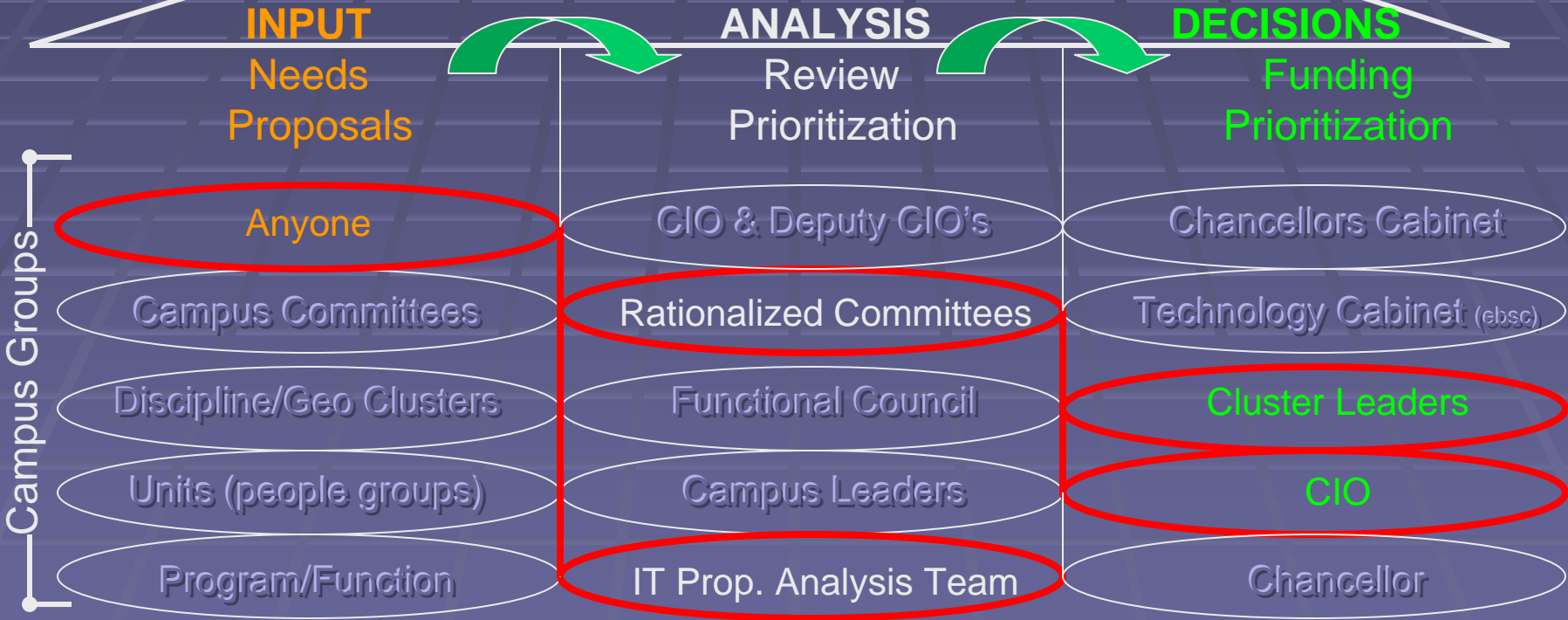


Models can be developed by selecting one or two groups or individuals from each of category.

**Model Option #1: CLUSTER**  
How technology decisions would be made using this model



**Model Option #2: CONSTITUTIONAL**  
How technology decisions would be made using this model



# IT structure, governance, and funding

- Step 1: Self Study
- Step 2: IT Review Committee chaired by Jud King
  - External members:
    - Michael McRobbie - Indiana University
    - Vijay Kumar MIT
    - Jim Davis - UCLA
    - James Hilton - University of Michigan
    - John Gauge - Sun Microsystems
- Step 3: Recommendations

# Steps 1 & 2 – Key Findings

<http://technology.berkeley.edu>

# Step 3: Final Recommendations

1. The CIO function needs to be strengthened, defined more clearly and differentiated from the function of running IS&T.
2. The CIO should be involved in formulating all campus-level IT budget requests.

# Question?

(4) Should the campus CIO also manage the central IT operations unit? What conflicts are inherent in such a structure?

# Step 3: Final Recommendations

*Continued*

3. The CIO should be the key link between input/advice from IT stakeholders and formulation of campus-level IT budgets.
4. There should be a clear way for knowledgeable faculty to interact with the CIO and for the CIO to receive expert faculty advice and draw on highly-regarded faculty partners to advocate for proposed IT investments.

# Step 3: Final Recommendations

## *Continued*

5. The Berkeley campus needs to reorganize, rationalize and enable technology (and other) investments in classrooms and instructional-technology support systems.

# Step 3: Final Recommendations

## *Continued*

6. The Berkeley campus needs to reorganize, rationalize and enable the provision of the IT resources that faculty, students and staff need to do their work (including responsibility for a minimum standard level of computing capability and desktop support).

# Question?

(5) How can we enforce standards, coordinate personnel, and implement security policies with the decentralized IT governance structure common on most of our campuses?

# Step 3: Final Recommendations

*Continued*

7. The Berkeley campus needs to reorganize and rationalize its approach to hiring and training professional IT staff, to encourage the development of a campus-wide community of IT professionals, and to identify and disseminate best practices.

# Question?

(6) Why do IT governance practices in higher education differ so much from best practices in successful corporations?

# Final Questions?

# Extra slides

## Step 1: Self Study – five key findings

1. The IT investment process is disconnected from the campus funding and budgeting process.
2. A "silo-specific" and incremental budgeting approach is applied to central administrative systems.
3. The AVC-IT/CIO does not manage (or necessarily know about) two-thirds or more of the IT activity on campus.

## Step 1: Five key findings *continued*

4. Central administrative roles are unclear with respect to instructional computing, research computing, and campus IT services.
5. There is no mechanism to encourage IT managers to migrate toward "best practices" or to provide basic levels of service.

# Step 2: Best practices Structure

(As identified by review committee)

1. Achieve better partnership and coordination between central and local IT units
2. Clarify and enable the position of Chief Information Officer (CIO)

# Step 2: Best practices Governance

(As identified by review committee)

3. Clarify IT decision making roles and responsibilities of campus leaders
4. Distinguish central issues from local issues
5. Simplify committee structure and give clear and needed roles

# Step 2: Best practices Funding

(As identified by review committee)

6. Connect analysis and decisions to the budgeting process
7. Rationalize funding and enabling of both instructional and research computing