CSU**DH**

UNIVERSITY TECHNOLOGY STRATEGY

Chris Manriquez, VP for Information Technology / CIO

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Agenda

- Global Context
- Strategic End State
- Where We Came From
- Digital Methods and Considerations
- Comprehensive Budget Plan / Frame / Thing-a-ma-bob
- Priority Focus Areas (Frameworks): Where we need to go

Current Global Digital Context

- Post hardware focus began with digital applications (Word, PowerPoint), and moved to the adoption of mobile devices (apps) over desktops

- Digital interactivity and transmission of information between embedded devices *without human intervention* (IoT - Internet of Things) is now the heart of digital conversation
  - Smart homes, smart networks, and Big Data

- This heart has a system of digital transactions and real time analytics that requires interventions only at point of exception (process design)

- It is becoming universal in impact
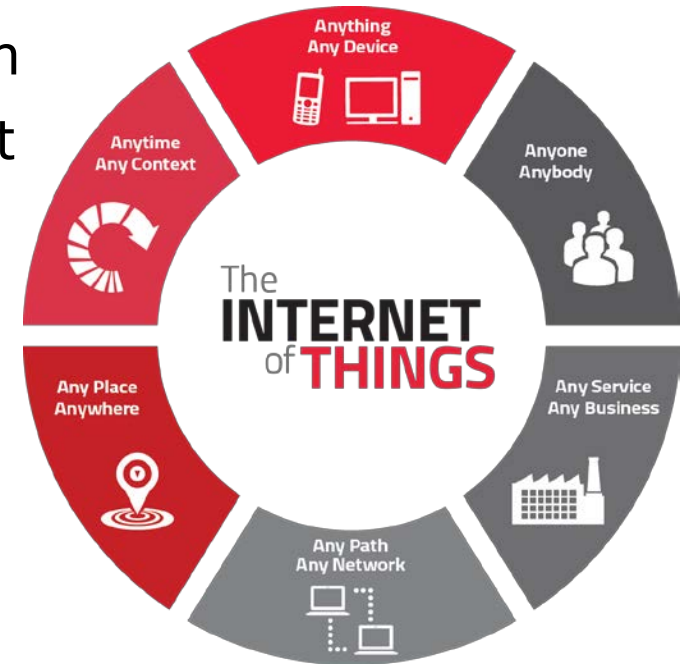
Current Global Digital Context
(CONT'D)

From a *process perspective* we are also facing:

- the sustained rapid pace of change,

- the rapidity of the creative cycle (how frequent iterations are released), and

- the multidirectional path of creative change (neither just top down or bottom up)

  - Users often have tools and capacity before institutions

  - A greater number of "eyes" on issues provides for greater opportunities

The change is so profound and sometimes perceived as complex, it is often referred to as
Digital Disruption
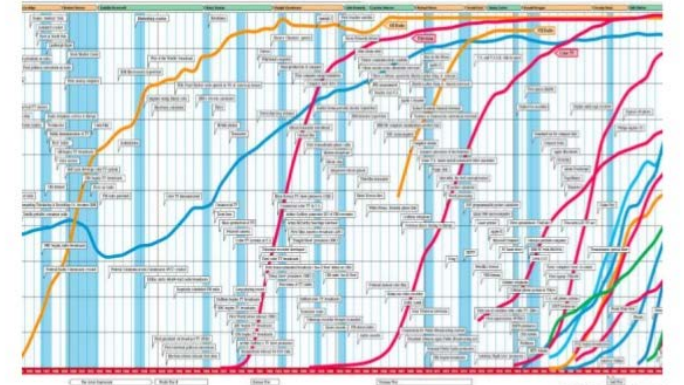
accelerating rate of change and compressing innovation cycle

Things are changing at an increasingly rapid pace. The issue for car manufacturers is globalisation has eroded the ability to capture wealth from standing on the innovation soap box. With incremental innovations flowing from the premium and luxury end of the market to the commoditised end of the market increasingly quickly.

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So What About Change In Higher Ed?

Change in the University's Digital **Pathways**

- More than just your web site or mobile app, it's the also transactions. Think admissions, enrollment, advising, financials, student aid, instructional support and commercial ventures. This includes implications for data creation and capture to inform "*who we are and what we become*."

Change in the Flow of University Operations

- Think **frequent iterations** and its potential impacts to space – how we all **organize to work**. The shift in production process from **waterfall to agile** is more than a technology/development toolset.
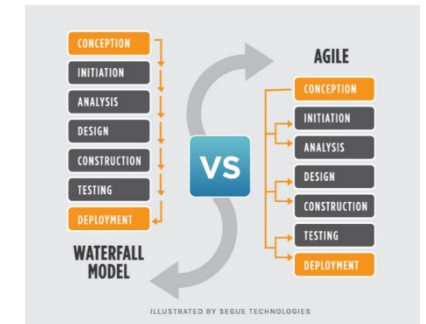
Change in Technology Vendor Partnerships

- Digital disruptions and transformations are also impacting our vendors and they are **seeking unique partnerships**. Small projects that achieve targeted value can lead to broader discussions that approach the philanthropic.

Increase in use of tech everywhere

The Technology Enabled End State

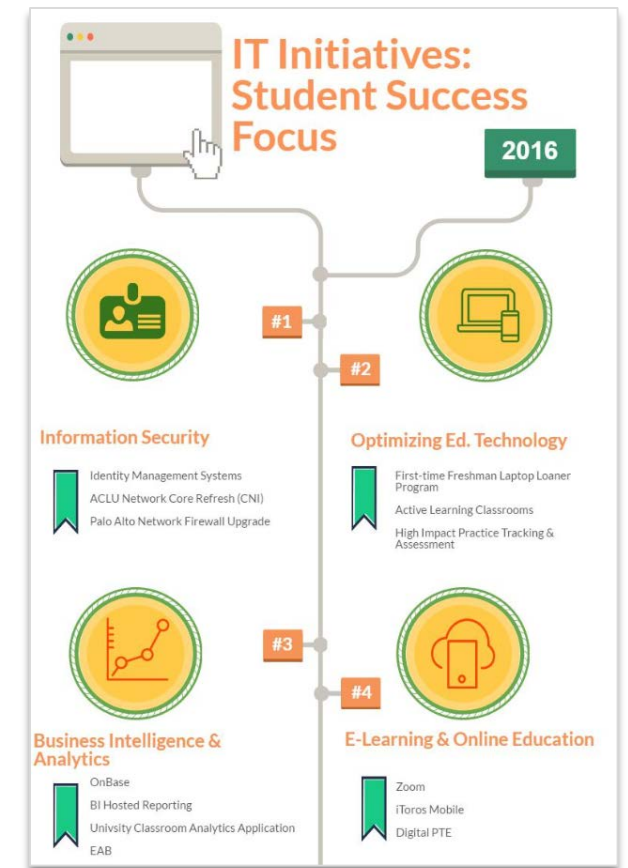- High-touch Digital First
  - Easy access to 1-stop service

- Focused High-touch In-person experiences

Accomplishments to Date: Student Focused Technology

- First-time Freshmen Laptop Loaner Program
  - Acer Aspire E 14" Series with University licensed software installed (Microsoft Office, Adobe Suite, and SPSS)
  - Checked out a semester at a time as long as the student is enrolled
- Smart Classrooms
  - Two Active Learning Classrooms for group & interactive learning.
- Software & Applications provided at no cost
  - Microsoft Office,
  - Adobe Creative Cloud,
  - Zoom video conferencing,
  - Mathematica, SPSS,
  - lynda.com online training, and more coming soon
- Enterprise Applications – Blackboard, online Perceived Teaching Effectiveness (PTE), Tutoring & Advising data for student success & intervention

IT Initiatives: Student Success Focus — 2016

Information Security
- Identity Management Systems
- ACLU Network Core Refresh (CNI)
- Palo Alto Network Firewall Upgrade

Optimizing Ed. Technology (#1, #2)
- First-time Freshman Laptop Loaner Program
- Active Learning Classrooms
- High Impact Practice Tracking & Assessment

Business Intelligence & Analytics (#3)
- OnBase
- BI Hosted Reporting
- Univsity Classroom Analytics Application
- EAB

E-Learning & Online Education (#4)
- Zoom
- iToros Mobile
- Digital PTE

Accomplishments to Date: Impactful Projects

- Office 365 Cloud Deployment (for faculty, staff, & students)
  - Microsoft Suite & OneDrive storage in the cloud

- Advising toolsets (partnering with EAB)
  - Advising Notes & Dashboards
  - Using basic Data Analytics to further Student Success

- Identity Mgt (partnering with ThoughtFocus / MS)
  - Cleaning data by deleting old accounts
  - Implementing automated provisioning and de-provisioning

- Digital Workflow (partnering with OnBase)
  - Upgrade system / repository
  - Preliminary workflow
  - Analysis of impactful practices
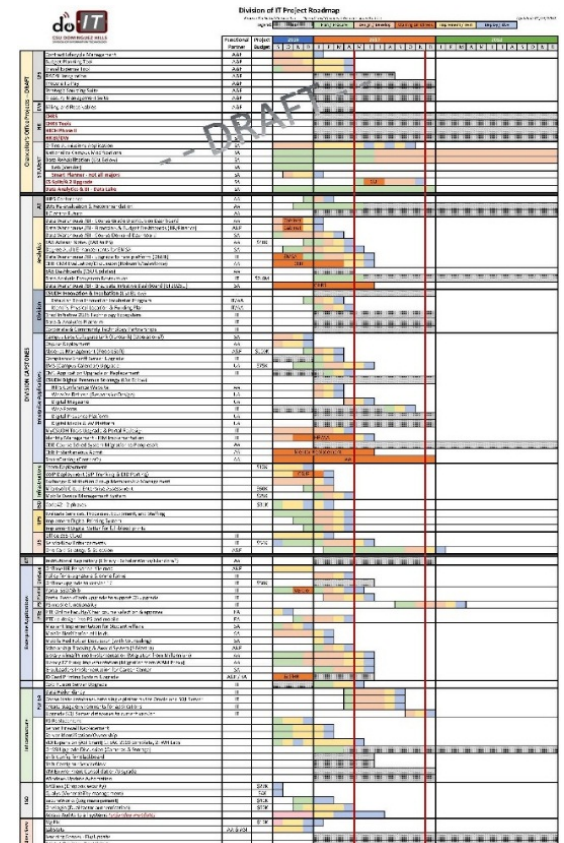
Accomplishments to Date: Base Infrastructure Technology

- Rollout Program
  - Deployed a baseline of standard access devices in 2013
  - Seeking funding for a refresh program as Colleges have stopped budgeting for devices and the program is out of funds

- Wireless & Networking
  - Upgraded the Network "pipe" to 10GB and improved wireless inside and out
  - Seeking labor costs ($75K) to install 130 add'l wireless access points

- Moving to the Cloud
  - Microsoft Engagement – what's the best path to the cloud for CSUDH?
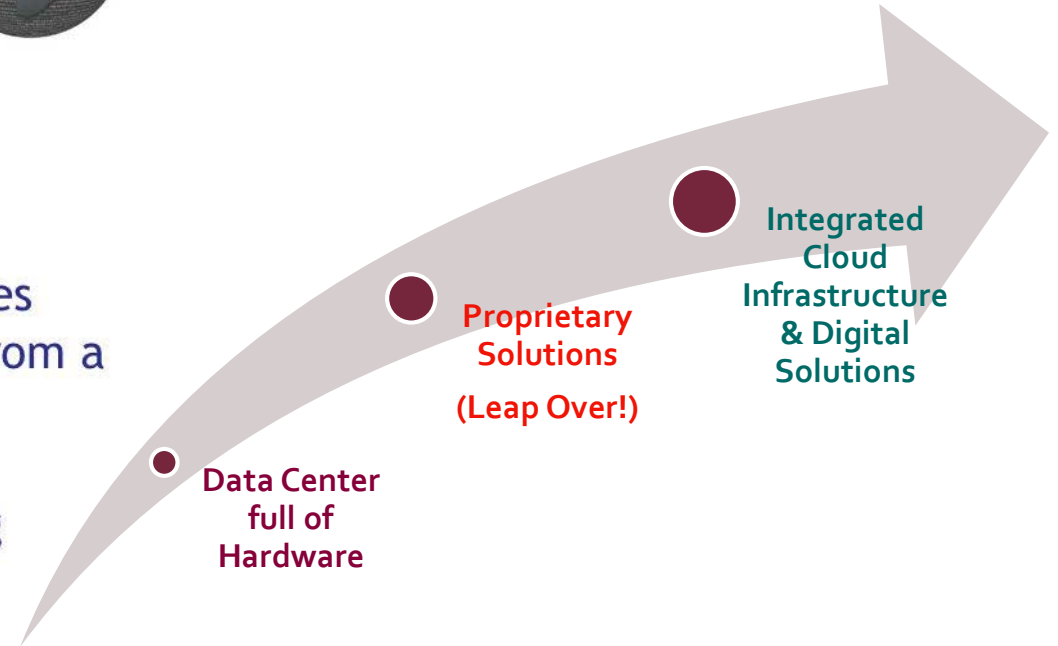 - University Strategic Plan & IT's Role in the plan on the path to the Cloud

Concern: No baseline funds established for these base technologies

On Ramp to the Cloud

The Giant Leap

Technological advances driven by pressures from a Digital Society have allowed people and countries to leap-frog technology.

future*fact* ▶▶

- Data Center full of Hardware
- Proprietary Solutions (Leap Over!)
- Integrated Cloud Infrastructure & Digital Solutions

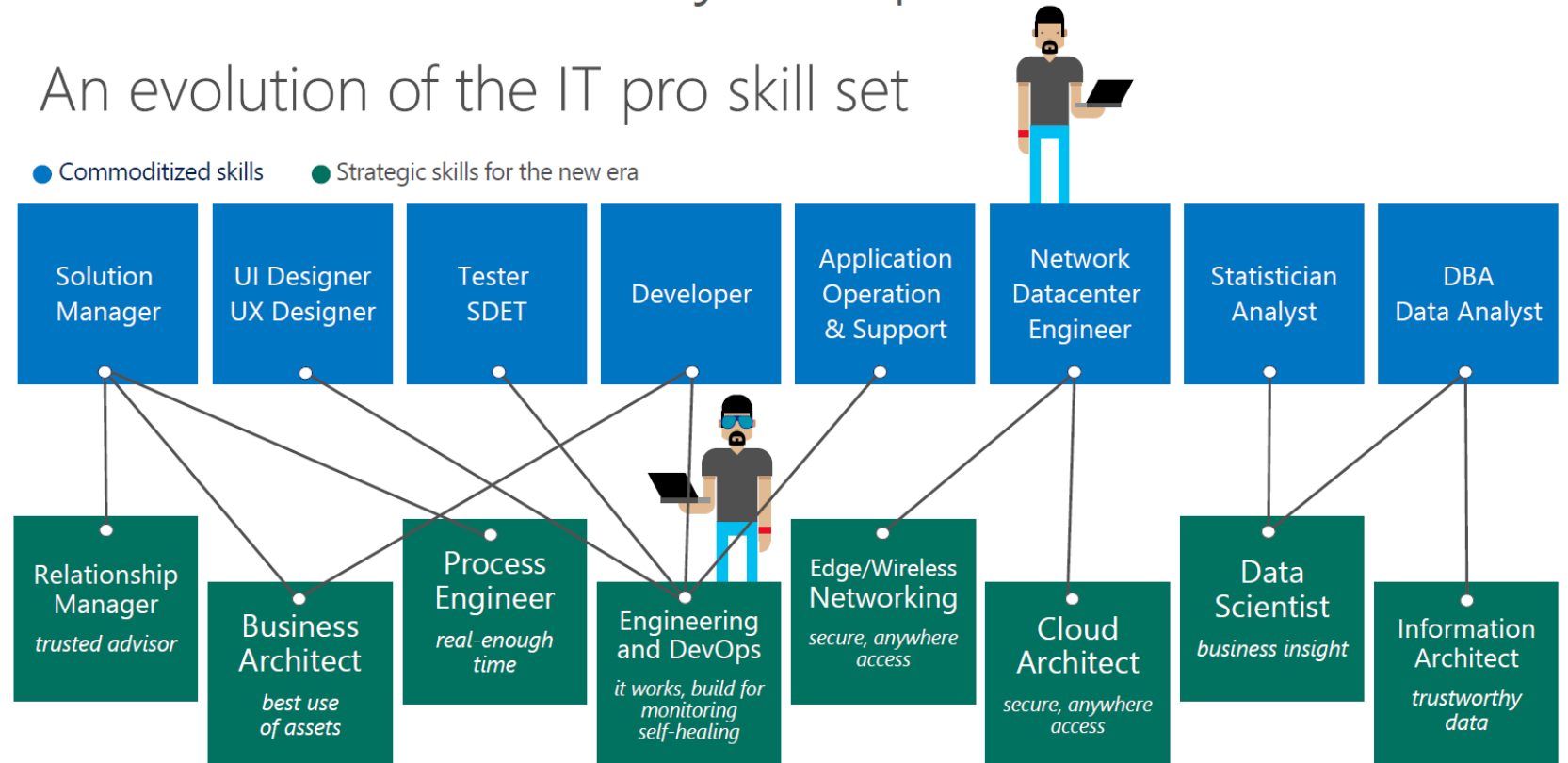# Digital Transformation: Training & Skills Building

- We're dying on the vine – need training
- Bring staff through the transformation stages
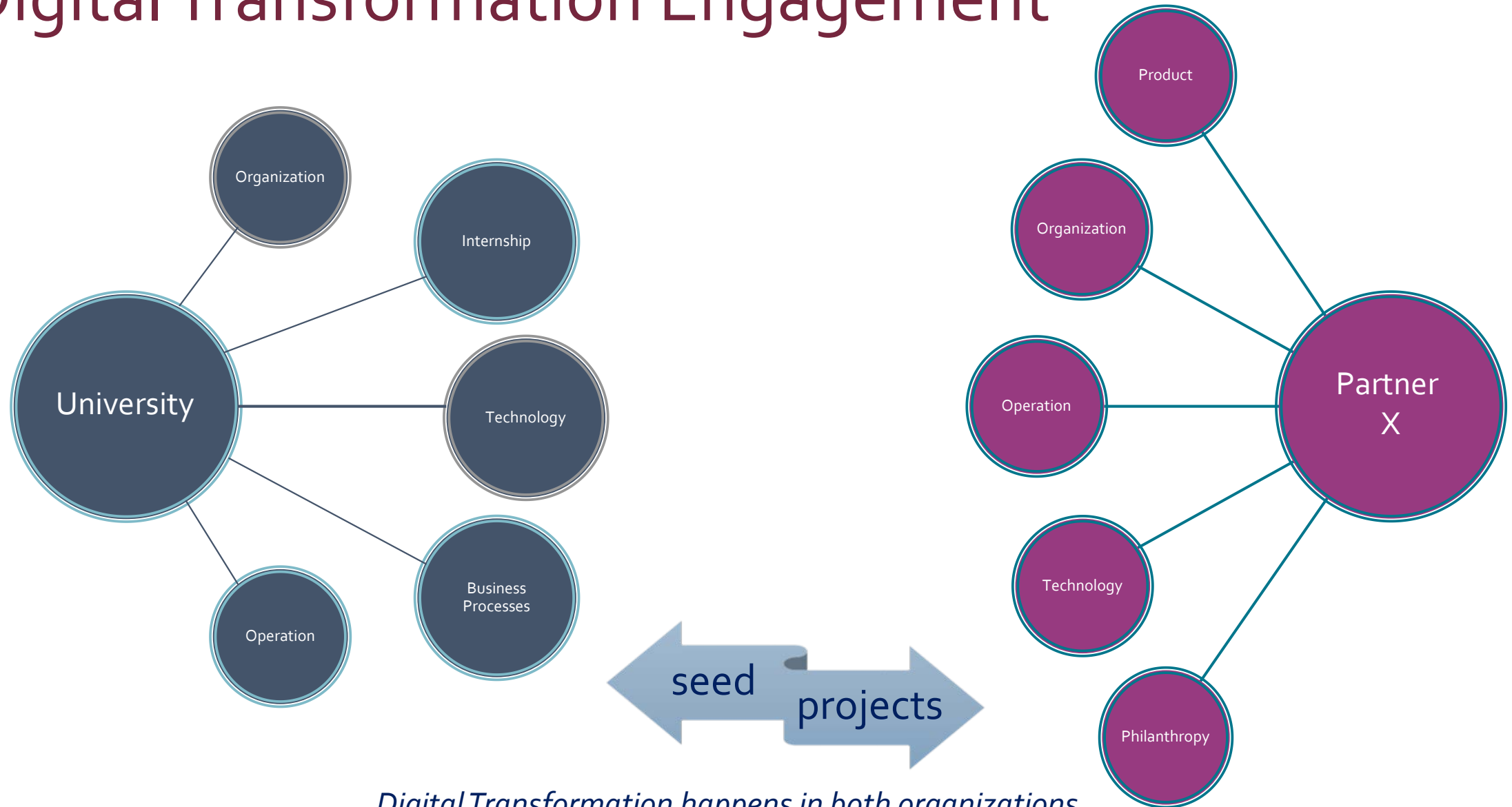- Both inside & outside IT

CSUDH Cloud-Ready-People

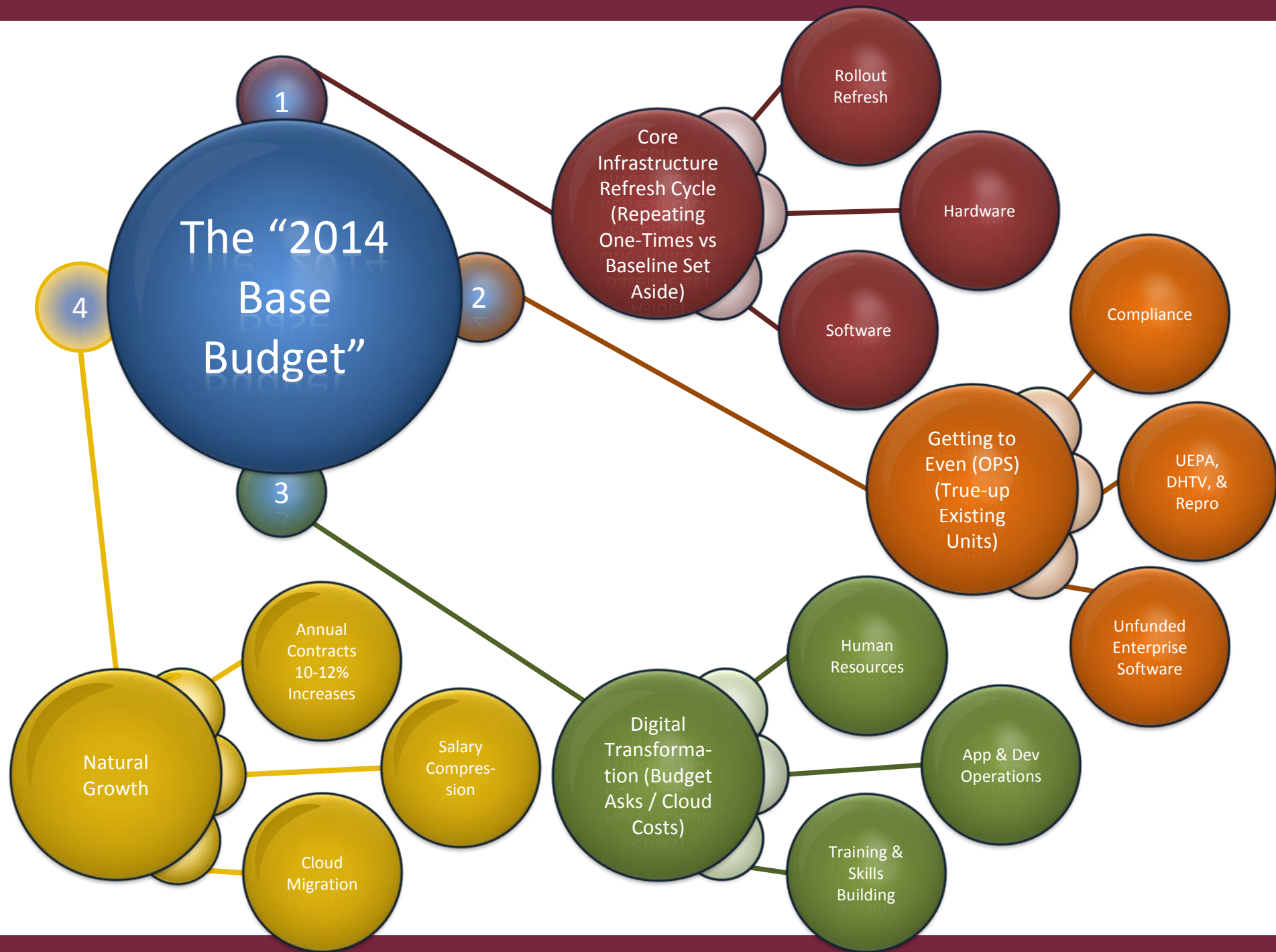An evolution of the IT pro skill set

● Commoditized skills   ● Strategic skills for the new era

Solution Manager	UI Designer UX Designer	Tester SDET	Developer	Application Operation & Support	Network Datacenter Engineer	Statistician Analyst	DBA Data Analyst

Relationship Manager *trusted advisor*	Business Architect *best use of assets*	Process Engineer *real-enough time*	Engineering and DevOps *it works, build for monitoring self-healing*	Edge/Wireless Networking *secure, anywhere access*	Cloud Architect *secure, anywhere access*	Data Scientist *business insight*	Information Architect *trustworthy data*

Digital Transformation Engagement

Digital Transformation happens in both organizations

Building and Extending the Baseline

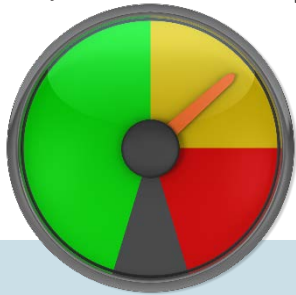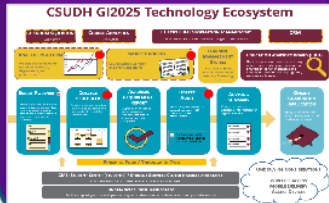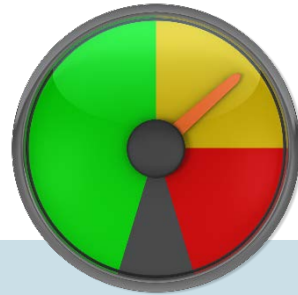| 2016-17	2017-18	2018-19	
• Web Technology Upgrade • DHTV moved	• Web Presence • DHTV • Reprographic Svcs	• Business Front • Dynamic Web, New Tools	**Digital Production**
• IR Moved • New Position Classification	• IR • Analytic Tool Set • Big Data	• KPI – Strategic Enrollment Mgmt. • Review of Data Flow	• Strategic Enrollment Mgmt. • Data Catalog • Data Dictionary	**Data Analytics**
• GI 2025 - Discussed	• Framework In Place • Review Transaction Systems for Student Success		**GI 2025**
• CISCO – 40K gift • CSU • LinkedIn ITAC • Carson TAIC	• LA EDC • LA Data Coalition		**Philanthropic/ Community Service**
• TII Moved • Est. Strategic Governance	• Discussed/Planning Phase • Develop Rubric for Colleges (Tech Support, Instructional Support, Research Support, Other)		**Instructional Research**
			Smart Campus

Goal Frameworks

Efforts are currently underway to transform existing University technology infrastructure and services areas in a multi-year progression. Below are six key framework goals, noted with any forerunner activities and future year goals, that will impact the 2017-2018 academic year.
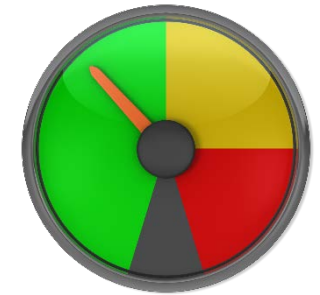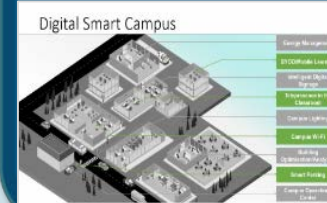
GI 2025 TECH ECOSYSTEM

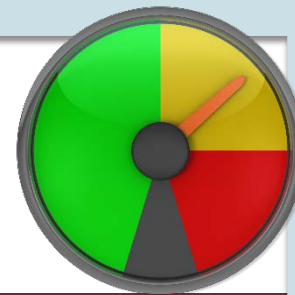Provide functional guidance and partnership centered around transforming the processes and tools needed for CSUDH graduation initiative success. This is inclusive of all transaction systems that students, faculty, and staff use in the process of graduation.

Tool Activities

- Determine "Low Hanging Fruit / Major Impact Areas" with Functional System Owners for Quick Wins
  - Ad Aastra Preliminary Study
  - Ad Aastra Room Scheduling
  - PeopleSoft HR/CS Split

Resource Activities

- Begin System Review to Incorporate Cohesiveness of Delivery and Ease of Access
- Determine Renewal/Replacement of Systems at End of Contractual Term

CSUDH GI2025 Technology Ecosystem
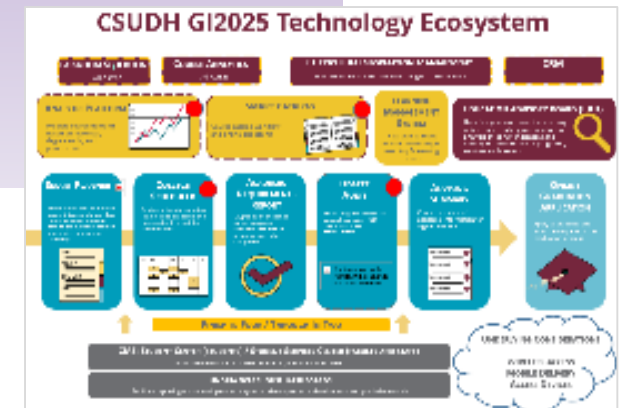
DATA & ANALYTICS

Engage campus users in data definition, flow, and outputs (e.g. reporting, dashboards, analytics) that provide relevant and consistent information for decision-making and determining appropriate performance indicators.

Core Team	Tool Activities	Resource Activities

• UEPA positions posted in intervals
  • Sr. Director UEPA
  • Analysts (2)
  • Asst. Director, IR
  • Data Scientist (2)
	• Identify and acquire tools for Data Visualization and Distributed Query (e.g. Tableau)
	• Identify and engage for metric and data inquiry around KPI's (e.g. Hightower)
	• Develop and sign NDA for LA Data Science Collaborative membership
		• Identify university, divisional, college, and unit needs for key performance indictors (KPI)
		• Identify and develop data outputs
		• Define a university data dictionary
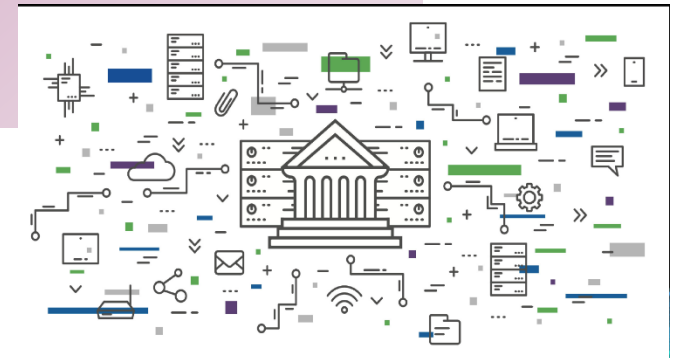
DIGITAL PRODUCTIONS

Engage with University Communications and Marketing to ensure that print and digital assets are utilized to optimal effect and that current, converged print and digital media toolsets and services are available to the university, allowing for academic, administrative, and community.

Web Presence

- University website to move to hosted model
- New dynamic web look and feel released
- Design of business functions, one-stop shopping interface

Print Media

- Survey of campus print needs
- Release of web interface for print materials
- Collaborate with Communications and Procurement to establish approved university print partners

Digital Media

- Release new TV academic content (5 new courses) for EBS contract
- Remake digital media pipeline for repurposing content captures
- Reposition internet social media channels

INSTRUCTIONAL & RESEARCH

Partner with colleges and units to survey and study current and future instructional design, technology, and research needs across campus. To the extent possible, uncover needs that can be addressed both by specialized and commoditized services.

Activities

- Begin college-based survey of technology, instructional, research, and data needs across colleges and departments
- Identify hybrid model of supports that best support accreditation and university need

Alignment

- Align services and tools around identified survey results
- Begin discussion of alignment of service needs tied to applications
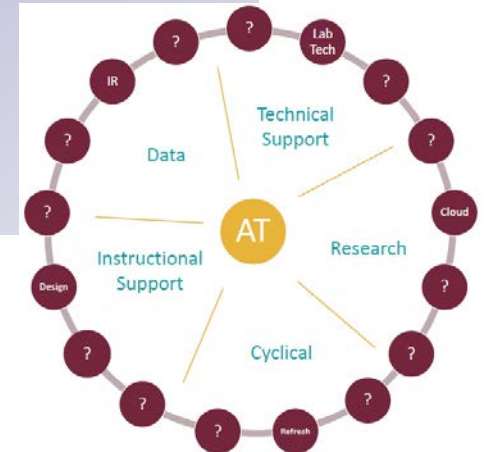
DIGITAL SMART CAMPUS

Engage with Administration and Finance in specifications and designs of intelligent structures and infrastructure that ensure capacity for sustainable growth and seamless expansion in future university needs. As the IoE continues to expand in various directions, ensure that the university has a leadership role in digital capabilities.

Future Scale Planning

- Pursue discussions with university partners such as CISCO, CIO Forum, LA EDC, LinkedIn, and Facebook to assist in future proofing of university design, flow, and infrastructure
- Investigate transformative fire life safety technologies with university police

Service Activities

- Complete study of university Wi-Fi coverage and saturation
- Partnering with AA re-examine instructional and collaborative spaces
- Determine "low hanging fruit / major impact areas" with functional system owners for quick wins
  - University student identity card with financial capability
  - Parking system updates
  - Computer Refresh

Digital Smart Campus
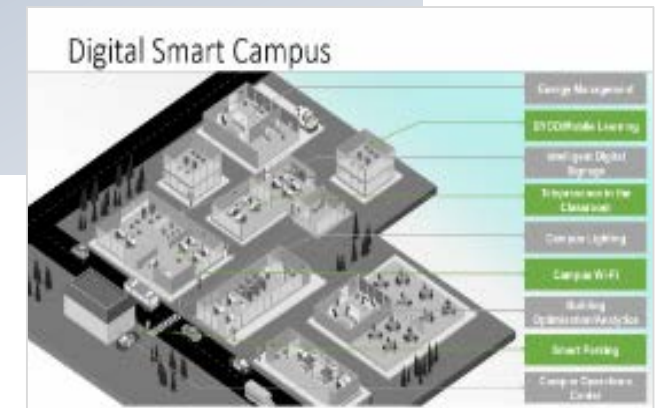
TECHNOLOGY PARTNERSHIPS

Partner with public agencies, private firms, and various employers to provide: university engagement across the entire student lifecycle: student learning opportunities and experiences; and assistive resources and thought leadership in areas of expertise to meet continued technology growth.

Incubation

- Continue to mature University Incubator:
  - Develop Executive Dir position
  - Pursue space for first phase development (3-5,000 sq. ft.)
  - Establish three core areas of incubator activity (academic partnerships, incubator/accelerator tracks, and exposure)

Technology Engagement

- Engage with LA EDC around Smart City and educational efforts
- Engage with Apple/IBM on Watson analytics lab effort
- Revise internship program to include analytics, digital media, and reprographic functions
- Continue to foster technology partner relationships to advance student, workforce development, and academic efforts
  - Microsoft
  - LinkedIn
  - Cisco
  - Apple
- Engage SIM South Bay CIO Enclave with university

QUESTIONS?