

# IT SERVICES REVIEW & PLANNING INITIATIVE

Findings and Recommendations

## OBJECTIVES

The College of Food, Agricultural, and Environmental Sciences (CFAES) and the Office of the Chief Information Officer (OCIO) collaborated on an IT Services Review and Planning initiative that will help the College make future IT budget and staffing decisions in the context of the College's strategic goals. The result of this collaborative effort will help CFAES to:

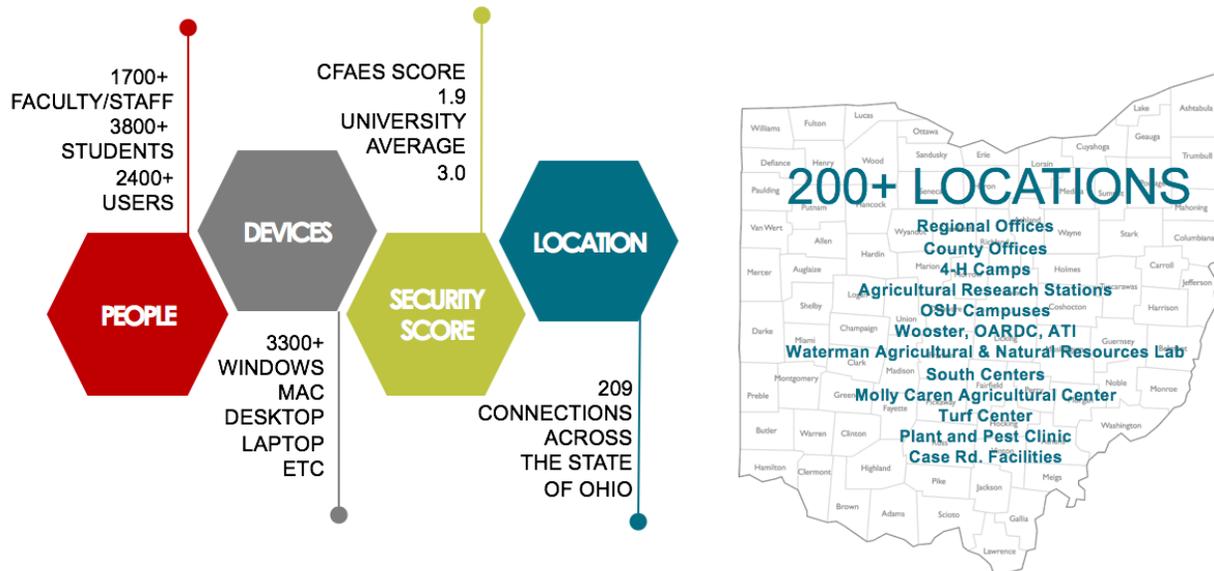
- ▶ **Define** the types of IT services needed to propel the College towards its strategic goals
- ▶ **Prioritize** critical infrastructure and IT security/compliance risks that need to be addressed
- ▶ **Explore** options to optimize the delivery of IT services
- ▶ **Develop** a 3-5 year IT roadmap and investment plan

The IT Services Review and Planning initiative kicked off in March of 2017 with findings and recommendations presented to the Vice President's Cabinet in July 2017. OCIO worked closely with Graham Cochran, Eric Bode, Matt DeVore, other CFAES leaders, IT staff, and key stakeholders to understand the College's current IT services and infrastructure. Together we explored what is working well and where there might be opportunities for improvement. We also discussed the College's vision and goals with respect to teaching, research and extension to identify strategies the College could pursue that would strengthen its IT capabilities in specific areas in order to achieve those goals.

## SCALE OF CFAES

One of the challenges to delivering IT services consistently across the college is the sheer size and scope of the college. This IT Services Review and Planning Initiative helped us break it down into manageable chunks.





## SCOPE

Given the size and complexity of the College, the review was divided into phases. In this first phase we didn't include all technology in the college. This report includes findings and recommendations for the IT services in scope for the first phase.

### Phase 1

End User and Device Support for all CFAES faculty and staff at all locations

- ▶ Helpdesk, computer/laptop/tablet management, printer management, file shares, inventory, refresh, etc.

IT infrastructure for all Ohio locations

- ▶ Network, servers, storage, backups, data center services, Active Directory, web server hosting, etc.

Security and Risk Management

- ▶ Risk survey, research compliance, etc.

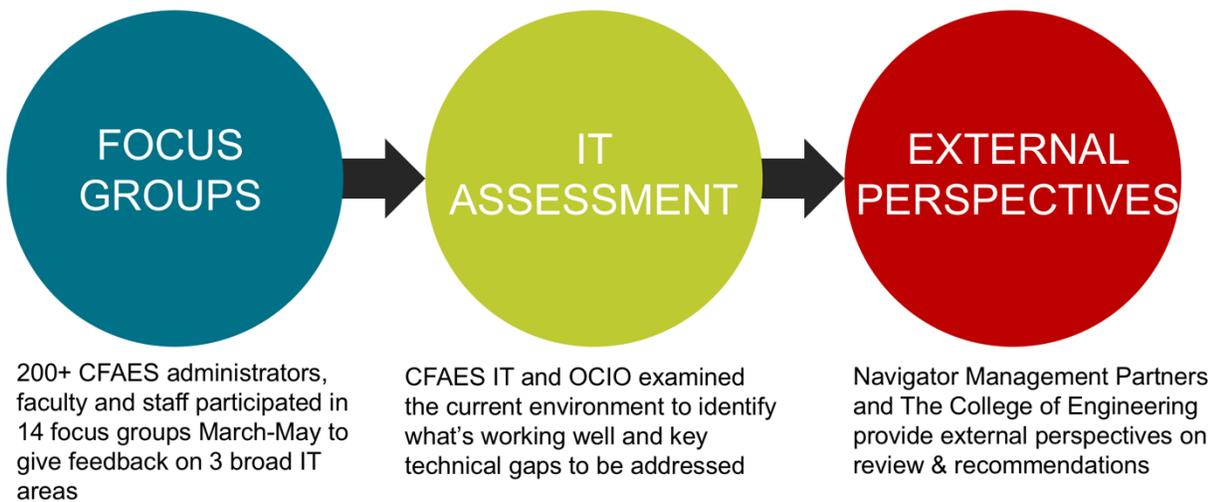
Unified Communications

- ▶ Feasibility of migrating to Skype for Business – phones, audio and video conferencing, desktop sharing

This plan does not include the IT service areas listed below; additional review work could be explored in future phases:

1. **Educational technology** (classrooms, computer labs, lecture capture, overall student technology experience, etc.)
2. **AV Support** (Video conferencing, conference rooms, digital signage, other AV support)
3. **Web/mobile** (applications, web site content, themes, templates, modules)
4. **Research support** (large/diverse data sets, custom software/apps, field work)

## METHODOLOGY



Understanding various perspectives on the current state of IT from the CFAES community was a critical part of the review process. Between March and May the college conducted 14 focus group conversations with over 200 administrators, faculty and staff in the college. Those perspectives helped us understand what kind of IT capabilities they need to be successful today and into the future. In parallel, the OCIO team worked closely CFAES IT staff Matt DeVore, Randy Nemitz and Rob Clifford on an IT assessment that explored from a more technical perspective the IT environment as it exists today. Both inputs made it possible to define what the gap looks like between where the college is today and where it needs to be which informed the 3-5 year roadmap and plan. Finally, Navigator Management Partners and the College of Engineering were invited to provide external perspectives.

# FOCUS GROUPS

Each CFAES department chair/unit leader was asked to recommend individuals to participate in a focus group. Over 200 administrators, faculty and staff participated in the 14 focus group conversations held between March and May. Focus groups explored three broad areas: (1) Trends and emerging issues involving IT; (2) What is working well and not so well today; and (3) Dreaming about the ideal IT environment in the future. Feedback was captured and coded to identify themes and priorities.

<b>Focus Group</b>	<b>Date</b>
▶ Vice President's cabinet focus group	03/23/17
▶ CFAES Chairs focus group	03/23/17
▶ CFAES Support Unit Leaders focus group	03/23/17
▶ Wooster Administrative Cabinet focus group	04/06/17
▶ Columbus faculty, staff & power user focus group 1	04/17/17
▶ Columbus faculty, staff & power user focus group 2	04/17/17
▶ Columbus IT staff focus group	04/17/17
▶ Wooster faculty, staff, power user focus group 1	04/18/17
▶ County Extension Directors focus group	04/19/17
▶ Wooster faculty, staff, power user focus group 2	04/20/17
▶ Wooster CFAES IT staff focus group	04/21/17
▶ Columbus faculty, staff & power user focus group 3	04/25/17
▶ Piketon focus group	04/26/17
▶ Extension Administrative Cabinet focus group	05/11/17
▶ Responses submitted via Initiative Web Site	06/01/17



The focus groups were led by facilitators who asked the following questions:

- What will be the most important trends or emerging issues involving technology in the next 2-5years?
- When you think about your knowledge and experience with any aspects of information technology in your role, what is working well? Not so well?
- Let's dream a little...(5-year vision) What if key university IT priorities including mobile first, empowering teaching innovation, and advancing research were fully realized? Describe the most important characteristics of your ideal IT environment as related to the areas below:
  - a. Work/Daily Productivity
  - b. Teaching and Learning
  - c. Program Delivery
  - d. Research
- If you could pick one thing to change, improve, or enhance about IT services, what would it be (and why)?
- Is there anything else you would like our review team to know?

Those who did not participate in a focus group conversation were invited to provide anonymous feedback to the same questions via a survey form on the initiative web site, <https://u.osu.edu/cfaesitreview/>. Thirty responses were received by June 1, 2017.

## IT ASSESSMENT

One of the reasons the College engaged with OCIO on this initiative is because of OCIO's structured approach to learning about a unit's environment as input to a Managed IT Services proposal. This approach is similar to an IT audit and asks questions on things like the number of end users and computers supported, conditions of the network in different locations, servers/storage and server rooms supported, wireless network coverage, data storage, sharing and security, types of software used, etc. Matt DeVore's team collaborated closely with the OCIO team to assemble a comprehensive view of the current state from an IT perspective, including areas that are in good shape and key technical/skill gaps to be addressed.



# EXTERNAL PERSPECTIVES

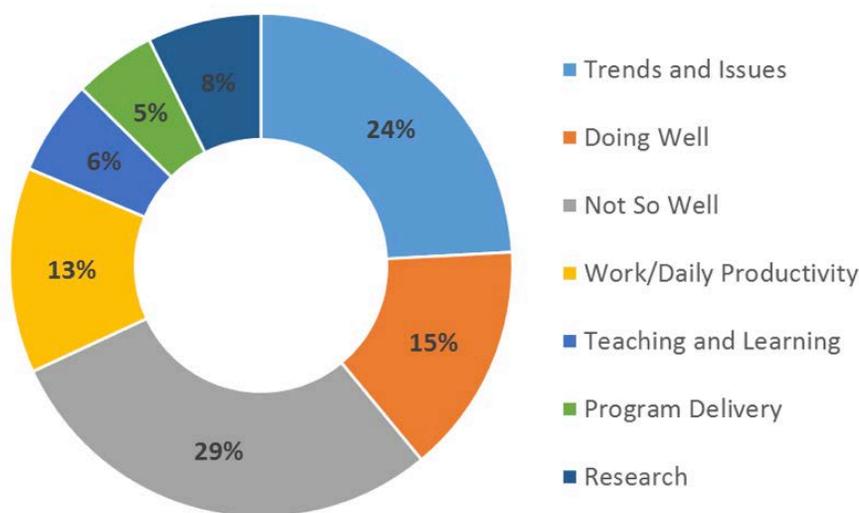
The College asked Navigator Management Partners and the College of Engineering to provide external perspectives on the review and recommendations. The College of Engineering at Ohio State is considered to be the College's closest peer and was asked to provide insights based on their own recent IT transformation. Navigator Management Partners is a management and technology consulting company that has extensive experience in education and has partnered with colleges and VP areas across Ohio State for over 10 years. They focus on information technology and management solutions, including Strategy, Program and Project Management, Organizational Change Management, Business Intelligence, Business Analysis and Process Design, Testing and Deployment, Solution Architecture, and Software Solution Selection, including cutting-edge, cloud-based solutions.

The recommendations also took into account information from the College's annual Information Risk Survey, recent internal IT funding proposals, the 2016 NCURA report, and general IT industry trends, such as the move towards mobile devices and cloud services.

## FOCUS GROUP RESULTS

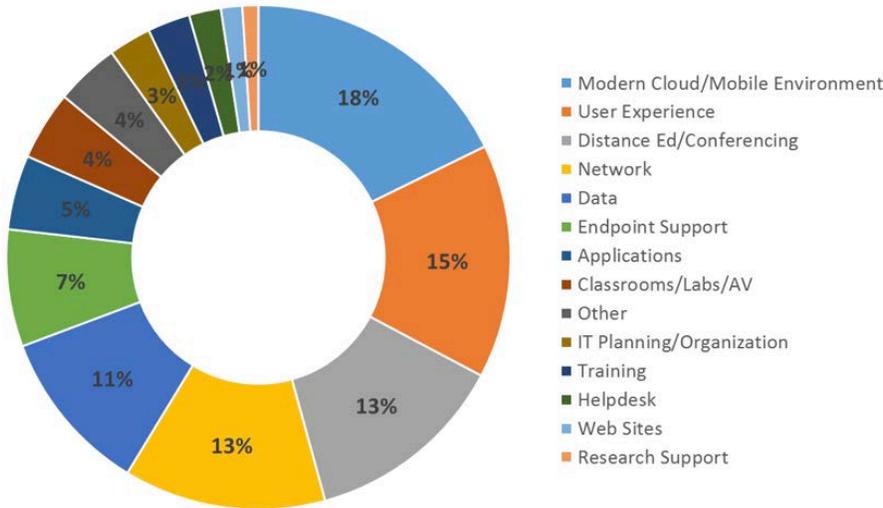
### Responses per Question

Responses to the focus group questions were entered into a spreadsheet and tagged based on the question being answered, and the related IT service area or topic. The graph below shows the percentage of responses received per question.



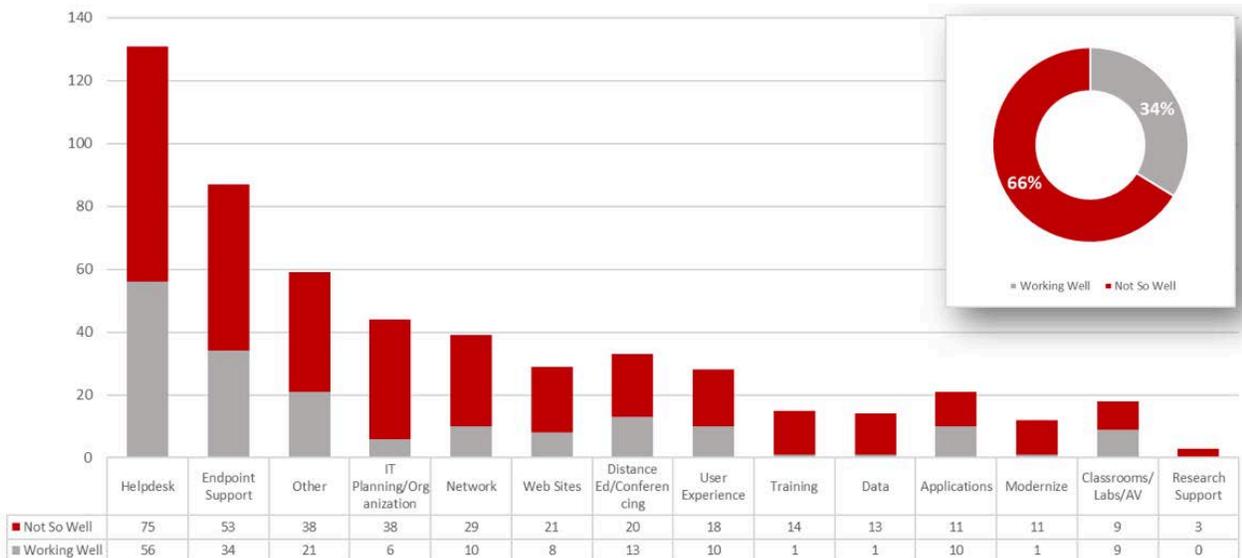
## Future Trends

When asked about future trends (question 1), not surprisingly, Mobile and cloud were at the top of this list, followed by a smooth user experience (across locations, easier security), enhanced distance education and video conferencing capabilities, broadband network connectivity in every location and support for Big Data. The graph below shows the percentage of responses received per trend area.



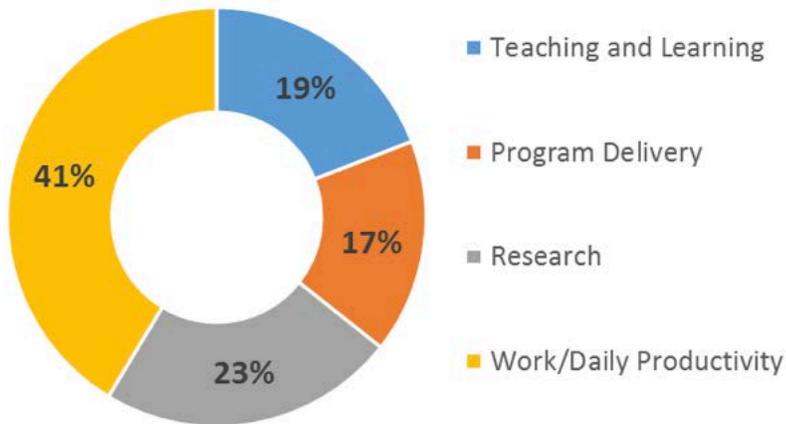
## Things that are working well/not working well

The graphic below shows how focus group participants felt about where IT was working well vs. not so well (question 2). There are opportunities for improvement in every area.



## Focus Group: 5-year Vision

In terms of describing the most important characteristics of the ideal IT environment as related to the areas of Work/Daily Productivity, Teaching and Learning, Program Delivery, Research, the majority of comments were focused on improving daily productivity followed by improving support for research.



## Focus Group: One thing to change

When participants were asked what's the one thing the college should improve, the most frequent response was an IT plan.



This quote captures the overall sentiment:

*“Develop 5-10 year strategic plan. Why? -- this would allow all in CFAES to know where IT is heading, needs, cost, etc. This type of planning should also reduce investment costs over time, improve efficiencies, improve trust...”*

## IT ASSESSMENT RESULTS

In parallel to the focus groups, OCIO worked closely Matt, Randy and Rob and their teams on an IT assessment. We used OCIO’s formal IT assessment process to evaluate technology services and to make recommendations related to areas of concern.

Things working well:

- ▶ CFAES has mature video conferencing and AV support services
- ▶ Helpdesk made improvements in IT support, including the new help ticketing system
- ▶ IT environment stability has improved
- ▶ WiFi coverage has increased in most of Columbus campus
- ▶ The IT team works well together and has made improvements despite funding challenges

There seemed to be a significant disconnect between what faculty/staff feel they need (as reported in the focus groups) and what IT is focusing its energy on (as explored in the IT assessment). This disconnect is the result of a lack of an IT strategic plan with active college governance. Deferred maintenance issues that surfaced through the IT assessment are symptoms of this strategic plan gap. Examples include:

- ▶ By the end of FY18, over half of the computers in the college will be out of warranty. It will cost \$1.5M to refresh these devices
- ▶ The college is one of 3 units that will not meet the university “Three and Green in 2018” IT risk goal. While other units have steadily improved scores over the years, CFAES scores have made little progress.
- ▶ There are significant amounts of deferred maintenance in network, server and storage infrastructure.

Related to the lack of a strategic plan is the gap in IT project management that makes it difficult to implement large-scale change quickly. IT may embark on something, but fires of the day prevent them from finishing projects in a timely way.

Opportunities for improvement:

- ▶ No IT strategic plan and roadmap; no faculty input into priorities
- ▶ Inconsistent equipment refresh and levels of support across units
- ▶ Security rating is not on track to reach university goal of 3.0 and green by 2018
- ▶ Significant deferred maintenance issues in some areas
- ▶ Project management and prioritization

## INFORMATION RISK SURVEY

The largest encompassing goal for information security over the next two fiscal years is “Three and Green in 2018.” The goal is based on the five levels of risk management identified in the university Information Risk Management Framework that guides colleges and units in improving their risk posture. The goal is to reach at least level three – at which all units are formally controlling all areas of information risk – by the end of FY18. Working toward the “Three and Green in 2018” goal will result in more efficient operations, lower risks for data exposure, decreased incidents, improved technology capabilities and a demonstration of mature risk management which is important to the university’s external sponsors, research partners, and regulators inspecting student, patient and other controlled information.

## RECOMMENDATIONS

Taking into account all the various inputs, we were able to arrive at a list of critical issues which we believe must be addressed in the next 12-24 months. These are foundational in nature and require swift and immediate action with proper funding. Fully committing to addressing the critical issues will not only lower the college’s risk, it would lay the foundation to dramatically improving the user experience for students, faculty and staff.

### Critical Issues

- ▶ Invest in security to reach 3.0 by 2018-19 & green by 2020-2021. This will reduce the college’s high levels of data exposure risk.
- ▶ Resolve network and connectivity issues in all locations so that individuals can rely on video conferencing to collaborate with colleagues in 200+ locations across the state.



- ▶ Refresh faculty/staff computers that are out of warranty (1,831 in FY18, \$1.5M to replace)
- ▶ Address helpdesk/support issues highlighted by focus groups
- ▶ Fund an ongoing computer refresh program; standardize Mac and Windows configurations to increase interoperability and ease of use in all locations

## Priorities

On this foundation the college can accelerate efforts to expand a modern, seamless, flexible IT environment as envisioned by the focus group participants:

- ▶ Modern Mobile First environment
  - Laptops, tablets, WiFi (or cellular) as primary network connection
  - Seamless field/office experience
  - Easy collaboration
- ▶ Video conferencing, distance education, web sites
- ▶ Big data and research

