

CaTS Proposed 2018 Initiatives

Two-Factor Authentication

Two-factor authentication is an extra layer of security that requires not only a username and password, but also authenticates with a device in your possession (cell/smart phone, key fob, landline phone).

CaTS is ready to deploy two-factor authentication as an optional added layer of security for logging into the WINGS Portal, WINGS Express, VPN, Pilot, and many other applications that are accessible via the WINGS Portal.

To make this added layer of security more seamless, CaTS is working to create trusted networks within our two-factor system that won't require a 2nd factor authentication when accessing WSU resources from these networks. For example, all office wired network connections will not require a 2nd factor to authenticate, which will leave the login process from your office computer unchanged. The classroom computers will also be on the trusted network, which will leave the login process on those computers unchanged. When trying to access WSU systems from off campus or using WSU wireless, you will be prompted for the 2nd factor. However, you will have the option to remember your device for 6 months, which will make logging in from off campus known devices a little easier.

Given the fact that faculty grades and employee payroll information is extremely sensitive, access to those items through Wings Express will be configured to always require two-factor authentication, and will not allow the device to be remembered.

CaTS plans to make two-factor authentication an option for users starting in January 2018. During this opt-in phase, CaTS will be assessing the system and looking for un-anticipated problems the system might cause for our users. If the trial period is successful, two-factor authentication would be a requirement in late fall 2018.

The extra protections that two-factor authentication provides will allow us to set a user's password to never expire. However, if there is evidence that a user's credentials have been compromised, that user will be required to change their password.

To enroll in two-factor authentication, please visit this site: <https://www.wright.edu/2fa>.

There are currently some known issues using two-factor authentication with iOS, macOS, and android devices when accessing certain applications. For an up to date list of the current known issues and workarounds, visit this site: <https://www.wright.edu/information-technology/article/known-issues-with-two-factor-authentication>.

Feel free to call the CaTS Help Desk at (937) 775-4827 if you have any questions while setting up or using the two-factor system.

Classroom Computer Proposal

CaTS is proposing to replace existing classroom Mac Minis with Windows-based PCs. Although we realize this could be a concern for Mac users, we are proposing alternatives for faculty who still want to use a Mac in the classroom.

Rationale:

- Apple last updated the Mac Mini in October 2014, a span of over 900 days and there have been no public announcements regarding the future of the Mac Mini platform.
- Because of the dual boot setup, each Mac Mini has to be managed onsite and limits timely support by CaTS. Although there are 118 physical computers in our classrooms, the dual boot setup essentially creates 236 individual computers that have to be managed.
 - Moving to a PC/Windows only option reduces overhead of CaTS staff and improves service and support capabilities.
 - It currently takes a majority of the summer months to prepare the Mac Minis for the Fall Semester.
- Because of the complexity of the dual boot setup, there is increased risk of misconfiguration.
- Wright State will be moving to Windows 10 for all new machine purchases on May 1, 2018
 - Significant possibility of incompatibility with Windows 10 on Mac Mini's older than version 7.1.
 - Classrooms will have a more consistent user experience.
- Cost Savings
 - Each year CaTS refreshes 1/5 (~30 machines) of all Mac Mini's in production.
 - Each Mac Mini costs ~\$1000 w/an additional 2 years of Apple Care.
 - Total cost each year is ~ \$30,000
 - Each Dell costs ~\$659 w/a 3-year warranty
 - Total cost to replace ~30 machines per year: \$19,770
 - **Cost savings of: ~\$11,000 per year**
- Data collected via LabStats indicates that there were 14,993 logins by customers during Spring Semester 2017. 11,600 (~77%) Windows and 3,393 (~23%) OS X. Below is a % break down by College:

Top Level Department/College	Mac Count	Windows Count	Mac %	Windows %	Unique Mac Users	Unique Windows Users	Unique Mac %	Unique Windows %
Total	3393	11600	23%	77%	415	1111	27%	73%
AP-Assoc Prov-Academic Affairs	461	1455	24%	76%	157	420	27%	73%
Chief Information Office	22	36	38%	62%	5	7	42%	58%
College of Educ & Human Svcs Admin	478	865	36%	64%	40	65	38%	62%
College of Engineering & Computer Sci	207	1367	13%	87%	16	66	19.5%	80.5%
College of Liberal Arts	1129	3104	27%	73%	64	132	33%	67%
College of Nursing & Health	1	164	1%	99%	1	16	6%	94%
College of Science & Mathematics	473	1733	21%	79%	46	92	33%	67%
Facilities Planning & Management	0	1	0%	100%	0	1	0%	100%
Human Resources	1	0	100%	0%	1	0	100%	0%
Intercollegiate Athletics	2	21	9%	91%	2	4	33%	67%
Lake Campus	10	4	71%	29%	1	1	50%	50%
Physical Plant Administration	0	24	0%	100%	0	5	0%	100%
President	0	1	0%	100%	0	1	0%	100%
PVN5	1	7	13%	88%	1	3	25%	75%
Raj Soin College of Business	185	2023	8%	92%	7	77	8%	92%
School of Medicine	190	79	71%	29%	15	16	48%	52%
School of Professional Psychology	1	140	1%	99%	1	20	5%	95%
University College	18	14	56%	44%	4	7	36%	64%
University Controller	0	1	0%	100%	0	1	0%	100%
University Libraries	1	15	6%	94%	1	8	11%	89%
University Police Department	12	20	38%	63%	1	3	25%	75%
VP-Enrollment Management	0	2	0%	100%	0	2	0%	100%
VP-Multicultural Affr & Comm Engage	0	1	0%	100%	0	1	0%	100%
VP-Research & Graduate Studies	155	426	27%	73%	48	135	26%	74%
VP-Student Affairs	46	95	33%	67%	4	27	13%	87%
VP-University Advancement Admin	0	2	0%	100%	0	1	0%	100%

Recommendation:

- Replace all 122 Mac Mini's with Dell 5050 MFF PC's running Windows 10 Enterprise.
- Additionally, replace registrar managed rooms and other locations currently using HP workstations (23 devices).
 - The only locations that would not be upgraded are locations with department purchased equipment. Although CaTS maintains and supports this equipment, funding is provided by the respective departments.
 - This proposal does not include Mac-specific locations, such as in the CAC (122, 201, 205, 288), 058 Dunbar Library, ERC (CEHS), etc.
- Cost savings per year: \$11k w/3-year warranty, with 1/5 replaced every year beginning in FY2022.
- Initial Cost:
 - To replace all 122 Mac Minis, plus existing Windows-based PCs the initial cost would be ~\$102,555
 - 3-year replacement cycle would begin in FY2022

Potential options for Mac Users:

Using an Apple TV or ShareLink would give Mac users (using their own device) an option in the following rooms:

Current Apple TV/ShareLink rooms (19 total):

CA020

FH108, 204, 210

MH009, 244

MS120

OH022, 112, 114, 125, 135, 340

RC150, 154, 208, 302, 406

RK050

Planned upgrades in Summer 2018 (**Budget Dependent, but in scope with classroom upgrades**) (18):

MH002,028, 242, 286, 301, 395, 399, 401, 402, 497, 499

HS116

SSC – All 5

RK167

Port adapters could be made available

Purchase ~ 50 VGA – Display Port adapters (for older MacBook models).

Purchase ~ 50 VGA – USB-C adapters (for new MacBook models).

Faculty would check them out at the start of the semester and return them at the end of the semester.

50 VGA to display port adapters @ \$29: \$1,450

50 VGA to USB-C adapters @ \$34.95: \$1,747.50

MacBook Air Option

Purchase 10 (or more) MacBook Air laptops with appropriate adapters and travel bag for those faculty who need to use a Mac in the classroom. These could be checked out at the start of the semester and returned at the end of the semester.

MacBook Air, 10 @ @849: \$8,490 [MacBook Air 13-inch: 1.8GHz dual-core Intel Core i5, 128GB](#)

Apple Care, 10 @ \$229: \$2290

Bag, 10 @ \$19: \$190

10 VGA to display port @ \$29: \$290

Mac Mini Carts Option

Repurpose 10 Mac Mini cart systems. Faculty would schedule classroom delivery per semester. CaTS staff would deliver, setup, and tear down for each requested class. Significant overhead involved in this option but it is doable. No cost as we would have all of the necessary equipment.

Desire 2 Learn (Pilot) License

Wright State's contract with D2L expires in July of 2018. Our price to run this product on premise this last year was \$135,000. Desire 2 Learn is moving to a cloud based model, and is pushing all clients to their cloud based system. Last year, the quote we received to move to the D2L cloud based system was \$207,000 per year. We have a new offer from them to do a two-year renewal that will give us the ability to move to the D2L cloud, and the yearly cost would be \$133,536. However, there will be a one-time \$24,000 cost to move to the cloud. This will allow time for a complete LMS evaluation, and determine if by July 2020 Wright State wants to be on a new LMS. In this current deal with D2L, we would have the option to do a 2nd two-year term at the same pricing if it was decided that we should stay on D2L.

Computer Delivery

CaTS is working with our PC vendor, Pomeroy, to modify the computer delivery and imaging process. Currently, Wright State pays Pomeroy \$14 per computer to have them place a CaTS provided Windows image on the computer before it is delivered to Wright State. In typical years with no budget remediation, Wright State normally purchased around 1,200 Windows based computers per year from Pomeroy.

Current Process for Windows Based PCs:

1. Customer orders computer from Pomeroy
2. Pomeroy charges Wright State \$14 and images computer
3. Computer is sent from Pomeroy directly to customer
4. Customer calls CaTS asking for computer to be installed
5. CaTS makes appointment to meet with customer to perform install
6. When CaTS shows up for appointment, many times the computer winds up needing to be re-imaged (because of differences in hardware that the image was made for). When that happens, the technician takes the computer away to be reimaged, delaying the installation time and creating a delay for the customer.

Proposed New Process for Windows Based PCs:

1. Customer orders computer from Pomeroy
2. Computer is not pre-imaged (saves \$14/computer)
3. CaTS changes ship to information on order to go directly to CaTS for departments/areas that CaTS currently supports (Excludes Lake, WSRI, etc. which already have their own imaging process)
4. CaTS receives computer and images it with the latest version of the image
5. CaTS contacts customer to setup an appointment for installation
6. CaTS completes installation

Conclusion

CaTS recommends adopting the new process for cost savings and a better customer experience.