![The University of Vermont Faculty Senate logo]

## FACULTY SENATE

Educational & Research Technologies Committee
Minutes
Microsoft Teams
December 8, 2021

Present:       Thomas Borchert (Faculty Senate), Luben Dimov (RSENR), Maddie Henson (SGA),Steve
               Kostell (CALS), Marc Law (CAS), Helen Read (CEMS), Lyman Ross (LIB), Regina Toolin
               (CESS), Tim Tourville (CNHS), John Yin (CAS), Bob Wildin (LCOM), Marie Wood (LCOM)


Absent:        Hung Do (BSAD)**, Vacant (GSS)

Guests:        Simeon Ananou, Mike Austin, Wendy Berenback, Andrrew Horvat, Alex Messinger


Co-Chair Helen Read called the meeting to order at 9:00 am via Microsoft Teams.


1.  **Minutes.** The minutes of October 2021 were approved as written.

2.  CIO Update, Simeon Ananou.

# Information Technology Shared Services Update

By: Simeon Ananou
Chief Information Officer

**ERTC Meeting**

**Wednesday, December 8, 2021**

The University of Vermont

1. Help develop the Teaching & Learning Environment of the Future

2. Support Research, Scholarship and Creative Activities

3. Support and Improve Administrative Processes

4. Promote Information Security and Protection of Digital Assets

5. Improve Operational Efficiencies

6. Enable the Oneness of IT at UVM

**Information Technology Strategic Imperatives**

- Creation of 2 Services Hubs

- Reallocation of 14 Positions

- Reallocation of $1.2 million

- Ongoing Virtualization of Labs

- Automation of Software Delivery

- 3 Levels of Support

- Planned Replacement of Wireless Network

- Multimedia Support for Signature Events

- **Extension Sites are in Hubs**

- Creation of ETS Diversity Working Group

- Visibility Benefit

## What We Have Accomplished…

- **Starting Phase 2 in January 2022**

- **Moving to Single Issue Tracking System**

- Review of Computer Replacement Lifecycle

- Review of Criteria to Move Existing Initiatives to the Enterprise Technology Portfolio

- Printer Management

## Currently Underway...

- Disparity in skills, titles and duties

- A number of professionals doing IT work without IT title

- Disparity in Classroom Technologies in non-GP spaces

- There is a need for IT competency building

- Greater Collaboration with other units

Lessons Learned...

- Expand Research Computing Support

- Improve Research Data Protection

- Facilitate More Experimentation and IT Innovation

- Business Process Improvements

- Improve Use of Data and Data Governance

## On the Horizon...

The committee is asked to provide feedback on the new shared services model. Faculty have a different perspective and their input in essential in making the model run smoothly. If members have questions or comments it is encouraged they share them.

1. **Systems Architecture Update, Mike Austin**

Systems Architecture & Administration

ERTC update 12/08/2021

## Research computing support framework

1) The VACC will be considered as the default research computing environment.

2) The use of UVM's Virtual Server Environment (VMWare) will be considered in those cases where the VACC does not meet the unique needs of a particular researcher.

3) In circumstances where both the VACC and the VMWare environment are not able to meet the computational needs of a particular researcher, consideration will be given to the implementation of stand-alone research computing hardware as an exception.

# Vermont Advanced Computing Core/Center

- Supercomputing infrastructure represents a strategic resource for the future of UVM. The use of HPC has become globally widespread across academia

- More than 500 UVM researchers have access to the VACC clusters

- VACC $1M refresh for original bluemoon cluster. 5,000 new processor cores, >1PB new storage, new networking. Doubled the computational capacity of the VACC. 33% storage increase

- Hired a second full time systems administrator to help with the hardware & software

- GPU clusters DeepGreen and BlackDiamond are heavily used across UVM

    - xenobots press last week



A multi-thousand-core, high-performance computing cluster, modeled after national supercomputing centers, supporting large-scale computation, low-latency networking for MPI workloads, large memory systems, and high-performance parallel filesystems. This general-purpose computing cluster can handle a wide range of researcher software and computational needs. $1M refresh.



A massively parallel cluster composed of over 80 GPUs capable of over 8 petaflops of mixed precision calculations based on the NVIDIA Tesla V100 architecture. Its hybrid design can expedite high-throughput artificial intelligence and machine learning workflows, and its extreme parallelism will forge new and transformative research pipelines. $1M NSF award.



**New to FY21 AMD-BlackDiamond**
4 PF of GPU resources, AMD EPYC 7642, 48C, 2.40GHz, 8x64GB 3200MHz RAM, 8 AMD Radeon Instinct MI50s per node, 2TB local scratch, Non-blocking Mellanox IB, flash storage. $500k grant.

# Coming in 2022

DataMountain cluster.  $1M NSF award with $700k for hardware.

- will allow for near real-time access to enormous data files, supporting projects that require such speed to effectively analyze, describe, and explain rapidly growing datasets.
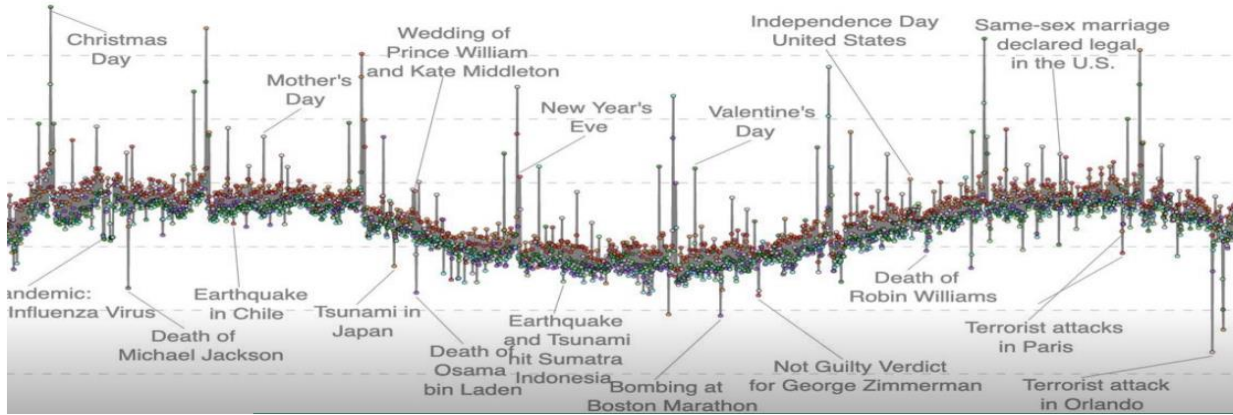


# Research VMs

While the VACC strives to be very flexible and meet as many researchers needs as possible, sometimes something different is needed.

UVM has had a "private cloud" VMware virtualization infrastructure for many years.  We have recently significantly expanded that environment with new compute nodes to be able to host virtual servers for researchers who have needs where they would normally want a dedicated research workstation or cluster.

- Each node in new cluster has 64 processor cores, 2TB RAM, 25Gb networking, access to significant storage resources.

# Research storage

Many faculty need access to reliable network-based storage for their research.

UVM is now providing 5TB of free networked storage for every faculty member.

- Additional space is available for a modest cost.

- Some groups have 200+TB

- Overall capacity of this storage service is currently >2PB

Self-service webpage going live in December.

# Upcoming research improvements

Globus deployment.  Research data management and migration solution.  Focus on transfer and sharing of research data.

- Goal: Get unified access to your research data, across all systems.
- Laptop? VACC cluster? Cloud storage like OneDrive? Large research storage filesystem? Access them all using just a web browser.
- Data stored at a different institution? At a supercomputing facility? All you need is your campus login.
- Ability to share your research storage with collaborators.

We also have a working group that is evaluating if specific cloud services are important for research and what it would take to support them.

# Academic Software project

Goal: Any UVM application from any device, anywhere with a network connection.

Virtual Desktop Infrastructure, https://desktop.uvm.edu/

- highly flexible, virtual on-line computer lab available from anywhere and any device.
  - can augment or replace physical computer labs.
  - run Windows desktop from anywhere, with high end 3D capabilities
- used for remote access to academic software from any device
- heavily used for ArcGIS, CAD software, and similar 3D tools

AppsAnywhere, https://software.uvm.edu/

- software portal or "app store" and application streaming service
- goal is to have all UVM academic software available here
- can restrict software to specific users/groups/colleges if needed
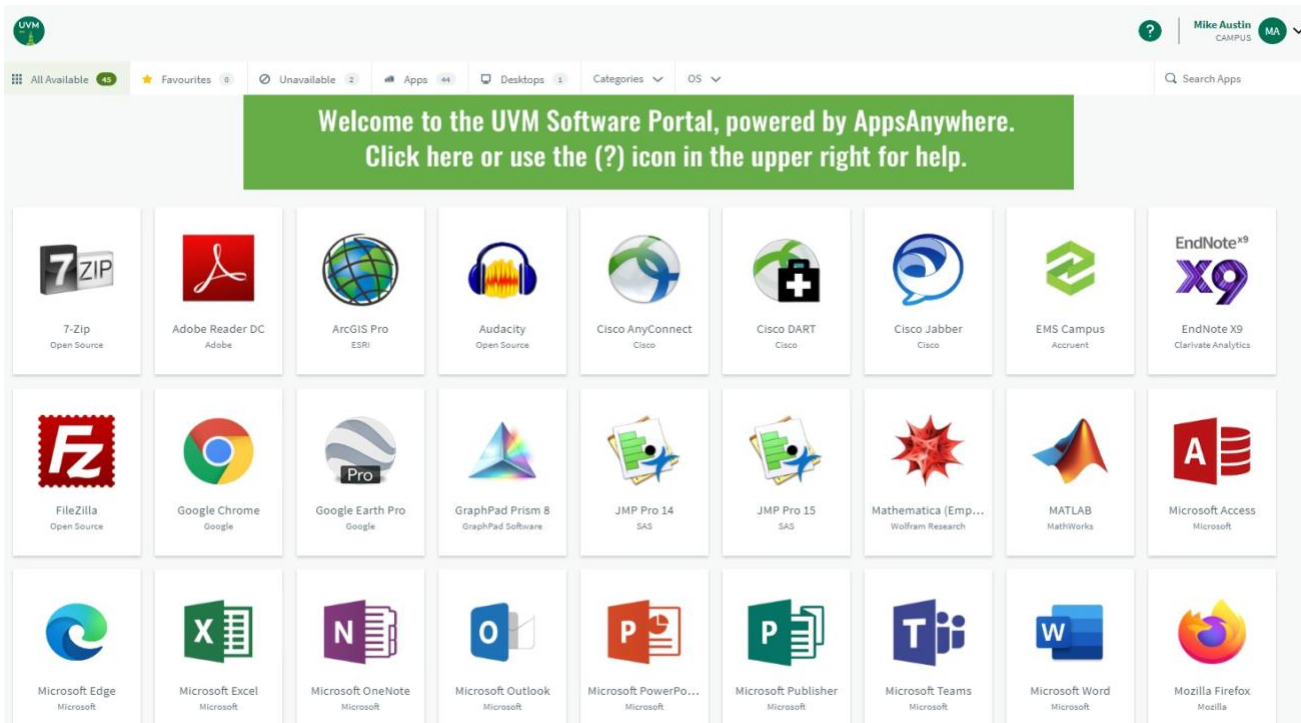
# Other updates

Microsoft Teams

- New features continue to roll out

- Winter session classes live as of Monday

- If you haven't, check out the "Teaching Community" Team for sharing ideas across a range of topics.

  - https://www.uvm.edu/ctl/programs-services/faculty-to-faculty-consulting-program/

Future updates

- Enhancements to Lived Identity (Name, Pronoun) for all affiliates coming 2022

- What else would you like to hear about?

Questions?

3. **LMS Update, Wendy Berenback & Alex Messinger.** The next deadline for the LMS is to make a recommendation to the CIO and Jim Vigeraux. This request will be presented in January, once the recommendation has been made the nogotiaons could take up to six months. The new LMS could be implemented in the fall of 2022. The contarct with Blackboard ends in the fall of 2023 so there could be overlap.

4. **ERTC Membership.** Marie will be leaving UVM in January. The committee thanked her for her hard work as co-chair and extended well wishes. Thomas Borchert nominated Bob Wilden to serve as the co-chair of the ERTC for the Spring 2022 semester. This was seconded by Marie and the committee approved the motion. Bob Wilden will serve as the co-chair of the ERTC for the Spring 2022 semester.

5. **New Business / Old Business.**
   a. Please e-mail Helen, Marie or the Faculty Senate Office with any agenda items.

The next meeting of the ERTC will take place on January 12th at 9:00am on Microsoft Teams.

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