CCITP - Meeting Notes

Date: Thursday 6/7/2018
Time: 2:00-3:30
Location: TLC 215
Zoom: https://cuboulder.zoom.us/j/945880316

Next meeting is Thursday, August 2, 2018

Attendees (20): Chris Bell, Dylan Sallee, Gena Welk, Jason Armbruster, Grant Matheny, Steve Hart, Ashton Mellott, Sean Pease, Steve Hart, Jeff Taylor, Melanie Pappas, Jerry Spivey, Karl Hanzel, Scott Griffith, Joey LaConte, Joe Workman, Manny Wayo, Sante Jonker, Erika Kleinova, Sean Pease

Attending remotely (9): Jeff Groth, Mark Sondergard, Brett Shouse, Bryan Radke, Dan Jones, David Panish, Debra Weiss, Greg Hoppes, Orrie Gartner

Agenda:

	Topic	Time	Speaker(s)
1	Introductions / Announcements	2:00	Chris Bell
2	What the heck is a cloud broker?	2:10	Jason Armbruster
3	Plate Glass and Pedagogy: ECEE's new Lightboard	2:35	Grant Matheny
4	Open Discussion with IT Practitioners	3:00	ITPs
5	Decision & Action Item Review	3:25	Chris Bell
6	End of Meeting	3:30	

Agenda 1: Introductions and Announcements

(led by Chris)

- Welcome
- Introductions of in-room attendees
- Synopsis of Chris's recent presentation of CCITP to the CIO Direct Reports.

Tech Talks - OIT hosts presentations every two weeks on technology topics and all are welcome to attend. OIT provides lunch if you RSVP prior to 3:30 on the Monday before the talk. Talks are hosted in the Computing Center, Room 123 (3645 Marine Street)
The upcoming topics are:

1. 6/13/18: #47 Online Identity Management at CU
2. 6/27/18: #48 Canvas Migration and Implementation

To RSVP and for more information, please visit the website:
https://www.colorado.edu/techtalks/

2:10 Agenda 2: Cloud Broker Service - Jason Armbruster

(presentation slides attached at the end of the meeting notes)

What is cloud computing? Key characteristics include - ubiquitous, on-demand, rapidly provisioned.

The goal of this service will be to provide:

- multiprovider offerings to campus: AWS, Google, MS Azure
- Hybrid configuration, meaning it will be easy to get into the cloud and back
- Central point of contact, as Jason will be the broker for the campus services

What is a cloud broker? Someone who helps you navigate the world of cloud, and consults with you based on your needs and your individual workload.

The approach in creating this campus service has been to learn from public cloud providers by evaluating their best practices and to determine their favored "products," (such as Infrastructure as a Service). Based on this, possible plans for campus offerings include:

1) Integrated Cloud Account
2) Cloudification consulting

For more details on the CU-Boulder's Cloud Computing Initiative, you may read the analysis from Fall 2017:
https://oit.colorado.edu/sites/default/files/docs/Analysis%20of%20RC%20Cloud%20Computing%20Requirements%201.0%20FINAL.pdf

ITP Question: Things are moving along quickly in the private sector. In terms of higher ed, what institutions are offering this currently?
Answer: Notre Dame, University of Arizona, Emory

ITP Question: What have these institutions learned from this?
Answer: It started out that universities would have one big account with cloud providers, and then would manage that with tags. The trend is to move away from that model and instead have one account per usage. That's the biggest change with management of cloud.
In terms of compliance and security, things are still being figured out. Everyone is struggling with these issues because of the fast pace of this world.

ITP Question: Why not pick one service to start with? Why are we starting with 3? Doesn't this make it overly complicated? (i.e. Why not start with AWS only?)
Answer: Higher ed is often based on grants, which may be written for specific providers - so we need to be able to offer provider options to stay competitive and meet researchers' needs.

ITP Question: Are you looking at GovCloud or security items provided by AWS?
Answer: Yes, but no decisions have been made. We are considering whether GovCloud is a requirement for specific tasks. It will be available if you need it, so if you do, please let Jason know.

Question: What if you desire cloud services but want to work independently of OIT?
Answer: Even if you don't want to work with OIT, you can still benefit by the purchasing contract that CU will have with cloud providers.
Jason's group is who you would contact to integrate your cloud needs with OIT-campus services. Different service offerings are still to be determined, based on the potential value added.

More questions? Do you want Jason to come speak to your department or group? Send email to Jason at:
oit-cloud-broker@lists.colorado.edu

2:35 Agenda 3: Plate Glass and Pedagogy: ECEE's new Lightboard - Grant Matheny
(presentation slides attached at the end of the meeting notes)

What Grant used to create ECEE's own lightboard production:

1. Special lightboard ($2K + $1K for plate glass) - although you can fake it with cheaper materials
2. Special camera for focus, and a threaded lens
    a. Lets you mirror the image
    b. (You've been warned: Don't wear a shirt with words on it.)
3. Black Magic design mixer - takes graphics and other images (such as Zoom meeting) and integrates them into your presentation
4. Encoder
5. iMac computer
    a. Video gets recorded as MP4 to hard drive
    b. Then gets synced to Google
    c. So the video is available in (almost) real time after production (about 5 minutes).
6. Lots of lights needed to get the production room appropriately lit
7. A pair of Tvs
    a. You can see recorded image on left
    b. and read your notes from Powerpoint on the right
8. Polarization lens needed to reduce glare
9. Sound dampening foam on walls. Black ceiling tiles, black carpet, etc. to get production quality environment. (and you don't want reverberation on the plate glass)

Future addition: Possibly add live capability
(Encoder box needed)

3:00 Agenda 4: Open Discussion

ITAR (U.S. International Traffic in Arms Regulations) compliance and the OIT data center - What are our policies and where do we find the documentation of our policies? (So we can prove our policy in case of an audit)

- What do these policies mean to us and to the Export Control Office (official name is Office of Research Integrity)
- Is there OIT organizational involvement with the Export Control Office in determining these types of things?

General Data Protection Regulation (GDPR): Is Dan coming back to talk about GDPR and how it affects us? Do we need to change any language in contracts/agreements based on this?

3:25 Agenda 5: Decision & Action Item Review
(no items. See "Open Discussion" for follow-up items.)

Reminder: Here is how OIT communicates with IT Practitioners:

- **OIT Weekly email**
  To get on the list, click "Submit your Information" on this page:
  https://oit.colorado.edu/about-oit/oit-campus-outreach
- **OIT News**
  To see the main headlines go to the OIT news page:
  https://oit.colorado.edu/news
- **OIT Service Alerts**
  https://oit.colorado.edu/service-alerts
- To **subscribe** to OIT Service Alerts and News, go to
  https://oit.colorado.edu/subscriptions
- **OIT Home**
  https://oit.colorado.edu/

Here is how ITP's communicate with ITP's:

- **Membership in ITSuppComm email discussion group**. The IT Support Community discussion group is a CU Boulder peer-to-peer discussion group for all things technical. You can submit a question to your IT peers by sending an email to itsuppcomm@lists.Colorado.EDU.

Campuswide Collaboration of IT Practitioners (CCITP)

What the heck is a Cloud Broker?

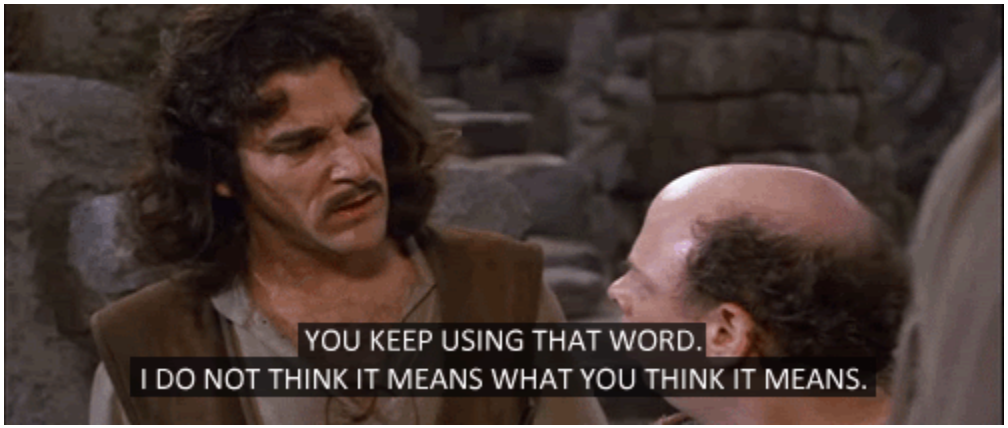
Jason Armbruster

Enterprise Cloud Architect/Engineer

Agenda

- What is cloud?
- What the heck is a cloud broker?
- Where is OIT headed?
- What are we doing today?

What is Cloud?



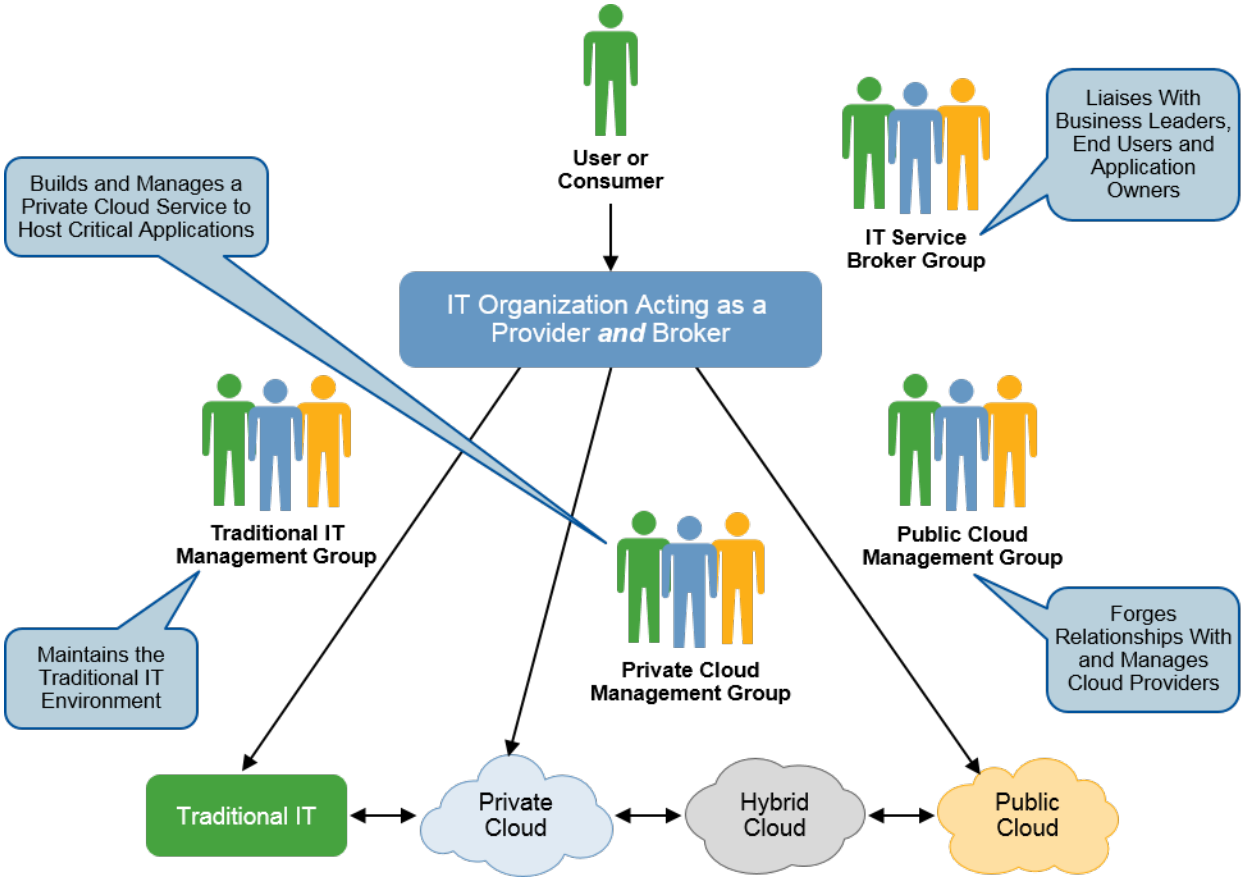
Definitions: What is Cloud Computing

Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction (NST 2011)

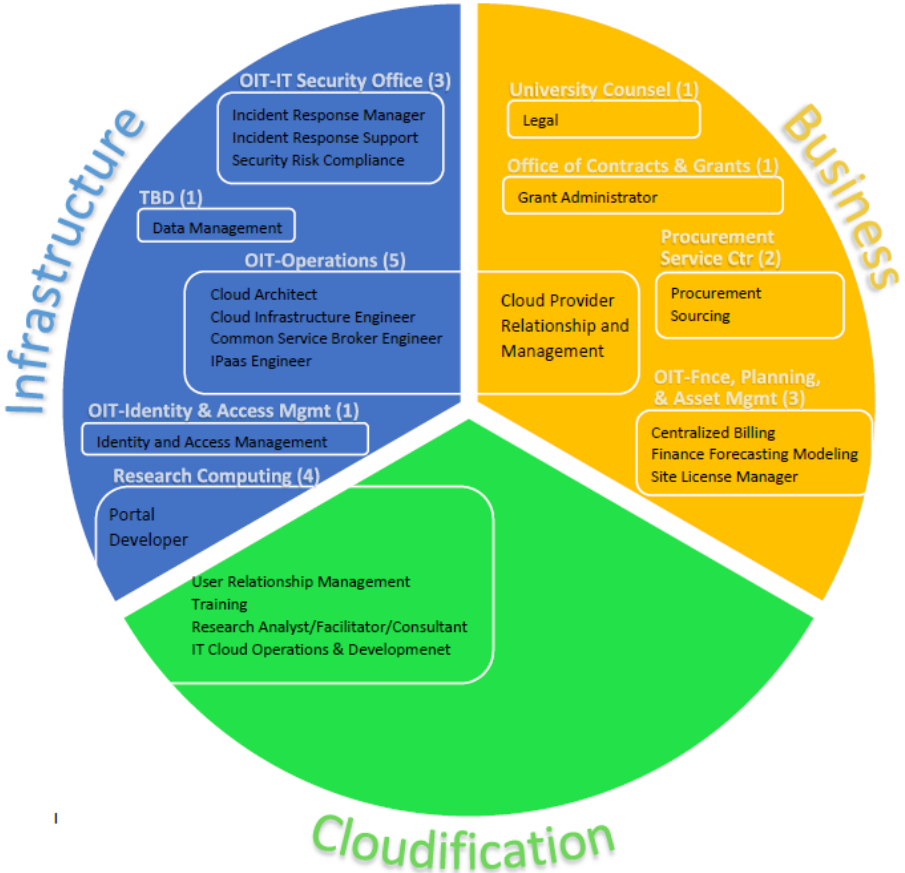
CU-Boulder Cloud Vision

The University will offer a **multi-provider** public cloud deployment service in a hybrid configuration providing cloud services for administrative, teaching & learning and research needs with a central point of contact acting as the broker of these cloud services.

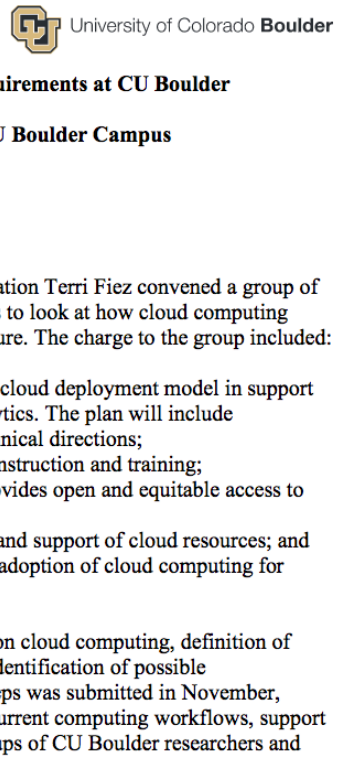
What the heck is a cloud broker?



CU-Boulder Cloud Vision



Initiative: Cloud Computing for Research and Teaching at CU Boulder



University of Colorado Boulder

Analysis of Research Cloud Computing Requirements at CU Boulder
In support of
Research Cloud Computing for the CU Boulder Campus
Fall 2017

1. Charge

In September 2016, Vice Chancellor for Research & Innovation Terri Fiez convened a group of subject matter experts from around the CU Boulder campus to look at how cloud computing might be included in the campus research computing structure. The charge to the group included:

(1) Create a plan for a cloud computing service model and cloud deployment model in support of research, especially research incorporating big data analytics. The plan will include requirements gathering to support the launching of any technical directions;
(2) Identify a service and deployment model in support of instruction and training;
(3) Generate a plan for an organization and staffing that provides open and equitable access to interested users;
(4) Explore a sustainable financial model for the operation and support of cloud resources; and
(5) Design guidelines and policies that are amenable to the adoption of cloud computing for researchers at CU Boulder in the future.

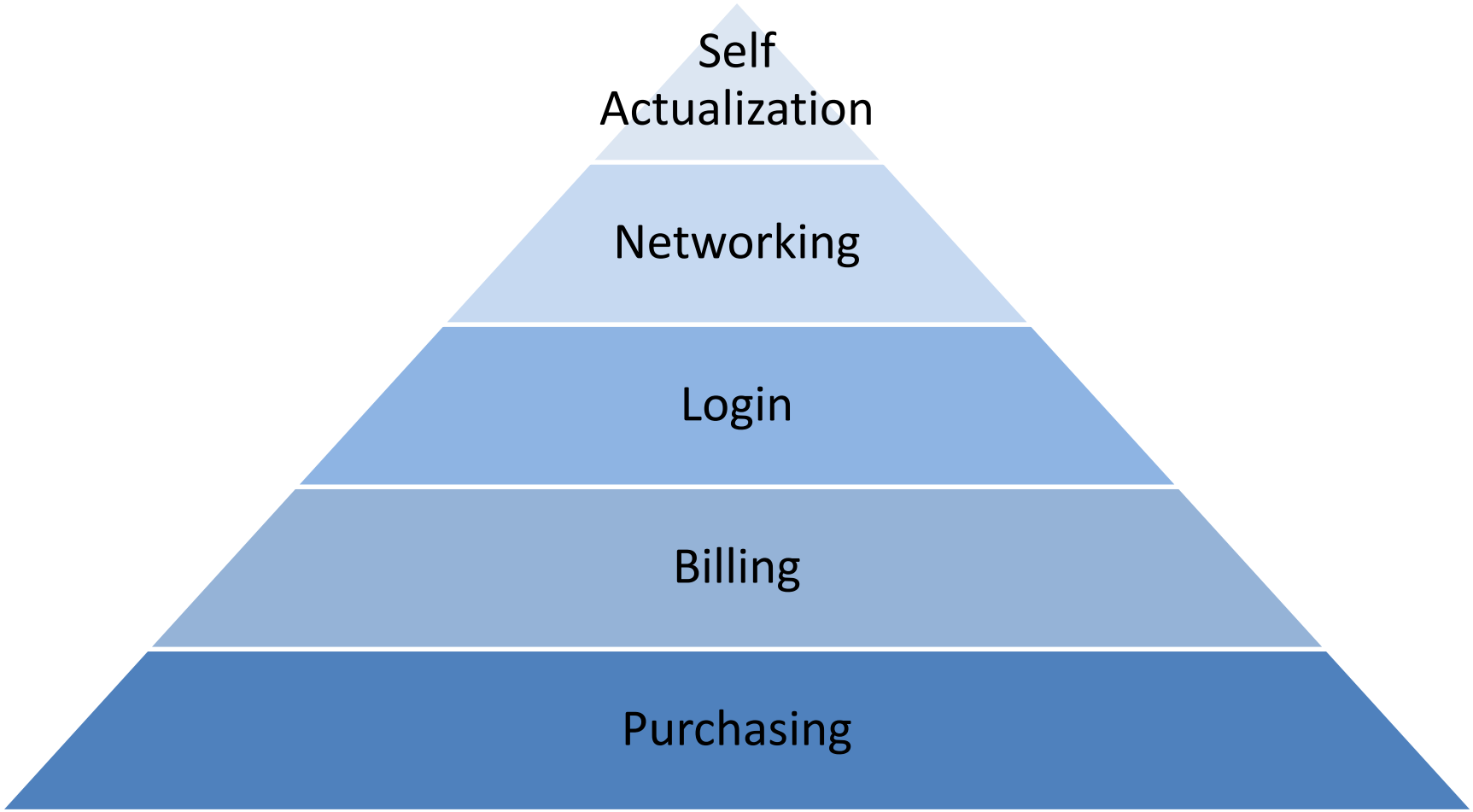
An initial report outlining a vision for research and education cloud computing, definition of success for the effort, results of a benchmarking exercise, identification of possible organizational structures, and recommendations for next steps was submitted in November, 2016. In a subsequent report, we summarized a picture of current computing workflows, support used, and computing needs, based on survey and focus groups of CU Boulder researchers and research IT support personnel.

https://oit.colorado.edu/sites/default/files/docs/Analysis%20of%20RC%20Cloud%20Computing%20Requirements%201.0%20FINAL.pdf

Possible Cloud Broker ”Products”

- Integrated Cloud Account
- ”Cloudification” Consulting

Cloud Hierarchy of Integration Needs



Integrated Cloud Account

What do you need to begin to build/move to Infrastructure as a Service?

- Purchasing
  - Can I buy cloud services with a PO?
  - Do we have a standard contract?
- Billing –
  - Can I get my bill charged to my speedtype?
  - How do I know what I'm spending before the bill shows up?
- Login –
  - Can I use Identikey?
  - Can I manage access groups?
- Network –
  - Can I move data into the cloud without putting it on the public internet?
  - Can I move large data with decent throughput?
- How long does all this take anyway?

“Cloudification” consulting

Ok – I have an integrated account – now what?

- Cloud architecture
- Migration Assistance
- Patterns/Tools from other projects/products
- May include both OIT resources and vetted consultants

What is OIT doing now?

- RFP – Public Cloud Providers (IaaS and Builder PaaS)
  - Working with all 4 campuses
  - Closes June 14th
  - Expected to provide ways to buy from major cloud providers
- Amazon Web Services for Analytics 360
  - Office of Data Analytics has rolled this out in beta now
  - All running on AWS (heavy use of ”serverless” patterns)
- Proposal for funding – July 2018 (based on the work completed on the Research Cloud Computing Initiative)

Questions

Plate Glass and Pedagogy

ECEE's new lightboard

(blame Chris if this is boring)

A quick demo with Chris Bell brought into the studio with Zoom:

https://youtu.be/Lygt3V-8ljQ

What is a lightboard? Michael Peshkin of Northwestern University explains:

https://www.youtube.com/watch?v=N1I4Afti6XE

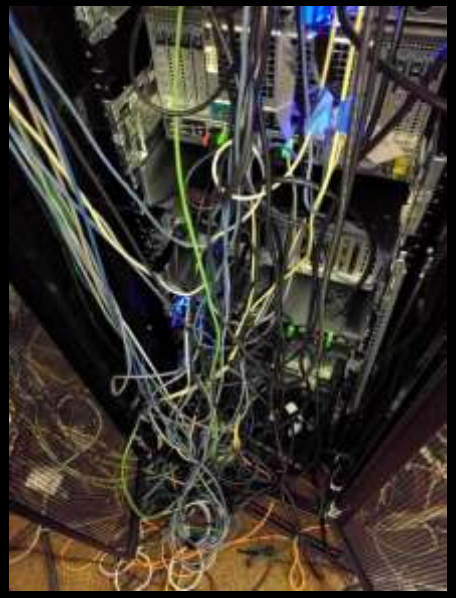
“This is really cool and I want one”

The importance of luck and budget

The first iteration


ECEE
Something interesting was written here once, but not by me.
Laramie
That's Right!!

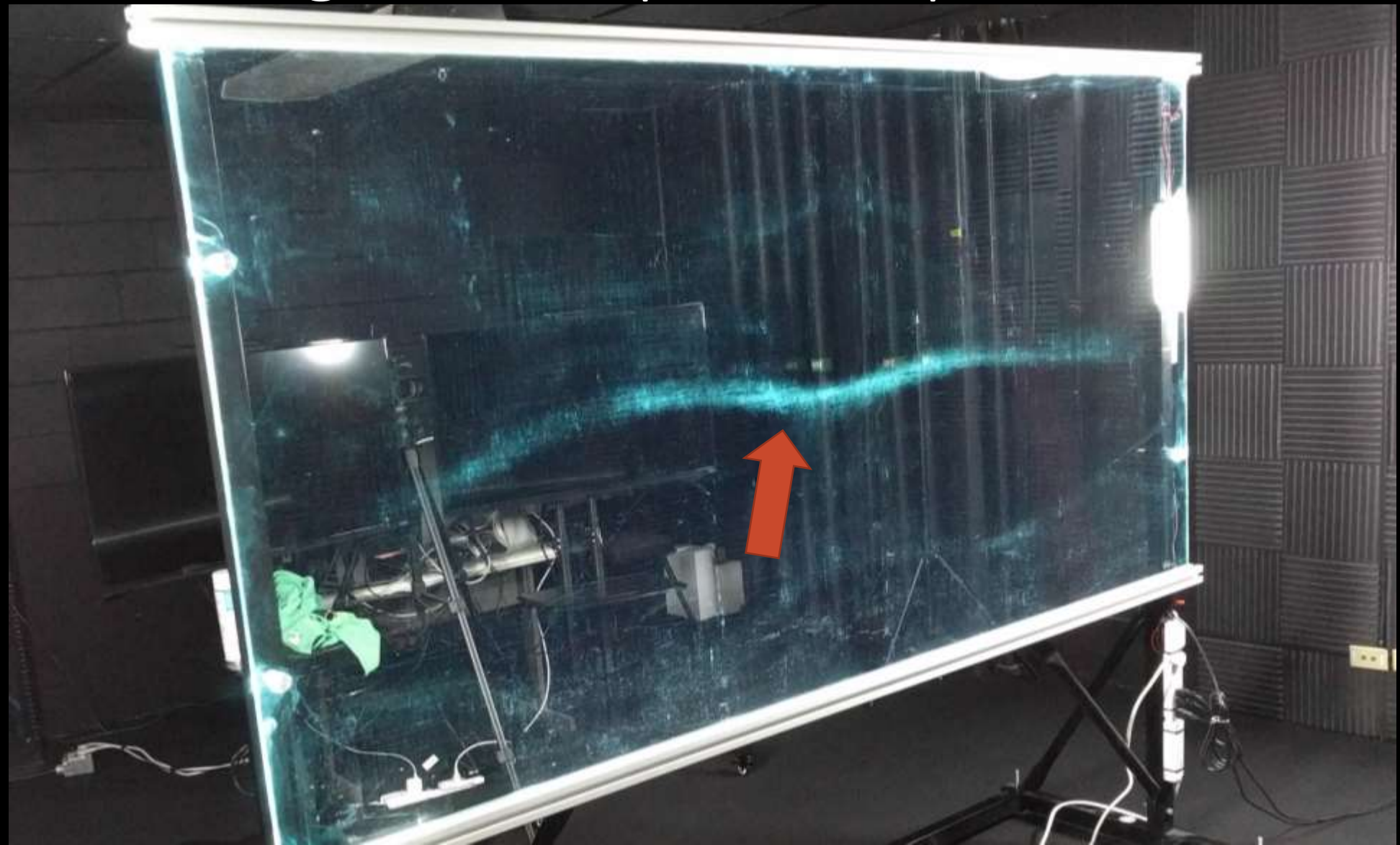
Lucky!



How a squeegee became part of my job

Or “other duties as assigned”

Glassmaking is a complicated process

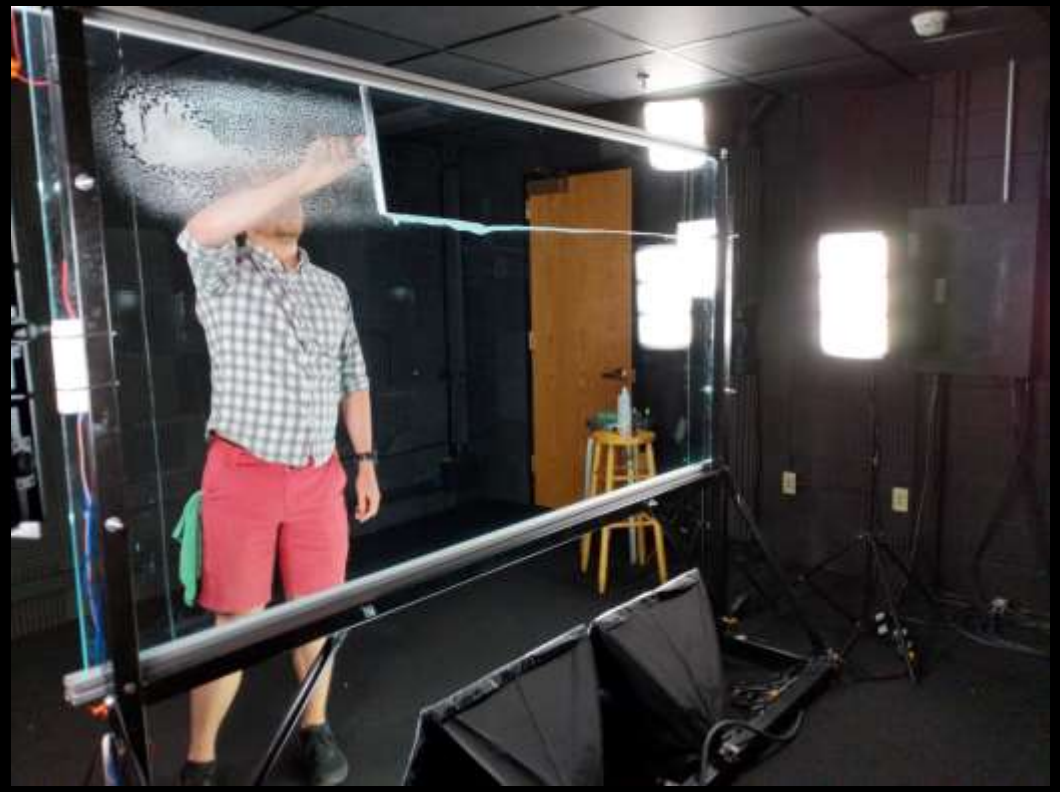


Cleaning is super important

Practitioners?
IT Professionals

Things you need cause problems with other things you need

That squeegee I mentioned



A different flavor of Windows

The technology behind the lightboard

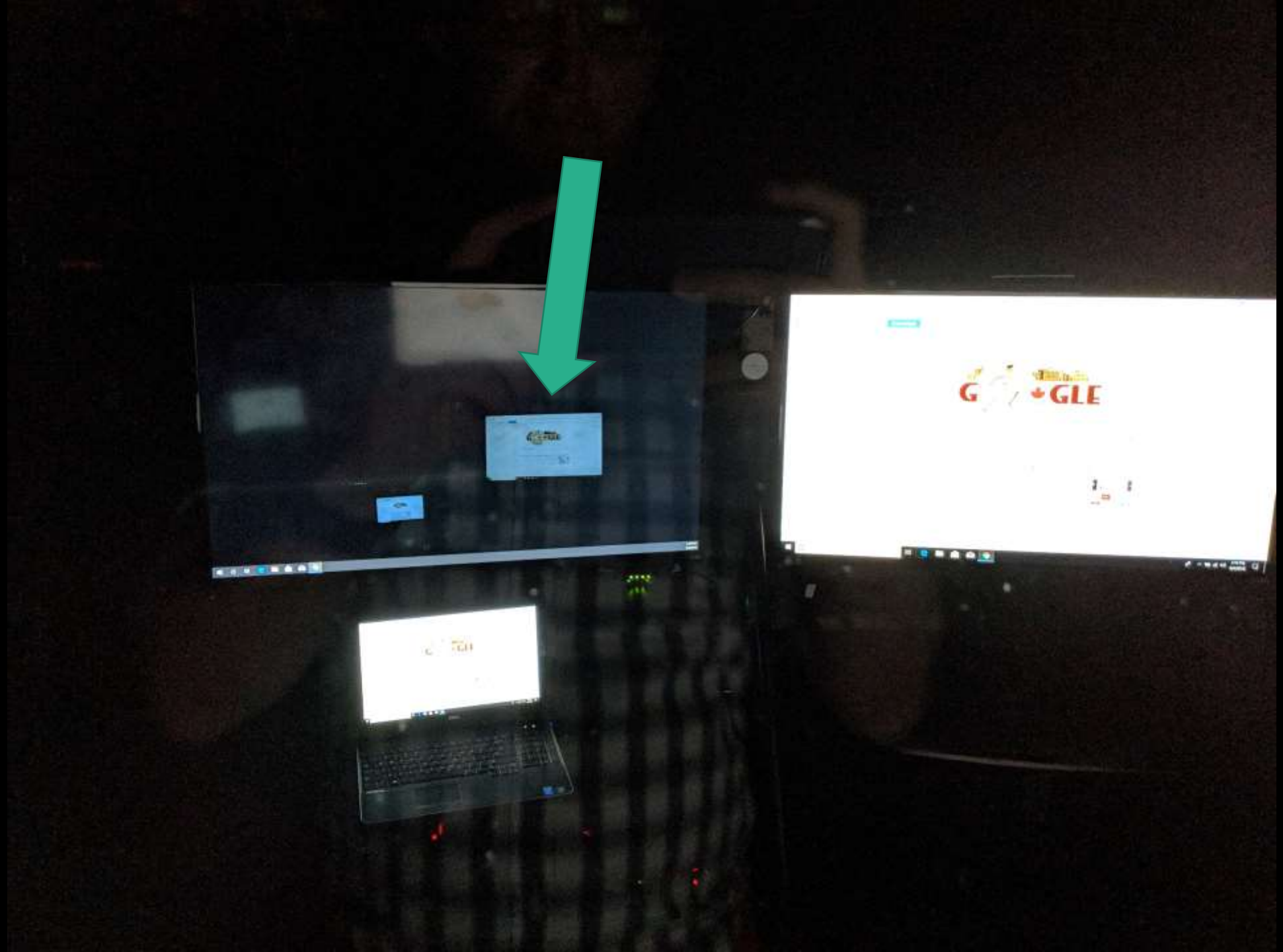
Parts list

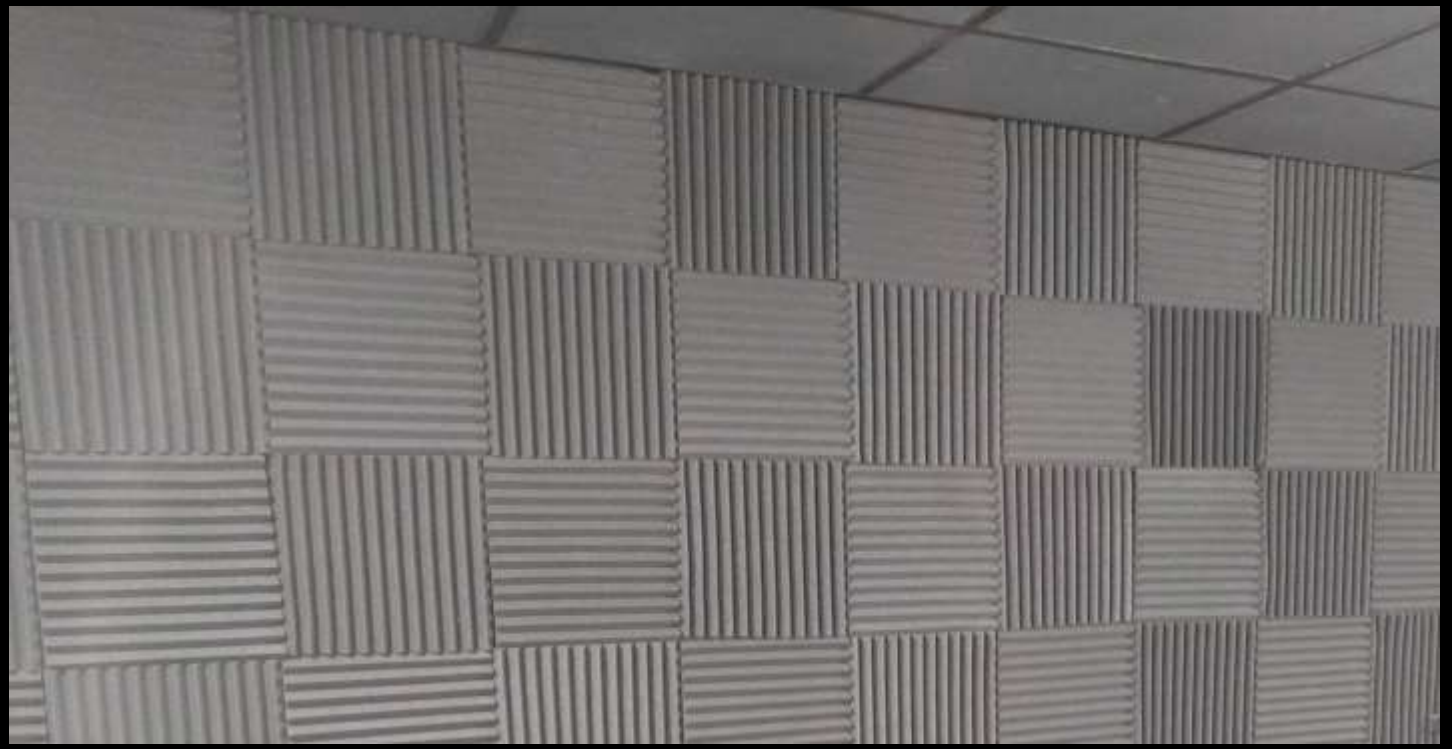
+

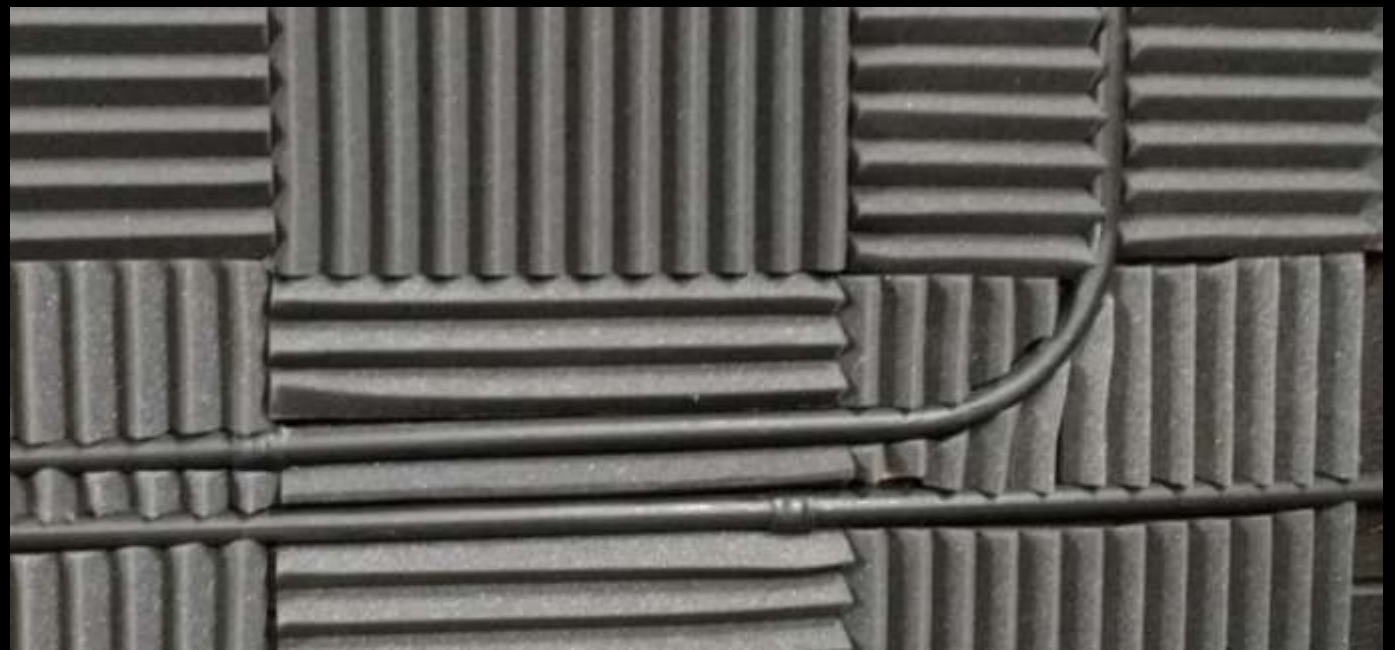

ON
AFV
1
2
3
4
5
6
7
8
DSK 1 MIX
FTB
MP 1
MP 2
CUT
AUTO
Master
Introduction to widget syste
Be Boulder.
0.0dB


REMOTE
HDMI INPUTS
ANALOG AUDIO IN


Direct
Indirect
$\alpha = A_2(h\nu - E_g +/- E_{phonon})^2$








Aux 1
Audio Macros
Settings
MIX
DIP
WIPE
DVE
FTB
DSK 1
AUTO 1
DSK 2
AUTO 2
KEY 1
Cam1
Cam2
Cam3
Cam4
Cam5
Cam6
Cam7
Cam8
MEDIA 1
MEDIA 2
COLOR 1
BARS
COLOR 2
BLACK
Cam1
Cam2
Cam3
Cam4
Cam5
Cam6
Cam7
Cam8
MEDIA 1
MEDIA 2
COLOR 1
BARS
COLOR 2
BLACK
DSK1 TIE
DSK2 TIE
PRVW
AUTO
CUT
BKGD
KEY 1


PRESS TO TURN ON WHEN RECORDING
TURN OFF WHEN YOU LEAVE

Pane points

Some things you can solve with money

- Add live capability
- Add more body mics
- Speed up video transfer?

Some things you *can’t* solve with money

matheny@colorado.edu

https://www.colorado.edu/ecee/faculty-staff/faculty-resources/ecee-lightboard