The Big Wave

# Scenario

A flood hits your area, knocking your datacenter offline.  No permanent damage is done but it will not be operational for two weeks, maybe a little longer.  Unfortunately, your mail server infrastructure is there. You can declare a disaster and go with your DR provider by shipping them tapes and rebuilding your infrastructure there. This will take 3 days after they get the tapes. Your email vendor of choice – Microsoft since you’re an Exchange shop – says they could take your tapes and get you up and running receiving new mail in Office 365 within 24 hours and restore your existing mail within 4 days.  They’ll waive the one-time import fees if you sign a 3-year contract to use their free service.  Do you migrate?

Note: Last year you consolidated all faculty/staff email on Exchange. Many faculty were on a locally-hosted webmail system and were upset about having to move to a new email system.

## Deliverables

* What was your school’s cloud strategy going into the scenario?
* Which stakeholders vote to move to the cloud?
* Which stakeholders vote to rebuild, keeping the email system completely within university control?
* What does your school ultimately decided to do?
* How will your decision impact the trust relationship with the campus?

# Wildcard (The Big Wave)

1. University counsel has expressed concern about the possibility of government records requests (e.g. National Security Letters) for email going directly to the cloud vendor without notice to the university.
2. A competing cloud email vendor was recently in the news for changing their Terms and Conditions without much notice. The new language is vague enough to have stirred controversy among academics. It could be interpreted as at least opening the potential for data mining and at worst taking ownership of intellectual property. This has prompted an outspoken and influential faculty member to publicly state his opposition to moving university data to any cloud solution.
3. Two weeks prior to the flood there was a widely-publicized DDoS attack on a major DNS provider that made many prominent cloud-based services in your half of the country unusable for a day.

## Deliverables

* Does the wildcard change your decision? Why or why not?
* If you still decide to move to the cloud, what talking points do you give the CIO to combat these concerns?

The Big Grant

# Scenario

Unbeknownst to the Office of Research Administration and without consultation of your research technology group, a researcher applied for a Precision Medicine grant. Yesterday the Dean announced she received the $10 million grant which involves a very tight timeline for results – a final report must be produced in 24 months– and will require significant computing resources. Your datacenter is already almost at capacity and building a new full-fledged datacenter itself would be a multi-year effort.  The researcher is uninterested in the technology details, or excuses. She expects to hit the ground running and her dean has made it clear that any delays will be pinned squarely on central IT. Your institution is only just starting to explore cloud computing and there is little experience and no true expertise on staff.

Do you:

* Hack together a “server room” for the new initiative?
* Migrate some of the administrative units, academic departments or central systems from the existing datacenter to the cloud to free up space for HPC hardware?
* Convince the researcher she should implement her entire project in the cloud and that you will help with implementation resources?

## Deliverables

* What was your school’s cloud strategy going into the scenario?
* Which stakeholders vote to try to build out a server room for the research?
* Which stakeholders vote to move other systems to the cloud to make room for the research on-prem?
* Which stakeholders believe all of the research should just be done in the cloud?
* What does your school ultimately decide to do?
* How does your decision impact the ability of central IT to continue to deliver and support the broader needs of the university

# Wildcard (The Big Grant)

The research involves various types of sensitive information, including personally identifiable data on research subjects and potentially Protected Health Information (PHI). You do not yet have a proper agreement in place for PHI with your cloud providers. University Counsel has serious concerns about moving any non-public data — research PHI or student and HR data — to the cloud.

Legal Counsel will not sign a HIPAA BAA without approval of the Medical Center, who are concerned about their faculty operating in the cloud. Your central IT colleagues are concerned about the lack of skills and controls needed to do either the research work or departmental work in the cloud. They have doubts they can ensure the work can get done in time. Without careful planning, it could be difficult to avoid unrecoverable disasters such as the possibility of someone inadvertently deleting the whole cloud data center.

## Deliverables

* Does the wildcard change your decision? Why or why not?
* What talking points do you give the CIO to combat these concerns?

The Best Laid Plans

# Scenario

A 4-year effort to convince campus to consolidate their systems for security, risk-reduction, cost and efficiency, has resulted in units moving most of their computing systems into your on-prem data center and private cloud.  3 years ago, your institution invested heavily in the private cloud, leveraging market leader technologies (Cisco UCS, VMWare). The effort was a success. Now much of the university’s administrative computing needs run in the private cloud.

You have a second site for disaster recovery (DR) but have not invested in hardware for a second private cloud site which would be needed to run the critical 20% of apps in the event of a DR scenario. There is little appetite to invest in more hardware. Some are arguing you should move to the public cloud to avoid the need. Unfortunately, many of the critical applications would require re-building/re-architecting in the public cloud. This is a massive undertaking requiring a significant reordering of priorities and redirection of staff resources.

As a group of stakeholders, you’ve been asked by the CIO to make a recommendation on what direction to take. Do you just bite the bullet and invest in hardware for the second DR site or push on the application owners to redesign sooner than they were planning so we can push them to the public cloud? Some point out that essential applications are increasingly SaaS and thus are already in the public cloud, the wave of the future, so they are opposed to investing in the old thinking and technology that the DR site represents.

## Deliverables

* Which stakeholders support you beginning the work on an accelerated move to the public cloud?
* Which stakeholders support sticking with the current on-prem/private cloud strategy and want to recommend buying more hardware?

# Wildcard (The Best Laid Plans)

Skepticism stands in the way of pushing for cloud adoption. The cloud has been described by some longtime IT professionals as something that “reminds them of the dot com bubble in the early 2000’s”.  That description/quote could come from your network engineering group. They control virtually every aspect of access to the cloud from campus, from the connection all the way up to DNS and beyond. Without a mandate from the CIO, they will at least drag their heels if not fight this openly.

While not as strong as the network engineers, cloud concerns have been expressed by Security, Data Stewards and Legal. On the other hand, developers from central IT and the departments have found an ally in the Infrastructure Architect who believes the cloud is the best choice for the long-term growth of the university. In addition, the Information Architect, as well as the CTO for your campus CFO, are exerting pressure to move your entire CAS service to the public cloud. The IA believes the public cloud is the best choice for the long-term and the CFO’s CTO believes that hosting CAS in the public cloud is the best insurance for being able to complete vital university business functions that are dependent on SaaS applications.

## Deliverables

* How does your decision impact the ability of central IT to continue to deliver and support the broader needs of the university?
* What talking points do you give the CIO to combat the concerns of the losing side of the debate?

To Buy or to Build, with a Twist of FERPA

# Scenario

Your institution uses a SaaS course and classroom scheduling system. The Registrar is interested in adding a new module that promises to track, parse and display meaningful student success metrics. This information has been highly sought after for years. The module is a bit pricy and it will require giving the vendor a great deal of sensitive student data. References at peer institutions provided by the vendor are generally positive, though not glowing, about the results produced by the module. Your Procurement Office says the module can be acquired without a new RFP or full competitive assessment since it is an add-on to something already purchased.

Your internal data analytics group believes it can derive student success metrics if only given the proper time and additional positions. They have the data but candidly admit they still don't know how to derive actionable information from it. They believe they can have something for campus decision-makers within a year.

## Deliverables

* What was your school’s cloud strategy going into the scenario?
* Which stakeholders support going with the SaaS provider?
* Which stakeholders support having the local developers do it?
* What does your school ultimately decided to do?

# Wildcard (To Buy or to Build, with a Twist of FERPA)

Six months ago, the University President established a task force aimed at improving retention and graduation rates. The task force is relying on the Registrar to provide meaningful information on student success, including the primary predictors of early withdrawal. The deadline for the task force to deliver its final report to the President is one year away.

Your Data Steward, already skeptical about the safety of data in the cloud, has learned from Legal that a close reading of the language in the SaaS providers Terms and Conditions raises concerns about what, in addition to the stated purposes, they may be allowed to do with your data.

During your security review you learn that the service is sharding data in such a way that makes it “impossible” for them to store data in only domestic locations.

## Deliverables

* Does the wildcard change your decision? Why or why not?
* What talking points do you give the CIO to combat the concerns of the losing side of the debate?

Wilting under the Spotlight

# Scenario

Due to the recent success of your sports teams and the matriculation of the playboy twin sons of a major celebrity, the flagship university website has been overwhelmed by traffic at unpredictable times, resulting is delays and crashes. Complaints have started to come in from prospects, parents, alumni and donors. This problem, and the perceived causes, have become a news story which the University President wants taken care of immediately.

Your web infrastructure needs attention. The web servers themselves are nearing hardware refresh but the supporting infrastructure (load-balancers and databases) are not due for replacement for another three years. Replacing the existing web servers will not be enough. You will have to expand the system to handle these new peak loads. While the servers were slated to be replaced this year, the cost projections for the configuration proposed to deal with this new traffic is 40% more than budgeted.

An analysis shows that building up to be able to handle the current peak loads is the most expensive option. A much smaller cloud installation, configured to dynamically scale to handle higher traffic is, on paper, about 30% cheaper. Do you move it all to the cloud? Do you move only parts, re-architecting hardest-hit parts for cloud bursting? Another alternative is to move it to a cloud web hosting platform and eliminate the need to administer the underlying architecture entirely.

## Deliverables

* What was your school’s cloud strategy going into the scenario?
* Which stakeholders vote to invest in expanding the existing infrastructure?
* Which stakeholders vote to move the web infrastructure to the cloud?
* Do any stakeholders advocate for a hybrid on-prem/cloud solution?
* Do any stakeholders vote to move it to a cloud hosting solution?
* What does your school ultimately decided to do?

# Wildcard (Wilting under the Spotlight)

Money is tight and some academic programs are being cut. This story is already tracking in the news and a long-time critic of the school’s “over-emphasis” on athletics has weighed in, objecting to any additional money being spent to showcase the university’s sports and party culture. The university can’t ignore this criticism as it is a state-funded institution and the critic is well connected at the statehouse.

Your main web server admin is not known for his embrace of change. He comes around very slowly to new technologies. He considers this whole “cloud” thing to be new and unproven. He has dug in with a 'move-over-my-dead-body' attitude. Consequently the web team has no experience with the cloud and would need a crash course. Bringing in consultants would add a one-time cost amounting to about 10% of the project’s overall budget but is likely the quickest path to get this story out of the headlines.

## Deliverables

* Does the wildcard change your decision? Why or why not?
* What talking points do you give the CIO to combat the concerns of the losing side of the debate?