Welcome to the NET+ Amazon Web Services (AWS) wiki. Many Internet2 member institutions take advantage of this service offering. If your institution is one of them then this wiki will provide details on how to make the most of your participation of the programming and interact with peers across Internet2 member institutions.

This program is open to all higher education, affiliate and federal affiliate members as well as non-member higher education institutions. If you are looking details on how to join the program, please visit the Sign Up Tab of the NET+ AWS webpage.

You can also find out more about the Internet2 Cloud Connect offering for AWS Direct Connect.

Service Documentation and Resources

Accessibility:
- Voluntary Product Accessibility Template® (VPAT)

Identity:
- NET+ AWS Portal Identity Guidance - For end user self service AWS account requests
- InCommon-enabled Group to role mapping for AWS Accounts

Information Security:
- Cloud Controls Matrix - please email cloud@dl.t.com
- Higher Education Cloud Vendor Assessment Tool (HECVAT) - pending

Contract and Pricing:
- NET+ AWS Enterprise Customer Agreement - please email cloud@dl.t.com
- NET+ Infrastructure and Platform Services (IPS) Program Participation Agreement and Schedule - pre-req for subscribing to NET+ AWS

Community Resources

Participate in our Community Conversation (Subscribers Only):
Institutions participating in the NET+ AWS program may take advantage of our email discussion list and Slack channel to receive curated program updates and participate in other activities and events.

We also host bi-weekly AWS Technology & Tactics calls where campus cloud enablement professionals, cloud engineers and developers, meet to discuss their challenges, share lessons learned and collaborate to find the best answers for their institutions’ AWS deployment.

Please contact netplus@internet2.edu to be added to any of these conversations.

AWS Higher Education Adoption Guide Working Group:
Community members are working to create a best practice guide for setting up AWS for a higher education enterprise. We welcome cloud leaders, engineers, developers, network specialists, security professionals and others wishing to contribute to this effort. It’s a great opportunity to get involved in the community. Please contact bflynn@internet2.edu if you are interested in participating.

Join the AWS Community Forum (Open to all community members):
Users of AWS are encouraged to join the AWS Community Channel in the Educause Cloud Community Group Slack. See the Higher Ed Cloud Community page on the Cloud Wiki for instructions to join.

Collaborate on the Cloud Wiki:
Speaking of community, did you know about the Cloud Wiki? This was created specifically for YOU, members of the higher education community to collaborate with each other. Log in to see a Cloud Job descriptions page and contribute your knowledge!

Contribute Code:
Looking to share your latest Terraform config? Add it to the Cloud Wiki Helpful GitHub Repos list or email sjeanes@internet2.edu to request access and create a repo in the Community Cloud Config GitHub organization.
Questions on Billing, AWS Orgs, or CloudCheckr:

Find answers to frequently asked questions in these Knowledge Base articles.

- **AWS Organizations**
  - Organizations - Customer On-boarding and Management
  - DLT Secure Handling Of AWS Accounts And Organizations
  - How To Create A New Account Using Organizations
  - How To Transfer An Account To Your Organization
  - New Accounts created through Organizations do not include Support by default. To change this to DLT Business Support, follow the instructions in How To - Change AWS Support Option
- **AWS Control Tower**
  - AWS Control Tower Adoption Strategies
- **DLT Process For AWS Customer Credits**
  - To prevent DLT from getting 1000 credit memos for the Data Egress Fee Waiver (DEFW) payer, the discount is built into the utilization invoice. For Universities that have their own Payers, AWS is billing utilization at MSRP and then giving us credit memos for DLF which is shown on the face of the invoice submitted to the customer. Does not appear on backup file. Does appear in CloudCheckr.
  - How To Initiate Support Request With DLT Operations Center
- **CloudCheckr**
  - CloudCheckr Basic+ Webinar
  - CloudCheckr Accounts Requests
  - How To - Create CloudCheckr IAM Policy For Cross-Account Access
  - Tag Resources for Cost Allocation with a DLT AWS Account
  - FAQs

Key Program Updates

Subscribers may review our mailing list archives for monthly program and AWS updates.

**NET+ AWS Sept '21 Newsletter**

Bob Flynn posted on Nov 24, 2021

Events

There has always been a steady stream of events, both virtual and, increasingly, live, coming from AWS. Here are a few coming your way that we hope you’ll join us for.

**Ransomware Town Hall: Protecting your institution’s data, systems, and reputation from loss**

Our partners at AWS are putting together a presentation for the NET+ AWS community on how you can harden your accounts and Orgs against ransomware.

Ransomware attacks can be significantly disruptive and costly to the college or university beyond the data compromised or stolen, the time lost recovering from an incident and money spent on recovery or for ransom payouts. These incidents can also erode the confidence and trust that students and families, faculty, staff, researchers, and partners have in the organization. For these reasons it is important to keep an eye on the threats ransomware poses and to be prepared for all eventualities. In this session you will learn about current trends in ransomware, strategies to prevent and detect intrusions, and approaches to mitigate the damage and recover from the attack.

Presented by Larry Kiger, WWPS Solution Architect, AWS. Larry is on a mission to educate and help information technologists and executives grow their understanding of IT Security and Compliance in the Cloud. He joined Amazon Web Services (AWS) in 2019 and now serves as the Americas’ Lead for Security & Compliance in the Worldwide Public Sector team.
This is an interactive session, so bring your questions and invite your friends from the security office. **Monday, September 20 12:00-1:30pm EDT. Register here.**

**IMAGINE: Education & AWS Public Sector Summit**

Later this month at the Washington, DC Convention Center Amazon is hosting two free in-person conferences.

**IMAGINE: Education - September 27**

**AWS Public Sector Summit - September 28-29**

If you are planning on being there, please reach out to your NET+ AWS team so we can say hello.

- Bob Flynn bflynn@internet2.edu
- Tara Gyenis tgyenis@internet2.edu
- Sean O’Brien sobrien@internet2.edu

**AWS Educate/Academy Town Hall: Introducing AWS Education to Workforce**

AWS Educate, AWS Academy, and other AWS education programs are now within one organization – AWS Education to Workforce. The AWS Education to Workforce team offers new program and consultative services to help customers enable and implement a comprehensive AWS cloud skills workforce education solution. Aaron Osmond, US Lead for the AWS Education to Workforce Team will be presenting this session.

**Bio:** Aaron Osmond joined AWS in March of 2020. Aaron brings 25+ years of professional experience in building statewide workforce development programs within public and higher education at Novell, Microsoft, Pearson, and now AWS. Aaron leads a team of business development and program implementation experts to help state and local education and workforce leaders implement AWS cloud skills workforce readiness programs.

This is an interactive session, so bring your questions and invite your faculty and colleagues from Learning Technologies. **Monday, October 25, 2-3pm EDT, Register here.**

**Raising your team’s Cloud IQ**

Internet2’s Oren Sreebny is looking to build on his success with a GCP community training cohort. We are working with AWS to get the first on that platform off the ground. More broadly, we are looking to assess the landscape of cloud training/literacy need in the community. Take the [survey](https://forms.gle/sgFcj1dY6pLeHk3WA). Share the survey. Be the survey. Together we will raise higher ed’s Cloud IQ! **Deadline for submission - Friday, September 17**

**AWS Training Pilot**

One thing we keep hearing is that one of the major obstacles to increased cloud utilization in higher ed is the lack of staff trained in cloud technology and that increased access to training would help adoption. We are looking for up to 15 people interested in participating in a pilot later this fall of a multi-campus cohort training for the AWS Solutions Architect - Associate certification.

The training will consist of asynchronous learning content (videos and hands-on labs) paired with weekly cohort meetings and occasional extra sessions with technical experts. Participants should expect to commit 5-7 hours per week over the course of the training, which will last approximately three months. The cost to participate will be in the range of $500 per participant, not including the cost of the certification exam (~$150 as of this writing).

People interested in participating can fill out this form and we will be back in touch with you as our plans firm up: [https://forms.gle/sqFoj1dY6pLeHk3WA](https://forms.gle/sqFoj1dY6pLeHk3WA). **Please respond by Friday, September 24.**

**Get Involved**
Community, whether personal or professional, serves you best when you get involved. A professional community like the NET+ AWS community can be quite rewarding. The bi-weekly AWS Technology & Tactics calls not only produce great technical discussions among peers and partners, but they have proven to be a great place to meet the wonderful people who work in higher ed cloud.

Coming out of your annual performance review do your goals include contributing to the community? Getting out of your comfort zone? Taking on more leadership roles? Building the soft skills? The hard skills? You are in luck, I’ve got a couple of ready-made opportunities for you.

NET+ AWS Service Advisory Board (SAB)

The NET+ AWS SAB meets monthly to monitor and guide the health of the program. The members meet regularly with AWS and DLT leadership to champion the priorities of the NET+ AWS community and higher ed cloud in general. We are down a few members and welcome fresh faces and new energy. If you are interested, please contact me at bflynn@internet2.edu.

Working Groups

A tangible example of the SAB’s work are the two working groups they created to address issues raised by subscriber schools. Here are very high-level descriptions of the groups.

- **Support** - Charged with gathering a comprehensive picture of schools’ AWS support needs and working with DLT to ensure it has clear documentation and process for meeting all those needs for all levels of users.
- **Enterprise** - Charged with articulating a snapshot of how higher ed is using and wants to use (and manage) AWS and working with DLT to identify a path to meet that spectrum of needs.

Both groups are about to start their work. The Enterprise Working Group is looking for a few more members. Support has enough to get going, but if that is your jam, I’m sure they’ll let you join the band. If you are ready to roll up your sleeves and improve the program, drop me a line at bflynn@internet2.edu.

Credits

The images in this newsletter come from a variety of sources. Credit where credit is due.

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Requests?

Do you have ideas or requests for a future newsletter? Email bflynn@internet2.edu

aws
This group is exploring best practices in the use of Grouper with AWS to manage roles and permissions within the AWS environment. The current goals are to document the best practices, including sharing working examples, to identify gaps and propose future work to fill them. If you are interested in participating, please contact Oren Sreebny (osreebny@internet2.edu).

**AWS Technology and Tactics calls**

For the past year there have been two regular calls on specific AWS technology topics: AWS Organizations and AWS Control Tower. For 2021 we have replaced those calls with a single bi-weekly call on AWS Technology and Tactics. The goal is to have a regular discussion forum for subscribers implementing AWS in the NET+ program, along with colleagues from AWS and DLT, to discuss the technical topics of interest to them. If you are interested in participating in these calls, please contact Oren Sreebny (osreebny@internet2.edu).

**Welcome new NET+ AWS Service Advisory Board Members**

Join us in welcoming The Pennsylvania State University and the J. Paul Getty Trust to the NET+ AWS SAB. They are represented by Rick Rhoades and David Lacey respectively. We also welcome Chris Manly replacing Sarah Christen representing Cornell University and James Bennett replacing Bob Flynn at Indiana University. See the full list of SAB members and how to contact them on the NET+ AWS service page [https://spaces.at.internet2.edu/pages/viewpage.action?pagid=158663221](https://spaces.at.internet2.edu/pages/viewpage.action?pagid=158663221).

**Community Stories and Events**

**Kevin Murakoshi’s Re:Invent Recap**

On January 26 Kevin Murakoshi from AWS held a session where he went over announcements from Re:Invent 2020 that he thought were of potential interest to higher education. The recording of the event and Kevin’s slides are available here: [https://drive.google.com/drive/folders/1Wt25S8vMsRqyeFHxzcwFJz5x3qja9HyI?usp=sharing](https://drive.google.com/drive/folders/1Wt25S8vMsRqyeFHxzcwFJz5x3qja9HyI?usp=sharing)

**I2 Online: Self-service research environments**

An upcoming I2 Online event will explore two new AWS-based services that enable campuses to manage self-service environments for researchers. Parice Brandies and Nathan Albrighton will speak about RONIN and its use at the University of Sydney, and Paul Avillach and Madhu Bussa will show the AWS Service Workbench and its use at Harvard Medical School. The event will take place on February 24 from 3:30 - 5:00 pm Eastern. To register for the live event and receive notification of the availability of the recording, see [https://bit.ly/2YhmZeC](https://bit.ly/2YhmZeC).

**Cloud Forum**

The February session of the Cornell Cloud Forum will feature Dr. Julia Lane, Professor at the NYU Wagner Graduate School of Public Service whose team was asked by the OMB and the Census Bureau to build a secure environment to inform the decision-making of the Commission on Evidence-Based Policy. The result was The Administrative Data Research Facility, a repository of over 100 confidential data sets, built on AWS. The event opens with a presentation on using Terratest to manage IaC by the cloud team at the University of Colorado.

The Cloud Forum takes place this Friday, February 12 at 12pm ET. Details available at [http://blogs.cornell.edu/cloudforum/home/agenda/](http://blogs.cornell.edu/cloudforum/home/agenda/)

**Key Product or Feature Updates**

Amidst the sea of announcements and updates from AWS Re:Invent this year (I personally hope the new virtual format is here to stay!) there were a few that stick out to me (Oren) as worthy of special mention (for more on Re:Invent 2020, see Kevin Murakoshi’s recap session linked above).

The introduction of container image support for AWS Lambda feels like a fairly fundamental shift in the way Lambda services are deployed and managed. If you’re using Lambda at all, or looking into building serverless apps (and why wouldn’t you be doing that?), you should watch Chris Munn’s talk on YouTube: [https://youtu.be/X-1xf-DbC8k](https://youtu.be/X-1xf-DbC8k)

At last! A browser-based Cloud Shell comes to AWS! [https://docs.aws.amazon.com/cloudshell/latest/userguide/welcome.html](https://docs.aws.amazon.com/cloudshell/latest/userguide/welcome.html)

Understanding ML bias and why ML models make the predictions they do is increasingly important. Sagemaker Clarify is a new service that helps do just that. Here’s a Re:Invent talk on it. [https://youtu.be/kMDOxZwiyJo](https://youtu.be/kMDOxZwiyJo)
And if you’ve got departments looking for ways to teach practical applications of ML, the new Sagemaker Jumpstart offers prebuilt models as starting points for exploration of using ML in common scenarios. The initial batch of models include financial fraud detection, demand forecasting, purchase modeling, handwriting recognition, and others. Could be very useful in business schools, econ departments, and beyond. Here’s a blog post about it: https://aws.amazon.com/blogs/aws/amazon-sagemaker-jumpstart-simplifies-access-to-prebuilt-models-and-machine-learning-models/

Updates from Internet2

Welcome Bob Flynn

We are pleased to welcome Bob Flynn to the Internet2 team as program manager for Cloud Infrastructure & Platform Services. Bob joins us after 20+ years at Indiana University where in recent years he managed cloud technologies. He has served on the NET+ AWS SAB for several years and chaired the NET+ GCP SAB. Bob is an active leader in the higher ed cloud conversation as an organizer of the Cornell Cloud Forum and serving as co-chair of the Cloud Computing Community Group from 2017-2020. You can reach Bob at bflynn@internet2.edu.

Check out the Latest NET+ Update

Our latest community update includes service news, a recap of virtual events and opportunities to help us plan for 2021. Of particular interest to our NET+ AWS community might be the CloudCheckr Premium service validation. Check it out! Get involved.

Cloud Retention and Storage Working Group: Seeking Additional Participants

Cost-effective storage of video assets has become a hot-button issue as work and teaching were forced to go virtual during the pandemic. This CSTAAC working group is working with NET+ members and service providers to identify and document best practices (in both policy and technical realms) for video storage and to recommend opportunities for concerted community action. If you are interested in participating, please contact Oren Sreebny (osreebny@internet2.edu).

Updates from DLT

DLT & AWS continue to help education institutions of all sizes soar higher and further in the cloud. Cloud computing has been touted as a disruptive technology for years. Nothing has tested those claims more than the COVID-19 Pandemic. Cloud adoption at this scale normally would have taken years has been accelerated to months. Even with a surge of schools opting for in-person learning starting in February many are still continuing to conduct instruction and operations online. Schools are embracing the vast delivery of courses and operational benefits cloud provides. Each month DLT and AWS will be focusing on a specific education-focused cloud solution. DLT along with our strategic partners have aligned to help support schools by region and solution offering. Starting in February here’s a preview of what to expect...

Back-Up & Recover Data Simply and Securely with Storage Solutions from AWS and DLT

Universities have complex data storage and retrieval needs ranging from admissions, distance learning, research, and general operations to human resources. Accidental file deletion, ransomware attacks, or unforeseen events can be both costly and distressing resulting in downtime and lost revenue.

Cloud-based backup and disaster recovery solutions are becoming increasingly popular among educational institutions. Education entities of all sizes are getting away from traditional on-premises backup and recovery solutions due to the large upfront investment in infrastructure and ongoing specialized maintenance. More schools are now leveraging the flexibility and scalability of the cloud for more efficient, durable, and secure backup storage.

Migrate Windows workloads to AWS

If I asked you which cloud provider had the most experience running Microsoft applications, would you know the answer? You might be surprised. Customers have been running Microsoft Workloads on AWS since 2008 – two years before Microsoft Azure became commercially available.

With Microsoft applications making up 60% or more of most on-premises data centers, more and more schools are moving their Microsoft workloads to AWS to improve performance, increase availability, and improve their security posture. AWS offers the ideal infrastructure for Windows. Migrate to AWS with DLT to secure your Windows workloads.
LabArchives releases Jupyter Notebooks integration

NET+ LabArchives reached 20 subscribers earlier this year. The Electronic Lab Notebook (ELN) is being used successfully enterprise wide by tens of thousands of faculty and researchers in the Internet2 community. In the coming months, the NET+ LabArchives Service Advisory Board members will evaluate for inclusion in the NET+ program two other LabArchives products: LabArchives Scheduler, which has ~70,000 users worldwide, and LabArchives Inventory. Recently, LabArchives integrated with Jupyter Notebooks. The new integration with Jupyter Notebooks empowers users to capture data science, scientific computing, and machine learning workflows within LabArchives ELN for Research.

NET+ GCP offers the easiest path to use of the NIH STRIDES program

The National Institutes of Health STRIDES program offers deep discounts on cloud usage for NIH-funded research work. Enrolling an institution to take advantage of STRIDES with NET+ GCP only requires filling out an additional order form with your chosen NET+ GCP reseller. For more information on using NET+ GCP with STRIDES check out our blog post or email netplus@internet2.edu.

NET+ AWS campuses implement AWS Organizations and Control Tower

AWS Organizations and Control Tower are AWS features that help institutions to manage and govern their multi-account AWS environments. The NET+ AWS Organizations and Control Tower working groups have helped map out strategies for campuses to successfully implement Control Tower in their AWS environments, and Internet2 published a post by Peter Traub outlining the implementation of Control Tower at the University of Virginia. If you are interested in participating in these working groups, please email netplus@internet2.edu

- aws
- gcp