An ITAR compliant home for payload design at AMSAT

GitHub Enterprise Proposal

The Primary Need

- AMSAT's mission is to keep amateur radio in space.

- Communications Satellites are regulated under ITAR or EAR.

- AMSAT does not currently have a data management system that fully complies with ITAR or EAR.

- Additional regulations went into effect at the end of December 2017
  https://www.law.cornell.edu/cfr/text/48/252.204-7012

- Information security standards and guidelines can be found here
  http://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-171.pdf

- We need to be in compliance. Minimally, with CUI.

The Primary Need

- Payload development (that isn't open source and public domain) needs an easy to use and easy to maintain central workspace where all US persons can work together to support AMSAT's mission.

- For open source public domain payload development, please visit AMSAT Phase 4 Space at https://phase4space.github.io/index.html

A Solution

- There are several solutions for ITAR compliant data management and document sharing.

- One compelling solution is for AMSAT to purchase GitHub Enterprise service.

- This is a distributed appliance that we would run on a computer in our physical possession.

- This repository service is modern, ITAR compliant, and successfully used by organizations similar to AMSAT.

- They have offered a 25% discount to AMSAT because we are a 501c3.

Solution for 10 User Limit

- In order to avoid exclusionary practices, where the 10 users are assigned and and all subsequent volunteers are turned away, the 10 user accounts could be set up as amsat1, amsat2, amsat3, amsat4, amsat5, etc.

- Each user account would have a password assigned by the administrator.

- Under this scheme, intermittent use for uploading and downloading documents is supported.

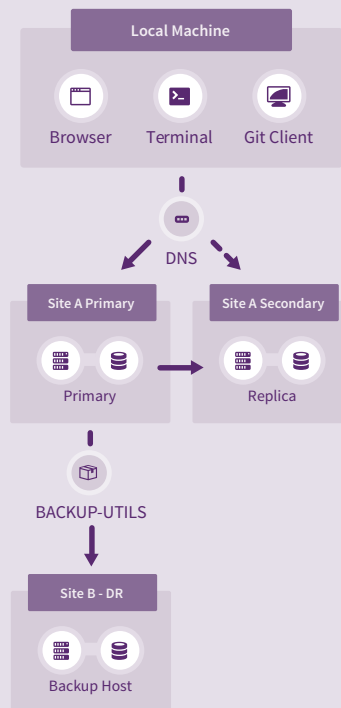- The administrator keeps a roster of who was assigned to each user account.

WHY GITHUB ENTERPRISE?

GitHub Enterprise combines the power and flexibility of GitHub with the security, administration, and control businesses need. With GitHub Enterprise, you can foster greater transparency and collaboration amongst developers and allow seamless integration of third party tools — all without compromising security practices.

AT A GLANCE: HOW GITHUB ENTERPRISE WORKS

While GitHub builds collaboration directly into the development process, GitHub Enterprise adds security and administration features built specifically for how teams need to collaborate at work. GitHub Enterprise is available on VMware, AWS, and OpenStack KVM - on your own servers or in a private cloud.

Local Machine

Browser   Terminal   Git Client

DNS

Site A Primary   Site A Secondary

Primary   Replica

BACKUP-UTILS

Site B - DR

Backup Host

GitHub

Advantages of GitHub

THE FLEXIBILITY OF GITHUB, ON YOUR OWN SERVERS

With GitHub Enterprise, organizations can enable transparent access to resources without compromising security or taking on risk. Developers can easily find and reuse code, collaborate on projects regardless of team or geography, and interactively learn from each other throughout the development process.

EASY ADMINISTRATION, GREATER CONTROL

GitHub Enterprise gives you more advanced security controls, including access to more complete logs, control over upgrade cycles, and the ability to protect specific branches. You can also use single sign-on, LDAP, or SAML to manage permissions.

THE INNOVATION YOU EXPECT FROM GITHUB

GitHub transformed the way software is built by bringing collaboration and code review directly into the development process, and has spent every year since adding features and products that help developers focus on what they do best. We invented the pull request, pioneered ChatOps, built the first hackable text editor, and equipped businesses to use the open source model in a secure environment.

INTEGRATIONS ECOSYSTEM

Developers love the seamless experience that GitHub provides, even as they customize their workflows with the intuitive GitHub API. Whether you connect custom tools your team has already built or choose from hundreds of pre-built integrations, developers can get work done while tools melt into the background.

RECRUITING AND RETENTION

GitHub is increasingly the first place developers go to learn to code. GitHub is taught in schools and code academies, is home to some of the largest projects on the Internet, and used by more than 65,000 businesses. Adopting GitHub Enterprise means new developers can get up to speed in days (not weeks or months), and start making contributions right away. And, giving developers tools they love to use means work isn't just more efficient, it's more enjoyable.

FROM INNERSOURCE TO OPEN SOURCE

Build your company's software the way open source maintainers build theirs or identify opportunities for your company to contribute back to the world of open source. GitHub Enterprise helps your development teams apply the principles of open source development, like transparency and code reuse, to break down silos, encourage cross-team collaboration, and help ship better code faster.

Questions about using GitHub? We're here to help.
Get in touch with **sales@github.com** or **1.877.448.4820**

GitHub and Export Controls

GitHub.com, GitHub Enterprise, and the information you upload to either product may be subject to US export control laws, including U.S. Export Administration Regulations (the EAR).

Although we've provided the following information below for your convenience, it is ultimately your responsibility to ensure that your use of GitHub's products and services comply with all applicable laws and regulations, including US export control laws.

GitHub.com

GitHub.com, the cloud-hosted service offering available at github.com has not been audited for compliance with ITAR or other export controls, and does not currently offer the ability to restrict repository access by country.

If you are looking to collaborate on ITAR- or other export-controlled data, we recommend you consider GitHub Enterprise, GitHub's on-premises offering.

GitHub Enterprise

GitHub Enterprise is a self-hosted virtual appliance that can be run within your own datacenter or virtual private cloud. As such, GitHub Enterprise can be used to store ITAR- or other export-controlled information, however, end users are responsible for ensuring such compliance.

GitHub has an Encryption Registration Number (ERN) of `R108186`.

GitHub Enterprise is a commercial, mass-market product and has been assigned the Encryption Control Registration Number (ECCN) of `5D992.c` and may be exported to most destinations with no license required (NLR).

GitHub Enterprise may not be sold to, exported, or re-exported to any country listed in Country Group E:1 in Supplement No. 1 to part 740 of the EAR. This list currently contains Cuba, Iran, North Korea, Sudan & Syria, but may be subject to change.

Pricing

- GitHub Enterprise offers service in 10-user blocks.

- One discounted license is $1,890, down from $2,520, paid annually. One license is 10 user account seats.

- Helpful FAQ: https://enterprise.github.com/faq

- A user account is considered to be dormant if it has not been active for at least a month. You may choose to suspend dormant users to free up license seats, but this should not be necessary if the user licenses are abstracted as previously discussed.

- Full utilization would be $15.75 per user account per month.

Other 501c3 Organizations Using GitHub Enterprise

- - DLR Robotic & Mechatronics Center

- - Battelle Ecology
  - LENA Research Foundation

- - Project Management Institute

- - Eduserv

- - IMF

- - Max Planck Institue for Molecular Genetics

- - Max Planck Institute for Metabolism Research

- - The Linux Foundation

Provisioning and Installation

- There are a wide variety of ways to provision and install GitHub Enterprise. Since it's a virtual machine, we have many options.

- Amazon Web Service

- Azure

- Google Cloud

- Hyper-V

- OpenStack KVM

- VMWare

- XenServer

- https://help.github.com/enterprise/2.11/admin/guides/installation/provisioning-and-installation/

Administration? Training? Maintenance? Benefits?

- GitHub Enterprise requires some training to use. A variety of training is provided by GitHub Enterprise. Support for GitHub Enterprise is offered at no extra cost, 24 hours a day, 5 days a week.

- A volunteer would be required to administer the virtual appliance. We believe this is less work and less risk than current servers and workspaces. Volunteers have stepped forward to help assist current IT staff with administration.

- The primary benefit is that ITAR compliance is positively achieved by a certified service that is a substantial improvement over the current set of SVN servers.

- Payload design at AMSAT can dramatically improve, as it would have a modern, publicized, accessible, regulatory-compliant workspace. This is key to recruiting and retaining volunteer engineering talent in a competitive environment.

Endorsements

- Howie DeFelice

- Wally Ritchie

- Steve Conklin

- Michelle Thompson

- Phil Karn

- Bob McGwier

Motion

- AMSAT shall subscribe to GitHub Enterprise in order to provide a modern consolidated document server for all ITAR-controlled payload development.

- This system is open to all US persons that want to volunteer for ITAR controlled payload design for AMSAT.