

500055 - VARS, M3/RS, DSG

Week 52

1. Brian Schlining
 - a. Iron Mountain video imports. To date, here are the statistics for the video tape to file conversion.

Week 50

1. Kevin Barnard
 - a. Started updating Cthulhu to use new UDP-only video player remote control spec
2. Brian Schlining
 - a. Brian continues to work with Paul Rogers to polish up our new video player for annotation work and integrate it into VARS
 - b. To reduce support overhead, Brian merged [m3-registrar](#) codebase, which handles all video registration into M3/VARS, into the [m3-support](#) project.
 - i. Added support for single file registration.
 - ii. [Investigating](#) why a few files won't register in M3/VARS
 - c. IMES imports
 - d. Continuing investigation/workarounds on table rendering [issues](#)

Week 49

1. Kevin Barnard
 - a. Worked on implementation of Sharktopoda 2 Python client controller
2. Brian Schlining
 - a. Fixed time-alignment issues when staff annotated a corrupted video.
 - b. Modified image [registration script](#) for DARC

Week 48

1. Kevin Barnard
 - a. Working on Sharktopoda 2 Python client controller
2. Brian Schlining
 - a. Too much work on a [weird bug](#) in the TableView control in VARS. Started work on replacing the offending JavaFX control with a Swing version.
 - b. 4 VARS Annotation releases since the last weekly report.
 - c. Modified framegrab filenames so that the timestamp in the name now has millisecond resolution. Previously it was only second resolution; that prevented framegrabs from being taken very close together in time.
 - d. Iron mountain video ingest
 - e. Added a [count by dive endpoint to Charybdis](#) to support changes to EXPD.
 - f. Integrated automated image analysis via machine learning into VARS.

Week 46

1. Kevin Barnard
 - a. Working on Python client for Sharktopoda 2 video player spec
 - b. Integrated VARS GridView with Beholder (for non-framegrabbed localizations) and Raziel (configuration server); published on PyPI as `vars-gridview`

2. Brian Schlining
 - a. Usual support tasks
 - b. Iron Mountain video import
 - c. [Integrating ML into VARS](#).
 - d. Removing most disk IO for framecapture to [speed up 4k framegrabs](#).
 - e. Working on handling bounding box/localization rescaling for proxy videos with different sizes than master/mezzanine.

Week 45

1. Brian Schlining
 - a. Configuring a Mac Pro workstation for ML work and general video lab task support (e.g. generating video proxies).

Week 44

1. Kevin Barnard
 - a. Set up CVision AI model server, serving new (benthic + midwater) model trained on MBARI data at <http://prometheus.shore.mbari.org:8082>
2. Danelle Cline
 - a. [Deployed the new mbari315K model server in AWS](#)
3. Brian Schlining
 - a. Ongoing Iron Mountain video ingest tasks
 - b. [Fixed](#) misnamed framegrab directories.
 - c. Fixed time issues for a number of imported videos in VARS
 - d. [Working on integrating image ML endpoint](#) into VARS

Week 42

1. Brian Schlining
 - a. Modified [tapemigration](#) code to handle ingest of Mini ROV tapes. 🤖 I had no idea we even had those.
 - b. Updated [m3-quickstart](#) project with initial SQL Server support and added a script to delete video sequences at the request of [Geomar](#)
 - c. Squeezed in a little time to work on the [new deep-sea guide](#). Sorting out how to best [integrate the VARS Query functions](#) into it.
 - d. Iron Mountain video imports.

Week 41

1. Brian Schlining
 - a. IMES imports
 - b. Addressed [issues with VARS on postgresql](#).
 - c. Working on the new DSG. Ran UI demos on it using [Quasar](#) and [Naive-UI](#). Opting to use Naive-UI and Bootstrap.

Week 38

1. Brian Schlining
 - a. Iron Mountain has ramped up the tape to video file process. We're now receiving 5 LTOs every two weeks. The increased data velocity has been filling up the allocated disk quota on M3. IS has updated the quota for M3 share from 320TB to 440TB for now. This gives us up to 290TB for /M3/master and a bit of breathing space.

- b. Some tapes imported from the older VARS system did not have the correct start time and duration set. Brian created a [script](#) to update those as needed.
- c. Working on talks for the Marine Imaging Workshop
- d. Work on Vue 3 version of new [Deep-sea Guide](#)

Week 37

- 1. Brian Schlining
 - a. Working on talks and hands-on session presentations for the upcoming marine imaging workshop
 - b. Released [VARS Annotation 1.3.0](#). This fixes [a bug](#) that was [introduced](#) with JavaFX 16.

Week 35

- 1. Brian Schlining
 - a. Iron Mountain video imports.

Week 34

- 1. Brian Schlining
 - a. [Finished specs for video player](#). Shopping for external contractor.
 - b. Iron Mountain video ingest.

Week 33

- 1. Brian Schlining
 - a. Updated [docs for raziel](#). Added github actions for tests and documentation generation.
 - b. [Prep for VAA/VARS Meeting](#)
 - c. Investigating [slow frame capture with 4k video](#) on the ships.

Week 32

- 1. Brian Schlining
 - a. Revisiting work on the [Vue 3 version of the deepsea guide](#)
 - b. On-going Iron Mountain video ingest.

Week 31

- 1. Brian Schlining
 - a. Finishing up a test implementation of the [new remote control protocol in vcr4j](#) in [jsharktopoda](#)
 - b. The usual Iron mountain ingest

Week 29

- 1. Brian Schlining
 - a. Iron mountain video ingest.

Week 28

- 1. Brian Schlining
 - a. Adding API docs to [Raziel](#) using [Tapir](#) to see if Tapir is suitable for general production use in MBARI microservices. Tracking this [here](#).

Week 26

- 1. Kevin Barnard

- a. Completed initial integration of BoxJelly with Deep Sea AI GraphQL API
- 2. Brian Schlining
 - a. Generating web-friendly HD/H264 [proxies](#) for all 4K/h265 videos
 - b. Iron Mountain video ingest

Week 25

- 1. Kevin Barnard
 - a. Wrote BoxJelly docs: docs.mbari.org/boxjelly
 - b. Several improvements
 - i. Ported to PyQt6 (6.3 non-LTS)
 - ii. Better error handling
 - iii. More settings
 - c. Began integration with Deep Sea AI database; currently working as read-only view

Week 24

- 1. Kevin Barnard
 - a. Several BoxJelly improvements/fixes
 - b. Wrote documentation for BoxJelly install & usage; awaiting IS fix before deploying to docs.mbari.org
- 2. Brian Schlining
 - a. Working on spec and implementation for testing a new video player that combines [Sharktopoda's](#) video playing stability and smoothness with [Cthulhu's](#) video annotation features. Completed a first draft implementation of a new remote protocol for VCR players. This includes [the video player side](#) and the [annotation/controller app side](#). The implementation needs some final tweaks before putting a new video player request out for bids.

Week 23

- 1. Brian Schlining
 - a. Finishing up the [implementation](#) of the [new video player remote protocol](#).

Week 22

- 1. Brian Schlining
 - a. [VARS Annotation 1.2.1](#) was released. This release adds [features to help minimize clutter](#) in the UI for machine learning generated annotations.
 - b. Working on client/server implementation to test [new video player comm spec](#). Once those are written, we will be contracting out for an update to integrate [Cthulhu](#) functions into [Sharktopoda](#).

Week 20

- 1. Brian Schlining
 - a. Iron Mountain video imports.

Week 19

- 1. Brian Schlining
 - a. Iron Mountain video ingest
 - b. Modified code that archives ancillary metadata to improve speed. Rerunning on all staged Iron Mountain LTOs

Week 18

1. Kevin Barnard
 - a. Finished Annosaurus OpenAPI spec: [mbari-media-management/m3-api-docs](#)
2. Brian Schlining
 - a. Never-ending imports of video files from Iron Mountain ...

Week 17

1. Kevin Barnard
 - a. Continued updating Annosaurus OpenAPI spec
 - b. Experimented with stoplight.io for generating & managing API docs
2. Brian Schlining
 - a. Finalized support for postgresql to all M3 microservices. M3 services can now run on SQL Server, Apache Derby, Oracle, and PostgreSQL.
 - b. Finalized a migration path for existing VARS systems to copy a database to a new location and finalized testing ... [here](#), [here](#), and [here](#). The copy can work across different databases. (e.g. copy from SQL Server to PostgreSQL)
 - c. Updated the [m3-quickstart](#) project, which allows labs to easily run a VARS system, to use postgresql as the default database
 - d. Updated the [jsharktopoda](#) video player's code base to the latest version of JavaFX. JavaFX 18+ is supposed to support HEVC, but it didn't work in testing.
 - e. Lots of support fun related to this week's titan upgrade!!
 - f. Created [integration tests](#) to quickly pin-point any issues with MBARI's M3 services. All tests can be run using [http_runner.py](#). Created a parallel test set for DARC to test their services.
 - g. Discussions about codecs/color spaces for 4k video. Met with Sony representatives for updates on their hardware video encoders.
 - h. Ran transcoding tests for ProRes 4K to HEVC to see if it was a feasible solution in the case where we can't encode both streams on the ships. On an M1 mac (which has hardware encoder/decoders for both ProRes and HEVC), the transcode rate is about 0.77x, so a 5 minute 4K file would take 6 ½ minutes to transcode. On a system without hardware support, transcoding the same file takes about 3 ½ hours.

Week 16

1. Kevin Barnard
 - a. Fixed/augmented Annosaurus Swagger schema document
2. Brian Schlining
 - a. Continuing port from Apache Derby to [Postgresql](#) for non-mbari use. Running tests using DARC's data setup imported into Postgres. Postgres handles UUIDs differently than other databases, so working through that in annosaurus and vampire-squid apps.
 - b. Created [apps to copy](#) M3/VARS databases to another database.
 - c. Testing framecapture on the Rachel Carson after reports of issues. tl;dr: Everything is working fine, someone was running an old version of VARS that's not compatible with the new framecapture setup.
 - d. On-going imports of Iron Mountain tape-to-video files.
 - e. Reviewed shortcomings of Cthulhu video player with the video lab.
 - f. Investigation into service failures. Looks like they were due to network issues related to work on Mt. Toro.

Week 15

1. Brian Schlining

- a. Updating the new deepseaguide development to use Vue3 and typescript. Temporary repo at <https://github.com/mbari-org/deepseaguide-exp>
- b. Created arm64/amd64 crossbuilds of docker containers for all M3 services.
- c. Brian is getting a number of external requests from groups interested in VARS. He's fixing up [the m3-quickstart project](#) to help groups get started. The latest task is finishing the port from Apache Derby to Postgres.

Week 14

1. Brian Schlining
 - a. Porting new deepseaguide from Vue 2 to Vue 3
 - b. Investigating using web components in our on-line apps.

Week 13

1. Brian Schlining
 - a. The [new framecapture system](#) worked well on last weeks WF cruise. Testing new framecapture system on the Rachel Carson
 - b. Met with Sony rep to discuss alternatives to Softron for 4k/BT.2020/HLG video encoding.
 - c. Updating [m3-quickstart](#) project to use [Postgresql](#) instead of [Derby](#).

Week 12

1. Brian Schlining
 - a. Investigating [new crashes](#) in VARS Annotation
 - b. Merged Kevin B's [pull request](#) into VARS and published [new release 1.1.13](#)

Week 11

1. Kevin Barnard
 - a. Implemented draggable association buttons in VARS annotation UI; PR submitted
2. Brian Schlining
 - a. Discussions with Todd Walsh about encoding HDR2020 4k video
 - b. Installed and tested [libbmagic](#) on the Western Flyer for VARS to use for framecapture. The video lab will be using this on the upcoming midwater lab's cruise.
 - c. Reviewed M3/VARS system architecture for Megan

Week 10

1. Brian Schlining
 - a. Installed Kent's [libbmagic](#) on the Western Flyer. Brian will be running tests on the RC and WF.
 - b. Investigating new JVM crashes in vars-annotation.
 - c. Investigating "jumping" behavior in the table view in vars-annotation. This may have been introduced when the underlying JavaFX library was upgraded. See issue [#1](#) and [here](#).
 - d. Imported 5 new LTO drives of videos from Iron Mountain.
 - e. Fixed a new issue in vars-annotation where user created "quick association" buttons were being unintentionally deleted.

Week 9

1. Brian Schlining
 - a. Pumped out a few [new releases of VARS Annotation](#) addressing various issues.
 - b. Working on additional issues: [#128](#), [#129](#)
 - c. Porting public quickstart database from [Apache Derby](#) to [Postgres](#).

Week 6

1. Brian Schlining
 - a. Dealing with IMES imports
 - b. Investigation of navigation errors in some ROV dives. Met with the team to discuss how to handle them.
 - c. Continued work on adding localization tools to VARS.

Week 4

1. Brian Schlining
 - a. Updated docs and instructions for
 - i. [m3-quickstart](#)
 - ii. [Vars-kb-server](#)
 - b. Investigating and resolving issues occurring in recent versions of VARS with large annotation sets.

Week 3

1. Danelle Cline
 - a. Spun-up M3 stack per the quick start instructions
<https://github.com/mbari-media-management/m3-quickstart>
2. Kent Headley
 - a. Testing updates to the black magic frame grab server
 - b. Resolved an issue with the 8K Pro setup
3. Brian Schlining
 - a. Wrote support scripts for [changing passwords](#) and [listing videos in a dive](#).
 - b. Testing with [libbmagic](#) as THE framecapture tool for VARS on the ships. Big shout out to Kent Headley for getting it working with BlackMagic's PCI cards on the ships!!

Week 2

1. Brian Schlining
 - a. Started work on converting some core JavaScript in the Deep sea guide to TypeScript so that it's easier to hand off to other team members.
 - b. Upgraded all M3 microservices on the ships. Testing the new VARS (with [raziel](#) integration). VARS works but still sorting out framecapture with [libbmagic](#). The (much) older VARS build is still currently being used for now.
 - c. Ingested the latest Iron Mountain video drop.

Week 1

1. Kevin Barnard
 - a. Started a deep dive into learning Scala 3
2. Brian Schlining
 - a. There's a new release of VARS Annotation:
 - i. Integrated with [raziel](#), which allows VARS to be easily configured for it's deployment location. Notes on setting it up are at <https://docs.mbari.org/vars-annotation/setup/>
 - ii. This release is integrated with [Cthulhu](#) allowing staff to localize annotations directly on video.
 - iii. Integration with Kent's [libbmagic](#) for ship framecapture.
 - iv. Support for [adding notes about dives and videos](#).
 - v. Improved startup time. (Optimized the calls to load a user's preferences from the database)
 - b. Created a project to allow labs to easily spin up the entire M3/VARS software stack at <https://github.com/mbari-media-management/m3-quickstart>. This stack includes a proxy/video server,

database server, as well as [support scripts](#) for managing the docker life-cycle, initializing the knowledgebase, registering media with VARS, and building supporting applications.

- c. Worked through the backlog of master (ProRes/MOV) video files that needed to be registered, which has been a challenge due to space constraints on titan. The current setup runs daily and will process up to 10TB of files. Once the new files are registered they are migrated off of spinning disk to LTO.