

MWA ASVO: Release Notes

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The following are the official release notes for the MWA ASVO. Changes/fixes are tagged with:

- **WEB** This item relates to the front end web site of the MWA ASVO and the associated VO TAP service.
- **CLIENT** This item relates to the python API and command line client of the MWA ASVO ([MWA ASVO: Command Line Client \(mantaray-client\)](#)).
- **BACKEND** This item relates to the server back-end of the MWA ASVO system, which includes the dispatch service, processor service and cotter.
- **BREAKING** This represents a breaking change to existing functionality

26th November 2020

- Enhancements:
 - **CLIENT** When submitting jobs from the command line client, it will no longer fail subsequent jobs if one of them has no available files.

24th November 2020

- Enhancements:
 - **BACKEND** vis_meta jobs are no longer included in the limit of how many concurrent jobs you can have on the queue
 - **BACKEND** There is now the option to specify the expiry time of the jobs you would like to download (in days). You may want to do this if you can download jobs as they are completed, which will allow you to download a larger amount of data without having to wait for old jobs to expire before beginning new downloads.
 - **WEB** Added a new 'affiliation' field to the signup process.

3rd November 2020

- Enhancements:
 - **WEB** RFI Flagging: Users now have more options for how RFI Flagging is handled when submitting new jobs to the ASVO.
 - **WEB** Custom phase centre: Users can now specify a custom phase centre for conversion jobs submitted to the ASVO.
 - **BACKEND** Each processing Node will now only take a maximum of 75 jobs from the job queue when booting up. This helps an existing issue where a processor node will grab all jobs on startup (i.e. during Pawsey Maintenance).
 - **BACKEND** Users can now only have a maximum of 2000 jobs on the queue at any given time. This was to ensure that we do not exceed our disk limits at Pawsey.
 - **WEB** The new groupid column has been added to both the MWA ASVO user interface, and our TAP service. Details of this column can be found here [TAP mwa.observation Schema and Examples](#)

18 September 2020

- Enhancements:
 - **WEB** Added visual effects to the observations search page to indicate whether a particular observation is embargoed and unavailable for download.
 - **WEB** Added stronger client-side validation on the web to give the user feedback before submitting a job, instead of having it fail when it becomes added to the processing queue.
 - **WEB** Users can now update their profile information (username, email address, name) as well as generate a new API key.
 - **BACKEND** Modified the MWA Metadata file query, which should reduce the number of "file number mismatch" errors when submitting jobs.
 - **BACKEND** Changed the options passed to cotter in order to make it use a defined amount of memory and number of CPUs.

12 August 2020

- Enhancements:
 - **BACKEND** BUG Fix: when submitting conversion jobs from the web client, the flags were not working correctly, this has been resolved now.

4 August 2020

- Enhancements:
 - **WEB** The MWA ASVO web frontend has been re-built in ReactJS. Much of the frontend looks similar (with some minor UI improvements), however the major change comes with the Observations Search page. Users can now search for observations using many more additional fields, which more closely resemble the data contained in our TAP service.

7 July 2020

- Enhancements:
 - **WEB** Users may now register / login to the MWA ASVO using their [Data Central](#) account.

28 May 2019

- Fixes:
 - **WEB** The default cone search now correctly confines search results to the search radius provided. It previously was including many more results than it should.

23 January 2019

- Enhancements:
 - **WEB** Minor change- moved the "Acknowledging MWA Data and Tools in Publications" section from the "Support" page to the "About" page to make it easier to find.

22 January 2019

- Enhancements:
 - **BACKEND** The actual data transfer when downloading via the manta-ray-client or via wget / web browser is now unencrypted http traffic. NOTE: the URL you use still contains "https" however, the server will redirect you to a http URL of the server the files reside on. This should prevent firewalls from dropping encrypted traffic and also provide a modest efficiency/throughput increase.

12 December 2018

- Enhancements:
 - **WEB** **New registration / login option:**
 - You may now log in with your own institution account via a federated identity system.
 - Existing users with MWA ASVO accounts may continue to log in with them, as normal.
 - Existing MWA ASVO account users may also log in via their own institution. This utilises the MWA identity management framework that allows users to log on via thousands of different institutions via the [Australian Access Federation](#) (AAF) and the international federation: [eduGAIN](#).
 - If you log in with a federated identity for the first time, you will be asked to go through a short one-time enrolment process to confirm your details and confirm your email address.

- If you are a current Phase 2 member of the MWA Collaboration and you have already enrolled with a particular login provider / institution as part of that process, then you will not need to enrol again, just log in.
- Phase 2 MWA Collaboration members will also automatically have access to data as per the MWA Data Access Policy.
- **WEB** **CLIENT** **Calibration:**
 - Conversion jobs now have the option of finding and applying a calibration solution so it returns a calibrated measurement set or uvfits file. This output can then be used in standard radio astronomy tools for analysis / imaging (e.g. CASA, WSClean, etc)
 - From the website, just tick the "calibrate" check box; or via the mwa_client / API add "calibrate=true" to your conversion job options.
 - If an appropriate calibration solution exists for the observation, the MWA ASVO will provide you with a measurement set or uvfits file which has the calibration solution applied.
 - If an appropriate calibration solution cannot be found for the observation then the job will fail. However, the system will add that observation to the top of the queue for calibration. Try the job again in 24-48 hours and the calibration solution is likely to be available.
 - NOTE: not all observations have calibration solutions, yet- this is something the MWA ASVO team are working on completing in the next few weeks.
 - For more information about the calibration feature please see: [Data Access > MWA ASVO Calibration Option](#).
- **CLIENT** **BREAKING** **manta-ray-client now uses an API key for authentication:**
 - You will need to obtain the newest version of the [manta-ray-client](#) (mwa_client and API).
 - API key now replaces username/password for the API and mwa_client.
 - ASVO_USER and ASVO_PASS environment variables are no longer used and should be removed from your .profile or .bashrc.
 - MWA_ASVO_API_KEY environment variable is now used to authenticate with the API / mwa_client.
 - Find your API key from your "Profile" on the MWA ASVO website- it has been auto-generated for you already and then set your MWA_ASVO_API_KEY environment variable to it.
 - The mwa_client and API now checks the API version on the server and if your client is out of date you will receive an error message asking you to get the latest version.
- **WEB** **UI improvements:**
 - Verification and welcome emails now have html formatting for email clients that support it.
 - All help and documentation for the MWA ASVO has been moved to this wiki.
 - Minor look and feel improvements to the underlying web page template.
- Fixes:
 - **WEB** Clicking the link in the email verification email sent during the registration process now correctly informs you that your verification was successful.
 - **WEB** When user submits data in a form e.g. registration, errors are more clearly highlighted in the browser.

5 September 2018

- Enhancements:
 - **WEB** The cone search now has a checkbox. When unchecked, it will perform a strict cone search against the observation pointing. When checked (this used to be the default behaviour), the cone search will show any results where the cone is anywhere within the primary beam. This will mean you get a lot more results than the strict cone search.
 - **WEB** **CLIENT** Conversion jobs now have the option to apply a unity bandpass correction. This is equivalent to the cotter "-sbpassband" option. Ticking the box will effectively cause the MWA ASVO to not apply the corrections by passing all 1's to cotter.

24 July 2018

- Enhancements:
 - **CLIENT** new command line option: `-e <error_file> | --error-file=<error_file> | --errfile=<error_file>`. This allows users to specify a file which all job-related errors are written to in a machine-readable format (JSON). This is to make it easier for users to write batch processes to submit, download and track MWA ASVO jobs.
 - **CLIENT** mwa_client now uses the argparse module instead of the deprecated optparse module to process command line arguments.
 - **CLIENT** Command line option `-w | --download-only=` now accepts "all" as well as a job id of 0 to mean- download any jobs which are available for download.

26 June 2018

- Fixes
 - **BACKEND** changed the way internal worker processes communicate, in order to prevent the stdout errors such as "Invalid file object..." when running jobs.
- Enhancements:
 - **WEB** all new job products will now have their sha1 hash calculated (you can see it under the "Download" button). To verify the integrity of your download, use an sha1 tool (for example `sha1sum <filename>`) to compare the expected versus the actual checksum.
 - **CLIENT** the sha1 hash is now displayed in the mwa_client when a download completes.
 - **CLIENT** the mwa_client will now display the file size (in bytes) of completed jobs along side the other job information when using the `-l (--list-only)` option

24 June 2018

- Enhancements:
 - CLIENT new command line options for mwa_client, allows you to submit jobs and exit (-s); list your jobs and exit (-l); download a job (-w JOBID); download all your jobs (-w 0). It still supports submitting, monitoring and blocking until all downloads are complete as it did before. See [manta-ray-client github](#) for the new options and examples.
 - CLIENT added an "example.csv" template to make it easier for new users to craft a csv file.
 - CLIENT minor updates to the output text, including a new option (-v) to show verbose output.

20 June 2018

- Fixes:
 - WEB Accessing a web page which requires the user to be logged in will now take them to a login page.
 - WEB On query page, "project" drop down is now sorted correctly and includes a short description (which is also searchable).
 - WEB BACKEND CLIENT Fixed an issue where the "Jobs" page and the manta-ray-client did not allow the use of a non-integer time resolution setting. e.g. 0.5 would result in an error: "Time resolution not of type integer".
 - WEB Fixed an issue where the query form is not showing all observations when performing a search.
 - CLIENT Fixed an issue where rerunning the manta-ray-client with the same csv file produces multiple jobs (which are all the same except for the order of the parameters), instead of 'reconnecting' to the existing job(s).
 - BACKEND Fixed several issues when closing down processes.
 - BACKEND The processor will explicitly ignore files in the archive which are not required for the data job. This will prevent errors like this: "MWA: 50 and NGAS: 51 file number mismatch; ignoring: 1066572736" from occurring.
- Enhancements:
 - WEB Updated look and feel.
 - WEB Changed font to be much more readable for numbers.
 - WEB We've added a twitter feed (@mwa_asvo) to the front page which will be used to update users of any service status changes or issues to the MWA ASVO.
 - WEB Dates are now displayed in ISO 8601 format.
 - WEB Added Change Password feature.
 - WEB On query page, "from date" can be searched without "to date" and vice-versa.
 - WEB Upon registering, users will now be shown a message box telling them their registration is successful and that they will need to verify their email address. This should prevent users from clicking register multiple times.
 - WEB Added information about compliance with privacy policy.

30 May 2018

- Fixes:
 - CLIENT Added keyboard interrupt handler to the mwa_client to prevent nuisance error messages when sending Ctrl-C key sequence.
- Enhancements:
 - CLIENT Made white text in mwa_client brighter.
 - CLIENT mwa_client now ignores lines beginning with # so you can now comment your csv files.

23 May 2018

- Fixes:
 - CLIENT Modified prerequisites so it includes a minimum version number of the "requests" package. Users reported that using "requests" package below version 2.18.3 was causing errors.

26 February 2018

- Fixes:
 - WEB VO TAP service returns correct output for availability and capabilities; also is now MWA branded.

12 February 2018

- Fixes:

- **BACKEND** Processor now ignores directory structure of flag file when unzipping which was causing issues for some older observations.

9 February 2018

- Enhancements:
 - **BACKEND** The processor now uses a round robin user queue for processing jobs. This means if user A submits 100 jobs and, a few minutes later, user B submits 2 jobs, then it will alternate between processing A's and B's jobs such that user B is not waiting for user A's jobs to finish before user B's jobs start. Instead it would process them: A, B, A, B, A, A, A... and so on. This will result in a much more fair allocation of jobs for users.
 - **BACKEND** If the processor is shutdown, it will now re-queue the job.

7 February 2018

- Enhancements:
 - **WEB** Added buttons on the query results page to allow export of the results to csv format so they can be used as inputs to the manta-ray-client.
 - **CLIENT** Jump out of mwa_client earlier and report error, if there are no jobs specified in the csv file.
 - **CLIENT** mwa_client will ignore empty rows in csv file.
 - **BACKEND** The generated metafits file passed to the cotter process is now included in the output zip file for conversion jobs.

18 January 2018

- Enhancements:
 - **WEB** Change from displaying channel number to channel frequency in search results.

27 December 2017

- **WEB** **CLIENT** **BACKEND** Initial release