Automated Batch Submissions

Introduction

- Ability to perform PDT updates via an automated system has been a desire of DCS user community for some time.

- Especially desirable for large users with many platforms
  - Currently perform updates manually via individual uploads in DADDS.
  - Maintain separate databases and must perform updates at more than one place when they occur.

- Provides way to submit standard DCS batch files for processing without human interaction.

- Intended as machine-to-machine interface but can be used manually to upload batch files as well.

Background

- Previously implemented by DADDS about 7 years ago (2015).

- Reached beta testing phase before being held up due to IT security concerns.

- FTP Secure (FTPS) file upload protocol was no longer approved by NOAA for secure file transfers.

- Plans made to update mechanism to use approved Secure File Transfer Protocol (SFTP).

- Various delays and issues prevented updating until now.

Implementation

- As noted, an automated system was previously implemented in DADDS using a different file transfer protocol.

- With foundation already in place, work involved an exercise in replacing the previous in-secure with SFTP.

- Integrated server into DADDS web application using 3rd party package from a prominent developer.

- Server listens for client connections, performs authentication and stores uploaded file in directory for further processing.

- From there, existing batch processing functionality processes the uploaded files and performs database updates.

SFTP Interface

- Relies on private/public keys to authenticate computers being used to perform transfers.

- Management and registering to use the feature can't be automated.

  - Keys must be exchanged before a user can connect and upload.
  - DCS management responsible for handling the exchange and directing installation.
  - Once configured, only needs to occur again if computer being used changes.

- Web-based management tools updated to include registration and an automated batch user role.

  - Final authentication will be performed using public-private key cryptography.
  - Key exchange with DCS managers will occur directly via email and secure transfer services for the time being.

SFTP Clients

- User connections must use an SFTP client application controlled automatic or manually by the user.

- Any client complying with protocol standards may be used.

- Many 3rd party software options, both free and purchased. Selection depends on needs.

  - Purchased software is generally more advanced with more feature and options.

  - Free software is not as advanced but no cost concerns and ideal for infrequent use.

- No client mandated to retain flexibility for users who have different systems, needs and requirements.

- Microcom using "MoveIT" freeware application for test package.

Automation

- Core SFTP component not involved in actual automation, and can be used manually if desired.

- Implemented by users according to their systems and needs.

- Technologies available to control automation include
    - Linux Cron Job
    - Windows Scheduled Task
    - 3rd Party Software

- Basic automated setups consists of
    - Windows: MS-DOS transfer script executed via a scheduled task.
    - Linux: Bash transfer script executed via a Cron job.
    - Other: Script execution and scheduling via 3rd party or custom application.

Deploy Estimates

- Work assignment to perform conversion of existing code to SFTP complete and in the testing phase.

- Delay occurred due to other issues that took precedence, but no further obstacles envisioned.
  - Launch freeze until March

- Testing will require user participation+.

- Contact Letecia or myself if you would like to participate in testing, regardless of how many platforms you control
  - More testing now means less problems down the road!

Current Status

- Experienced delays to deployment and testing of the feature:
  - GOES launch freeze restrictions
  - Other deployment of website updates with priority
  - Use of a different software package for SFTP protocol

- Began testing just prior to contracting issues, and not much accomplished as result.

- Some users participating in testing contacted, but no successful tests thus far.

- With contract issues resolved, and no more delays anticipated and functionality expected to be available by the end of June at the latest.

End Automated Batch Submissions