DADDS Website Training

Saturday, August 6th 2022

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DADDS Website Training Agenda

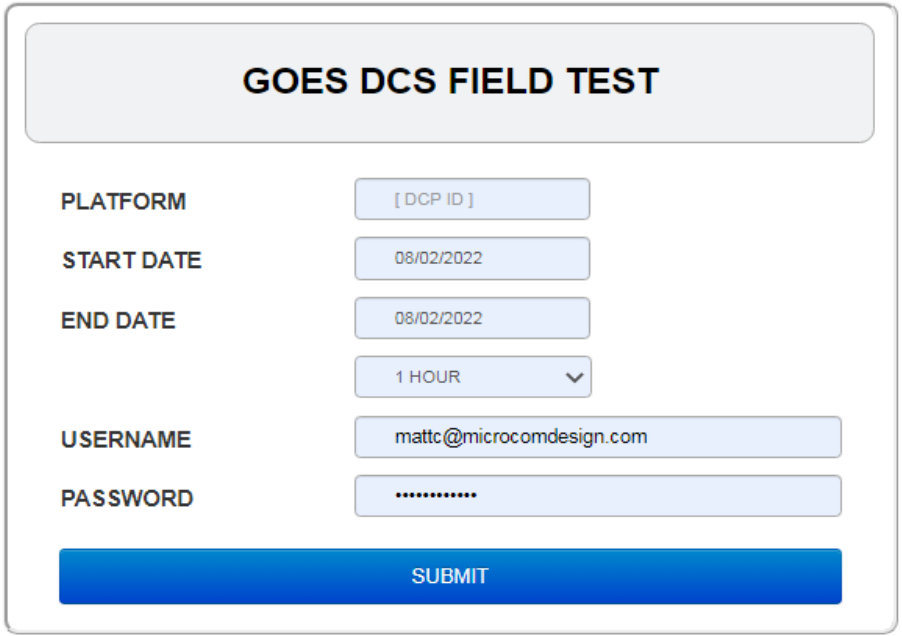
- Field Test - Platform data is available outside of the user login portal.
- Passwords - Review reset password features, emails and process.
- Message Filters - Review filter dialog, conditions review examples.
- Saving Filters - Store filters in the database for future use.
- Netlist Filters - Create custom filters from existing netlist files or a filter.
- Troubleshooting Errors – Interpreting data, review informational messages.
- System Use Agreements – Submit or renew system use agreements.
- *NEW* Automated Batching - Use SFTP to upload PDT batch files.

PDT Field Test Utility

- Created to re-produce a USGS utility that helped technicians in the field quickly check the status of a platform.
- Returns information about the platform and any message data in a specific look back period.
- No longer open to public. Requires valid DADDS account credentials to be submitted along with query parameters.
- Accessible via a link located on DCS website login pages or by browsing directly to a URL:
  - https://dcsX.noaa.gov/Account/FieldTest

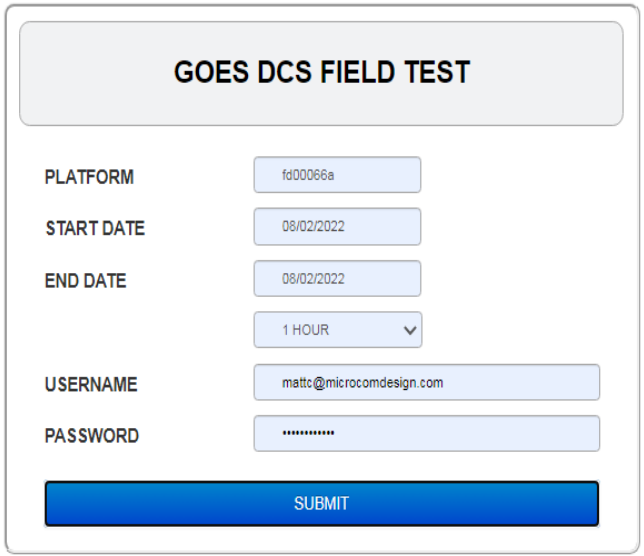
PDT Field Test Form

- Requires three inputs:
  - Platform DCP address
  - Time range to query
  - Account credentials
- Returns two outputs:
  - Basic platform information
  - Messages found in time range



- Clicking the 'SUBMIT' button sends query to server and returns PDT information and message data if found.

PDT Field Test Output



Notice to Users

As of November 1st, 2021 use of the **DCS Field Test** requires an active DCS website account. Users who do not have an account must **register** for continued access. Accounts for users who are not affiliated with an active DCS Group will be restricted to field test use only. To request a field test account, simply double click anywhere within the notice area and complete the DCS account registration form.

Automation Notice

A recent update of the DCS website included changes to the **DCS Field Test** to restrict access to users with a DCS website account. Access to the field test now requires that login credentials be submitted along with query parameters, and will authenticate a user before executing a field test query. Because login credentials for a DCS website account are now requried, requests from automated systems began to fail, and continued to do-so until the necessary changes were made to the automated scripts. While some systems handled the failures in an acceptable manner, others responded by increasing the frequency of the field test query requests, which resulted in denial of service conditions and website outages. When failed requests are handled correctly, automated systems can continue request attempts and not cause website outages triggered by denial of service conditions. The field test and automation **help document** contains examples, potential pitfalls and best practices to help users create robust automated systems.

Group: FLODOT **PChan:** 113 **SChan:** 121 **First:** 00:00:00 **Period:** 01:00:00 **Window:** 00:00:10

Addr	Chan	Baud	Sig	Phs	Qual	Freq	Car	End	ARM	SID	Type	Len	Data
FD00066A	113	300	38.4	3.00	99.4	-2.8	8/2/2022 06:00:02	8/2/2022 06:00:08	G	16	CS1	219	+4 +4 +3 +4 +4 +3+191+189+186+190+189+190 +0 +0 +0 +0 +0 +4 +4 +6 +5 +6 +5 +4 +5 +4 +4 +5 +4+193+193+186+187+191+189 +0 +0 +0 +0 +0 +5 +5 +4 +4 +4 +3+12.2+12.8 +4.8 -5.5+26.75

End PDT Field Test

Reset Password

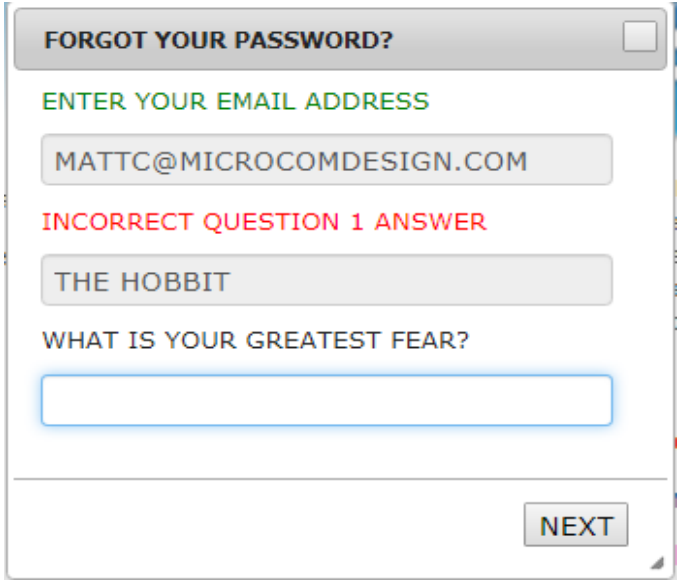
- User account passwords can be reset via 3 methods:
  1) By managers and operators within the DADDS website.
  2) By users via the forgot password security questions.
  3) By users via the forgot password using last name and pin code.
- All methods, when successful, send an email containing a partial password and instructions for completing the reset to the user.
- To complete the reset process, a user must then login to a DCS server using the partial password from the reset email and their 4 digit account pin code.
- If the login is successful, the user is redirected to the update password form to complete the password reset process.

Reset Password

- In most cases, passwords are reset using '***Forgot Password***' dialog.
- To open, click the '***Forgotten Password? Click here***' link located to the right of the login controls.
- Two methods can be used to initiate a password reset:
  - Answer one of the security questions correctly.
  - Enter last name and account pin code for both secuirty answers.

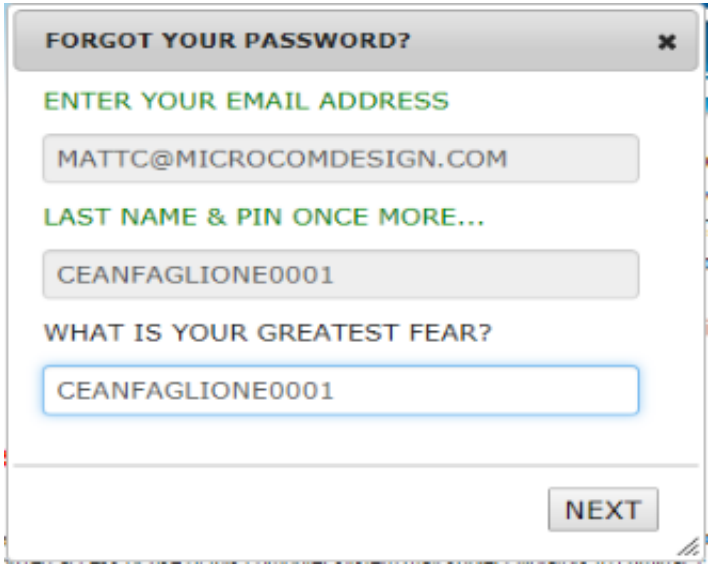
Forgot Password

- On the forgot password dialog, enter the account email address and click '***NEXT***' to show the 1st security question.
- Enter the answer in the answer field below the 1st security question and click '***NEXT***'.
- If the answer is correct, a success message will be shown and reset email sent.
- If incorrect, an error message will be shown and the 2nd security question will be shown for another attempt.
- Enter the 2nd security answer and click '***NEXT***' to try again.

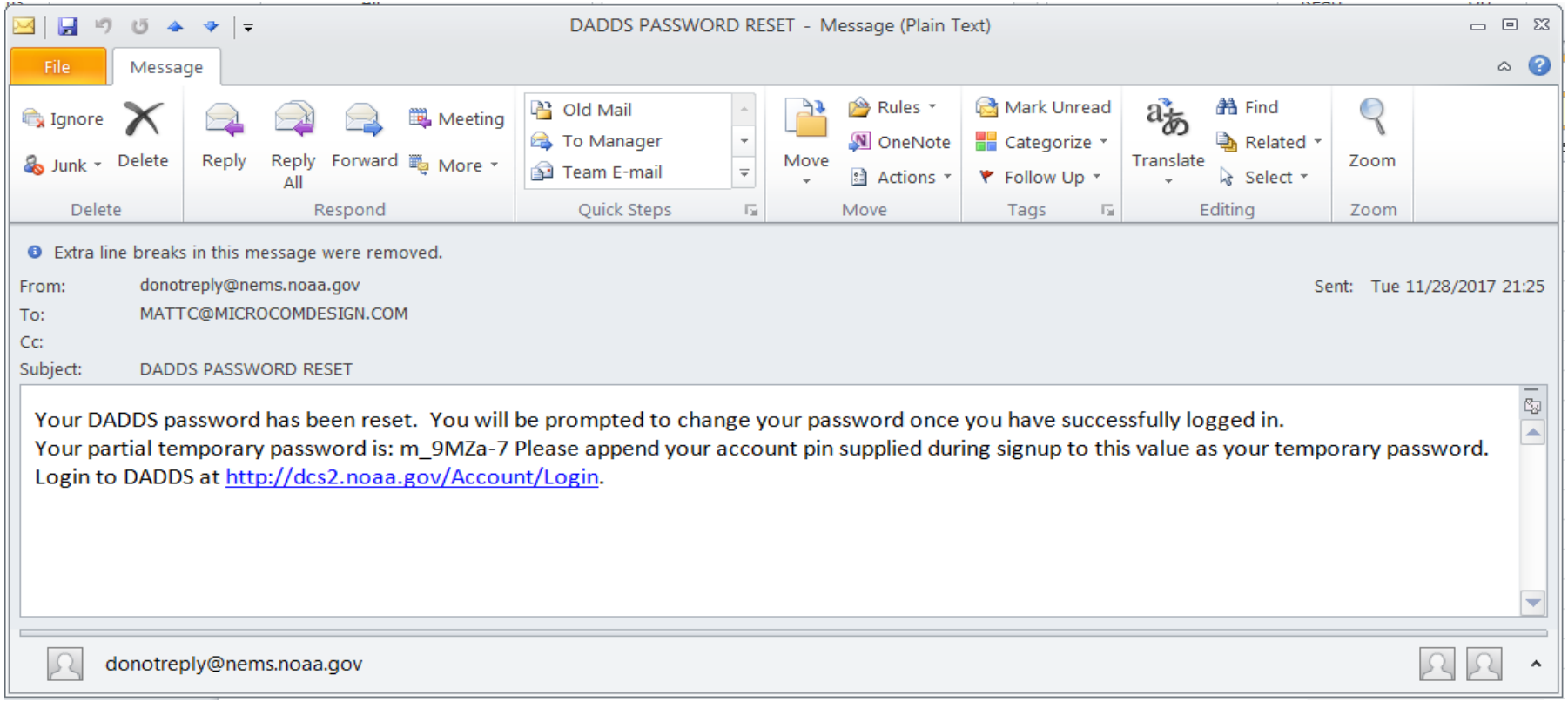


Forgot Password

- If resetting the password using security questions and answers fails, or the question answers are no longer known, passwords can still be reset by entering the user's last name plus the account's 4 digit pin code.
- For example, a user whose last name is '***Roberts***' with the pin code is '***1234***' would enter the text '***Roberts1234***'.
- Must enter the last name and pin in both security answer fields to complete the reset.



Password Reset - Email



Password Reset - Login

- To complete the reset process, browse to any of the DCS websites and login using the partial password from the email, followed by the account pin code.
  - When entering the partial password string, it is best to type the characters into the password textbox to ensure the value is copied correctly.
  - Copying and pasting the partial password can cause an additional space character to be included, which will cause the reset action to fail.
- If the a user has forgotten their 4 digit account pin code, they will have to contact DCS support and have them query the database for the pin code.

Password Reset - Form

- After logging in with the partial password string and account pin code, the user will be presented with the form used to change the account password.
- On the password reset form, perform the following steps:

1) In the '***Current Password***' text box enter partial string from the reset email and user's account pin code.
2) In the '***New Password***' text box enter a password for the account. Ensure the new password meets password requirements.
3) In the '***Confirm Password***' text box enter the new password again.
4) Click the submit button at the bottom of the form to reset the password.
5) If successful the user will be logged in and redirected to the messages tab, otherwise a validation error message will be shown.

Password Reset - Form

We're sorry, your password has expired. Please reset it by completing the form below.

* indicates a required field

Password Information

Current Password * ••••••••••••

New Password *

Confirm Password *

ENTER THE CURRENT PASSWORD FOR THE ACCOUNT. IF THIS RESET ACTION HAS BEEN TRIGGERED BY A FORGOTTEN PASSWORD, BE SURE TO ENTER THE PARTIAL PASSWORD FROM THE EMAIL ALONG WITH THE ACCOUNT PIN CODE.

Password Rules

- Minimum length of 12 characters.
- Must contain at least 1 capital letter.
- Must contain at least 1 lower case letter.
- Must contain at least 1 special character.
- Must contain at least 1 numeric character.
- Cannot contain more than two repeating characters.
- Expire after 60 days.
- Cannot be re-used for a period of 2 years.

Reset Password

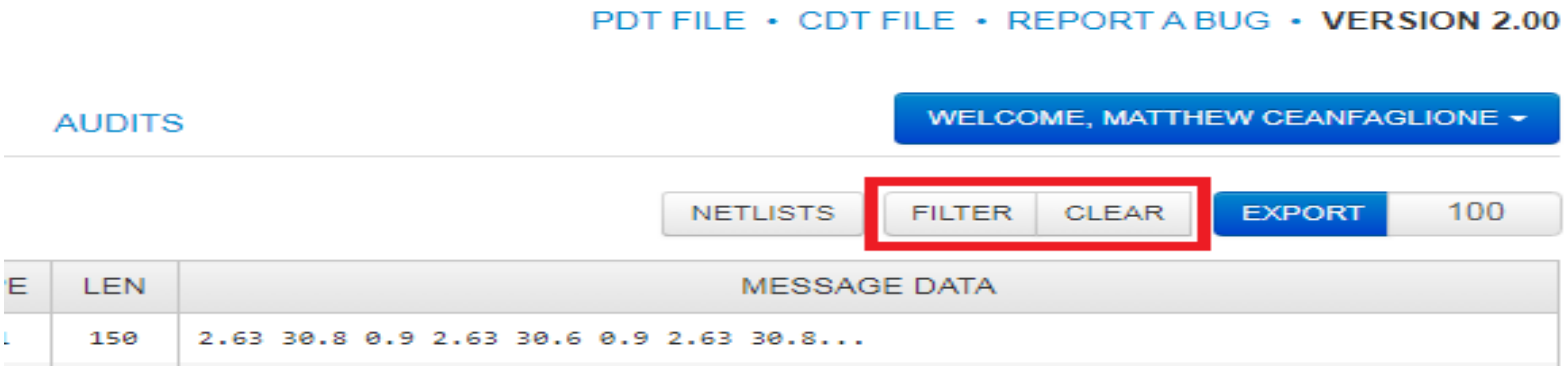
End Reset Password

Message Filters

- Used to view and/or export message data from a user's platforms for use and analysis.
- Also used to debug message reception issues related to platform configuration issues and interference.
- Filter parameters for all available fields including:
  - Message Times (Carrier, End)
  - Platform Information (Address, Group, ect)
  - Message Statistics (Sig Strength, Phase, ect.)
- Can be stored in database for future use and loaded using the message view controls.

Filter Buttons

- The following slide will review basic message filtering.
- Filter controls are located to the left of the export controls at the top right corner of the message data grid.

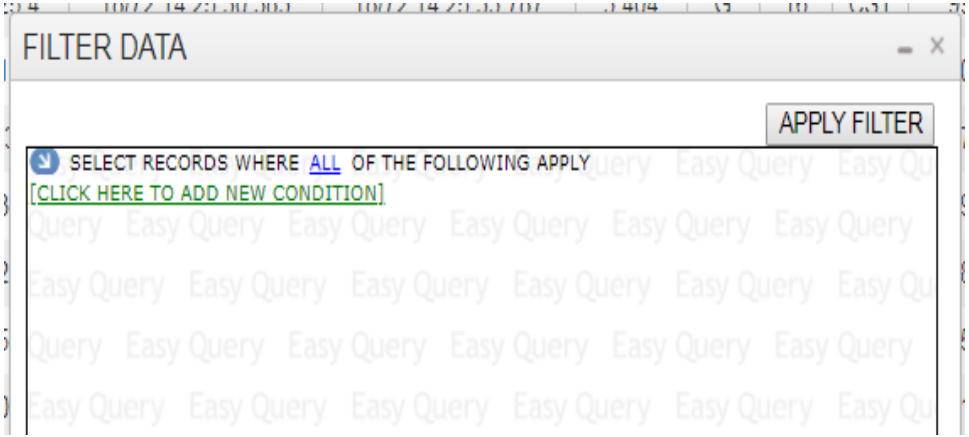


- Clicking the '***FILTER***' button opens the message filter dialog.
- Clicking the '***CLEAR***' button removes any filters that are currently applied and restores the default load of all message data.

Filter Dialog

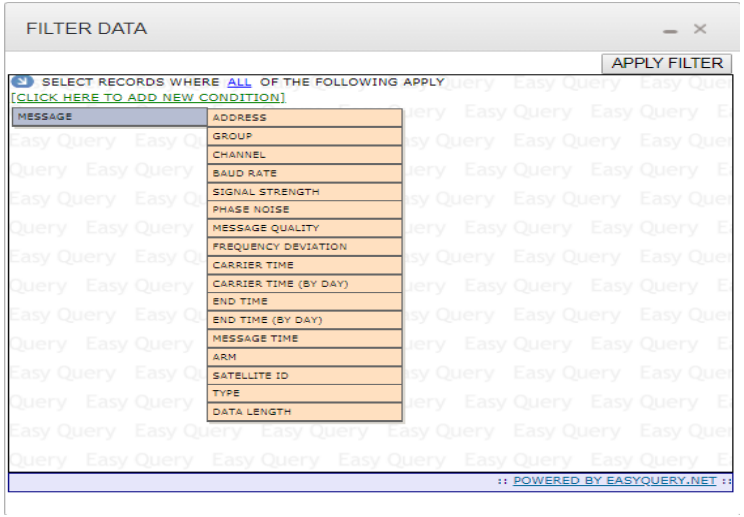
- The dialog for filtering message and other data contains the following controls used to define specific filters:
  - Apply Filter button to submit the query to the server
  - Link to select '***All***' (and) or '***Any***' (or) option for the condition.
  - Add new condition button (blue arrow icon, top left) used to add additional conditions
  - Add new condition link provided to add an additional condition to the filter.

- Controls are the same for all website filter dialogs, with the only difference being the list of conditions available, which is determined by the dataset (grid) being filtered.



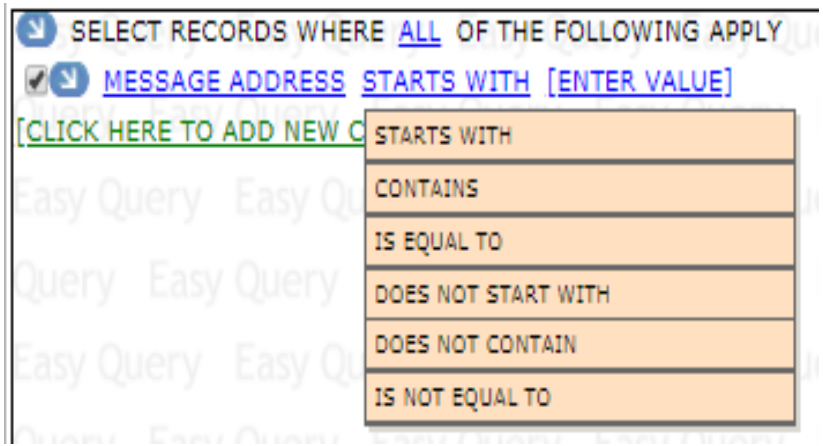
Filter Conditions

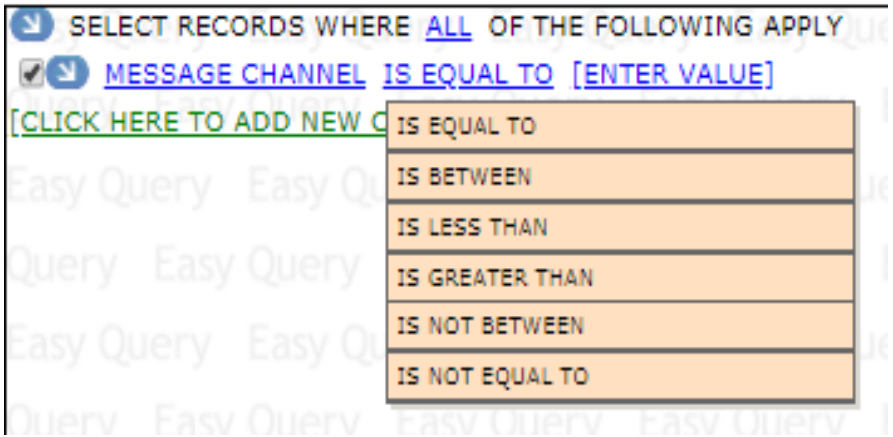
- Conditions depend on the data set and are normally available for each field displayed in the grid being filtered
- Click the '***CLICK HERE TO ADD A NEW CONDITION***' link, followed by the desired option from the resulting conditions list to add a new condition.
- One or more conditions can be defined in a filter to query data for a specific set of results.
- Multiple conditions further refine queries to return more precise data sets for use in troubleshooting and analysis.



Filter Operators

- Operators determined by the data type of the field being queried:
  - String - Starts With, Not Starts With, Contains, Does Not Contains, Is Equal To, Is Not Equal To
  - Number - Is Equal To, Is Not Equal To, Is Between, Is Not Between, Is Greater Than, Is Less Than
  - DateTime - Is Between, Is Equal To, Is Greater Than, Is Less Than
  - List - Is Equal To, Is Not Equal To





Any/All Filter Types

- Advanced feature for creating complex queries. Default selection is '***ALL***', and is used for majority of filters.
- Changed via blue '***ALL***' (or '***ANY***') link to the right of the text '***SELECT RECORDS WHERE***' at the top of the dialog window.
- Determines how boolean operators are applied to filter condition when generating the query to the database.
  - '***ALL***' selection is analogous to the boolean '***AND***' operator and returns data that meets all specified conditions in the query.

    'Return all messages from platform X and channel Y and belonging to group USGS01'
  - '***ANY***' selection is analogous to the boolean '***OR***' operators and returns data that meets any specified condition in the query.

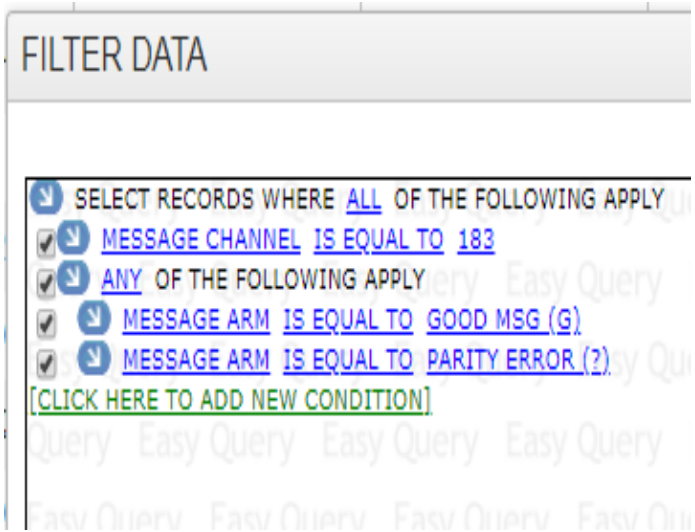
    'Return all messages from platform X or channel Y or belonging to group USGS01'

Any/All Filter Example

- The following example demonstrates how to use the '***All/Any***' operators to create a message filter that represents the statement below by changing how individual filter conditions are linked together in the overall query.

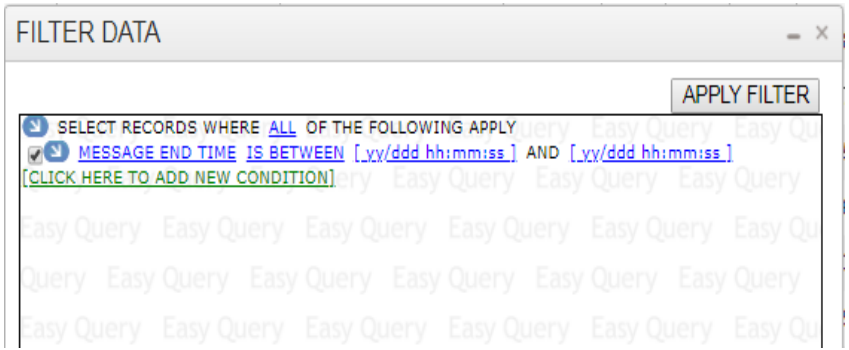
"Return all messages on channel 183 with ARM code 'G' or '?' "

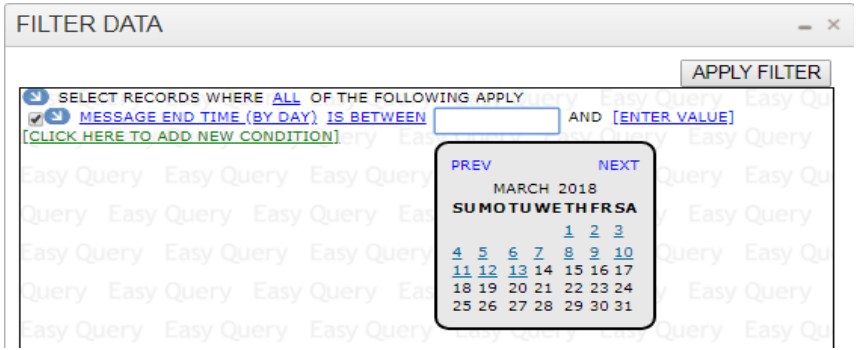
1) Browse to messages tab, clear filters, and open the filter dialog.
2) Click the '***Add New Condition***' link and select '***Channe***l' from the list of conditions. Enter 183 in the condition text box.
3) Click the '***Add New Condition***' link and then '***Open New Bracket***' to add new condition set. Default option is 'Any' (boolean OR).
4) In new bracket, change default condition to 'ARM' and select '***Good Msg (G)***' from the ARM values list.
5) Click the 'Add New Condition' button for the ARM condition and select '***Add New Condition After Current***' from the list to add a second condition to the '***Any***' bracket.
6) Change new '***Any***' bracket condition to 'ARM' and select '***Parity Error (?)*** from the ARM values list.
7) Click the '***Apply Filter***' button to apply the filter to message data.



DateTime Filters

- DateTime conditions allow users to create queries that restricts the resulting data to a defined time frame.
- The message carrier or end time can be used to add a DateTime condition to the query. End time has the best performance.
- Two ways to add a carrier or end time condition to the filter:
  - Default - Manual entry in Julian format (DD/YYY HH:MM:SS)
  - By Day - Automatically entry from date picker selections



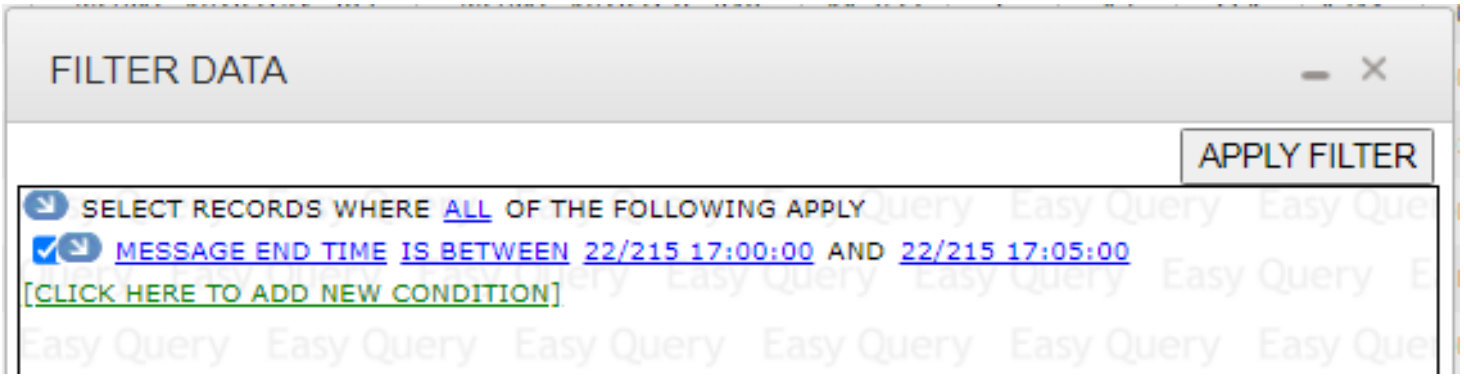


DateTime Filter ‘Full’ Example

- Create a message filter representing the statement below using the default (full) DateTime entry method:

“Return all messages with end times between 17:00z and 17:05z on August 3rd, 2022”

1) Browse to the messages tab, clear any existing filters, and open the filter dialog
2) Click the ***‘Add New Condition’*** link and select ***‘End Time’*** from the condition list
3) Enter the Julian DateTime ***‘22/215 17:00:00’*** in the left text box for lower limit.
4) Enter the Julian DateTime ***’22/215 17:05:00’*** in the right text box for upper limit.
5) Verify entries match Julian format exactly, and click the ***‘Apply Filter’*** button to submit the query

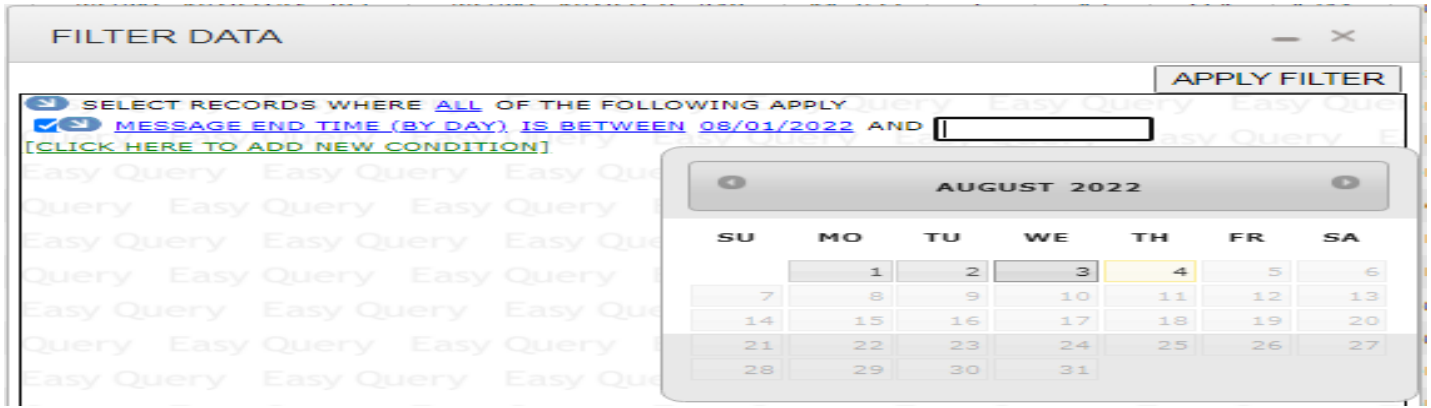


DateTime Filter ‘Day’ Example

- Create a message filter representing the statement below using the ‘***BY DAY***’ DateTime method implemented with date picker controls:

“Return messages with end times between August 1st 2022 and August 3rd 2022”

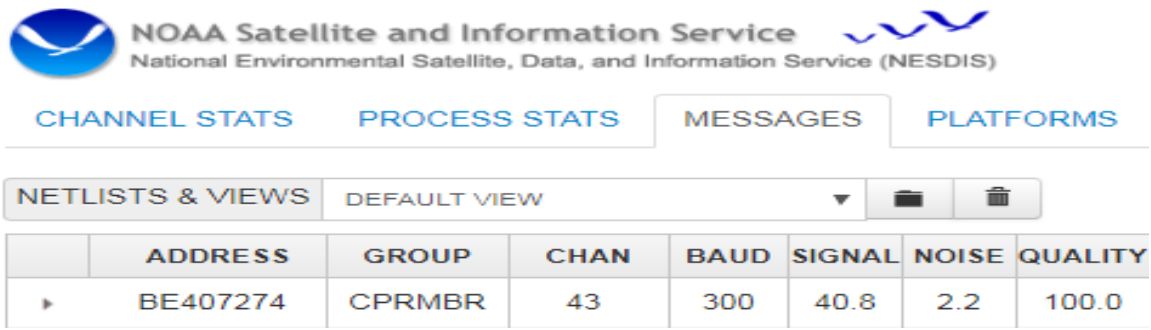
1) Browse to the messages tab, clear any existing filters, and open the filter dialog.
2) Click the ‘***Add New Condition***’ link and select ‘***End Time (By Day)***’ from the condition list.
3) Click the left text box and select ‘***August 1st***’ from the date picker control to set the lower limit.
4) Click the right text box and select ‘***August 3rd***’ from the date picker control to set the upper limit.
5) Click ***‘Apply Filter’*** to submit the query (Selections are automatically entered in the fields).



End Filters

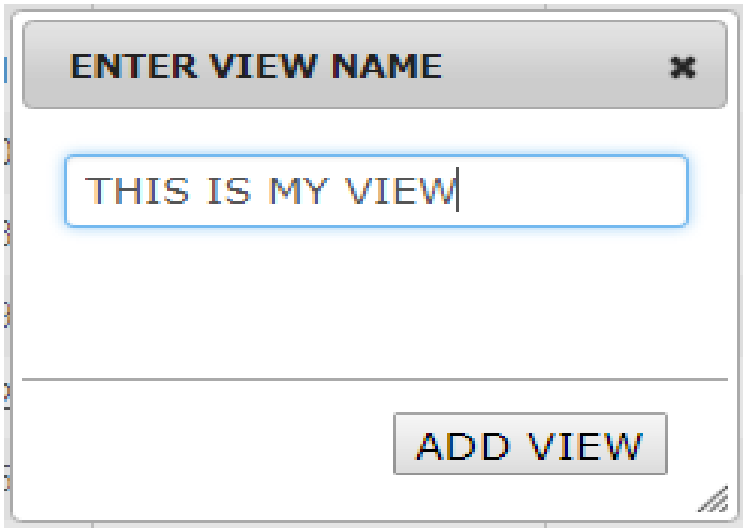
Views (Saved Filters)

- Message and other filters can be saved in the database and are linked to the user account responsible for its creation.
- Once a filter has been saved, it is referred to as a ‘view’ within the DADDS website terminology.
- Prevents frequently used filters from having to be re-created every time a user wishes to filter for a specific set of data.
- View controls are next to ‘***NETLISTS & VIEWS***’ label at top left corner of enabled grids.
    - Select List - Load
    - Folder Button - Save
    - Trash Button - Delete



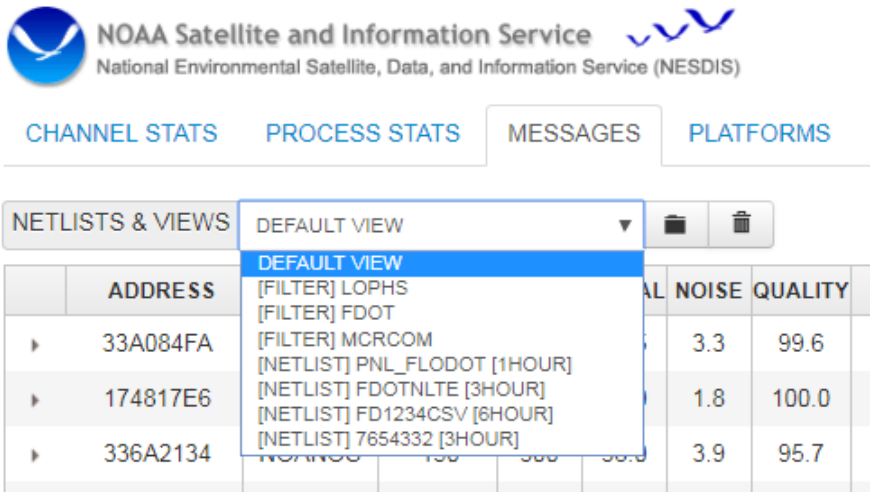
Views - Create

- The first step in creating a view is to create and apply the desired filter to the grid data.
- Once the filter has been applied, click the folder icon to open the save dialog where the view is given a name.
- On the dialog, enter the desired view name in the text box and click the '***ADD VIEW***' button.
- If successful, the page will re-load, and the new view will be available in the select list control.



Views - Load

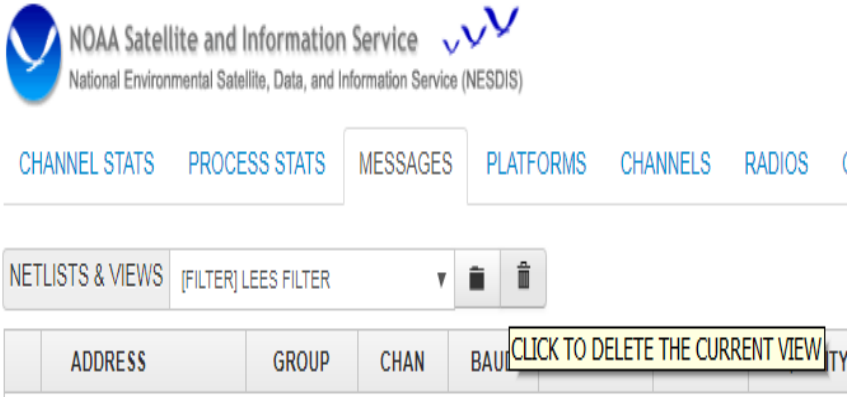
- Views are applied to message data using the '***NETLISTS & VIEWS***' select list.
- Click list to expand views and select the desired option.



- Load action will close the select list and apply the filter defined in the view to the message data.
- Select list containing user's views can have two view types:
  - [FILTER] - Standard message filter.
  - [NETLIST] - Custom message filter (address & datetime only).

Views - Remove

- Views are that are no longer needed can be easily removed from the account.



- To remove a view it must first be applied to the data by selecting the desired option from the list of views.
- After loading, click the trash icon to remove the view from the user account.
- If successful, the page will refresh with the filter cleared and the view removed from the select list.

Netlist View

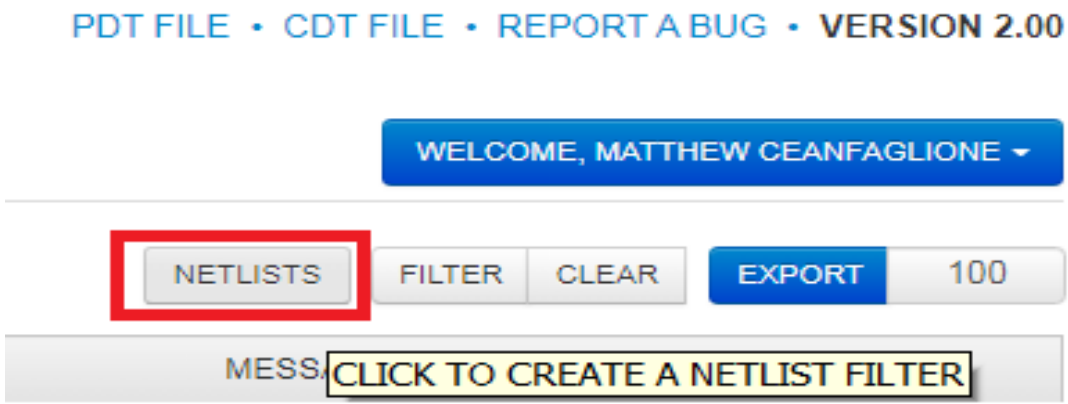
- A netlist filter is a type of message data filter created from a standard CSV file, an LRGS netlist file or a platform filter.
- They contain two query parameters:
  - One or more platform addresses.
  - Look back period to limit results.
- Stored in the database for future use, and accessed using existing message view controls.

Netlist - Files

- LRGS '.nl' Files
  - Used by an LRGS client to determine what platforms it needs to retrieve data for.
  - Many users already have LRGS .nl files that define only the platforms for their organization.
- CSV Files
  - Comma Separated Value; An additional file format for users not familiar with LRGS netlist files.
  - Contains a comma separated string of platform addresses to be included in the website netlist filter.

Netlist - Dialog

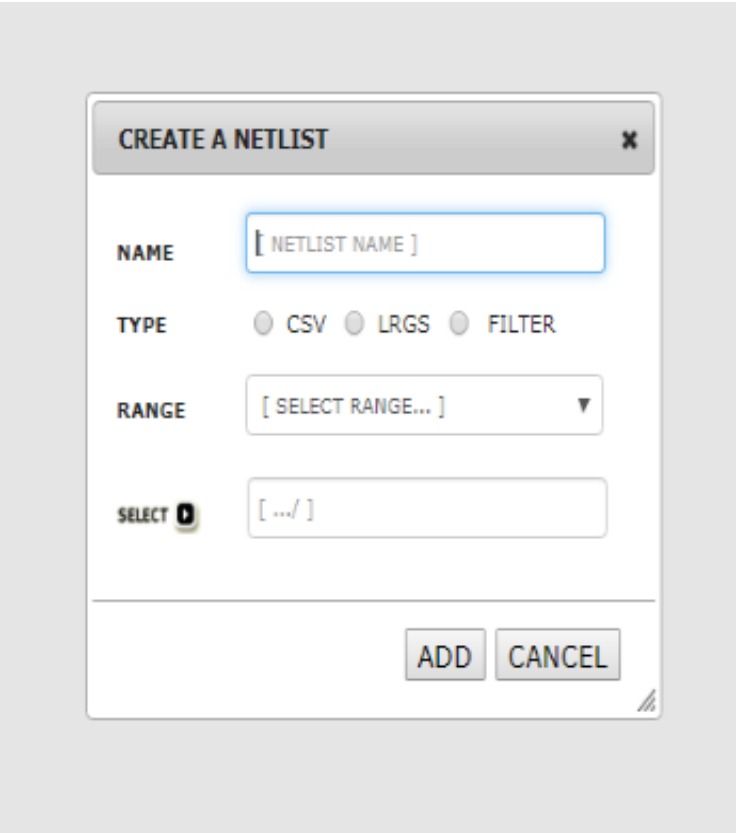
- Netlist buttons are located to the left of the filter button on the '***Messages***' and '***Platforms***' website tabs.



- Clicking a netlist button opens a dialog window used to create a netlist view from an uploaded file or an applied platform filter.

Netlist - Dialog

- The netlist dialog has 4 inputs:
  - Name to be used for the netlist view.
  - Source of netlist address parameters:
    - CSV
    - LRGS
    - Filter (PDT only).
  - Time range to determine how far the netlist view looks back for data (from 1 hour to 30 days).
  - File upload control to select a netlist file for the CSV and LRGS types. Opens a file browser dialog to select a file.



Netlist – PDT Create

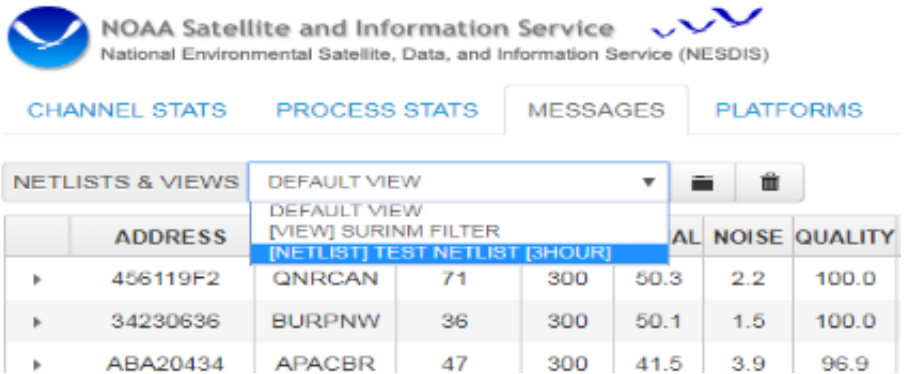
- Perform the following steps to create a netlist view from a platform filter on the PDT tab:

1) Create a filter with conditions such as group codes or individual platform addresses on the platforms tab.
2) Open the netlist view dialog window by clicking the '***Netlist***' button on the platforms tab.
3) Select the 'Filter' option from the '***Type***' options group on the dialog.
4) Select a look back period for the time range to query using the '***Range***' select list.
5) Click the '***Add***' button to submit and save the netlist view. New netlist will be added to the saved view select list.

Netlist – Messages Create

- Perform the following steps to create a netlist view from a CSV or LRGS netlist file:
  1) Open the netlist view dialog window by clicking the '***Netlist***' button on the messages or platforms tabs.
  2) Enter a name for the netlist view.
  3) Select the '***CSV***' or '***LRGS***' option in the '***Type***' options group depending on what file type is being used.
  4) Select look-back period using the '***Range***' select list.
  5) Click the '***Select***' button to open the file browser, and select the CSV or LRGS file to be uploaded.
  6) Click the '***Add***' button to submit and save the netlist view.

Netlist - Loading



- Netlist views are handled as a custom message data filter on the messages tab and grid.
- Loaded into the '***NETLISTS & VIEWS***' select list located on the messages tab and have the format:
  - Header text '***[NETLIST]***' before the friendly name of the filter.
  - Footer text specifying the range, for example '***[3HOUR]***'
- To load a netlist, select the desired option from the drop down list.
- Website will submit a query to the database and apply the netlist view to the message data.

End Views

Troubleshooting

- Where is my platform's message data?
- Why am I receiving missing messages?
- Why am I experiencing poor reception?
- Am I being 'stepped on' by another platform?
- What do the informational messages mean?

Troubleshooting

- Message filters and netlist views are powerful tools for troubleshooting problems with message reception.
- Section will detail how to use filters and netlists views to obtain specific sets of DCS data for review.
- Analysis of message timing and other parameters in the filter results provides clues into the cause of the reception issues, and what actions to take to resolve the problem.
- Message data and informational messages from a platform also provides clues, and are important to consider when debugging a problem.

Query Platform Messages

- First step to take when troubleshooting missing data is to create a message data filter for the problem platform.
- Login to a DADDS website and open the messages filter dialog:
  - Add ‘ADDRESS’ condition to filter. Select ‘STARTS WITH’ (default) or ‘EQUAL TO’ operator.
  - Enter the problem platform’s DCP address in the address parameter text box.
  - Add ‘END TIME (BY DAY)’ condition and select the ‘GREATER THAN’ operator.
  - Select the day prior to the last time the message was received and apply the filter.
- Save the filter as a view for quick re-call while debugging.
- If desired, export filter results to CSV file for offline analysis using Microsoft Excel or other software capable of reading CSV files.

Analyze Messages

- Review the messages leading up to the last received message from the platform.
  - Are there any informational or missing messages?
  - Are there any indicators in the actual data of transmissions leading up to the outage?
  - Does the message quality (performance) change leading up to the last received message?
- Query all 4 DCS websites to determine if reception issue is specific to a DADDS processing strand.
  - Real-time servers associated with DCS1-4 are re-booted periodically, during which time no messages will appear from that server on its website.
  - It is possible for messages to be received at Wallops but not NSOF, and visa-versa.

Analyze Data

- Depending on the transmit or message data format, some clues may be found in the message data.
- The first character of CS2 messages corresponds to platform GPS time synchronization events.
  - " ' " (single quote) indicates that a GPS synchronization occurred prior to the message's transmit time.
  - " **b**" indicates that no GPS synchronization has occurred.
  - Missing GPS synchronizations along with timing informational messages prior to an outage points to GPS issues (drifting transmissions).
  - Check the platform's GPS hardware and antenna.
- Message data (ASCII or decoded) may include battery voltage readings depending on the platform configuration.
  - Decreasing battery voltage readings prior to an outage points to battery and/or charging issues.

Analyze Performance

- Signal strength, frequency deviation, message quality, phase noise and parity errors provide insight into a platform's health.
- High frequency deviation can indicate transmitter hardware problems.
- Low signal strength, message quality and/or high phase noise normally indicate RFI or antenna issues.
- Did the performance decrease leading up to the outage occur gradually or suddenly?
  - Sudden decrease followed by an outage indicates a site issue, such as a misaligned antenna or dead transmitter.
  - Does it follow the diurnal with good message reception during the day and poor or missing messages overnight? Indicate possible battery or charging system problems.
  - Gradual or periodic decrease in message reception performance prior to the outage points to local RFI or DCP interference due to timing issues.

Channel Query

- To debug possible interference from other DCPs, use a query on the platform channel along with time windows
- Create message data filter on the platform's primary channel assignment.
- Add '***END TIME BETWEEN***' conditions with time ranges starting few minutes before and after the expected transmission for a few hours prior to the outage.
- Inspect transmissions immediately before and after PDT's window:
  - Is there another message overlapping the window in any of the time ranges?
  - Are there timing/channel informational messages from other platforms, or does a neighboring transmission moving very close to the window?
  - If so, it is possible your platform is being 'stepped on' by another transmission.
  - Contact DCS support for help in resolving the DCP interference.

Analyze Informational Messages

- Are any informational (ARM) messages present in the platform query results?
- If so, what are they and when were they received?
  - Timing informational messages indicate the platform is having problems transmitting on schedule.
  - Address informational messages indicate possible configuration, platforms registration or interference issues.
  - Missing messages indicate reception gaps and possible interference with the platform's transmissions.

Analyze Informational Messages

- Informational messages are generated when DADDS detects problems with a platform's message reception.
- They are phony messages generated and disseminated by DADDS to alert users to potential problems with a platform.
- Within the website, informational messages are identified by the abnormal response message, or '***ARM***' field, and can have the following values:
  - 'W' character for messages received on the wrong channel.
  - 'T' / 'U' characters for messages received with timing errors.
  - 'A' / 'B' / 'I' characters for messages received with address errors.
  - 'M' character for messages that were not received at all.
  - 'G' character for messages received with no errors (actual message).
  - '?' character for messages received with parity errors (actual message).

Address Informational Messages

- There are 3 address error informational messages generated by DADDS:
  - Bad Address Errors (B)
  - Invalid Address Errors (I)
  - Correctable Address Errors (A)
- Bad address errors are assigned ARM character ‘B’ and are generated when an invalid DCP address is received that cannot be corrected.
- Invalid address errors are assigned ARM character ‘I’ and are generated when a received DCP address not present in the DADDS database.
- Correctable address errors are assigned ARM character ‘A’ and are generated when a transmission is received with an invalid DCP address that can be corrected via the BCH code.

Timing Informational Messages

- Two types of timing informational messages generated by DADDS:
  - Message Timing Errors (T)
  - Unexpected Timing Errors (U)
- Message timing errors are assigned ARM character ‘T’ and are generated when a message is partially received within its expected window.
- Unexpected timing errors are assigned ARM character ‘U’ and are generated when a message is received completely out of window.
- Timing messages normally indicate problems with a platform’s transmit configuration, GPS synchronization or radio hardware.

Missing Informational Messages

- Missing informational messages are assigned ARM character ‘M’ and are generated by DADDS when an transmission is not received within 2 minutes of its expected time window.
- They are generated for 48 hours after the last successful reception of a platform’s message to notify users of the problem.
- After 48 hours, the platform is marked as inactive and missing messages are no longer generated by DADDS.
- For a missing message to be generated, the expected message must not be received, or received more than 2 minutes after its window.
- Messages completely outside of their window (within 2 minutes), or on a wrong channel will not trigger a missing message to be generated.

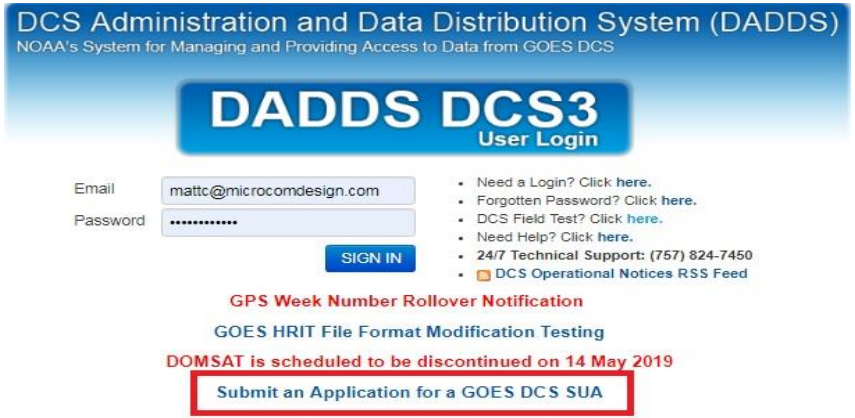
End Troubleshooting

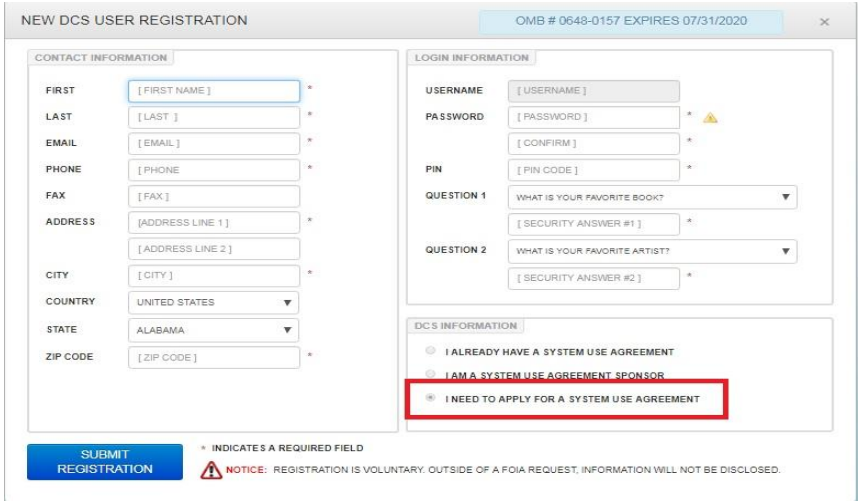
System Use Agreements (SUA)

- A system use agreement (SUA) is required to use the GOES DCS system.
- The agreement authorizes a DCS group, which in turn has DCS users who are responsible for managing their remote platforms.
- Website users are authorized by group. If someone wishing to use the system does not belong to a group, they must complete the SUA request process.
- The SUA requester is responsible for managing the use agreement by making updates to information as required, and handling periodic renewals.

SUA Registration

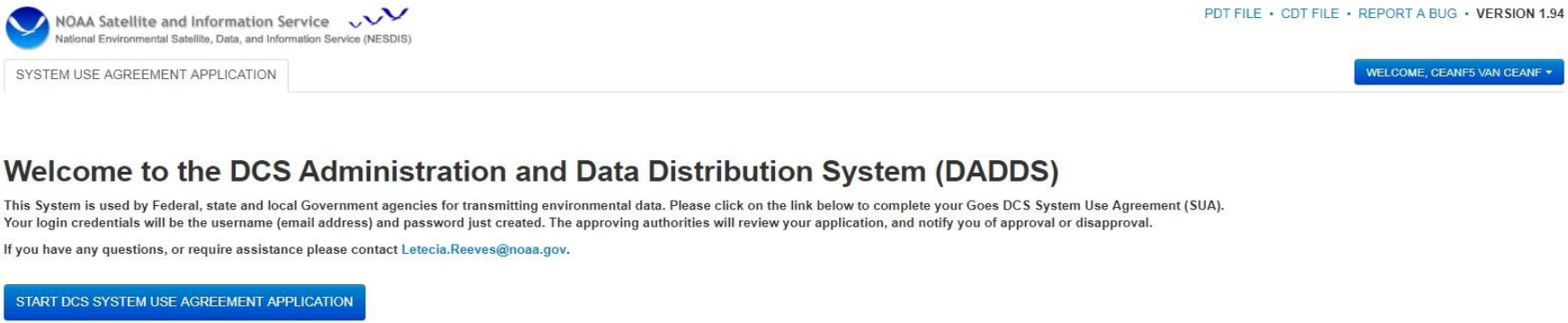
- Most website users will already belong to a DCS group.
- Those who wish to use DCS who are do not belong to a group must complete a special website registration.
- Doing so creates a provisional DCS website account where the user can complete the SUA registration process.





SUA Application

- As an '***SUA Requester***' for an unapproved SUA, logging into the DADDS website displays a page asking the user to submit an SUA application.
- All the user can do is submit an SUA application, make changes to their account, download PDT & CDT files, and report bugs.
- To start the process, click the user must click the blue button on the SUA agreement page to open the SUA application dialog.

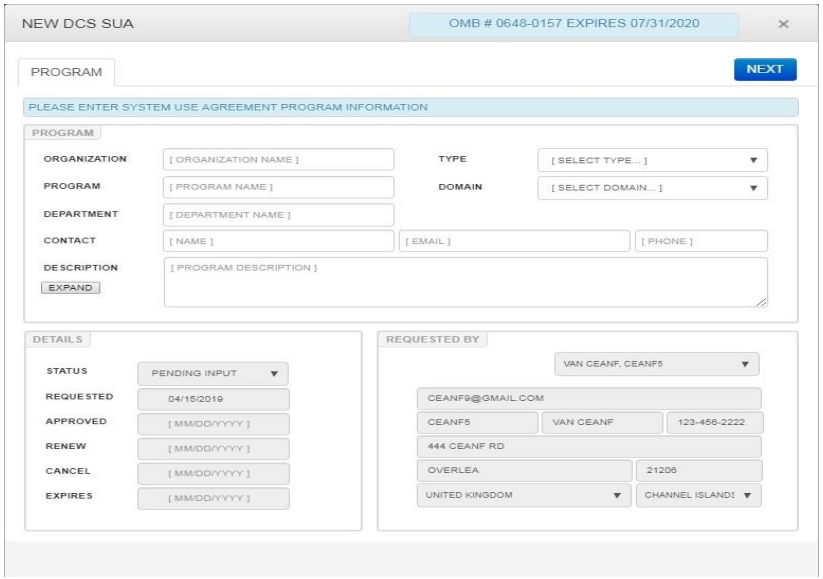


SUA Dialog

- The SUA dialog is used to complete the SUA application and begin the approval process.
- Also used by SUA requesters to renew existing SUAs that have expired and require re-approval.
- It is a 3 step process that asks the user to enter information about their program, its contacts, and how they intend to use the DCS system to accomplish their goals.

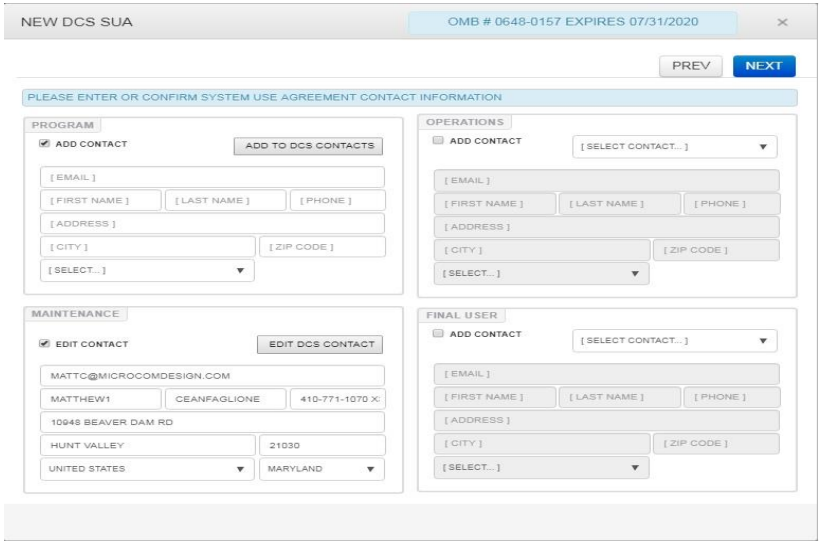
SUA Dialog - Program

- The program tab asks the user to enter basic information about their organization such as names and descriptions.
- They must also select a '***TYPE***' and '***DOMAIN***'. Non-government agencies require a DCS sponsor.
- The '***DETAILS***' and '***REQUESTED BY***' sections cannot be changed by the user.
- Click '***NEXT***' to go to the next step.
- All fields are validated prior to moving on to the next step.



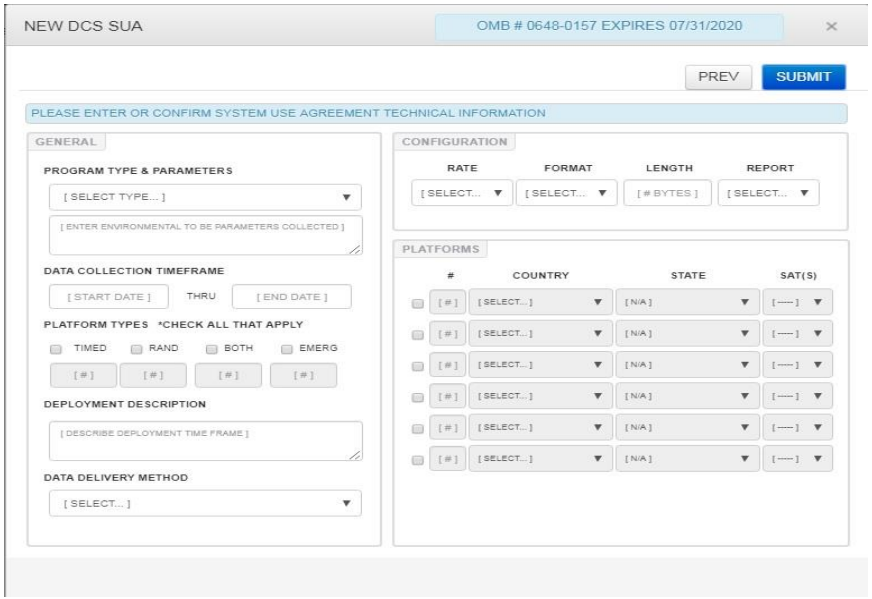
SUA Dialog - Contacts

- Four contacts must be registered in the DCS website for the SUA
  - Program, Operations, Maintenance, Final User
- Check the drop down list for the desired user. If they do not exist, add by clicking the 'Add Contact' checkbox and filling out the form.
- If a user exists, but their information has changed, click the 'Edit Contact' checkbox.
- Does not require a DCS website account.
- Contacts may all be the same user.
- Click '***NEXT***' to move on to the next step. All fields are validated prior to moving on to the next step.



SUA Dialog - Technical

- Contains platform data collection, configuration, and deployment information.
- '***GENERAL***' section requires details about the type of data being collected, the collection time frame, platform deployment and data reception.
- '***CONFIGURATION***' section requires details about the transmission rate, format, data length and report time.
- '***PLATFORMS***' section outlines where the organization's platforms are deployed.
- Click '***SUBMIT***' to complete the application process.
- If the submission fails and an error will be displayed. Contact DCS support.



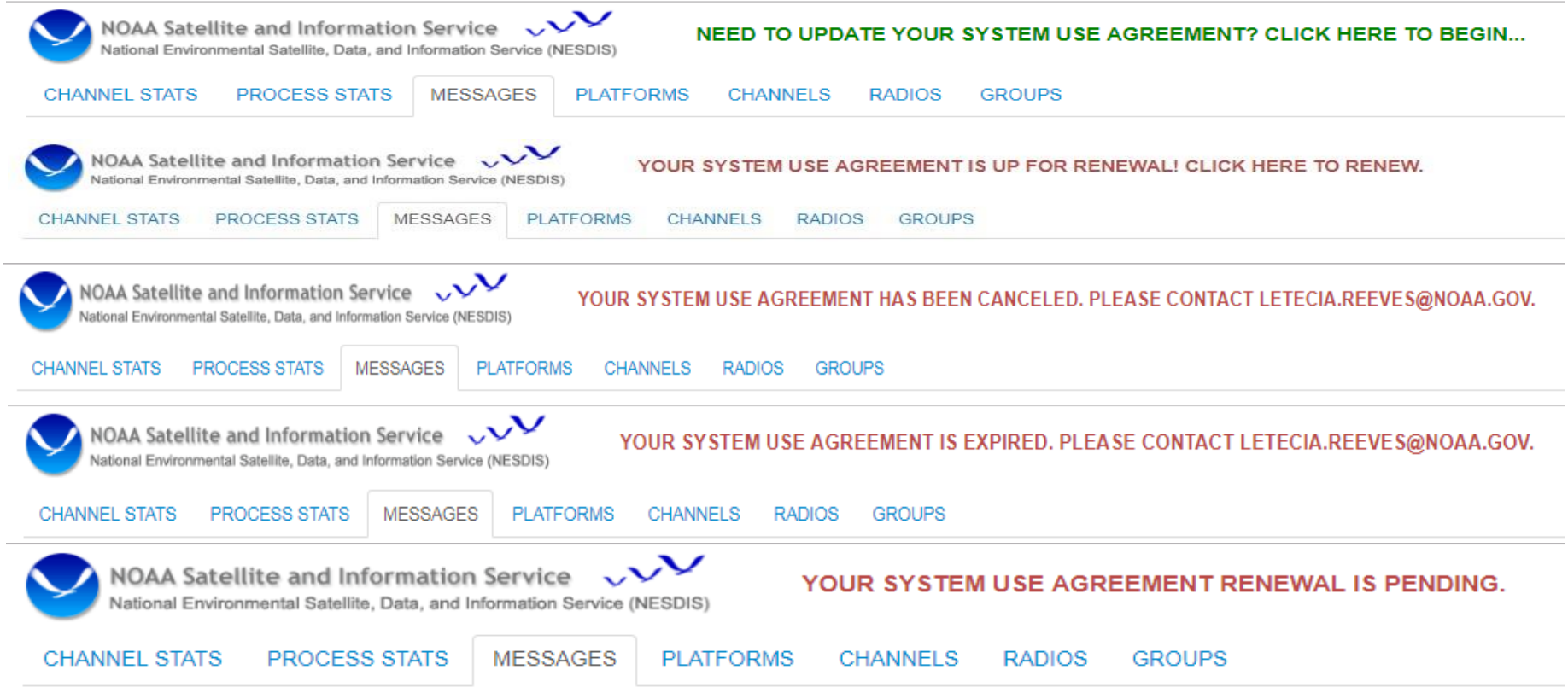
SUA Renewals

- Existing SUAs require periodic renewals to ensure the organization is actively using DCS, and to keep information in the SUA up to date.
- Automated and based on the expiration date the SUA was given during the initial application or prior renewal.
- Requesters begin receiving renewal email notifications approximately one (1) month prior to the expiration date.
- Failure to perform a renew when prompted by the website may result in the expiration or cancelation of a requester's SUA, and loss of authorization to use the DCS system.
- Any problems encountered when trying to renew an SUA should be reported to DCS management.

SUA Renewals

- SUA requesters are shown an SUA status link at the top-center of all website tabs and pages.
- Reports the requester's current SUA status, which includes:
  - Active - Up to date information.
  - Renew - Requires confirmation or update of information by requester
  - Pending - Approval by DCS Management in progress.
  - Expired/Canceled - Organization no longer approved to use DCS.
- Clicking the status link opens the SUA dialog for the requester to confirm or update their program's information.
- Updates to a requester's SUA record may be made at any time; It does not have to be up for renewal or pending approval.

SUA Renewals



SUA Approvals

- Once the SUA application has been successfully submitted, DCS management beings a three (3) step approval process.
- Upon completion of the approval process, the user will be notified via email and the SUA will be assigned a group.
- Requester will be assigned to the new group and given '***Master DCS***' permissions to allow normal website access.
- If an SUA application has been denied, the requester will be sent a notification email as well.
- They should contact DCS management for details about why the SUA was not approved, and what options exist going forward.

End System Use Agreements

Automated Batching

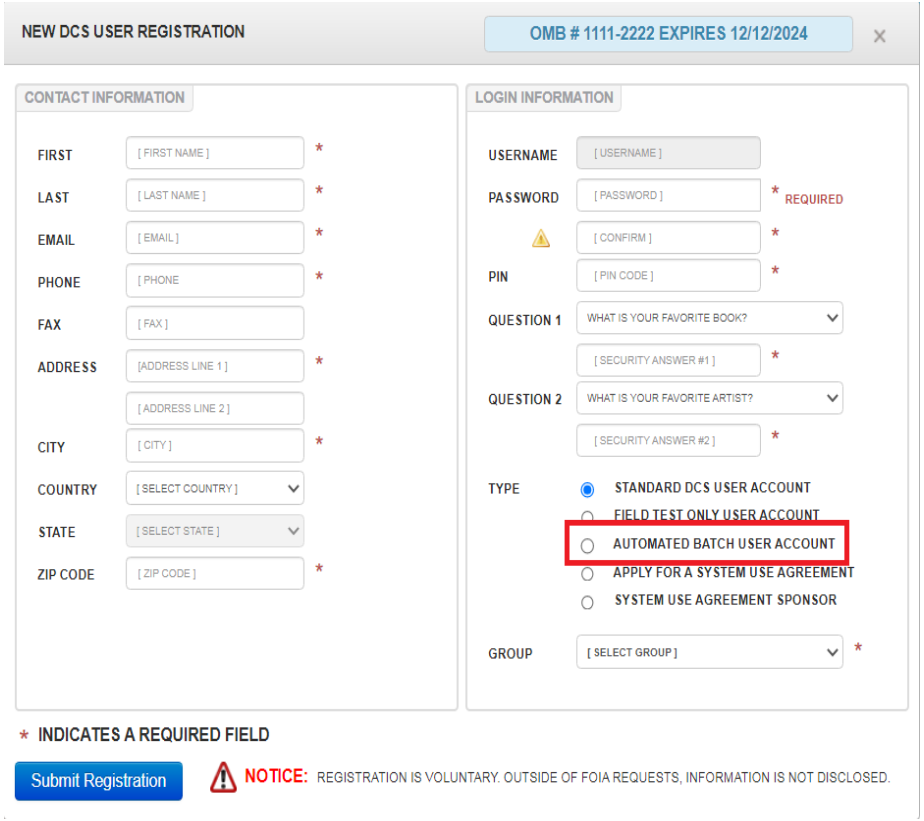
- Like website automation, users have requested the ability to automatically submit batch updates for a number of years.
- After a number of setbacks and delays, the feature is finally ready for final testing and use.
- Will lessen the burden to large organizations who manage many platforms.
  - More advanced users maintain a separate database (non-DADDS) to store platform information and configurations.
  - Keeping local and DADDS databases in sync via manual batch updates is very tedious when dealing with large numbers of platforms.

Overview

- Implemented via a custom SFTP server process integrated into the DADDS web application.
  - Provides a mechanism to securely upload batch files for processing by DADDS.
  - Allows users to develop an application or set of scripts that automatically upload
- Server listens for incoming connections and performs authentication via public/private key cryptography.
- Uploaded batch files from clients are inserted into the database batch table to be processed by DADDS.
- Notification emails following processing are sent just as with standard batch submissions from the DADDS websites.

Registration

- Requires a separate website account that is used specifically for automated batch uploads.
- Registration form has been updated to include an automated batch upload account type option.
- Interested users must register an automated batch upload account prior to using the feature.



SFTP Client

- Any standard SFTP client utility can be used to connect and upload batch submissions.
  - Recommend Putty's '***psftp***' command line client used in the client test package to perform secure uploads.
  - No GUI but uses a simple command line format and is easily integrated into MS-DOS batch, Python and other scripting languages
- Clients must connect via public/private key cryptography; Standard account password authentication is not allowed.
- Automated batch account used by the client cannot be used to login from the main or field test pages.

SFTP Server

- SFTP server implemented as a custom process within the DADDS web application infrastructure.
  - Uses 3rd party software package from secure protocol developer '***Rebex***' to ensure secure connections and file transfers.
  - Inexpensive; Developed under unlimited license from with perpetual updates
  - Inserts uploaded batch script form uploaded files into database PDT batch table for processing by DADDS.
- Uploads limited to one batch submission per client session.
- No further uploads allowed until pending batch submission has been processed and cleared by the server.

Key Authentication

- Authentication occurs via public/private key cryptography, which requires users to generate a key pair for authentication.
  - Public key generated by the user must be sent to NOAA to authenticate connections from automated batch accounts.
  - Email matt.ceanfaglione@noaa.gov prior to generating the key pair for further instructions.
- Use '***puttygen***' utility in client test package, or an equivalent key generation utility to generate a 1024 bit RSA key pair.
- Email the public key to letecia.reeves@noaa.gov and matt.ceanfaglione@noaa.gov and use the private key when connecting to the secure SFTP batch server.

Client Test Package

- Client test package was put together to help users get started using the automated batch upload feature.
- Demonstrates how to perform both manual and automatic batch file uploads using the '***psftp***' client utility.
  - Manual upload example executes client from MS-DOS command prompt
  - Automatic upload example executes client via a scheduled MS-DOS batch script. Client uses an SFTP transfer script with commands to upload DT batch script.
- Package downloaded from Google drive. Contact matt.ceanfaglione@noaa.gov for access and link details.

Manual Upload

- Batch update via SFTP secure file transfer may be performed manually from an MS-DOS command prompt as follows:
  - Copy the batch file to be uploaded into the '***psftp***' client utility directory.
  - Copy the private key from the key pair into the '***psftp***' client utility directory
  - Open an MS-DOS command prompt and navigate to the folder containing the '***psftp***' client utility from the client test package.
  - Enter the following command to initiate a connection to the SFTP server on DCS4

    psftp dcs4.noaa.gov –P 3022 –l <batch_account_email> -I private-key-name.ppk
  - Once connected, enter the following command to upload the batch script

    put batch-script.txt
  - Server will respond with the results of the upload. If successful, the batch script should be processed by DADDS within 15 minutes, and users should receive an email notification containing the results. In both scenarios, the server will automatically disconnect and end the session.

Automated Upload

- Automatic uploads from a transfer folder can be implemented with a simple MS-DOS batch script.
- Script performs complete set of automated actions, including:
  - Check a ‘pending’ folder for PDT batch scripts to be uploaded
  - Connect to SFTP server and authenticate via public/private key cryptography
  - Upload pending PDT batch script to the SFTP server
  - Move the uploaded file from a ‘pending’ to a ‘submitted’ folder
  - Sleeps for a period of time before repeating the execution cycle
- Implements full-fledged automatic batch upload system.
- Any file saved to ‘pending’ folder automatically uploaded for processing by DADDS.

Upload Script

```
1
2  @rem - begin sftp upload script
3  @echo off
4  :begin
5
6  @rem - set sftp server ip, port & key values
7  set port=3022
8  set server=66.167.146.147
9  set key=e:\sftp-client\private_key.ppk
10
11 @rem - set connecting account username & password
12 set user=mattc@microcomdesign.com
13 set password=Aa123456789!
14
15 @rem - local batch file locations
16 set pending=e:\sftp-client\pending\
17 set submitted=e:\sftp-client\submitted\
18
19 @rem - client script options
20 set frequency=150
21 set script=e:\sftp-client\sftp-cmds
22
23 @rem - adds sftp put cmd for each file in the pending dir to the
24 @rem - sftp-commands script used by psftp to perform file transfers
25 echo generating sftp commands
26 for /f %%f in ('dir /b %pending%') do (echo put %pending%%%f >> %script%)
27 echo quit >> %script%
28
29 @rem - connect to sftp server via publickey authentication
30 echo connecting to sftp...
31 psftp %server% -P %port% -l %user% -i %key% -b %script% -bc
32
33 @rem - moves uploaded batch files from the pending to submitted directory
34 del %script%
35 for /f %%f in ('dir /b %pending%') do move %pending%%%f %submitted%
36
37 @rem - script waits 'frequency' seconds before running again
38 c:\windows\system32\timeout /t %frequency% /nobreak
39 goto begin
40 pause
41
42
```

Batch Verification

- SFTP server responds with results of batch file upload.
- Batch script not immediately processed following upload, and can take up to 15 minutes to occur.
  - SFTP server periodically processed all submissions and inserts database batch records.
  - DADDS application periodically checks database batch table for unprocessed submissions.
- Confirmation email sent once submission has been processed, regardless of result.
- Once email is received, changes may be viewed and confirmed on the DADDS website.

End Automated Batching