

# DADDS Website Training



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September 2019

Microcom Design Inc.  
JSC DADDS Training

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# DADDS Website Training Agenda

- PDT Field Test
  - Platform data is available outside of the user login portal.
- Reset/Forgot Password
  - Review reset password features, emails and process.
- Message Filters
  - Review message filter dialog, conditions and DateTime examples.
- Saving Filters
  - Store filters in the database for future use.
- Netlist Filters
  - Create custom filters from existing netlist files or a filter
- Troubleshooting Missing Data
- System Use Agreements
- Automation



# 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.
- Accessible via a link located on DCS website login pages or by browsing directly to a URL:
  - <https://dcs1.noaa.gov/Account/FieldTest>
  - <https://dcs2.noaa.gov/Account/FieldTest>
  - <https://dcs3.noaa.gov/Account/FieldTest>
  - <https://dcs4.noaa.gov/Account/FieldTest>





# PDT Field Test Form

- Requires two inputs:
  - DCP address of a platform.
  - Number of hours to look back.
- Returns two outputs:
  - Basic platform information.
  - Messages found in look back period.
- Clicking the 'RETRIEVE' button submits a query to the server and populates the page with information and message data, if any, when finished.

**PLATFORM FIELD TEST**

**DCP ADDRESS (REQUIRED)**

FD0008B8

GO BACK 12 HOURS

RETRIEVE

# 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, users reset passwords via the '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 security answers.



**DADDS DCS4**  
User Login

Email

Password

**SIGN IN**

- Need a Login? Click [here](#).
- **Forgotten Password? Click [here](#).**
- DCS Field Test? Click [here](#).
- Need Help? Click [here](#).
- 24/7 Technical Support: (757) 824-7450
-  DCS Operational Notices RSS Feed



# Forgot Password

- On the forgot password dialog, enter the account email address and click 'NEXT' to show the 1<sup>st</sup> security question.
- Enter the answer in the answer field below the 1<sup>st</sup> 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 2<sup>nd</sup> security question will be shown for another attempt.
- Enter the 2<sup>nd</sup> security answer and click 'NEXT' to try again.

FORGOT YOUR PASSWORD?

ENTER YOUR EMAIL ADDRESS

MATT@MICROCOMDESIGN.COM

INCORRECT QUESTION 1 ANSWER

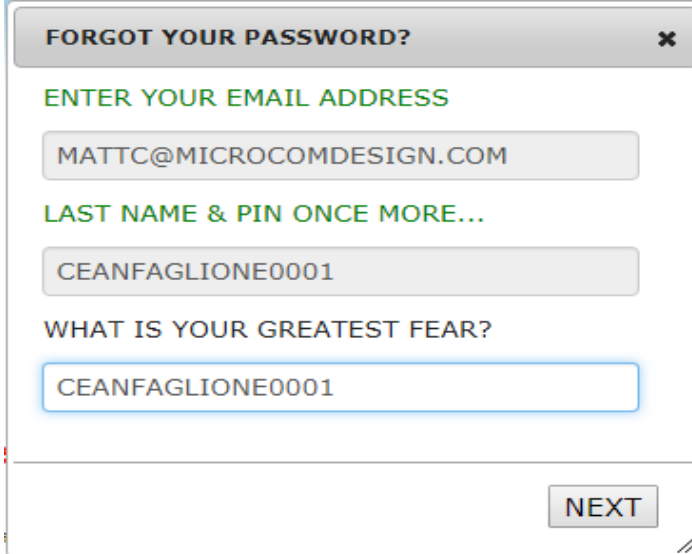
THE HOBBIT

WHAT IS YOUR GREATEST FEAR?

NEXT

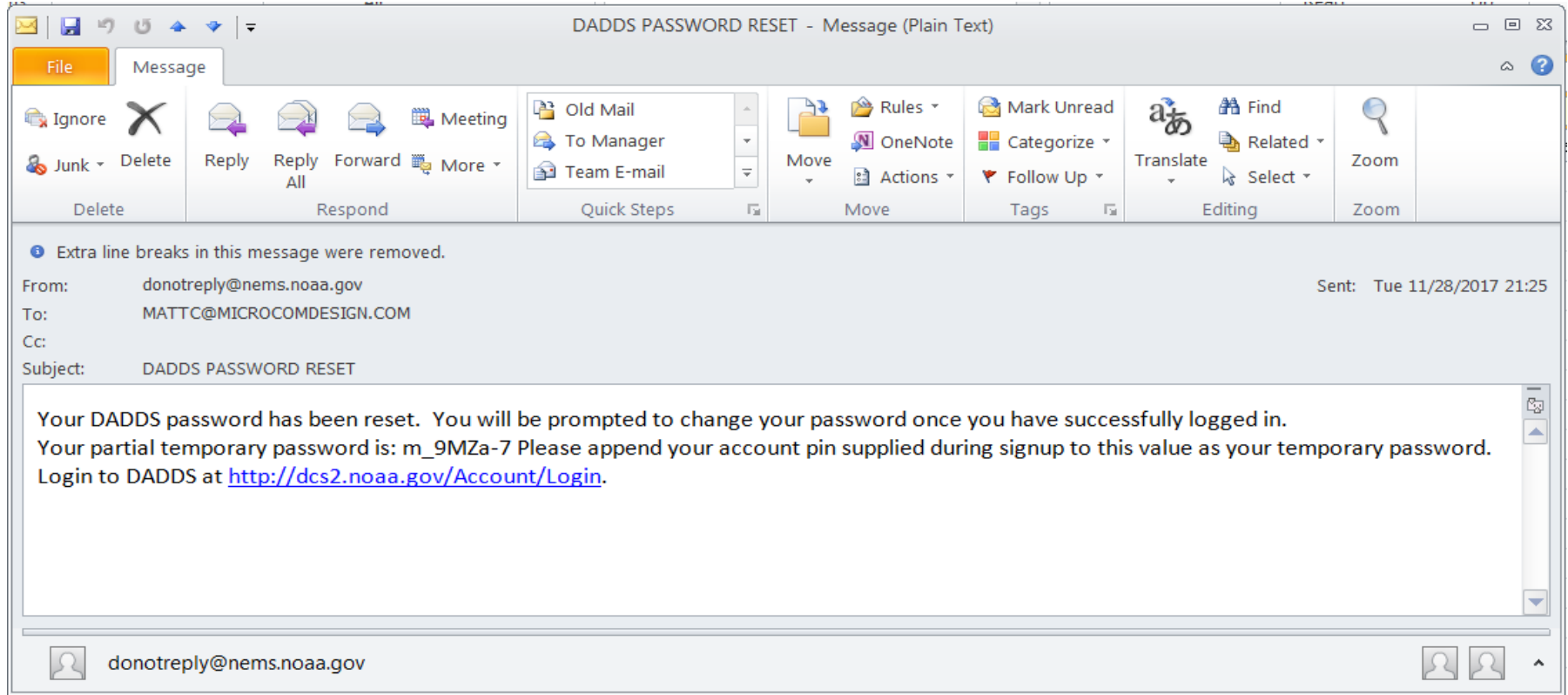
# Forgot Password

- 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.



The screenshot shows a web form titled "FORGOT YOUR PASSWORD?". It contains three input fields and a "NEXT" button. The first field is labeled "ENTER YOUR EMAIL ADDRESS" and contains the text "MATTC@MICROCOMDESIGN.COM". The second field is labeled "LAST NAME & PIN ONCE MORE..." and contains the text "CEANFAGLIONE0001". The third field is labeled "WHAT IS YOUR GREATEST FEAR?" and also contains the text "CEANFAGLIONE0001". The "NEXT" button is located at the bottom right of the form.

# Password Reset - Email



The screenshot shows an Outlook window titled "DADDS PASSWORD RESET - Message (Plain Text)". The ribbon includes "File" and "Message" tabs. The "Message" ribbon has groups for "Delete" (Ignore, Delete), "Respond" (Reply, Reply All, Forward, More), "Quick Steps" (Old Mail, To Manager, Team E-mail), "Move" (Move, Rules, OneNote, Actions), "Tags" (Mark Unread, Categorize, Follow Up), "Editing" (Translate, Find, Related, Select), and "Zoom".

Message content:

Extra line breaks in this message were removed.

From: donotreply@nems.noaa.gov  
To: MATTC@MICROCOMDESIGN.COM  
Cc:  
Subject: DADDS PASSWORD RESET

Sent: Tue 11/28/2017 21:25

Your DADDS password has been reset. You will be prompted to change your password once you have successfully logged in.  
Your partial temporary password is: m\_9MZa-7 Please append your account pin supplied during signup to this value as your temporary password.  
Login to DADDS at <http://dcs2.noaa.gov/Account/Login>.

Sender: donotreply@nems.noaa.gov



# 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 the 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	<input type="password" value="....."/>	*
New Password	<input type="password"/>	*
Confirm Password	<input type="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



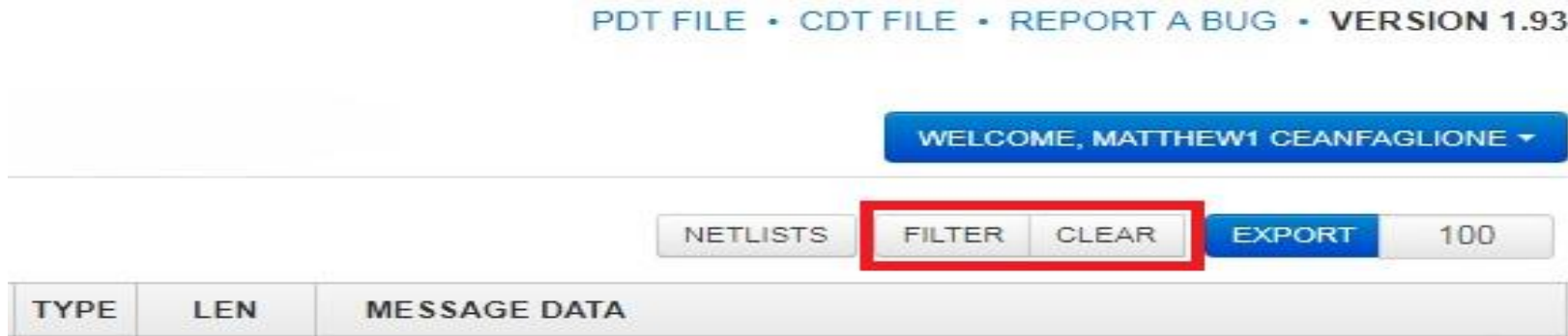
# Message Filters

- 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

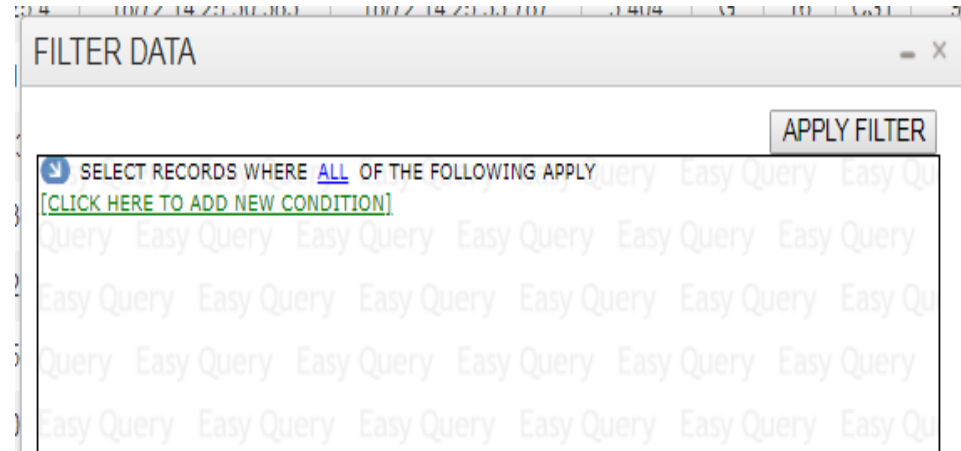
- Filter controls are located to the left of the export controls at the top right corner of the message data grid.



- Clicking the 'Filter' button opens the message filter dialog. This training will review basic message filtering.
- Clicking the 'Clear' button removes any filters that are currently applied and restores the default load of all message data.

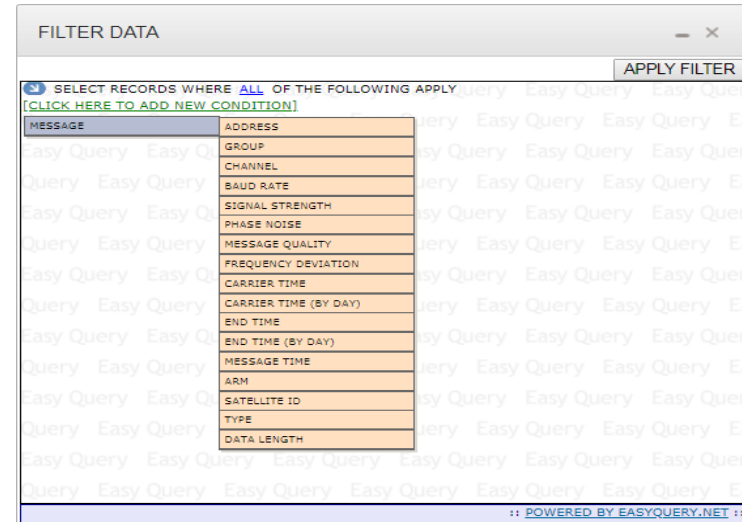
# Filter Dialog

- 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
  - Select List - Is Equal To, Is Not Equal To

SELECT RECORDS WHERE ALL OF THE FOLLOWING APPLY

MESSAGE ADDRESS STARTS WITH [ENTER VALUE]

[\[CLICK HERE TO ADD NEW C](#)

STARTS WITH
CONTAINS
IS EQUAL TO
DOES NOT START WITH
DOES NOT CONTAIN
IS NOT EQUAL TO

SELECT RECORDS WHERE ALL OF THE FOLLOWING APPLY

MESSAGE CHANNEL IS EQUAL TO [ENTER VALUE]

[\[CLICK HERE TO ADD NEW C](#)

IS EQUAL TO
IS BETWEEN
IS LESS THAN
IS GREATER THAN
IS NOT BETWEEN
IS NOT EQUAL TO

# Filter Types – Any / All

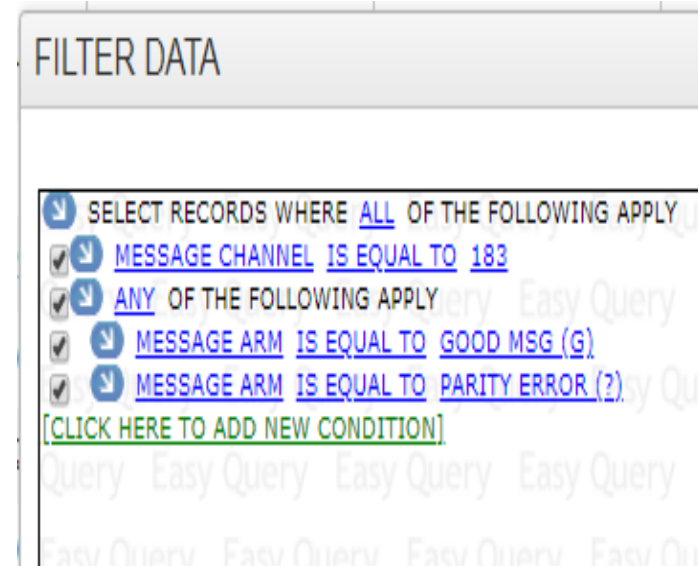
- Advanced feature used to create complex queries. Default selection is 'ALL', and is used for majority of filters.
- Changed via the blue 'ALL' (or 'ANY') link to the right of the text 'SELECT RECORDS WHERE' at the top of the dialog window.
- Determines how boolean operators are applied to the filter 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 found 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 found from platform X or channel Y or belonging to group USGS01'**

# Filter Types – 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 and have an 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 ‘Channel’ from the list of conditions. Enter 183 in the condition text box.
- 3) Click ‘Add New Condition’ button 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 Msg (?)’ 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

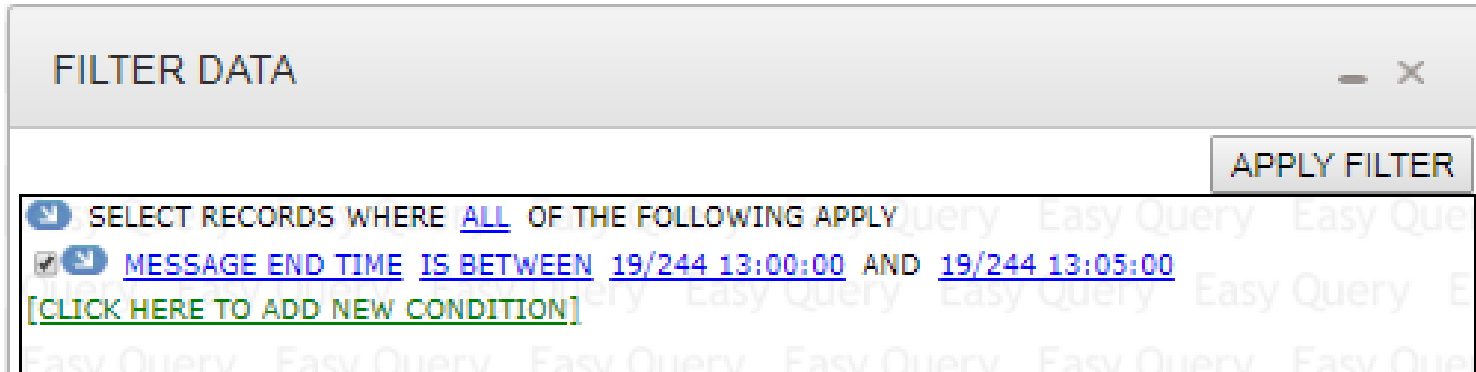
The image shows two side-by-side screenshots of a software interface titled 'FILTER DATA'. The left screenshot shows a query editor with the following text: 'SELECT RECORDS WHERE ALL OF THE FOLLOWING APPLY', a checked checkbox, and the condition 'MESSAGE END TIME IS BETWEEN [yy/ddd hh:mm:ss] AND [yy/ddd hh:mm:ss]'. A link '[CLICK HERE TO ADD NEW CONDITION]' is visible. The right screenshot shows the same query editor with the condition 'MESSAGE END TIME (BY DAY) IS BETWEEN' followed by an empty input field and 'AND [ENTER VALUE]'. A link '[CLICK HERE TO ADD NEW CONDITION]' is also present. Below the input field is a date picker for 'MARCH 2018' with a calendar grid showing days 1 through 31. The date picker has 'PREV' and 'NEXT' buttons and a header 'SUMOTUWETHFRSA'.

# Full DateTime Example

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

***“Return messages with end times between 13:00z and 13:05z on September 1<sup>st</sup> 2019”***

- 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 **‘19/244 13:00:00’** in the left text box for lower limit.
- 4) Enter the Julian DateTime **‘19/244 13:05:00’** 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



The screenshot shows a dialog box titled "FILTER DATA" with a close button (X) in the top right corner. Below the title bar, there is a button labeled "APPLY FILTER". The main content area of the dialog box contains the following text:

SELECT RECORDS WHERE ALL OF THE FOLLOWING APPLY

MESSAGE END TIME IS BETWEEN 19/244 13:00:00 AND 19/244 13:05:00

[\[CLICK HERE TO ADD NEW CONDITION\]](#)

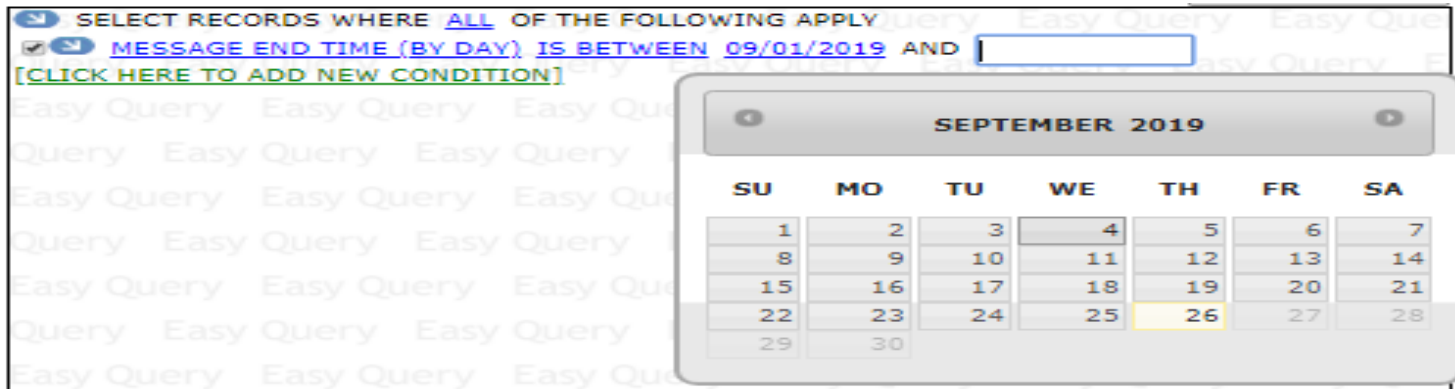


# Day DateTime Example

- 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 September 1<sup>st</sup> 2019 and September 3<sup>rd</sup> 2019”***

- 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 **September 1<sup>st</sup>** from the date picker control to set the lower limit.
- 4) Click the right text box and select **September 3<sup>rd</sup>** 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).



The screenshot shows a query builder interface. At the top, it says "SELECT RECORDS WHERE ALL OF THE FOLLOWING APPLY". Below that, there is a condition: "MESSAGE END TIME (BY DAY) IS BETWEEN 09/01/2019 AND [ ]". A link "[CLICK HERE TO ADD NEW CONDITION]" is visible. A date picker calendar for "SEPTEMBER 2019" is open, showing a grid of days from 1 to 30. The day 26 is highlighted in yellow.

SU	MO	TU	WE	TH	FR	SA
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

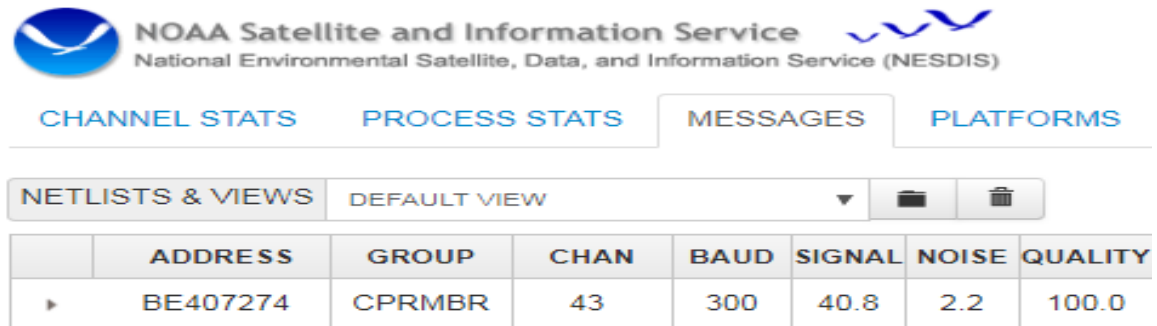
# End Filters



# 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



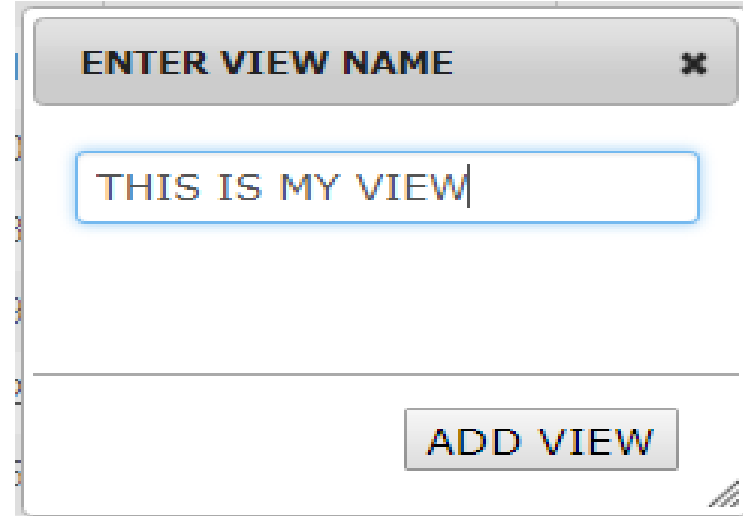
The screenshot shows the NOAA Satellite and Information Service (NESDIS) website interface. At the top, there is a navigation bar with four tabs: 'CHANNEL STATS', 'PROCESS STATS', 'MESSAGES', and 'PLATFORMS'. Below this, there is a section titled 'NETLISTS & VIEWS' with a 'DEFAULT VIEW' dropdown menu and two icons (a folder and a trash can). Below the navigation bar, there is a table with the following columns: ADDRESS, GROUP, CHAN, BAUD, SIGNAL, NOISE, and QUALITY. The table contains one row of data:

ADDRESS	GROUP	CHAN	BAUD	SIGNAL	NOISE	QUALITY
BE407274	CPRMBR	43	300	40.8	2.2	100.0



# 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.



ENTER VIEW NAME X

THIS IS MY VIEW

ADD VIEW

# Views - Load

- Views are applied to message data using the 'NETLISTS & VIEWS' select list.
- Click the 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 & time only).

NETLISTS & VIEWS		DEFAULT VIEW		
	ADDRESS	[FILTER] LOPHS		
		[FILTER] FDOT		
▶	33A084FA	[FILTER] MCRCOM	3.3	99.6
▶	174817E6	[NETLIST] PNL_FLODOT [1HOUR]	1.8	100.0
		[NETLIST] FDOTNLTE [3HOUR]		
▶	336A2134	[NETLIST] FD1234CSV [6HOUR]	3.9	95.7
		[NETLIST] 7654332 [3HOUR]		

# Views - Remove

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

CHANNEL STATS PROCESS STATS MESSAGES PLATFORMS CHANNELS RADIOS

NETLISTS & VIEWS [FILTER] LEES FILTER

ADDRESS	GROUP	CHAN	BAU	CLICK TO DELETE THE CURRENT VIEW	TY
---------	-------	------	-----	----------------------------------	----

- 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 Views

- 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.

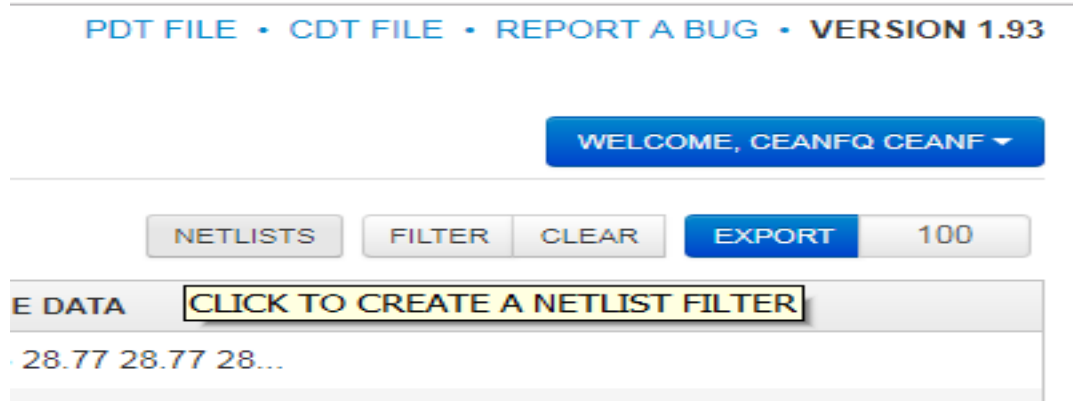
- CSV Files

- 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 fields
  - Name for the netlist view.
  - Type of netlist view being created: CSV, LRGS or an applied 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.

CREATE A NETLIST

NAME [ NETLIST NAME ]

TYPE  CSV  LRGS  FILTER

RANGE [ SELECT RANGE... ]

SELECT [ .../ ]

ADD CANCEL

# Netlist - Create

- Perform the following steps to create a netlist view from a platform filter:
  - 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.
  - 4) Select a look back period using the 'Range' select list.
  - 5) Click the 'Add' button to submit and save the netlist view.

# Netlist - 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 - Load



CHANNEL STATS

PROCESS STATS

MESSAGES

PLATFORMS

- 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.
  - Footer text specifying the range, for example '[ 3HOUR ]'.
- To load a netlist, select the desired option from the drop down list.
- The website will submit a query to the database and apply the netlist view to the message data.

NETLISTS & VIEWS		DEFAULT VIEW						
ADDRESS		[VIEW] SURINM FILTER				AL	NOISE	QUALITY
		[NETLIST] TEST NETLIST [3HOUR]						
▶	456119F2	QNRCAN	71	300	50.3	2.2	100.0	
▶	34230636	BURPNW	36	300	50.1	1.5	100.0	
▶	ABA20434	APACBR	47	300	41.5	3.9	96.9	

# 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 being received along with message data mean?

# Troubleshooting

- Message filters and netlist views are powerful tools for troubleshooting problems with message reception.
- This 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.
- In addition, message data and informational messages from a platform provide clues, and are important to consider when debugging a problem.



# Query Platform Messages

- The 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 a new 'ADDRESS' condition to the filter and select the 'STARTS WITH' (default) or 'EQUAL TO' operator.
  - Enter the problem platform's DCP address in the condition text box.
  - Add a second '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 the filter results to an excel file for offline analysis of the data using Microsoft Excel or other software capable of reading XLS formatted files.

# Analyze Platform 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 Message 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 Message 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?
  - Gradual or periodic decrease prior to the outage points to local RFI or DCP interference due to timing issues.



# Query Platform Channel

- To debug possible interference from other DCPs, a query on the platform channel is helpful
- Create a message data filter on the channel the platform is transmitting on.
- Add a few 'END TIME BETWEEN' conditions with time ranges starting few minutes before and after the expected transmission for a few hours prior to the outage.
- Look at the transmissions occurring immediately before and after the platform'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 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.

# 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 three types of address informational messages generated by DADDS:
  - Bad Address Errors (B)
  - Invalid Address Errors (I)
  - Correctable Address Errors (A)
- Bad address messages have the ARM character 'B' and are generated when an invalid DCP address is received that cannot be corrected.
- Invalid address messages have the ARM character 'I' and are generated when a received DCP address not present in the DADDS database.
- Correctable address messages have the 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

- There are two types of timing informational messages generated by DADDs:
  - Message Timing Errors
  - Unexpected Message Errors
- Timing messages have the ARM character 'T' and are generated when a message is not received entirely within its window.
- Unexpected messages have the ARM character 'U' and are generated when a message is received completely out of its window.
- Timing messages normally indicate problems with a platform's transmit configuration, GPS synchronization or radio hardware.

# Missing Informational Messages

- Missing informational messages 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 be completely missing.
- Messages received completely outside of their window, or received 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.

## DADDS DCS3 User Login

Email   
Password

**SIGN IN**

- Need a Login? Click [here](#).
- Forgotten Password? Click [here](#).
- DCS Field Test? Click [here](#).
- Need Help? Click [here](#).
- 24/7 Technical Support: (757) 824-7450
-  DCS Operational Notices RSS Feed


**GPS Week Number Rollover Notification**

**GOES HRIT File Format Modification Testing**

**DOMSAT is scheduled to be discontinued on 14 May 2019**

**Submit an Application for a GOES DCS SUA**

NEW DCS USER REGISTRATION OMB # 0648-0157 EXPIRES 07/31/2020

<b>CONTACT INFORMATION</b>	<b>LOGIN INFORMATION</b>
FIRST <input type="text" value="[ FIRST NAME ]"/> *	USERNAME <input type="text" value="[ USERNAME ]"/>
LAST <input type="text" value="[ LAST ]"/> *	PASSWORD <input type="password" value="[ PASSWORD ]"/> * 
EMAIL <input type="text" value="[ EMAIL ]"/> *	[ CONFIRM ] <input type="password" value="[ CONFIRM ]"/> *
PHONE <input type="text" value="[ PHONE ]"/> *	PIN <input type="text" value="[ PIN CODE ]"/> *
FAX <input type="text" value="[ FAX ]"/>	QUESTION 1 <input type="text" value="WHAT IS YOUR FAVORITE BOOK?"/> ▼
ADDRESS <input type="text" value="[ ADDRESS LINE 1 ]"/> *	[ SECURITY ANSWER #1 ] <input type="text" value="[ SECURITY ANSWER #1 ]"/> *
[ ADDRESS LINE 2 ] <input type="text" value="[ ADDRESS LINE 2 ]"/>	QUESTION 2 <input type="text" value="WHAT IS YOUR FAVORITE ARTIST?"/> ▼
CITY <input type="text" value="[ CITY ]"/> *	[ SECURITY ANSWER #2 ] <input type="text" value="[ SECURITY ANSWER #2 ]"/> *
COUNTRY <input type="text" value="UNITED STATES"/> ▼	
STATE <input type="text" value="ALABAMA"/> ▼	
ZIP CODE <input type="text" value="[ ZIP CODE ]"/> *	


**DCS INFORMATION**

I ALREADY HAVE A SYSTEM USE AGREEMENT

I AM A SYSTEM USE AGREEMENT SPONSOR

I NEED TO APPLY FOR A SYSTEM USE AGREEMENT

**SUBMIT REGISTRATION** \* INDICATES A REQUIRED FIELD

 **NOTICE:** REGISTRATION IS VOLUNTARY. OUTSIDE OF A FOIA REQUEST, INFORMATION WILL NOT BE DISCLOSED.

# 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.



[PDT FILE](#) • [CDT FILE](#) • [REPORT A BUG](#) • [VERSION 1.94](#)

SYSTEM USE AGREEMENT APPLICATION

WELCOME, CEANF5 VAN CEANF ▾

## Welcome to the DCS Administration and Data Distribution System (DADDS)

This System is used by Federal, state and local Government agencies for transmitting environmental data. Please click on the link below to complete your Goes DCS System Use Agreement (SUA). Your login credentials will be the username (email address) and password just created. The approving authorities will review your application, and notify you of approval or disapproval.

If you have any questions, or require assistance please contact [Letecia.Reeves@noaa.gov](mailto:Letecia.Reeves@noaa.gov).

START DCS SYSTEM USE AGREEMENT APPLICATION



# 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.

NEW DCS SUA OMB # 0648-0157 EXPIRES 07/31/2020

PROGRAM NEXT

PLEASE ENTER SYSTEM USE AGREEMENT PROGRAM INFORMATION

PROGRAM

ORGANIZATION	[ ORGANIZATION NAME ]	TYPE	[ SELECT TYPE... ]
PROGRAM	[ PROGRAM NAME ]	DOMAIN	[ SELECT DOMAIN... ]
DEPARTMENT	[ DEPARTMENT NAME ]		
CONTACT	[ NAME ]	[ EMAIL ]	[ PHONE ]
DESCRIPTION	[ PROGRAM DESCRIPTION ]		

EXPAND

DETAILS

STATUS	PENDING INPUT
REQUESTED	04/15/2019
APPROVED	[ MMDDYYYY ]
RENEW	[ MMDDYYYY ]
CANCEL	[ MMDDYYYY ]
EXPIRES	[ MMDDYYYY ]

REQUESTED BY

VAN CEANF, CEANF5

CEANF5@GMAIL.COM

CEANF5 VAN CEANF 123-456-2222

444 CEANF RD

OVERLEA 21209

UNITED KINGDOM CHANNEL ISLANDS





# 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.

The screenshot displays the 'NEW DCS SUA' web interface. At the top, there is a title bar with 'NEW DCS SUA' on the left and 'OMB # 0648-0157 EXPIRES 07/31/2020' on the right. Below the title bar are 'PREV' and 'NEXT' buttons. The main content area is titled 'PLEASE ENTER OR CONFIRM SYSTEM USE AGREEMENT CONTACT INFORMATION' and is divided into four sections: PROGRAM, OPERATIONS, MAINTENANCE, and FINAL USER. Each section has a checkbox for 'ADD CONTACT' or 'EDIT CONTACT' and a corresponding button. The PROGRAM section has an 'ADD TO DCS CONTACTS' button. The MAINTENANCE section has an 'EDIT DCS CONTACT' button. Each section contains form fields for [EMAIL], [FIRST NAME], [LAST NAME], [PHONE], [ADDRESS], [CITY], [ZIP CODE], and a [SELECT...] dropdown menu. The MAINTENANCE section is pre-filled with the following information: MATTG@MICROCOMDESIGN.COM, MATTHEW1, CEANFAGLIONE, 410-771-1070 X, 10648 BEAVER DAM RD, HUNT VALLEY, 21030, UNITED STATES, and MARYLAND.

# SUA Dialog - Technical

- Contains information about platform data collection, configuration, and deployment for an organization.
- ‘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.

The screenshot shows a web-based form titled "NEW DCS SUA" with a close button (x) and a status bar "OMB # 0648-0157 EXPIRES 07/31/2020". The form is divided into three main sections: "GENERAL", "CONFIGURATION", and "PLATFORMS".

**GENERAL**

PROGRAM TYPE & PARAMETERS: [SELECT TYPE...]  
[ENTER ENVIRONMENTAL TO BE PARAMETERS COLLECTED]

DATA COLLECTION TIMEFRAME: [START DATE] THRU [END DATE]

PLATFORM TYPES \*CHECK ALL THAT APPLY: [TIMED] [RAND] [BOTH] [EMERG]  
[#] [#] [#] [#]

DEPLOYMENT DESCRIPTION: [DESCRIBE DEPLOYMENT TIME FRAME]

DATA DELIVERY METHOD: [SELECT...]

**CONFIGURATION**

RATE: [SELECT...]  
FORMAT: [SELECT...]  
LENGTH: [# BYTES]  
REPORT: [SELECT...]

**PLATFORMS**

#	COUNTRY	STATE	SAT(S)
[#]	[SELECT...]	[N/A]	[---]
[#]	[SELECT...]	[N/A]	[---]
[#]	[SELECT...]	[N/A]	[---]
[#]	[SELECT...]	[N/A]	[---]
[#]	[SELECT...]	[N/A]	[---]
[#]	[SELECT...]	[N/A]	[---]

# 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 with up to date information.
  - Up for renewal and requires confirmation or updates.
  - Renewal pending completion of the approve process.
  - Expired or canceled by DCS management.
- 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



**NEED TO UPDATE YOUR SYSTEM USE AGREEMENT? CLICK HERE TO BEGIN...**

[CHANNEL STATS](#) [PROCESS STATS](#) [MESSAGES](#) [PLATFORMS](#) [CHANNELS](#) [RADIOS](#) [GROUPS](#)



**YOUR SYSTEM USE AGREEMENT IS UP FOR RENEWAL! CLICK HERE TO RENEW.**

[CHANNEL STATS](#) [PROCESS STATS](#) [MESSAGES](#) [PLATFORMS](#) [CHANNELS](#) [RADIOS](#) [GROUPS](#)



**YOUR SYSTEM USE AGREEMENT HAS BEEN CANCELED. PLEASE CONTACT LETECIA.REEVES@NOAA.GOV.**

[CHANNEL STATS](#) [PROCESS STATS](#) [MESSAGES](#) [PLATFORMS](#) [CHANNELS](#) [RADIOS](#) [GROUPS](#)



**YOUR SYSTEM USE AGREEMENT IS EXPIRED. PLEASE CONTACT LETECIA.REEVES@NOAA.GOV.**

[CHANNEL STATS](#) [PROCESS STATS](#) [MESSAGES](#) [PLATFORMS](#) [CHANNELS](#) [RADIOS](#) [GROUPS](#)



**YOUR SYSTEM USE AGREEMENT RENEWAL IS PENDING.**

[CHANNEL STATS](#) [PROCESS STATS](#) [MESSAGES](#) [PLATFORMS](#) [CHANNELS](#) [RADIOS](#) [GROUPS](#)



# 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



# Website Automation

- A long desired feature of DADDS has been the ability to automatically retrieve DCS messages from the DADDS website.
- While it has been discussed a number of times, no custom interfaces for website automation have been implemented.
- Possible to use free COTS software to automate retrieval of DCS message data from the website using:
  - cURL utility and the website PDT field test lookup tool
  - Python script and website stored filter/message export features
- Windows and Linux can be configured to automatically retrieve DCS message data using the same 3<sup>rd</sup> party software.





# Why Automate?

- Allows for continual download of DCS message data without the need for human interaction.
- Redundancy. Setting up additional instances that connect to different DCS data sources is trivial.
- Easily expanded to store downloaded message data for analysis and/or archive purposes:
  - CSV or Excel data files
  - Database containing message data

# Automation Options

- Operating system independent. Software exists for both Windows and most mainstream Linux distributions.
- Two reliable options with different levels of complexity, control, and output.
- PDT Field Test tool using cURL command line utility and simple scripts to automatically retrieve message data.
- DCS Message Export feature using a Python script that interacts in real time with the website to automatically download Excel data files containing DCS data.

# Automation Scheduling

- cURL and Python scripts run on a pre-defined schedule.
- The utility used to control when, and how often the automated script is ran depends on the operating system being used.
- Scripts on Windows are configured as a new ‘task’ and are executed by the Windows Task Manager.
  - <https://www.windowscentral.com/how-create-automated-task-using-task-scheduler-windows-10>
- Scripts on Linux are configured as ‘jobs’ and are executed by the Crontab time-based scheduling utility.
  - <https://opensource.com/article/17/11/how-use-cron-linux>



# Field Test Automation

- Most basic method to automate retrieval of DCS message data from the DADDS website. Does not require an account.
- Uses the cURL utility to submit a properly formatted field test request to a DADDS webserver.
- cURL output consists of group and channel, time fields, performance parameters and message data as an array of message records.
- Will require additional processing of output to parse and store the desired messages and fields from the array.



# cURL Utility

- Software package consisting of a URL transfer library and command line utility.
- Transfers raw data via a supported network protocol, in our case, HTTPS.
- Command line tool retrieves or sends data, including files, using standard URL syntax.
- Output depends on the protocol, in our case, the response from the server is a JSON formatted object.
- Output can be saved to a file for further processing offline.

# cURL - Windows

- Though originally a Linux utility, cURL has been ported to both x86 and x64 versions of Windows.
- Can be downloaded from the following link:
  - <https://curl.haxx.se/windows/>
- MS-DOS batch or Windows PowerShell scripts used to run cURL commands that retrieve DCS message data.
- Windows Task Scheduler is used to continuously run the script containing cURL commands to retrieve data.

# cURL - Linux

- Releases of the cURL utility are available for most mainstream distributions of Linux.
- Can be downloaded from the list of cURL versions at the following link:
  - <https://curl.haxx.se/download.html>
- Be sure to choose the correct version for the Linux distribution being used, otherwise cURL may not work as intended.
- Crontab utility is used to execute a cURL command or script containing cURL commands continuously.

# cURL - Example

- The following example demonstrates how to use cURL to retrieve the last **1 hours** of message data from the platform with address **FD00066A**.

```
>curl -d "addr=fd00066a&hours=1" -X POST https://dcs4.noaa.gov/Account/FieldTestData
caAddrCorr : FD00066A , Tb1DcpDataGroup : FL0001 , Tb1DcpDataChan : 113 , Tb1DcpDataBaud : 300 , "Tb1DcpDataSigStrength":39.6 , "Tb1D
Tb1DcpDataDtMsgCar" : "\/Date(1560434401977)\/" , "Tb1DcpDataDtMsgEnd" : "\/Date(1560434408583)\/" , "Tb1DcpDataTimeMsg" : 6.60899973 , "Tb
Tb1DcpDataDataLen" : 219 , "Tb1DcpDataData" : " +5 +4 +5 +4 +5 +4+200+200+202+209+196+202 +0 +1 +1 +1 +1 +0 +5 +7 +6
+1 +0 +0 +4 +3 +3 +8 +6 +5+13.0+13.6 +4.8 -5.7+25.50" , "Tb1DcpDataTimeMsgCar" : 43629.583356192132 , "Tb1DcpDataTimeMsgEnd"
"UpdateNo" : 0 , "UpdateTime" : null , "DateCreated" : "\/Date(-621355968000000)\/" ]
>
```

- Note: Raw cURL output shown (No parsing performed).



# Message Export Automation

- Advanced method to automate retrieval of message data.
- Uses Python scripting language to fully interact with the DADDS website.
- Script loads a DCS website, enters/submits login information, applies a saved filter, adjusts the number of records to export, exports an Excel data file and logs out of the website.
- Outputs an Excel file that does not require additional effort to parse messages from the server response.
- Requires a DADDS website account.

# Python Language

- High level, general purpose interpreted programming language.
- Built to emphasize code readability and help programmers write clear, logical code for projects of all sizes.
- Designed to be highly extensible, allowing it to interface with existing applications seamlessly.
- Consists of a small core language with a large standard library of functions, classes, algorithms and data structures.

# Python - Windows

- Versions exist for both x86 and x64 Windows distributions.
- Most recent release 3.7.4 can be downloaded at:
  - <https://www.python.org/downloads/release/python-374>
- Once installed, Python scripts can be executed from a command prompt just like an MS-DOS batch script.
- Requires manual installation and configuration. Does not include a system supported installation that comes with most Linux distributions.



# Python – Linux

- Most Linux distributions incorporate a Python module that is supported by the operating system.
- If none exists, it can be installed using the ‘apt-get’ command to install the necessary packages.
- Refer to the following link for details on how to manually install the Python programming language on Linux:
  - <https://docs.python-guide.org/starting/install3/linux/>
- Otherwise, the Python interpreter should be configured and functioning. No other steps are required to execute Python scripts.

# Python Scripts

- Python scripts have an extension of '.py', and contain the code that is executed by the Python interpreter.
- The automated message export script contains code with the HTML requests and responses necessary to interact with the website and export message data.
- The Python script used to automate exports performs a number of interactive steps including:
  - Login to a DADDS website.
  - Apply a pre-defined saved filter.
  - Increase the export message limit.
  - Export messages as Excel data file.
  - Logout of the DADDS website.



# Python Example

```
1  from requests import Session
2  import time as time
3  import json
4  import re
5  from datetime import datetime
6  from datetime import timedelta
7  from datetime import timezone
8  from email_script import email_me
9
10 def main():
11
12     size = 2000 # number of rows of data to export
13     output_file = 'Quelccaya_temp.csv' # name of file to append data to
14     s = Session()
15     login_url = "https://dcs1.noaa.gov/ACCOUNT/Login"
16     r = s.get(login_url)
17
18     payload = {"__RequestVerificationToken": r.cookies["__RequestVerificationToken"],
19              "UserName": "perrylb@appstate.edu",
20              "Password": "          "}
21
22     r = s.post(login_url, data=payload)
23
24     r= s.get("https://dcs1.noaa.gov/Messages/List")
25
```



```

26 payload = {"Grid-sort": "",
27            "Grid-page": 1,
28            "Grid-pageSize": 20,
29            "Grid-group": "",
30            "Grid-filter": ""}
31
32 r = s.get("https://dcs1.noaa.gov/Messages/List", params=payload)
33 r = s.post("https://dcs1.noaa.gov/Messages/ExportSize", data={"size": size})
34 r = s.post("https://dcs1.noaa.gov/Messages/LoadView", data={"index": 1,"types":"Messages"})
35
36 payload = {"Grid-sort": "",
37            "Grid-page": 1,
38            "Grid-pageSize": 20,
39            "Grid-group": "",
40            "Grid-filter": "",
41            "_": int(round(time.time() * 1000))}
42
43 headers = {"Accept": "application/json, text/javascript, */*; q=0.01", "Accept-Encoding": "gzip, deflate, sdch",
44           "Accept-Language": "en-US,en;q=0.8"}
45
46 try:
47     r = s.get("https://dcs1.noaa.gov/Messages/List", params=payload, headers=headers)
48     data = json.loads(json.loads(r.content.decode('utf-8')))
49 except ValueError:
50     print('Problem. Send notification email.|')
51     email_me()
52     return

```

```

53 csv_data = []
54 sr_regex = re.compile(r"[\s'\"]")
55 num_regex = re.compile(r"\d+")
56
57
58 with open(output_file, mode='a+', encoding='UTF-8') as file:
59     file.seek(0)
60     if len(file.read()) > 0:
61         file.seek(0)
62         last_line = file.readlines()[-1]
63         last_line_parts = last_line.split(",")
64         date = ", ".join(last_line_parts[0:4])
65         last_date = datetime.strptime(date, "%Y,%m,%d,%H").replace(tzinfo=timezone.utc) + timedelta(hours=1)
66         last_date = last_date.timestamp()
67     else:
68         last_date = 0
69         last_line = ''
70
71     for d in data:
72         if "DADDS" not in d['TblDcpDataData']:
73             ts = int(num_regex.search(d['TblDcpDataDtMsgCar']).group(0))/1000
74             if ts > last_date:
75                 date_str = datetime.utcnow().timestamp(ts).strftime("%Y,%m,%d,%H")
76                 csv_data.append("{}{},{},{}".format(date_str, sr_regex.sub("", d['TblDcpDataData'])))
77
78     csv_data.reverse()
79     if csv_data[0] == last_line:
80         del csv_data[0]
81
82     file.seek(0)
83     if len(csv_data) > 0 and len(file.read()) > 0:
84         file.write("\n")
85     else:
86         file.write("")
87
88     file.write("\n".join(csv_data))
89
90     r = s.get("https://dcs1.noaa.gov/ACCOUNT/SIGNOUT")
91
92 if __name__ == '__main__':
93     main()

```



# Future of Automation

- A prior work assignment proposal to stream DCS message data via web browsers and web sockets technology or other means may come back to life in the next option year for this project.
- If implemented, a custom interface would be added to the DADDS website to provide users automated access to message data.
- Would eliminate the need for 3<sup>rd</sup> party solutions described in this document, and used to achieve automated DCS message data downloads.



# End Website Automation

Special thanks to Heather Guy at Appalachian State University for the python script used in the message export automation example.

