



March Meeting

5/11/2022

AGENDA

1. Announcements
2. Ohio Department of Transportation
 - Event Validations
3. Esri Updates
 - New Capabilities for Pro 3.0
4. Open Discussion

**** Please mute phones!! ****

ANNOUNCEMENTS

- GIS-T Recap
 - ESRI RnH Pro Learning Lab with Rahul, Praveen, Amit, Jay, Triston
 - ESRI Customer Engagement with Nathan, Gary, Clive, Grace, Eric R, Donald, Jim, Eric F, Jeff, Eric B, Terry
 - Vendors for Cloud & RnH Pro Transitions
- ESRI User Conference
 - July 11th -15th - San Diego Convention Center
 - Registration Now Open
- RHUG to be Featured in FHWA's Newsletter
 - GIS in Transportation Newsletter
 - <https://www.gis.fhwa.dot.gov/Newsletters.aspx>
- GeoNet - Become a part of the ESRI Community

Ohio Department of Transportation

Event Validations

Erin Westfall and Ethan Pointer

Esri Updates

New Capabilities for Pro 3.0

Nathan Easley

Poll Question

Roads & Highways with Pro

Open Discussion

RHUG Agile Asset User Group

We are looking for folks who use both products to start a conversation.

Please reach out to both Kevin Hunt (NYS ITS)

kevin.hunt@its.ny.gov and Ryan Koschatzky (NCDOT)

rjkoschatzky@ncdot.gov for more information by May 18th,

we like to get a doodle poll going for our first meeting.

Upcoming Meetings / Contacts

Wednesday June 8th, 1:30-3pm

Contact Info:

Erin Lesh ealesh@ncdot.gov

Patrick Whiteford pwhiteford@azdot.gov

Ryan Koschatzky rjkoschatzky@ncdot.gov

Shaun Perfect sperfect@azdot.gov



**Product Team Update
RHUG meeting 5/11/22**

Nathan Easley

Capabilities currently under development

- **Event editing in Pro**
 - **Add Single Point, Single Line, Multiple Point, and Multiple Line event tools**
 - **Split Events**
 - **Create/Modify Attribute Sets**
 - **Conflict Prevention in event editing tools in Pro**
- **Release stabilization**

Support Incidents/Defects

- **BUG-000146863** – Some unique value symbologies do not appear in ArcGIS Event Editor's Layers pane when using some styles (Fixed in 10.9)
- **BUG-000147512** – ArcGIS Event Editor displays an unexpected behavior when using the Linear Event widget with a traditional versioning enabled linear referencing system (LRS) dataset. The highlight cannot be cleared while the widget is opened. (Currently being investigated)

Other Announcements

- **Thanks to everyone who stopped by the holistic learning lab at GIS-T!**

Demos



esri

THE
SCIENCE
OF
WHERE

ROAD INVENTORY FME DATA VALIDATIONS • RHUG MONTHLY MEETING, MAY 2022



DATA VALIDATIONS HISTORY

- Pre-ESRI Database: Nightly validations were run to cross check data stored in the LRS versus the event data tables
- 2014 : Switch to Road and Highways, vendor creates data validations custom web application
- 2019: ArcGIS Data Reviewer
- 2020: Safe Software's data integration platform FME

WHAT IS FME?

- Data integration software
 - Transform data
 - Integrate spatial data
 - Data conversion
 - Data validation



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Greater processing speed when compared to
ArcGIS Data Reviewer



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12/03/20                                OHIO DEPARTMENT OF TRANSPORTATION                                RI-201                                PAGE 001
                                         STATE BASIC INVENTORY ERROR LISTING

                                         FIRST LINE SHOWS COLUMN NUMBERS WITH ASTERISKS IN ERROR FIELDS
                                         SECOND LINE SHOWS ERROR RECORD

.....1.....2.....3.....4.....5.....6.....7.....8...
ALL 00309R12730 00783                                14                                A Secondary section shouldn't be coded?
+...9...+...0...+...1...+...2...+...3...+...4...+...5...+...6..
SALLSR00309**C5
.....7.....8.....9.....0.....1.....2.....3.....4.....5.....6.....7...
JCT SR65                                Muni Name Lt/Rt                                S
+...8...+...9...+...0...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+...8
LIMA                                LIMA

.....1.....2.....3.....4.....5.....6.....7.....8...
ATH200682R00640 00020GLI 01 GLI 009 GLI 00914N UATHENS *L0499705A Divided Hwy and IN Shoulders not populated.
+...9...+...0...+...1...+...2...+...3...+...4...+...5...+...6.. Kicking out in our validations.
SATHSR00682**C
1 23
+...7.....8.....9.....0.....1.....2.....3.....4.....5.....6.....7...
BGN ROUNDABOUT                                S 55
+...8...+...9...+...0...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+...8
SPLAINS RD 005000 00018018ATHENS ATHENS

.....1.....2.....3.....4.....5.....6.....7.....8...
ATH200682R00660 00020GLI 01 GLI 009 GLI 00914N UATHENS *L0499705A
+...9...+...0...+...1...+...2...+...3...+...4...+...5...+...6..
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SPLAINS RD 005000 00018018ATHENS ATHENS

Mileage Class                                Priority System
.....1.....2.....3.....4.....5.....6.....7.....8...
AUG200033R02047 00012GXI 02 GP 020 GI 00414Y N*GSAINTE MARYS N13999999A
+...9...+...0...+...1...+...2...+...3...+...4...+...5...+...6..
204 31 SAUGS00033**C
+...7.....8.....9.....0.....1.....2.....3.....4.....5.....6.....7...
ENTER SAINT MARYS CORP LINE                                A00033000000                                S 55
+...8...+...9...+...0...+...1...+...2...+...3...+...4...+...5...+...6...+...7...+...8
US 33 06 06024036SAINT MARYS SAINT MARYS
```

ADVANTAGES TO USING FME

No specialized coding knowledge required

The screenshot displays the FME software interface. On the left, a workflow titled "Truck Route (V021A - V021D)" is shown, consisting of several transformer blocks (V021A, V021B, V021C, V021D, V021E) connected in a sequence. Three of these blocks are expanded to show their internal logic:

- V021A - Truck Route must be Yes or Interstate route when Truck Route is N or FAP is N and Truck Route is Y**: This block contains a "Truck route is NULL" condition and an "Output" port.
- V021C - Interstate must be a truck route**: This block contains an "IR Route is not a truck route" condition and an "Output" port.
- V021E - Truck Route must be Yes on Federal Air Primary Routes**: This block contains "Passed" and "Failed" conditions and an "Output" port.

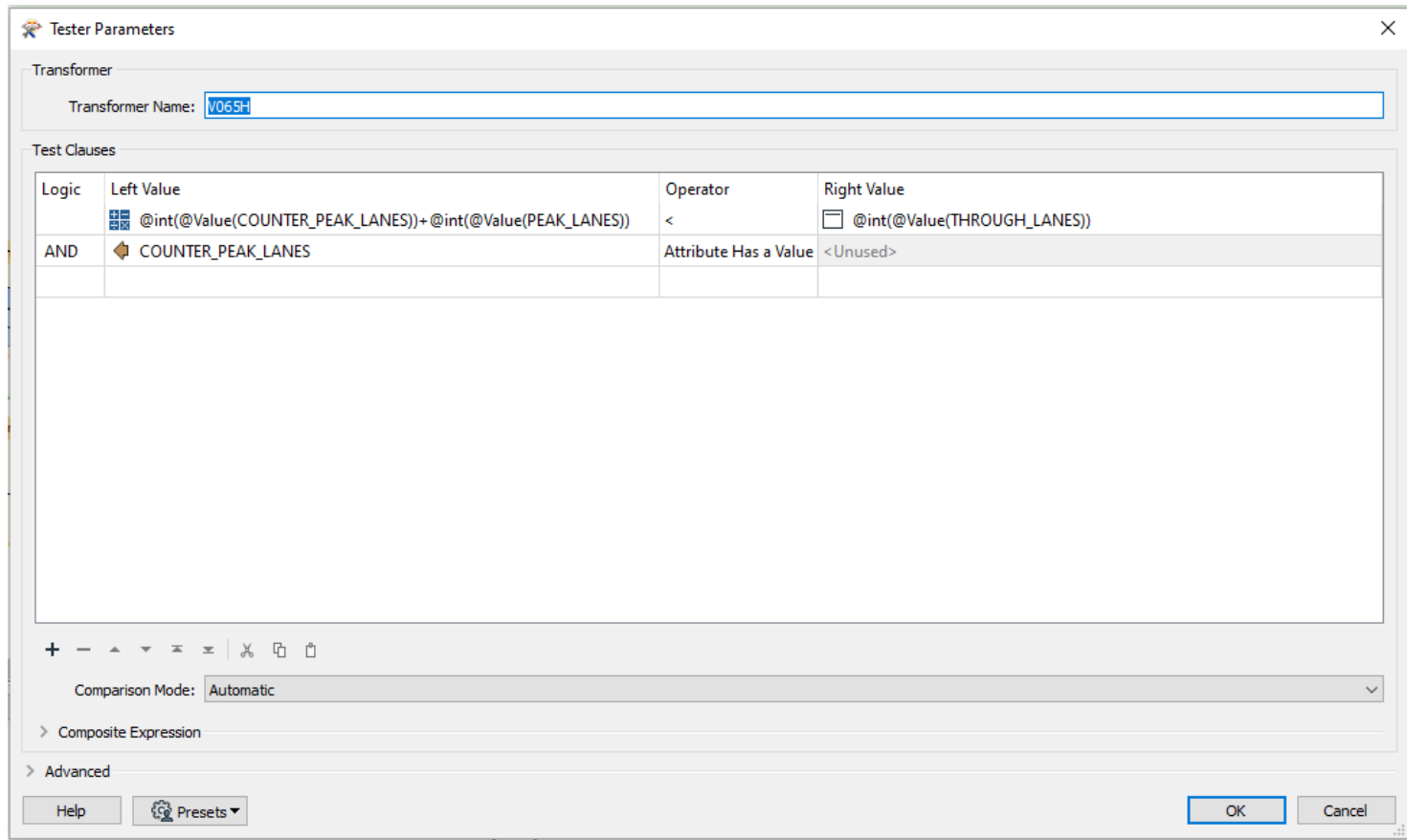
On the right, the "TestFilter Parameters" dialog box is open, showing the configuration for the V021A transformer:

- Transformer Name:** V021A
- Port Definitions:** A table defining the test conditions and their corresponding output ports.

Test Condition	Output Port
if @Value(ROUTE_TYPE_CD) IN US,SR,CR,TR,MR AND @Value(CARDINALITY_CD) = C AND @Value(ROUTE_EXTENSION_CD) NOT_IN P,X,I AND @Value(ROADWAY_CLASS) != 3 AND @Value(OVERLAP_INDICATOR) = P AND TRUCK_ROUTE_IND ATTRIBUTE_VALUE_NULL AND @Value(FACILITY_TYPE_CD) != 9	Truck route is NULL
Else If	
Else <All Other Conditions>	<UNFILTERED>

ADVANTAGES TO USING FME

Cleaner Data, easier HPMS submission



ADVANTAGES TO USING FME

More frequent publishing in the future

TIMS TRANSPORTATION INFORMATION MAPPING SYSTEM

Project Search Create a Map Data Download Standard PDF Maps Map Viewers Data Glossary

Identify

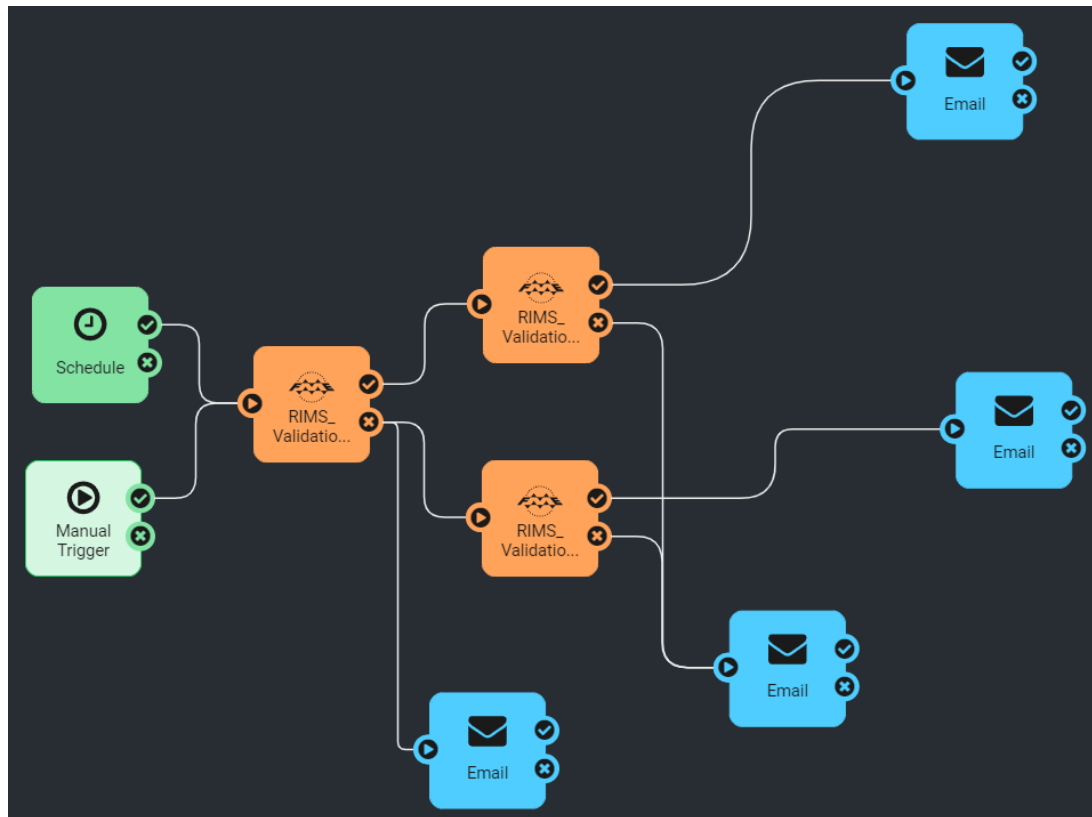
Result layers:

Road Inventory

ObjectID	468504
PERP_YEAR	2020
LAST_MODIFIED_DATE	2/17/2021
ODOT_DISTRICT	06
NLF_ID	SDELSR00750**C
JURISDICTION_CD	S
COUNTY_CD	DEL
ROUTE_TYPE	SR
ROUTE_NBR	00750
ROUTE_SUFFIX	*
ROUTE_EXTENSION_CD	*
CARDINALITY_CD	C
CTL_BEGIN_NBR	3.87
CTL_END_NBR	4.21
SEGMENT_LENGTH_NBR	0.34
LEAVE_IND	N
REENTER_IND	N
GAP_LEAVE_IND	N


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Workflows can be automated and run from the FME server



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Workflows can be turned into apps and run by users

**OHIO DEPARTMENT OF
TRANSPORTATION**
OFFICE OF TECHNICAL SERVICES

Event Layer Validations by User

Description

This runs most of validations against a user version to check current errors. While this can't run every validation that are performed nightly, it can check the majority of them.

Parameters

Version - Select the your ESRI version from the drop down list.

County - Enter a three character county code. Multiple counties can be run at once, insert a space after each county code, (i.e. FRA MED ATB). The more counties you enter the longer it will take. if you run it on the entire state it'll take several hours. Be sure to only run it on a district (10mins) or a county (several minutes).

Route - Enter the NLF_ID of the route to run the query on. Multiple routes can be run at once, insert a space after each NLF_ID, (i.e. SFRAIR00270++C SFRAIR00070++C). <- Note: You also must enter the county code in the other parameter.

File

The output file will be saved here:
K:\RoadwayInformation\04 Validations\05 FME Validation Output\User Run Validations\Event Layers
Note: if there are no errors no file will be created.

Select a version to run

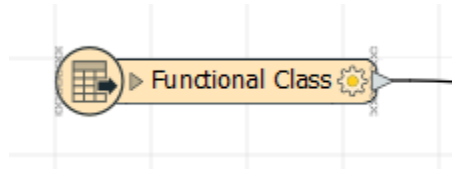
Enter counties separated by a space

Enter routes separated by a space (optional)

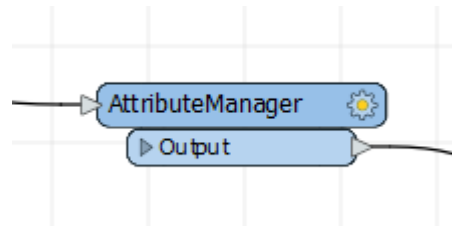
DEMONSTRATION

EASY AS 1, 2, 3

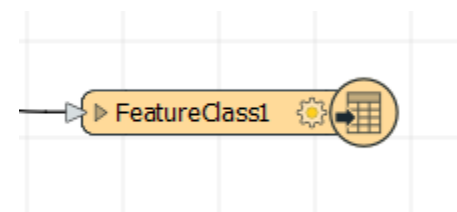
Reader



Transformer



Writer



QUESTIONS



Ethan Pointer: ethan.pointer@dot.ohio.gov

Erin Westfall: erin.westfall@dot.ohio.gov

ROAD INVENTORY FME DATA VALIDATIONS • RHUG MONTHLY MEETING, MAY 2022



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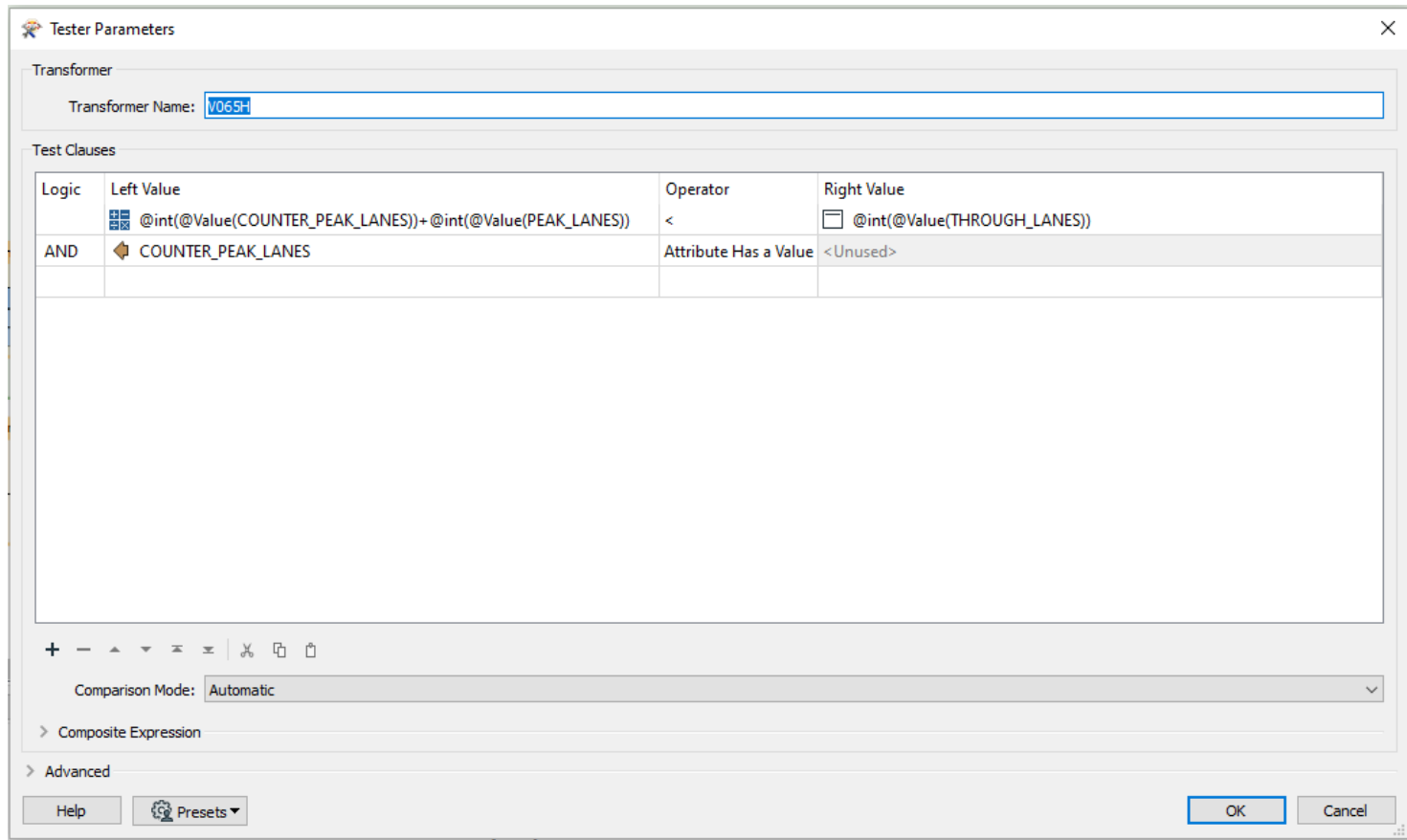
The screenshot displays the FME software interface. On the left, a workflow titled "Truck Route (V021A - V021D)" is shown, consisting of several transformer blocks (V021A through V021E) connected in a sequence. The main area shows a detailed view of the V021A transformer, which is a TestFilter. The transformer is configured to filter data based on specific conditions. The "TestFilter Parameters" dialog box is open, showing the following configuration:

Test Condition	Output Port
<code>if @Value(ROUTE_TYPE_CD) IN US,SR,CR,TR,MR AND @Value(CARDINALITY_CD) = C AND @Value(ROUTE_EXTENSION_CD) NOT_IN P,X,I AND @Value(ROADWAY_CLASS) != 3 AND @Value(OVERLAP_INDICATOR) = P AND TRUCK_ROUTE_IND_ATTRIBUTE_VALUE_NULL AND @Value(FACILITY_TYPE_CD) != 9</code>	Truck route is NULL
Else If	
Else <code><All Other Conditions></code>	<code><UNFILTERED></code>

The dialog box also includes a "Transformer Name" field set to "V021A", a "Port Definitions" section, and an "Advanced" section with "Help" and "Presets" buttons. The "OK" and "Cancel" buttons are visible at the bottom right.

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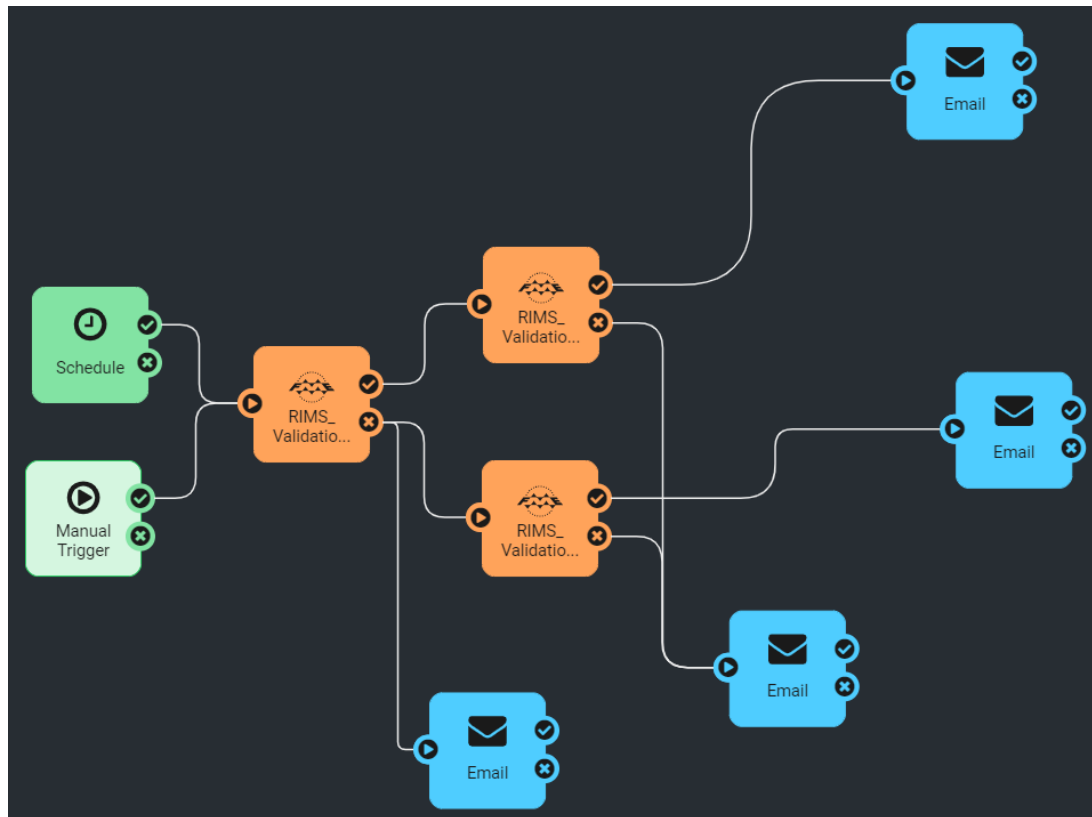
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JURISDICTION_CD	S
COUNTY_CD	DEL
ROUTE_TYPE	SR
ROUTE_NBR	00750
ROUTE_SUFFIX	*
ROUTE_EXTENSION_CD	*
CARDINALITY_CD	C
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SEGMENT_LENGTH_NBR	0.34
LEAVE_IND	N
REENTER_IND	N
GAP_LEAVE_IND	N


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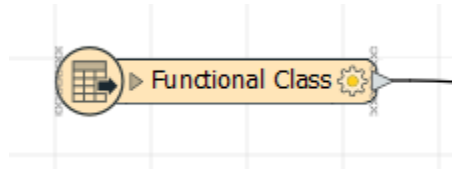
Enter counties separated by a space

Enter routes separated by a space (optional)

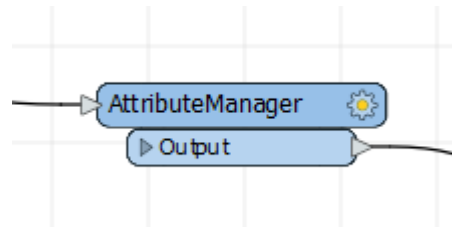
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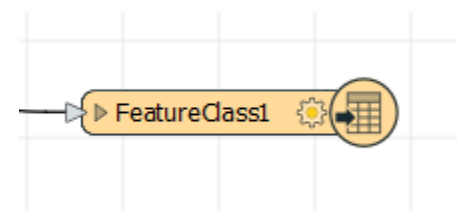
Reader



Transformer



Writer



QUESTIONS



Ethan Pointer: ethan.pointer@dot.ohio.gov

Erin Westfall: erin.westfall@dot.ohio.gov

1. Who has integrations with R&H now and looking to switch to Pro?

A	Yes	20/91
B	Yes but not looking to switch to Pro currently	8/91
C	No integrations but looking to switch to Pro	4/91
D	No but not looking to switch to Pro currently	0/91
E	No Answer	59/91

2. If so, is your integrated vendor's software compatible with R&H in Pro?

A	Yes	10/85
B	No	2/85
C	Unsure	8/85
D	Unknown	7/85
E	No Answer	58/85

from Ryan Koschatzky to everyone: 12:34 PM

<https://community.esri.com/t5/roads-and-highways-user-group-rhug/gh-p/roads-and-highways-user-group-rhug>

In the chat box make sure you scroll down below the presenters to find the Everyone tag to reply to all.

from Jim Mitchell to all panelists: 12:56 PM

Missing values are easy to find, like "urban Area" do you check for a 'correct' value?

from Jim Mitchell to all panelists: 12:57 PM

Yes!

from Lesh, Erin A to everyone: 12:57 PM

Great stuff Erin and Ethan! How much of your QC process would you still be able to do if you didnt have FME Server?

from Yueming Wu to everyone: 12:57 PM

Thanks for sharing. We WVDOT have set \$ aside and want to initiate a project soon to replicate your success.

from Jim Mitchell to everyone: 12:58 PM

Could this be made available outside of DOT, say for Local government "partners?"

from Lesh, Erin A to everyone: 12:59 PM

Thanks Ethan

from Kevin Hunt to everyone: 12:59 PM

Terrific presentation on the use of FME for data validation. Really opens up possibilities for data quality that I hadn't considered before. Thank you!

from Ethan Pointer to everyone: 1:02 PM

We have 20 floating licenses for desktop and 5 server engines (licenses)

from Aaron Ferrari to all panelists: 1:12 PM

Can it be configured to automatically round the measure to x decimal places?

from Charles McNeel to everyone: 1:12 PM

along with Ethan question, can the measure be rounded?

from Ethan Pointer to everyone: 1:12 PM

Are you able to manually enter the log point?

from Aaron Ferrari to everyone: 1:12 PM

Ok. Thanks.

from Yueming Wu to everyone: 1:12 PM

Can you give us the flexibility to manually enter Route ID as well?

from Ethan Pointer to everyone: 1:13 PM

thank you

from Yueming Wu to everyone: 1:13 PM

When I attended the learning lab at GIS-T, some of the LRS tools didn't allow us to do that.

from Yueming Wu to everyone: 1:14 PM

That's what I noticed.

from Sam Coldiron - OkDOT to everyone: 1:15 PM

With the attribute sets in Pro, can they still be set up with tabs like you can in RCE? Where it groups the events within the same attribute set.

from Amit and Clive Esri to everyone: 1:15 PM

KNow that if you round a value in the control your XY location will technically move.

from Lesh, Erin A to all panelists: 1:15 PM

Regarding Yueming's observation - is that because the lab was using 2.8 or older version in Pro?

from Sam Coldiron - OkDOT to everyone: 1:16 PM

Yes please!

from Alex Carter to everyone: 1:18 PM

Now it's available

from Yueming Wu to everyone: 1:18 PM

Yes, Nathan

from Yueming Wu to everyone: 1:18 PM

That's what I meant

from Alex Carter to everyone: 1:19 PM

When creating events, does it continue from the last measure?

from Ethan Pointer to everyone: 1:19 PM

Is there an eyedropper to copy events?

from Andréa Compton to everyone: 1:31 PM

For the add multiple line events, are there configurations for retire overlaps, etc?

from praveen kumar to everyone: 1:32 PM

Andrea retire overlaps capability is not yet added in 3.0

from Nathan Easley to everyone: 1:32 PM

Those options will be added at the next release along with other location methods, the eyedropper, and some of the other options from the Event Editor experience that aren't yet in Pro

from Andréa Compton to everyone: 1:33 PM

Thanks!

from Ethan Pointer to everyone: 1:33 PM

is there still a merge events?

from Ethan Pointer to everyone: 1:33 PM

ok thanks

from Jim Mitchell to everyone: 1:33 PM

Assuming that "split" events are "tracked" with a temporal history in R&H; Is there a way to find the "other" parts (from the original "unsplit" event)? For example, you select one part, how do you find the other(s)?

from Ethan Pointer to everyone: 1:34 PM

A general question, are there any features in event editor that you DON'T plan to bring into Pro?

from Jim Mitchell to everyone: 1:35 PM

Exxxxxxxxxxcelent.

from INDOT - Kevin Munro to everyone: 1:36 PM

If after an event is split if the EventID remains the same for all parts, how would a subsequent append events - replace by eventID operation react if only one of 2 parts were being appended?

from Ethan Pointer to everyone: 1:37 PM

great, so sounds like we won't lose any functionality that we have already

from INDOT - Kevin Munro to everyone: 1:38 PM

Thanks.

from Jim Mitchell to all panelists: 1:49 PM

Are any DOTs using AA;s Network Manager for their LRS?

from Ryan Koschatzky to everyone: 1:50 PM

kevin.hunt@its.ny.gov

rjkoschatzky@ncdot.gov

from Jim Mitchell to everyone: 1:52 PM

I have an AGP "BUG of the Month" I can share. It is not related to LRS or R&H.

from Nicole Hanson to everyone: 1:52 PM

ITD used Network Manager from Agile before switching to R&H