Brightlayer Utilities suite

Pittsburgh User Group

Feeder Automation

Charlene Ericson – Product Owner
Jasmin Giroux-Maltais – Product Manager

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User Group Agenda

- Upcoming 3.3R1
- Buy-a-Feature Game Review
- Roadmap
- Customer use case – Carroll EMC
- Data analytics technologies
- Open Mic

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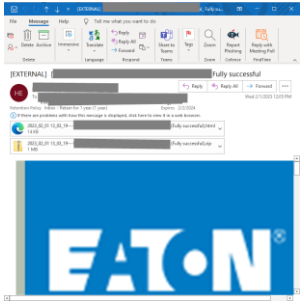
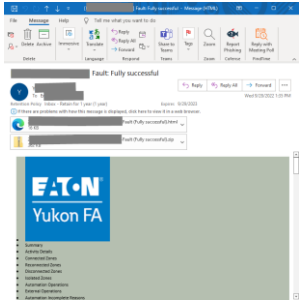
3.3R1 – Coming in May 2023

- Improve Eaton logo embedded in event emails





- New Analog Measurement Shape

- Generic Single-Phase Device

Automation Configuration \ Device Types \ Switching Device

Define all used device types in this table. Device types should be defined before devices.

	ID	Control (IED) Type	Fault Capability	Connected Phase	Break Load	Make Load
	Form6	Cooper Form 6	Trip and Reclose	All phases	☑	☑
▶	PhaseB Device	Generic	Trip and Reclose	Phase B	☑	☑
					☐	☐

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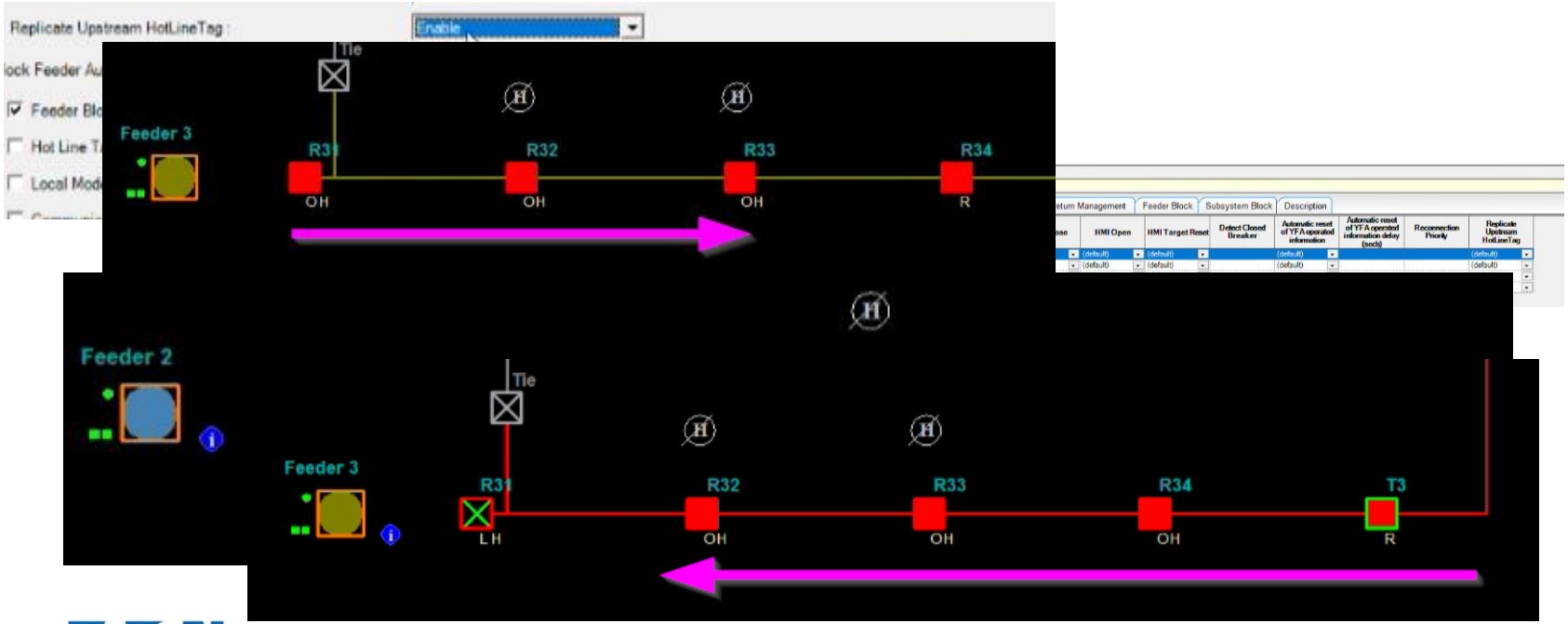
3.3R1 – Coming in May 2023

- Extend HLT isolation to devices without HLT point



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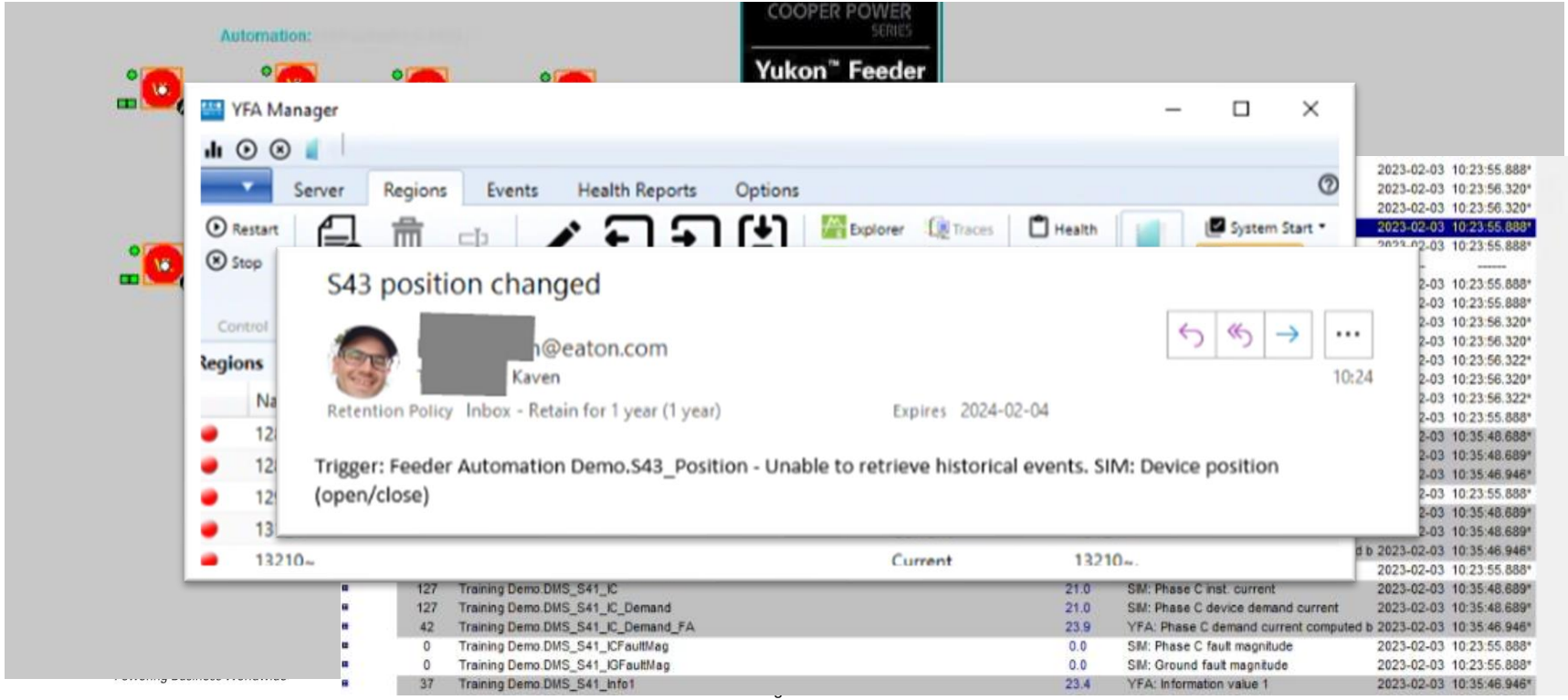
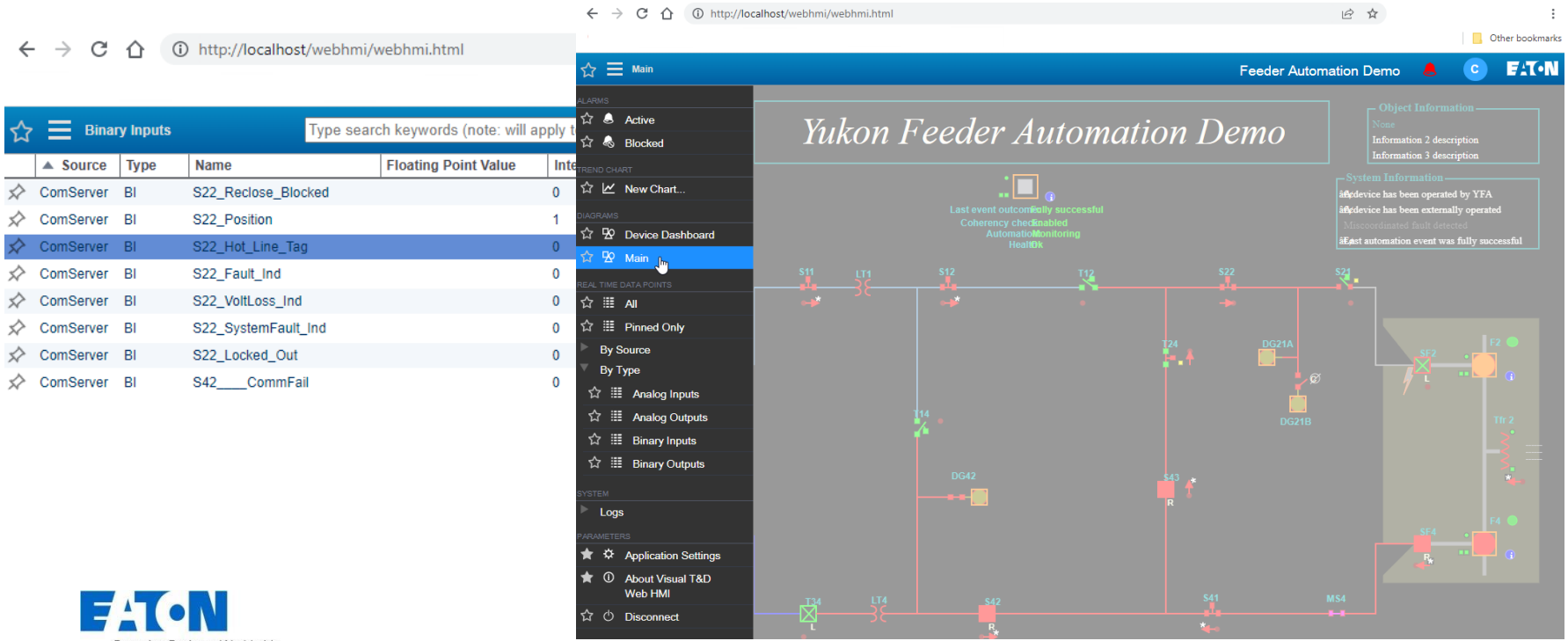
3.3R1 – Coming in May 2023

- Global VTD Site



3.3R1 – Coming in May 2023

- Real-Time Monitor Web Solution



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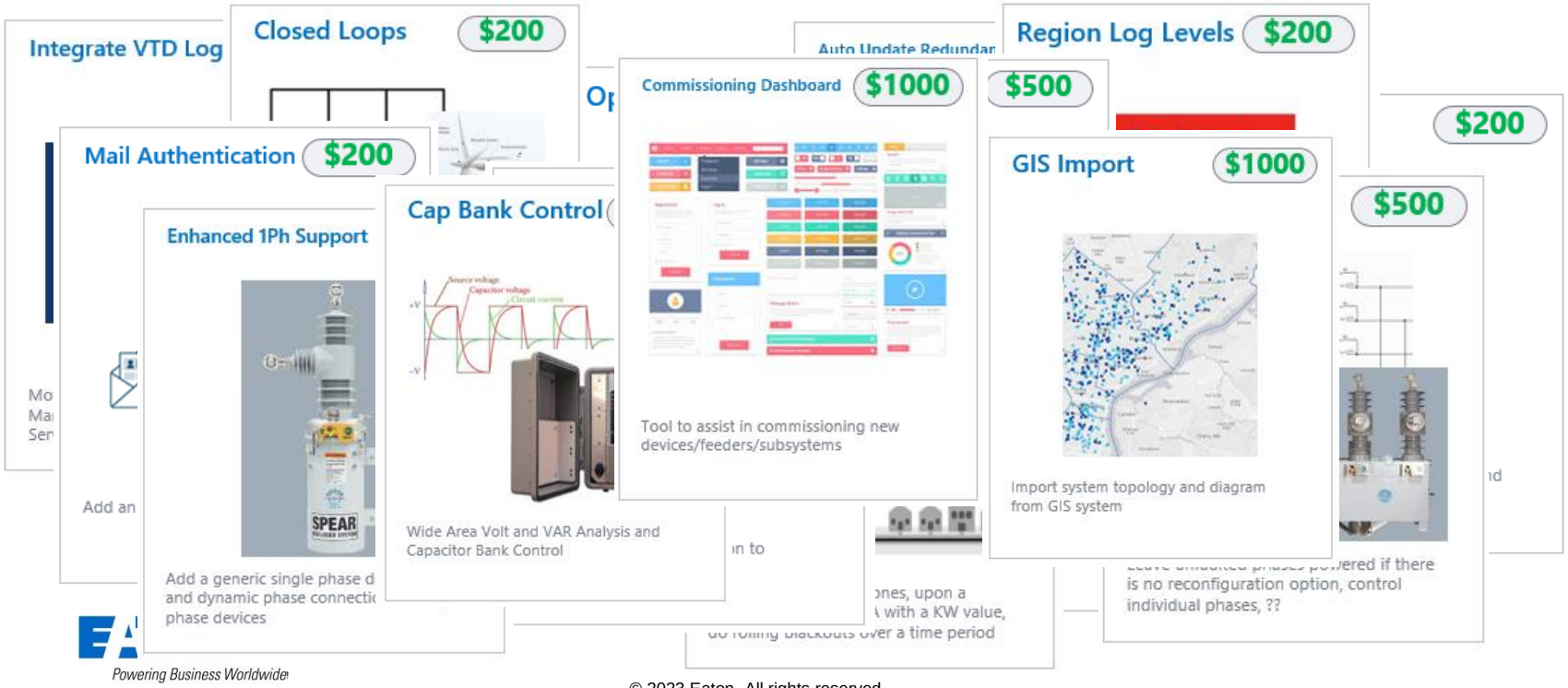
Buy-a-Feature Game Review

Least purchased features (Nice to haves)



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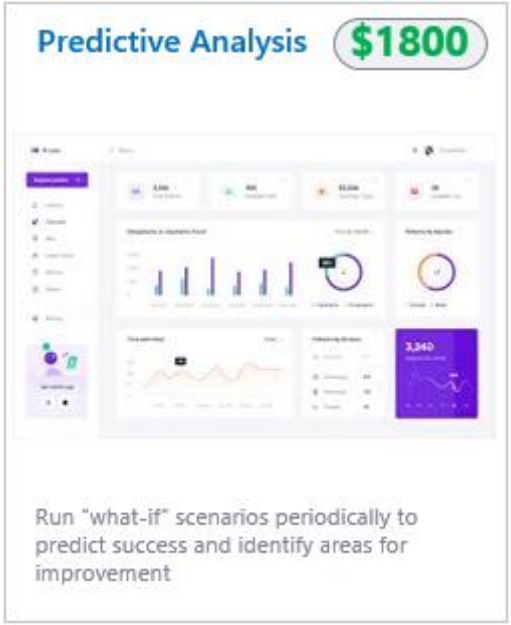
Buy-a-Feature Game Review

Most purchased long term feature



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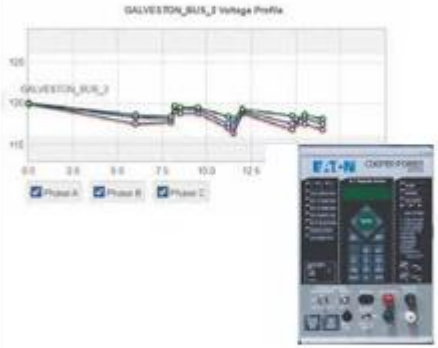
Buy-a-Feature Game Review

Most purchased “short term” features

Voltage Control $900



Wide Area Voltage Analysis and LTC and Regulators Coordinated Control

Full Shared Tie $700

Allow for an automated tie between subsystems or regions

Simulator Replay $300

Rerun events in the simulator allowing user to make changes and see different results.

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Roadmap

- 4.0R1 Q4 2023
  - New product name: Feeder automation manager
  - Licensing with Revenera – You manage your license
  - Prepare for FUTURE structure
    - 3 modules
      - Communication bridge (YGS)
      - Reliability (YFA)
      - Power quality (IVVC)

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Why those modifications ?

- Shared technology between two software
- Shared R&D resources
- More than just FLISR now
- Prepare for future integration of Volt/Var management
- Eaton standard licensing platform
- Mechanism to convert actual licenses

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Roadmap

- 4.0R1 Q4 2023
  - Enterprise Gateway update
    - Additional Master Protocols: IEC 101/104, Modbus, OPC UA
    - Additional Slave Protocols: IEC 104, OPC UA
    - DNP secure authentication V5

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Roadmap

- 4.1R1 Q2 2024 – TBC – Preliminary list
  - Tie device between subsystems/regions (11699)
    - **Advantage**: You can have smaller subsystem or region
    - **Disadvantage**: The engine will not be able to process two events in parallel anymore if a Tie is shared between two subsystems or regions. On the affected subsystems.
  - Enhanced single phase support (11973)
    - Support of single-phase interconnection when load is unbalanced

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AVVC Phase 1&2 – Volt\Var by heuristic (~2025)

- 1st Integration of Voltage Regulators
  - Support of CVR (limited to VR & LTC only)
  - Support of Voltage Management (limited to VR + LTC only)
- 2nd Integration of Capacitor Bank controller
- Supported Functionalities (same as IVVC)
  - CVR, Voltage Management, Peak reduction, Energy reduction, etc.
- Reactive to post event switching operations

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Roadmap

- Q4 2024
  - Phase 1
  - Voltage management & CVR using VR and LTCs

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Future

- Volt/Var management with Cap Banks
- Enhanced Triple Single support (part1) (12489)
- Allow operations to be executed in parallel on regions (11429)
- Dynamic bus monitoring (998)

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New PowerShell Scripts

- Sync Redundant server configuration**
- Populate the Customer Count per zone*
- Find all Bypassed and Out of Service devices**
- Export or Import multiple regions based on a text file**

**Available on demand

*Available in 3.3R1

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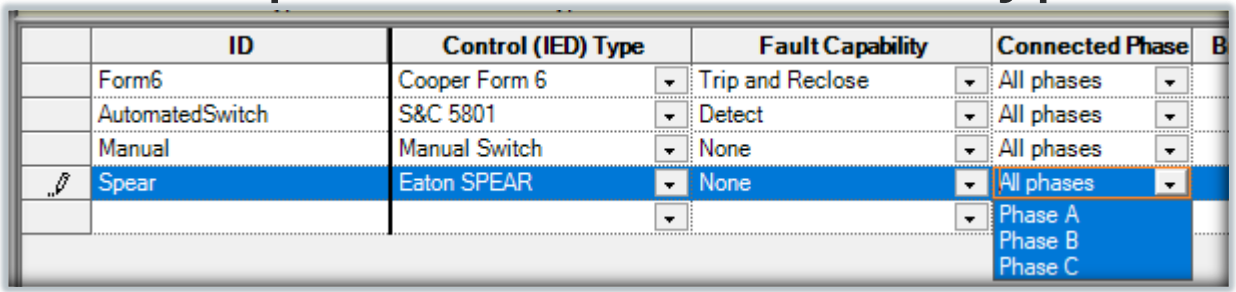
Single phase device integration

- Select the phase under Device Types



- Power flow 3Ph to 1Ph
- Limitation on Tie – YFA need same phase on both side (for now)

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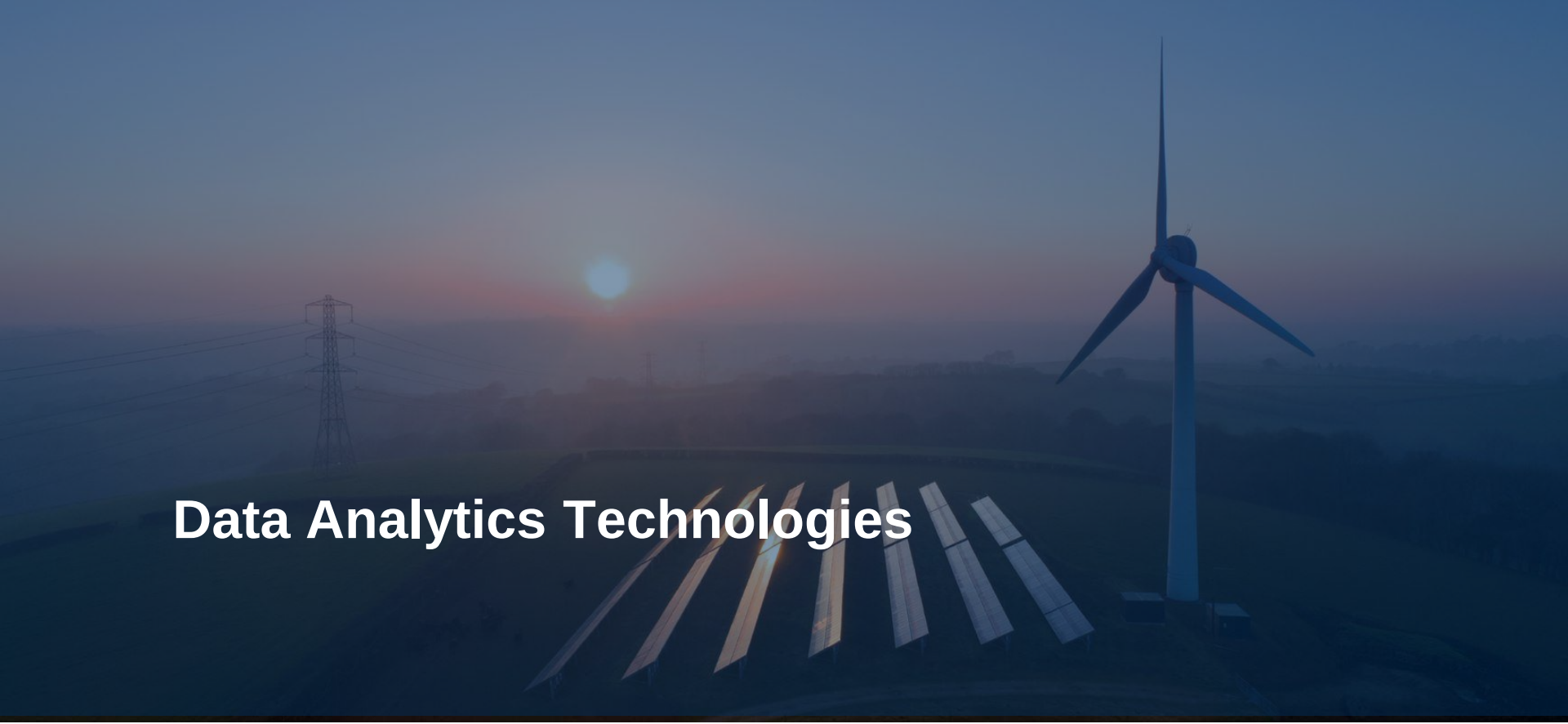

Data Analytics Technologies

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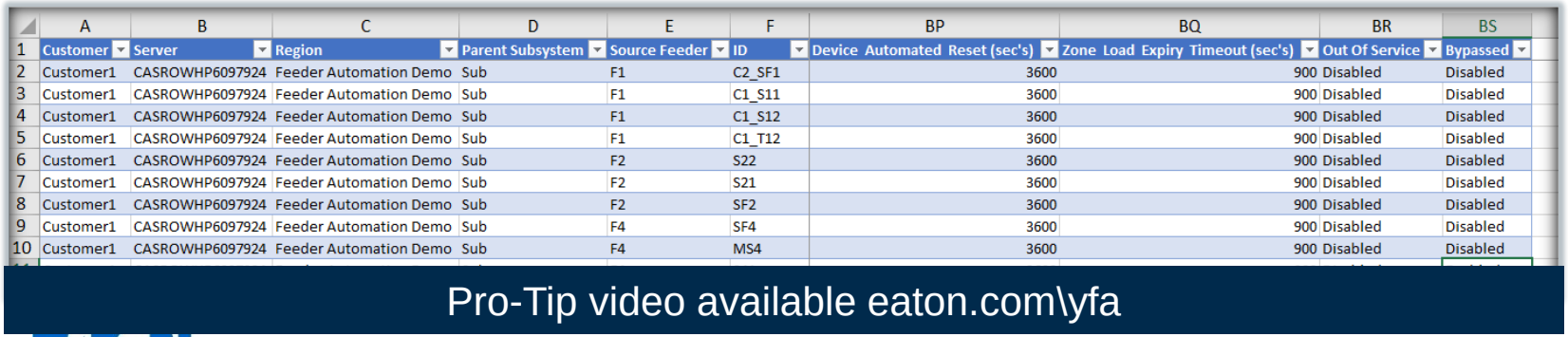
Report Aggregator

- Used by our QA to analyze customer configurations
- Extract the system report file
- Create an excel spreadsheet



	A	B	C	D	E	F	BP	BQ	BR	BS
1	Customer	Server	Region	Parent Subsystem	Source Feeder	ID	Device Automated Reset (sec's)	Zone Load Expiry Timeout (sec's)	Out Of Service	Bypassed
2	Customer1	CASROWHP6097924	Feeder Automation Demo	Sub	F1	C2_SF1	3600	900	Disabled	Disabled
3	Customer1	CASROWHP6097924	Feeder Automation Demo	Sub	F1	C1_S11	3600	900	Disabled	Disabled
4	Customer1	CASROWHP6097924	Feeder Automation Demo	Sub	F1	C1_S12	3600	900	Disabled	Disabled
5	Customer1	CASROWHP6097924	Feeder Automation Demo	Sub	F1	C1_T12	3600	900	Disabled	Disabled
6	Customer1	CASROWHP6097924	Feeder Automation Demo	Sub	F2	S22	3600	900	Disabled	Disabled
7	Customer1	CASROWHP6097924	Feeder Automation Demo	Sub	F2	S21	3600	900	Disabled	Disabled
8	Customer1	CASROWHP6097924	Feeder Automation Demo	Sub	F2	SF2	3600	900	Disabled	Disabled
9	Customer1	CASROWHP6097924	Feeder Automation Demo	Sub	F4	SF4	3600	900	Disabled	Disabled
10	Customer1	CASROWHP6097924	Feeder Automation Demo	Sub	F4	MS4	3600	900	Disabled	Disabled

Pro-Tip video available eaton.com\yfa

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Power-BI

- Easily extract information from the xml file from the Health report
- A little bit more work is necessary to extract data from the Event folder

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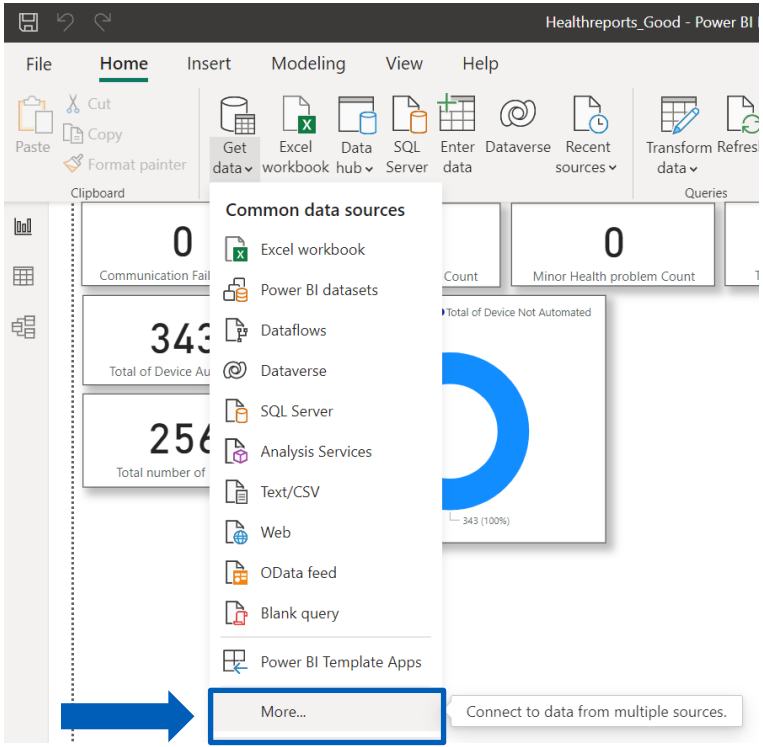
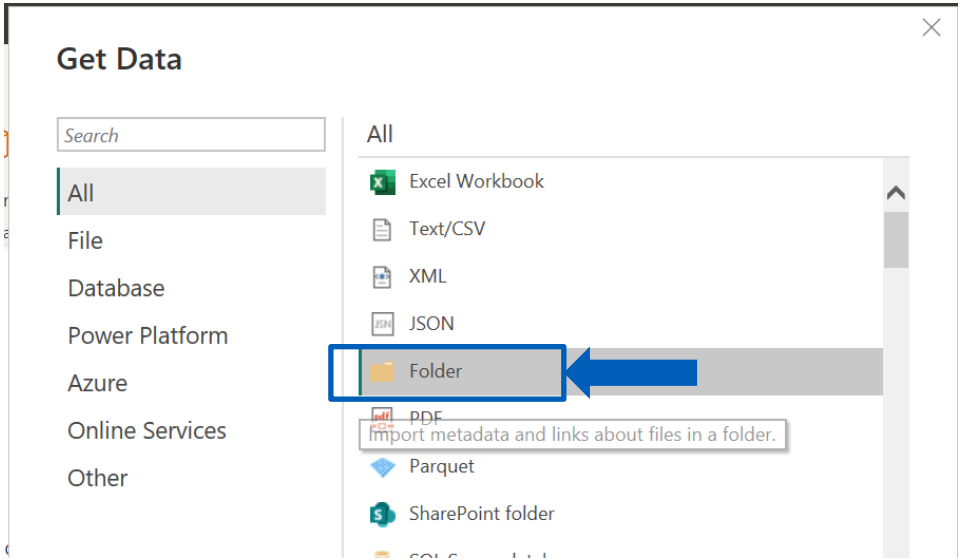
Power-BI
Health report Step 1: Get files from Folder





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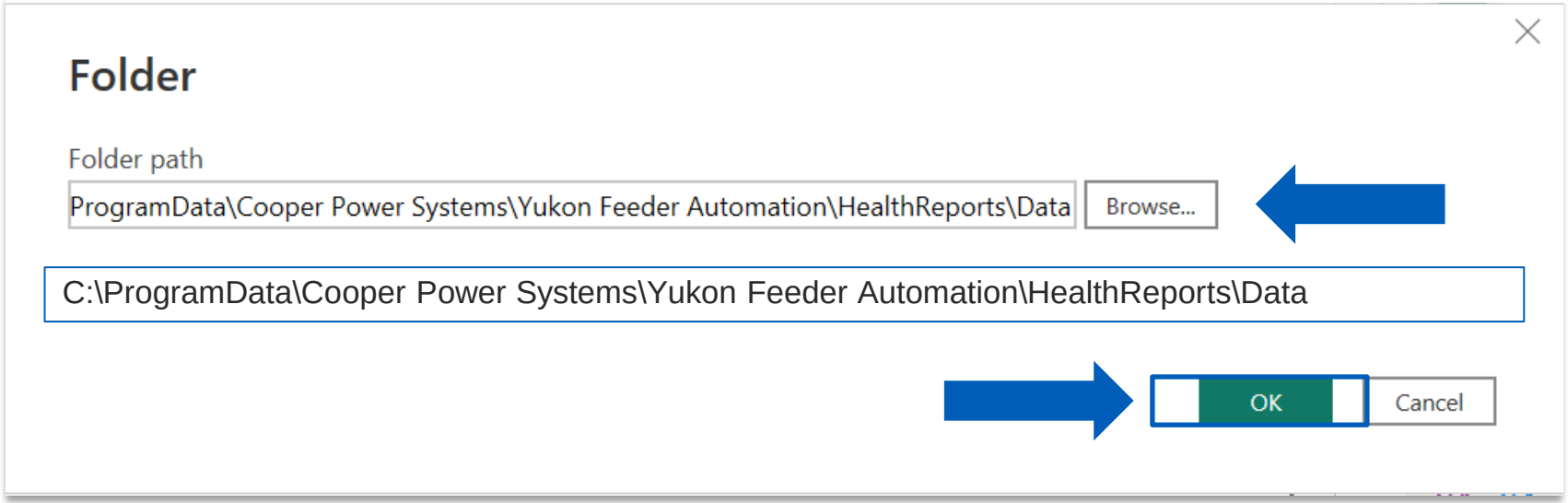
Power-BI
Health report Step 1: Get files from Folder



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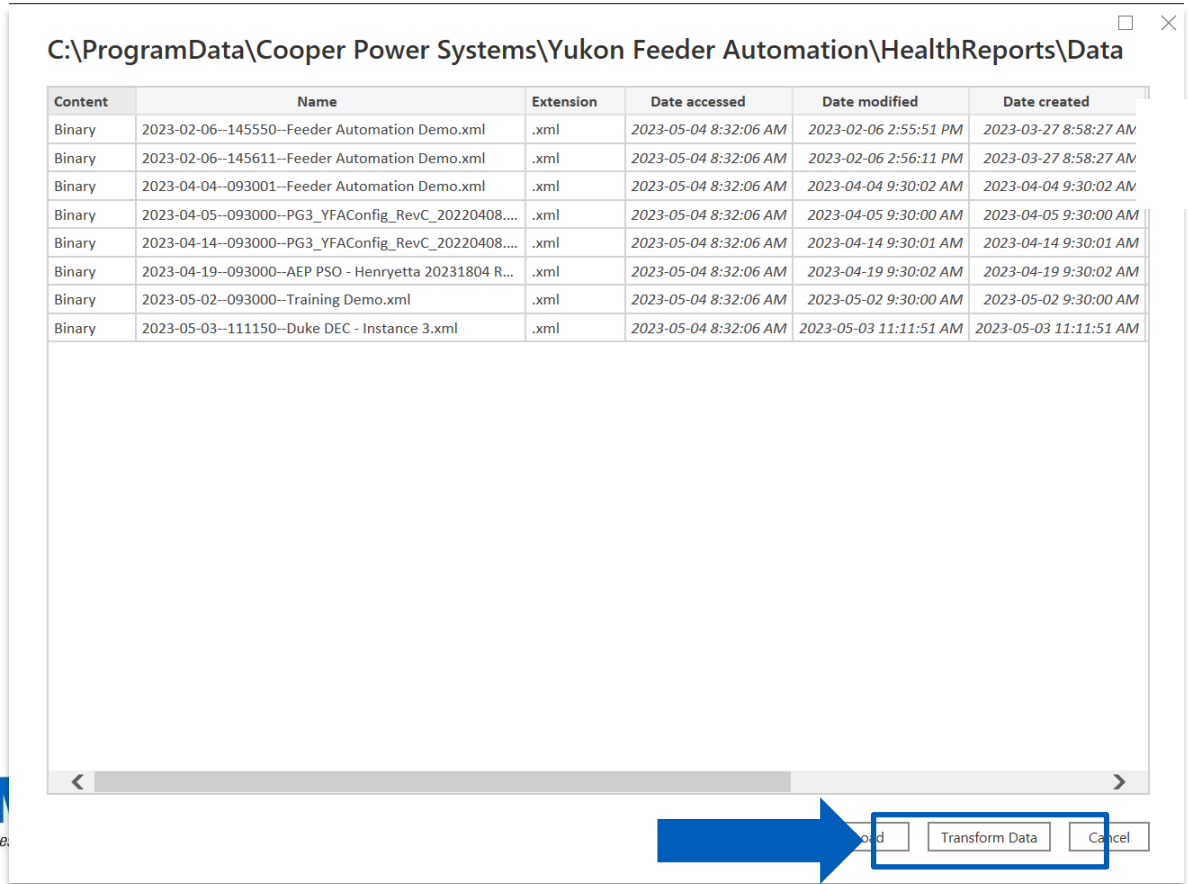
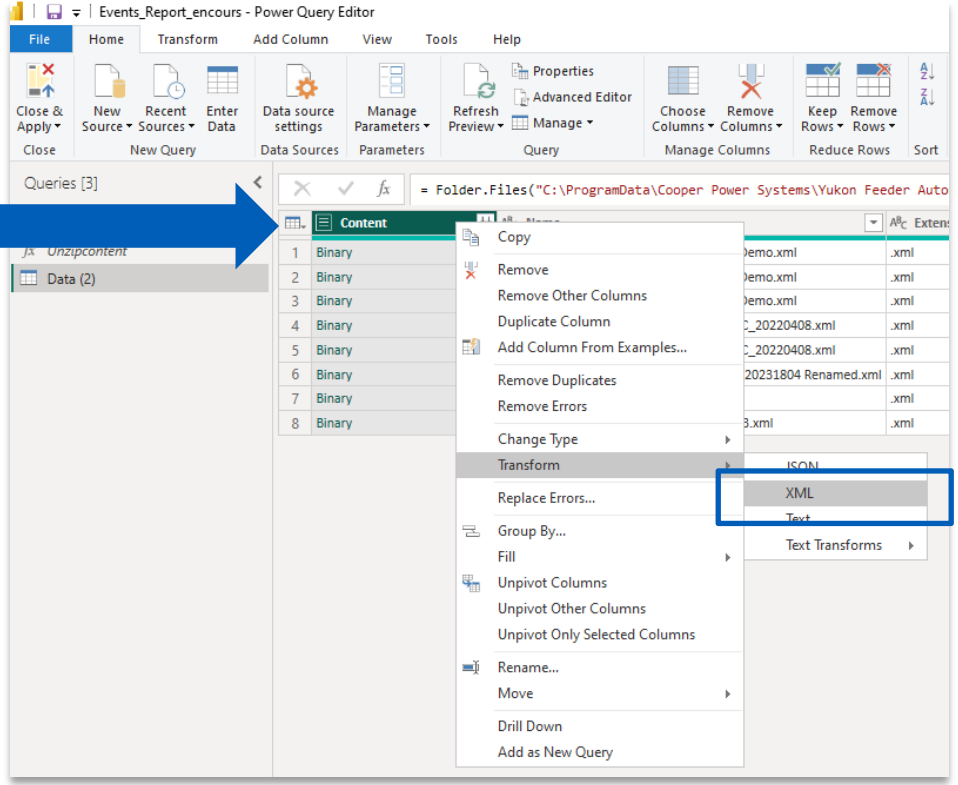
Power-BI
Health report Step 2: Transform data



Power-BI
Health report Step 3: Transform to XML

Right-Click on **Content** column



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Power-BI – Event report

- Steps 1 and 2 are the same as Health report
- Step 3 needs some more work

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Power-BI
Event report Step 3: Decompress the Zip file

- Steps 1 and 2 are the same as Health report
- Step 3 needs some more work

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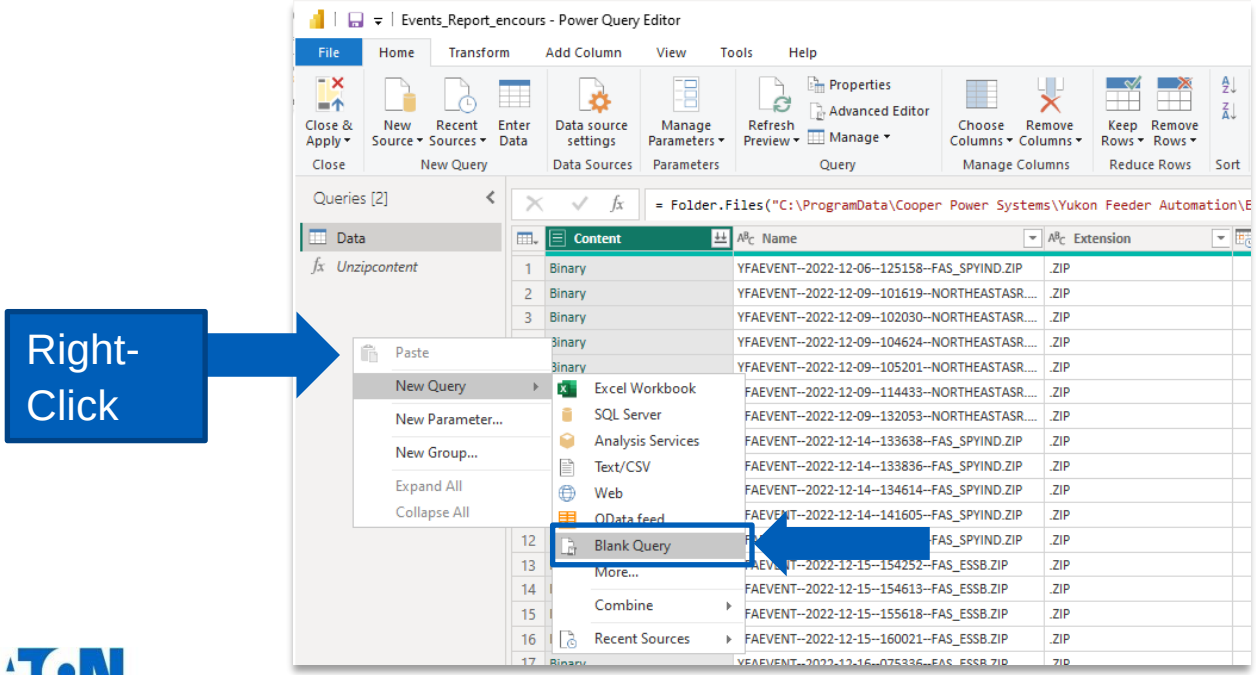
Power-BI
Event report Step 3: Decompress the Zip file

- First create a new Blank Query



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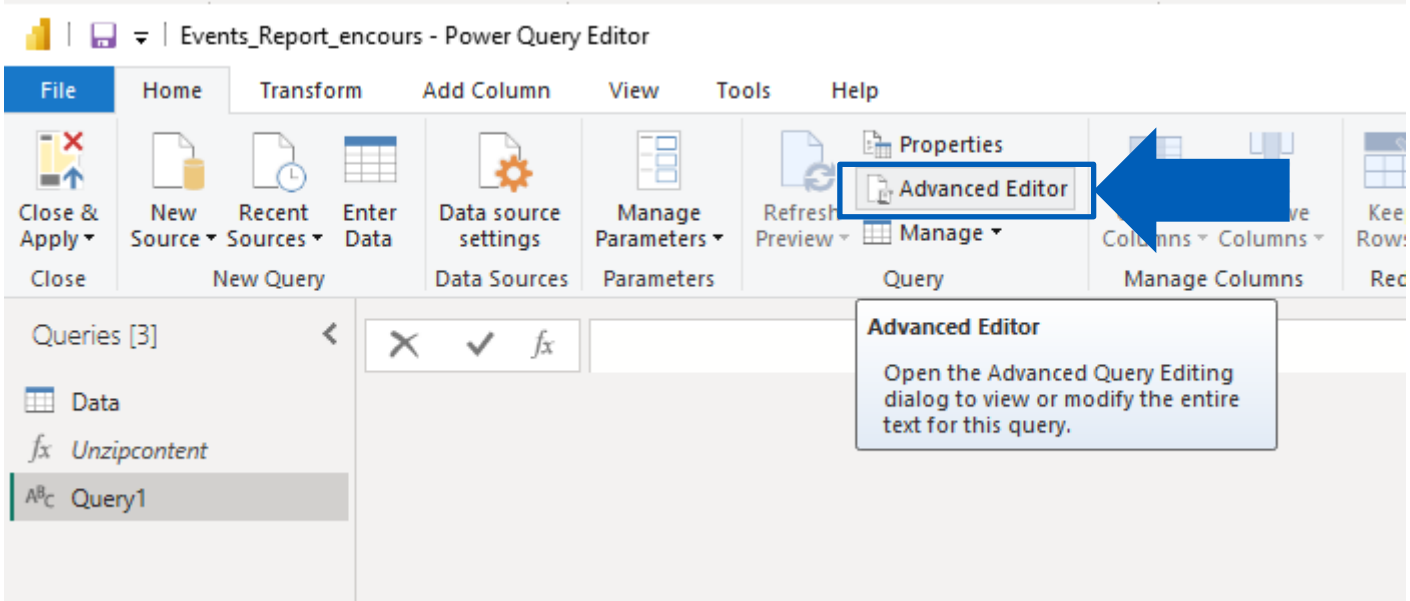
Power-BI
Event report Step 3: Decompress the Zip file

- Second use Advanced Editor



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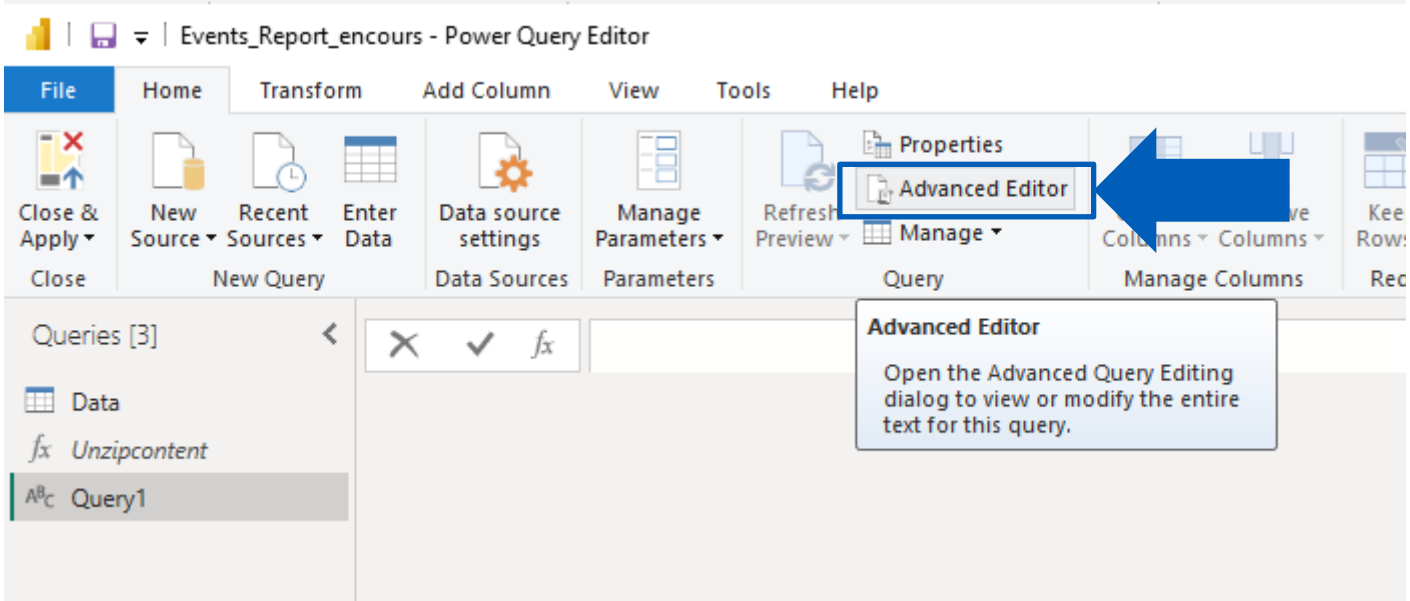
Power-BI
Event report Step 3: Decompress the Zip file

- Second use Advanced Editor



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Power-BI
Event report Step 3: Decompress the Zip file

- Replace the white space content with the unzip function from this web site: https://github.com/Michael19842/PowerBiFunctions/blob/main/ZipFile/Unzip.m

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Power-BI
Event report Step 3: Decompress the Zip file

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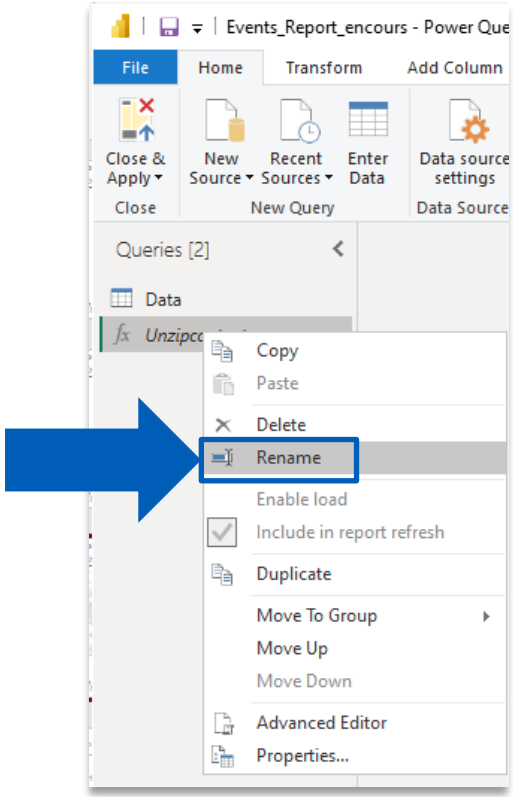
Power-BI
Event report Step 3: Decompress the Zip file

- Use the Rename to name this Query: **Unzipcontent**



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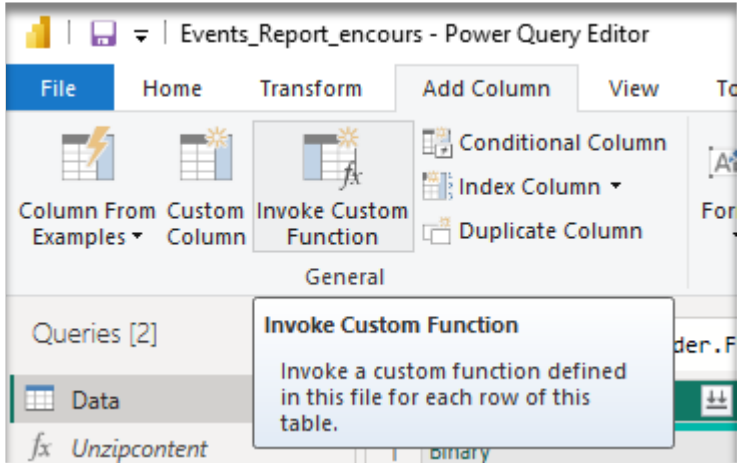
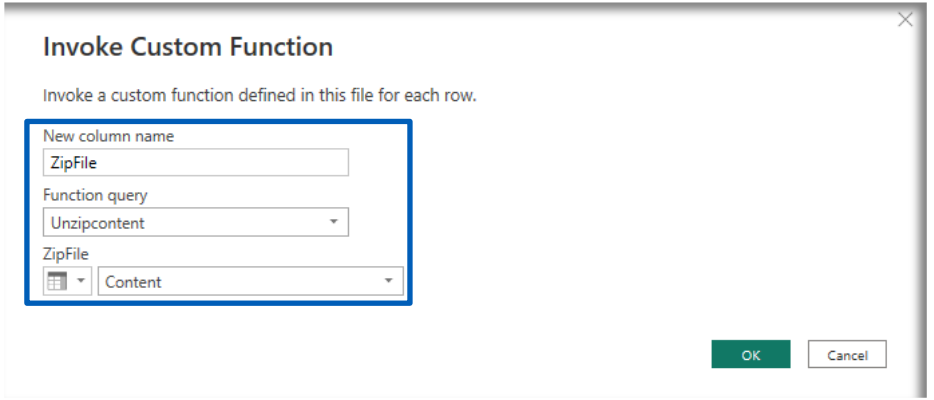
Power-BI
Event report Step 3: Decompress the Zip file

- Invoke the Custom Function





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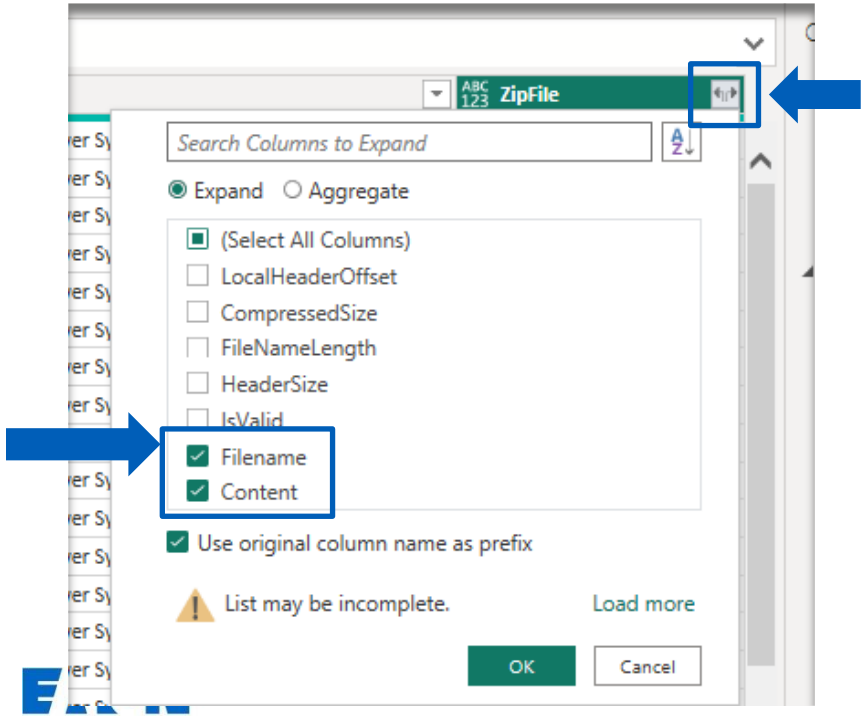
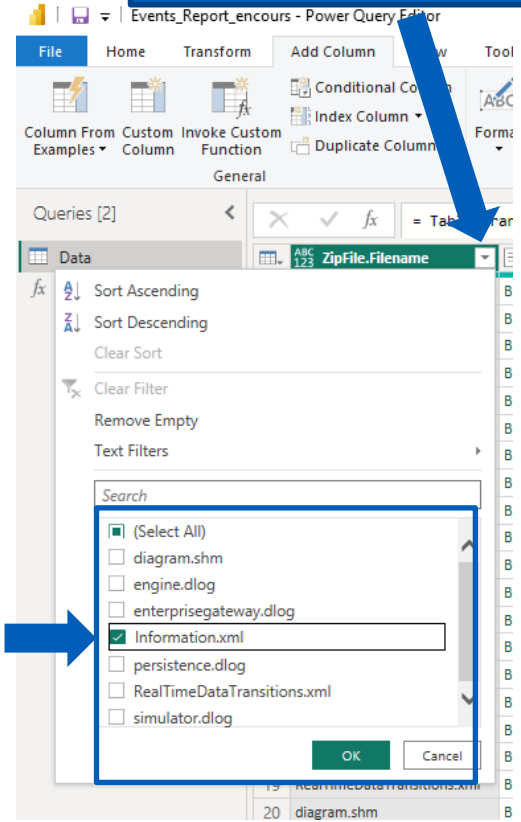
Power-BI

Event report Step 4: Data is **almost** available

- Expand the column



Click on Arrow



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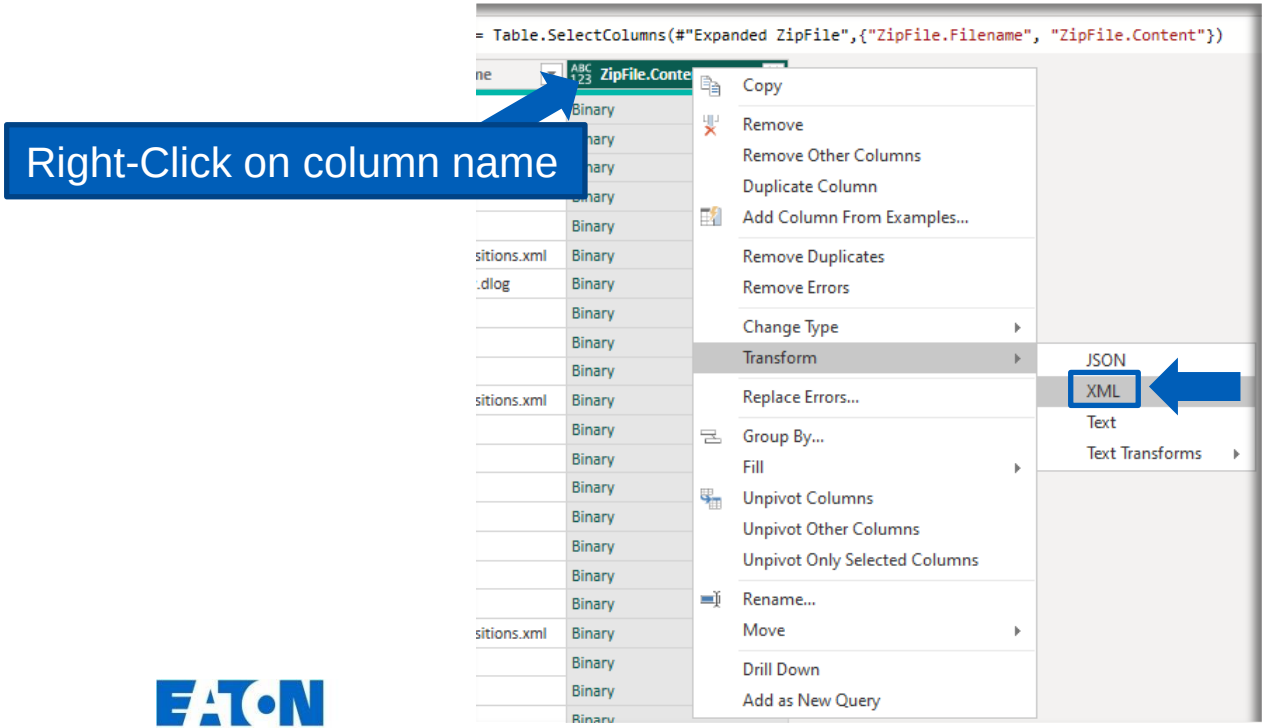
Power-BI
Event report Step 5: Data is **now** available

- Transform the XML to a table



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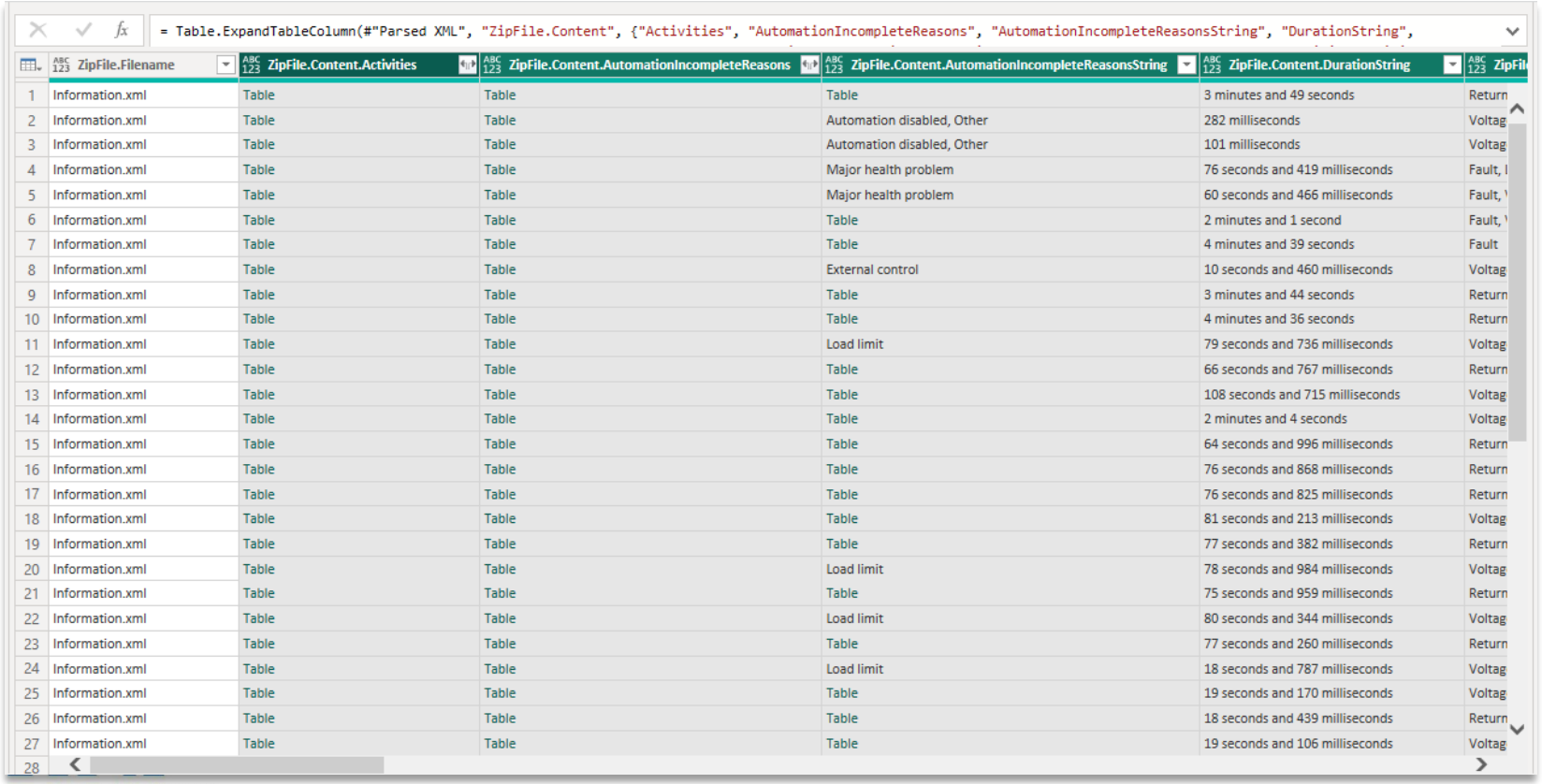
Power-BI

Event report Step 5: Data is **now** available



```
= Table.ExpandTableColumn(#"Parsed XML", "ZipFile.Content", {"Activities", "AutomationIncompleteReasons", "AutomationIncompleteReasonsString", "DurationString",
```

	ZipFile.Filename	ZipFile.Content.Activities	ZipFile.Content.AutomationIncompleteReasons	ZipFile.Content.AutomationIncompleteReasonsString	ZipFile.Content.DurationString	ZipFil
1	Information.xml	Table	Table	Table	3 minutes and 49 seconds	Return
2	Information.xml	Table	Table	Automation disabled, Other	282 milliseconds	Voltag
3	Information.xml	Table	Table	Automation disabled, Other	101 milliseconds	Voltag
4	Information.xml	Table	Table	Major health problem	76 seconds and 419 milliseconds	Fault,
5	Information.xml	Table	Table	Major health problem	60 seconds and 466 milliseconds	Fault,
6	Information.xml	Table	Table	Table	2 minutes and 1 second	Fault,
7	Information.xml	Table	Table	Table	4 minutes and 39 seconds	Fault
8	Information.xml	Table	Table	External control	10 seconds and 460 milliseconds	Voltag
9	Information.xml	Table	Table	Table	3 minutes and 44 seconds	Return
10	Information.xml	Table	Table	Table	4 minutes and 36 seconds	Return
11	Information.xml	Table	Table	Load limit	79 seconds and 736 milliseconds	Voltag
12	Information.xml	Table	Table	Table	66 seconds and 767 milliseconds	Return
13	Information.xml	Table	Table	Table	108 seconds and 715 milliseconds	Voltag
14	Information.xml	Table	Table	Table	2 minutes and 4 seconds	Voltag
15	Information.xml	Table	Table	Table	64 seconds and 996 milliseconds	Return
16	Information.xml	Table	Table	Table	76 seconds and 868 milliseconds	Return
17	Information.xml	Table	Table	Table	76 seconds and 825 milliseconds	Return
18	Information.xml	Table	Table	Table	81 seconds and 213 milliseconds	Voltag
19	Information.xml	Table	Table	Table	77 seconds and 382 milliseconds	Return
20	Information.xml	Table	Table	Load limit	78 seconds and 984 milliseconds	Voltag
21	Information.xml	Table	Table	Table	75 seconds and 959 milliseconds	Return
22	Information.xml	Table	Table	Load limit	80 seconds and 344 milliseconds	Voltag
23	Information.xml	Table	Table	Table	77 seconds and 260 milliseconds	Return
24	Information.xml	Table	Table	Load limit	18 seconds and 787 milliseconds	Voltag
25	Information.xml	Table	Table	Table	19 seconds and 170 milliseconds	Voltag
26	Information.xml	Table	Table	Table	18 seconds and 439 milliseconds	Return
27	Information.xml	Table	Table	Table	19 seconds and 106 milliseconds	Voltag
28						

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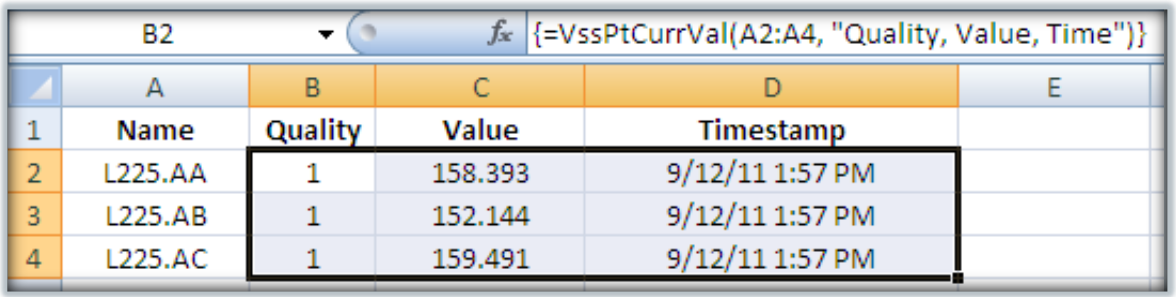
Excel Add-In (3.3R1)

- Brings any data points to an Excel spreadsheet
- Real-time data only
  - Historical data: Export to Power-BI feature in Explorer
- See “Visual TD Excel Add-In User Guide”



	A	B	C	D	E
1	Name	Quality	Value	Timestamp	
2	L225.AA	1	158.393	9/12/11 1:57 PM	
3	L225.AB	1	152.144	9/12/11 1:57 PM	
4	L225.AC	1	159.491	9/12/11 1:57 PM	

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Your turn

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Topic 1 – Discussion on ADMS integration

Reasons to use YFA with an ADMS ?

What is the best way to integrate YFA to an ADMS ?

What would make it easier ?

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Topic 2 – Discussion on an event outcome

How do you use the event outcome ?

Is it true to say you use this as a start to see if there is anything that needs to be investigated ?

What if we add a section in the report to include any issues that occurred during the event ? Would that be useful ?

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Questions

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