APTIV CONNECT

Qualifier Ingest



Consolidate and analyze all your pre-production vehicle data in one place.

Centralized data

Comprehensive analysis

Faster troubleshooting

Streamlined data search & reporting

If you're like most vehicle manufacturers, you have different engineering teams using a wide array of different data loggers. Most of the devices probably came with some basic analysis software but can't integrate data from different data logger brands.

Unfortunately, this situation makes it difficult to get a comprehensive view of your testing. It can also introduce inconsistencies that make reporting and troubleshooting more difficult. And homegrown solutions to analyze vehicle data stored in data lakes often fall short of their promised goals.

Qualifier Ingest solves all these problems by importing all your vehicle data files into Aptiv Connect Qualifier for viewing and analysis.

A Central Home for Vehicle Data

With Qualifier Ingest, you can import vehicle data files collected with non-Aptiv data loggers into Qualifier. You'll then be able to analyze that data with all the usual Qualifier tools, including AC-Graph, DATALAB, and Analytics.

Having all your data in one place makes it easier to standardize on common key performance indicators (KPIs) across your organization. It also means that data will be available for analysis across departments and throughout the program lifecycle. When your engineering teams share data, troubleshooting gets faster, and everyone's work quality improves.

In addition, Ingest minimizes the time spent searching for data and allows you to create reports with just a mouse click. It also reduces training time for your staff who can use a single platform for all their analytics needs.

Like a Virtual VDR

One of Qualifier Ingest's most powerful features is its ability to extract events from previously collected files.

Usually, Qualifier customers tell Aptiv in advance what kinds of events they are most interested in analyzing before Aptiv vehicle data recorders (VDRs) capture the vehicle data. The related data then appears on the Events page in Qualifier, making it easy

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to find the information that is most important to you.

With Ingest, you can reverse the order of that process. You can tell us which events are important after you collect the file. Using Aptiv's highly advanced trigger builder system, you can extract the relevant data. Aptiv will then process the file in the cloud so that the events appear as usual on the Events page, as well as on all the other relevant pages in the Qualifier web application.

Flexible options

Ingest has the built-in flexibility to integrate into your existing processes. Many customers like to leverage the experience and knowledge of our Customer Success Engineering (CSE) team and choose to have them handle the details of uploading files and defining triggers.

If you prefer, you can can choose to license our Developer application and take care of those tasks yourself. You also have the option of using our convenient APIs to upload files programmatically, whether you plan to upload files one at a time or in bulk.

Part of the Qualifier Ecosystem

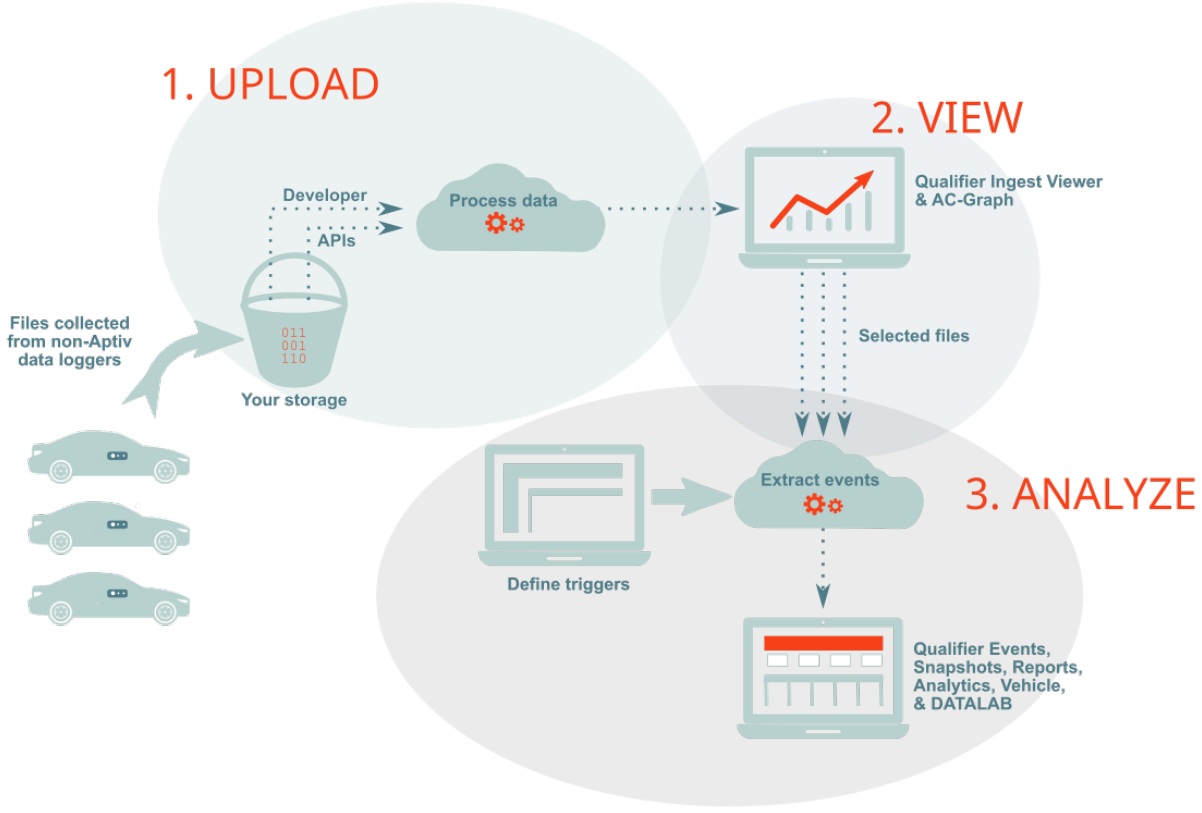
To use Qualifier Ingest, you'll need an Aptiv Connect Qualifier subscription. Pricing for Ingest depends on your data volumes and which upload and trigger builder options you choose.

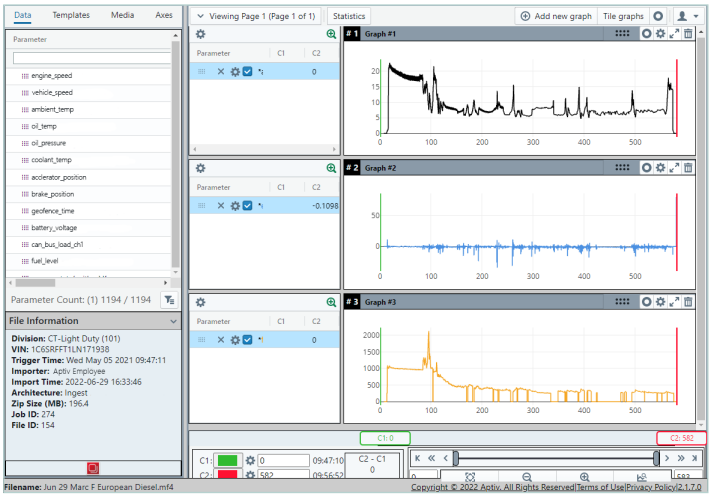
For more information about the complete Aptiv Connect Qualifier ecosystem, including VDR hardware, Qualifier Analytics, the Command Center fleet management system, Environmental Insights road and weather data, and more, see Aptiv.com/connected-services.

The Qualifier Ingest Process

The Ingest process has three main phases:

- **Upload.** You have two upload options: APIs or the Developer application. With the APIs, you can programmatically move your files directly from your data lake or other repository into Qualifier. If you choose to use the Developer application, you have two more options: Aptiv's CSE team can handle the upload for you, or you can license the Developer application and handle the upload yourself.
- **View.** After the initial processing, you can view the the list of files that you've uploaded in the Qualifier web application, and you can open those files in AC-Graph. If you only want to graph the data signals from the file, you can stop here and do not need to define triggers.
- **Analyze.** If you want to view data from your file on the Events, Vehicle, Snapshots, or Reports pages, or if you want to use Qualifier Analytics or DATALAB for further analysis, you will need to define some events and set up some triggers. Again, you can choose to have Aptiv's CSE team handle this for you or you can purchase a license for the Developer application and handle it on your own. In either case, you'll have access to Aptiv's advanced trigger builder capabilities.

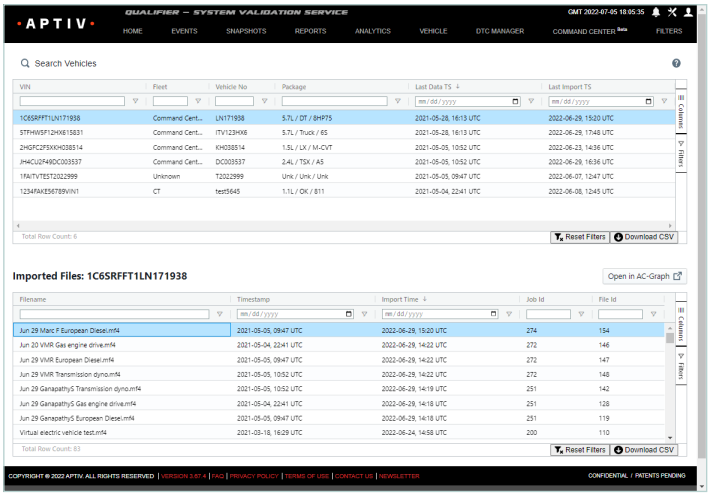


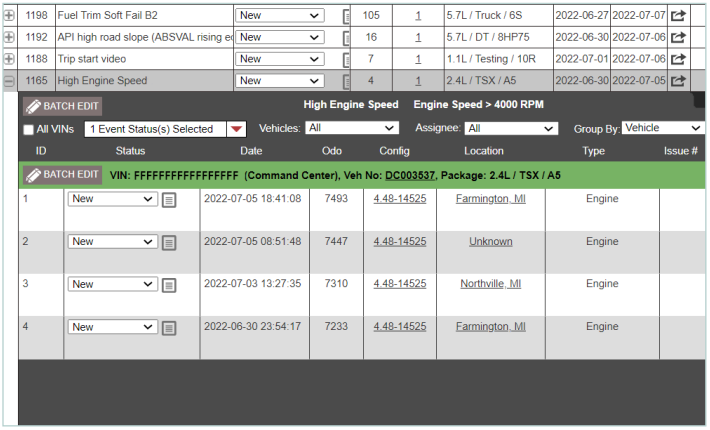


View data signals from ingested files in AC-Graph (left) to aid in troubleshooting.

Use the Qualifier Events page (below) to quickly find the few pieces of data you need, even when the file or files you are searching are very large.

Qualifier also provides a list of ingested files (below left) so that you can see which files have completed processing and easily open them in AC-Graph.





Getting Started

Ready to give Qualifier Ingest a try? Here's how the process works:

1. **Contact Aptiv.** Let your Aptiv representative know you're interested in Ingest, and we'll set up a meeting to discuss your needs and set up a demo for testing.
2. **One-time setup.** The first time you use Ingest for a particular type of file, you'll need to provide a sample so that we can set up our systems to process the data correctly. If you provide a new file format that we haven't ingested before, we'll need some additional lead time to get everything configured properly.
3. **Demo Ingest.** We'll set up a small demo (usually no more than 10 files) so that you can try out Qualifier Ingest to make sure it will meet your needs.
4. **Purchase.** When you're ready to buy, let us know, and we'll set up a time to iron out the final details.

* A note about hardware limitations

When you're uploading files into Qualifier, keep in mind that your end result will be only as good as the data loggers that captured the data. Depending on which loggers you use, you might notice three things:

- **Processing time.** Aptiv VDRs have edge processing capabilities, which means you can do a lot of data processing right in the vehicle. This helps keep file size small for faster upload and analysis. Other loggers don't have these same capabilities. As a result, the files they collect can be extremely large, and it will take Qualifier some time to process them.
- **Detail.** Aptiv VDRs can capture signals at 200 Hz, but many other data loggers capture data at much slower rates, sometimes only 1 Hz. A slow capture rate can mask events that might be happening for very brief periods of time or it might make troubleshooting more difficult.
- **Signal availability.** Aptiv VDRs can capture tens of thousands of signals, including proprietary signals. If the data logger you originally used did not capture a particular signal, it will not be available in Qualifier, which may impact troubleshooting and analytics.

Qualifier Ingest

Features	Benefits
UPLOAD	
Support for common vehicle data formats	Consolidate all your vehicle data into one platform to improve analytics and troubleshooting.
Scalability	Upload additional files as necessary.
Flexible upload options	Choose to use APIs or the Developer application, whichever best suits your needs.
VIEW	
File list	See which files have completed processing and are available for analysis.
Filter and search capabilities	Find the files you want quickly.
Data signal graphs	Visualize vehicle data parameters to assist with troubleshooting.
Time-stamped data	Synchronize files based on when the data was collected, not when it was uploaded, to aid in analysis and troubleshooting.
Secure access control	Protect your confidential data.
ANALYZE	
Event extraction capabilities	Identify key events in existing files, streamlining troubleshooting and analysis.
Advanced trigger builder software	Create complex triggers to identify key events in your data files that require further analysis or troubleshooting.
Optional Developer application	Choose to have Aptiv's CSE team define triggers for you or license the Developer application so that your team can create triggers, whichever suits your workflow.
Engineering support	Contact our highly experienced Customer Success Engineers any time you have a question or need advice or assistance.
Advanced analytics	Use Qualifier's industry-leading analytics capabilities to extract hidden insights in your vehicle data, helping you save time and money.

About Aptiv

Aptiv is a global technology leader with more than 180,000 people across 124 manufacturing facilities and 12 major technical centers worldwide. With a presence in 44 countries, we address mobility's toughest challenges through our deep software and systems integration expertise, delivering market-relevant solutions for our customers.

Our mission is to make the world safer, greener, and more connected than ever before. As these trends converge and the world of mobility changes, we will lead this change.

Mobility has the power to change the world, and we have the power to change mobility.