faircom edge V3.0.1

H I G H L I G H T S

FairCom®

Edge V3.0.1 Highlights Summary

FairCom is pleased to share the following enhancements on top of the FairCom EDGE V3.0 release made available in November 2020. These enhancements are available with FairCom EDGE with build dates of 210827 (YYMMDD format) or later.

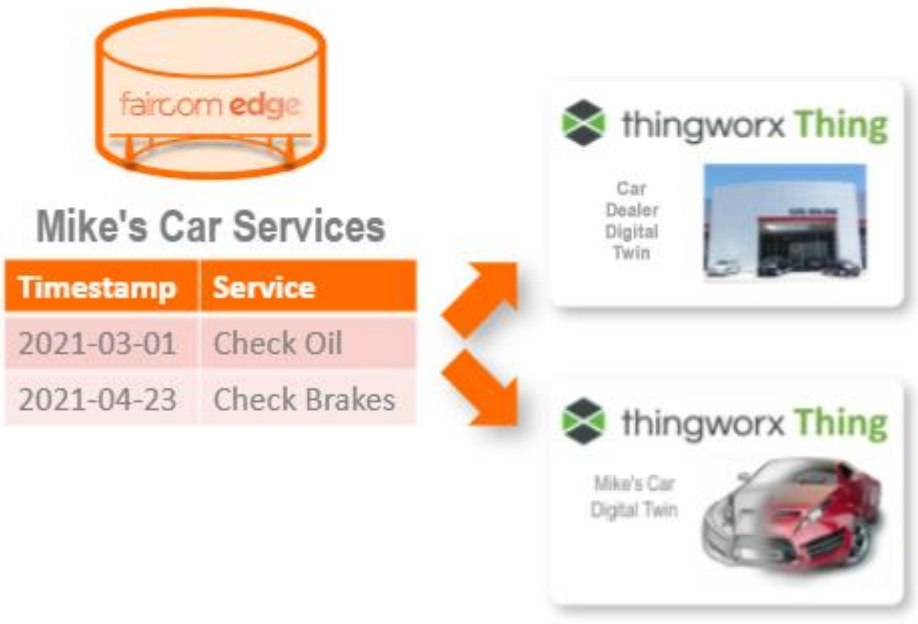
ThingWorx

FairCom's plug-in solution for ThingWorx has always supported mapping any data to any "Thing" within the ThingWorx ecosystem, thereby leveraging ThingWorx ability to create Digital Twins. This support has now been expanded to support mapping concurrently to Multiple Things.

Multiple ThingWorx "things"

The ThingWorx plug-in can now map a FairCom EDGE instance to multiple "things" on the ThingWorx platform making it possible for a business to create a digital twin for each of its customers and map a subset of data in FairCom EDGE to each customer.

As shown in the following example, Mike's car can be associated with two Things, the location where service is provided (Car Dealer), and with the Digital Twin of Mike's car.



Learn more...

ThingWorx Store and Forward

This release also has a new powerful persistent data store. FairCom EDGE's Store & Forward solution is critical for ensuring data integrity across an application. In a complex IIoT scenario (think factory floor, smart city, etc.), being able to rely 100% on communication links is not realistic. When some level of outage occurs, being able to safely secure the message is a must. The Store & Forward concept provides the peace of mind that the information needed by the next component in the IIoT ecosystem will be available once the communication link is reestablished. Store & Forward maintains a record of the last message received. Once communication is reestablished, any messages that haven't been delivered will automatically be sent. This brings an unsurpassed level of data integrity to the ThingWorx platform.

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Automatic Reconnection to ThingWorx

When the FairCom EDGE instance loses its connection to the ThingWorx platform (because of the network, device outage, or any other reason), the FairCom EDGE server instance automatically reconnects.

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MQTT

FairCom EDGE's MQTT V3 support has been expanded to include:

- **Store and Forward**
- **MQTT Explorer Improvements**

MQTT Store and Forward

For specifically configured topics, the database can store MQTT messages and forward them to subscribers. These topics are called "Store & Forward Topics." This feature enhances MQTT to guarantee delivery for specific topics even when a subscriber is unavailable to receive them.

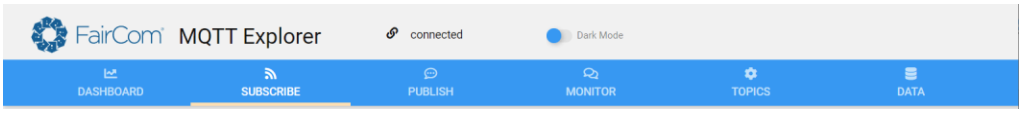
When an existing subscriber to a Store & Forward Topic becomes unavailable and later becomes available, the MQTT Broker forwards messages to the subscriber starting after the last successfully delivered message.

Learn more...

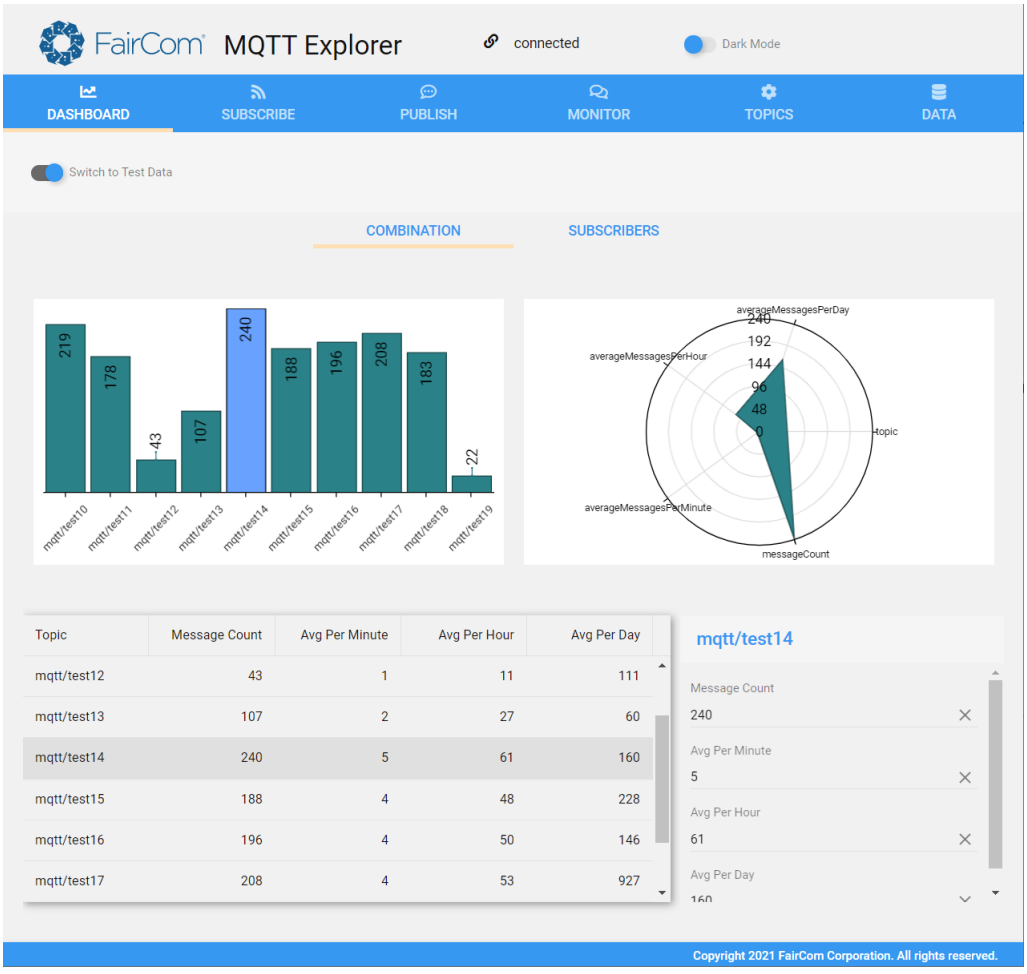
MQTT Explorer Improvements

The FairCom EDGE MQTT Explorer has been enhanced in this release to make you even more productive. The built-in explorer has been expanded with the following enhancements:

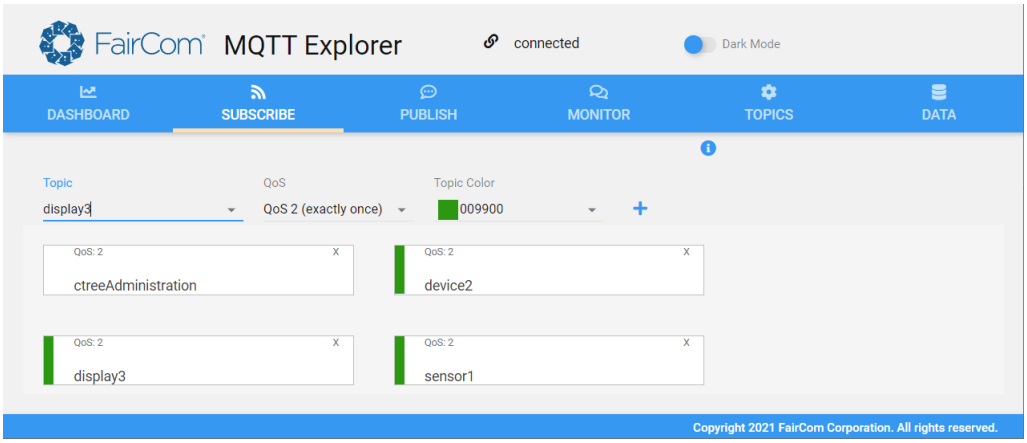
The new toolbar matches your workflow.



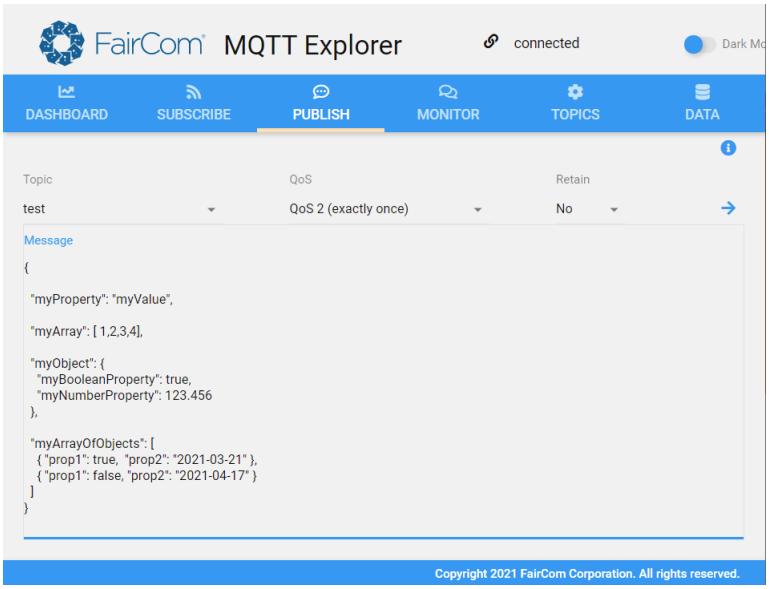
The new dashboard shows subscribers, publishers, topics, and message throughput.



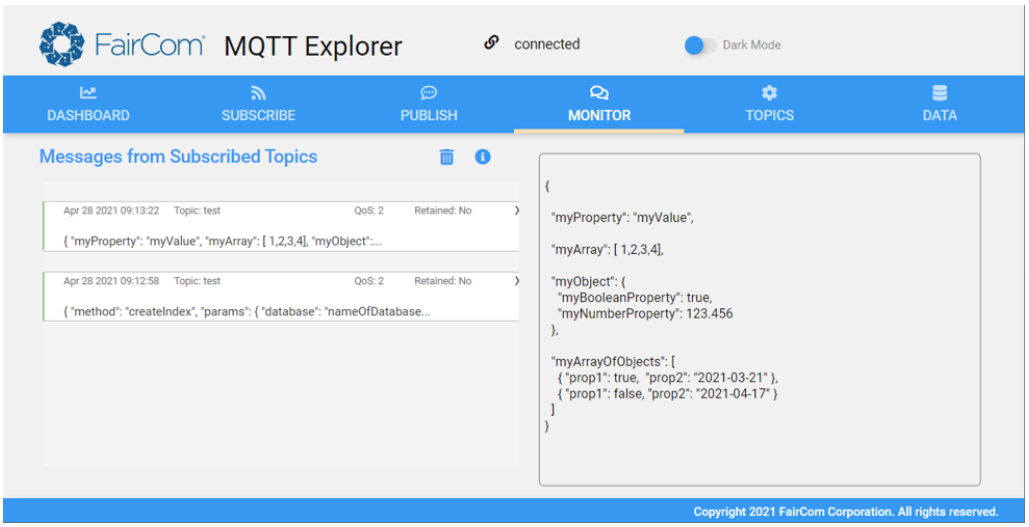
Subscribe to messages coming into the MQTT Broker for monitoring messages, for troubleshooting, etc.



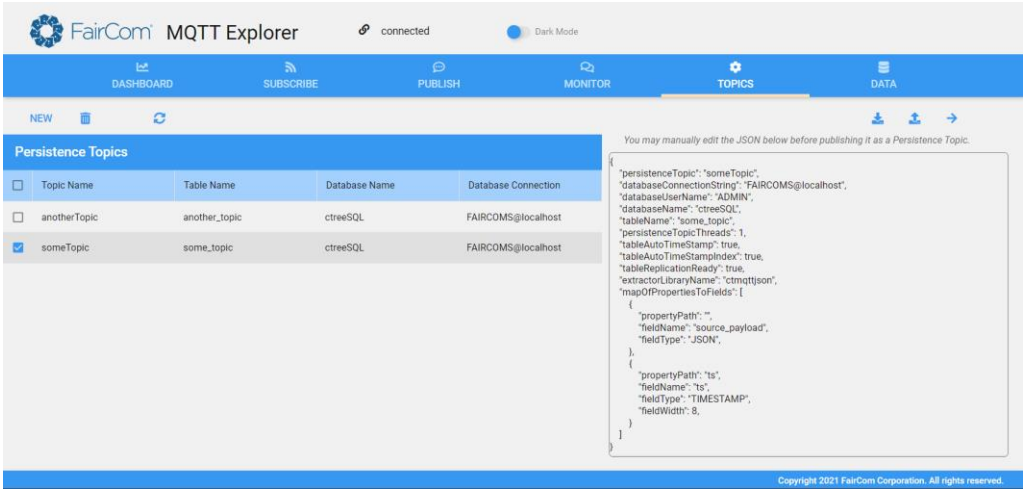
Publish messages



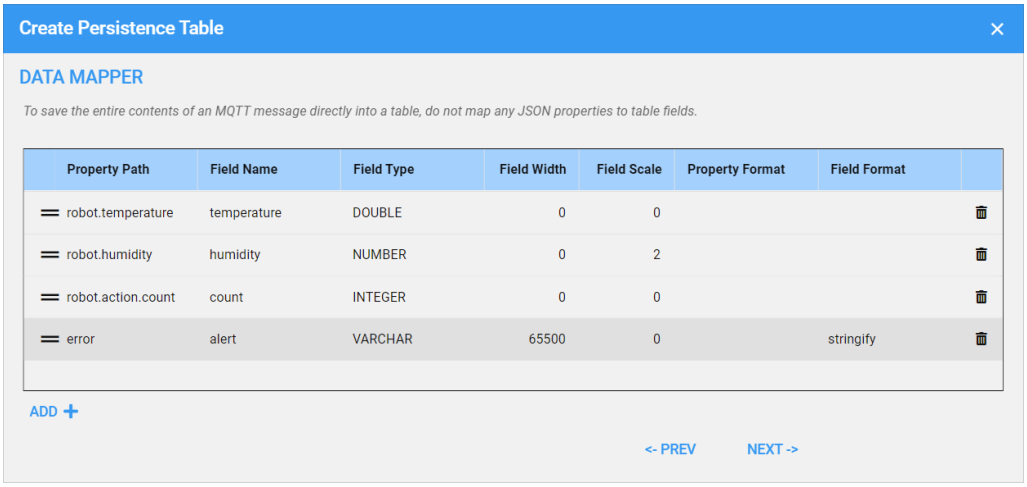
Monitor received messages



Manage topics



Manage data



Plug-in Interface Enhancements

The FairCom EDGE plug-in support has been enhanced by providing multiple interfaces for starting, stopping, and making calls to FairCom plug-ins on-the-fly.

ctadmn Command-Line

You can call **ctadmn** as a configurable command-line utility to start and stop the plug-in using the following syntax:

```
ctadmn -s <server name> -u <user name> -p <password> -c <command>
```

ctadmn Interactive (Option 10)

Dynamically load a plug-in on demand after c-tree Server has started up:

1. Execute the **ctadmn** utility.
2. Select option 10, Change Server Settings.
3. Again select option 10, Change the specified configuration option.
4. Enter the configuration option and its value:

```
>> PLUGIN cthttpd;./web/cthttpd.dll
Successfully changed the configuration option.
```

ctPlugin Function Call

A new function, named **ctPlugin**, can be used on the client-side to programmatically start and stop plug-ins. It has the following signature:

```
NINT ctPlugin(ctPLUGIN_COMMAND command, pTEXT inputBuffer, pTEXT outputBuffer, pVRLEN pOutputBufferSize);
```

where:

- *command*: currently, the options are *ctPLUGIN_START* or *ctPLUGIN_STOP* (defined by the ctPLUGIN_COMMAND enum type)
- *inputBuffer* is flexible; currently, it expects only the plug-in name (loaded in the server by the `PLUGIN` keyword in *ctsrvr.cfg*)

ctSETCFG Function Call

A function call is available for programmatically starting and stopping a plug-in. Use the same PLUGIN configuration option syntax that you would use in *ctsrvr.cfg* in a call to **ctSETCFG()**.

```
ctSETCFG(setcfgCONFIG_OPTION, "PLUGIN cthttpd;./web/cthttpd.dll");
```

Android Installation

The FairCom documentation now provides a tutorial with detailed steps to install and test FairCom EDGE on an Android IoT platform. This tutorial focuses on emulators; the changes to install on a real device should be minimal.

Learn more...