# FairCom

# c-treeEDGE
## IoT DATABASE

# A fast, transaction-controlled database built for reliability on the edge

## Operating on the edge with a lightweight, fully functioning database

FairCom's c-treeEDGE IoT Database is a solution with a robust architecture that empowers organizations to not only reliably manage their data on the edge, but it also opens the door for them to make mission-critical decisions at or near the collection point. The c-treeEDGE IoT database is a high-speed NoSQL + SQL database designed to run on IoT gateways and on the smallest edge devices, yet powerful enough to host data from thousands of sensors. Supporting native MQTT communication, as well as Node-RED and REST API integration, c-treeEDGE provides all the flexibility required on the edge for mission-critical decision processing, which makes it ideal for IoT environments, especially in the subset area called the Industrial Internet of Things (IIoT).

While c-treeEDGE is a new product, its core technology has been used for IoT activities before IoT was a thing. This core technology has been embedded in medical devices and manufacturing systems. c-treeEDGE is powered by the fast and reliable c-treeACE multimodel database technology trusted by more than 40 members of the Fortune 100 for their data management needs.

c-treeEDGE is unique because it is able to powerfully handle unstructured and structured data types with the benefits of immediately-consistent ACID transactions for mission-critical applications. All of this is accomplished with a footprint as low as 37 MBs.

Organizations can save time, money and resources by operating on the edge versus sending all of the data to the cloud because of c-treeEDGE's high-performance persistence close to the origin of where the data has been produced. The benefits also include the easy addition or programming of existing applications, the enabling of the use of un-filtered data for edge-based predictive analytics, and real-time replication to other edge devices and the cloud.

## Key benefits:

- Edge data storage: Keep mission-critical data on the edge
- Mission-critical ops: Enable real-time IoT decision making
- Fast: High-speed data collection at the edge
- Data quality control: Guarantee data quality using transactional edge persistence
- IoT specific: Specially built for IoT applications to run on major operating systems and hardware platforms
- Security: Transmit only the data needed and store all data securely at the edge
- Database as a microservice: Uses both SQL and NoSQL microservices to collect, query and analyze data in real-time for IoT systems
- Analytics-tool neutral: Compatible with nearly all analytics tools for use over actual real-time unstructured data
- Powerful flexible/scalable data management: Portability, data partitioning, data coalescing and replication

## Top features:

- Micro footprint: As low as 37 MBs
- IoT communication interfaces: MQTT, REST API, Node.js, Python, Java and many more …
- High-speed record I/O technology: Collects massive amounts of data on an edge device extremely fast
- Security: Data encryption, TLS/SSL, and the exclusive FairCom handshake
- Real-time replication: Reliably updates data effortlessly as connections and bandwidth fluctuate
- Guaranteed data quality: ACID transaction control
- Multiple integrations: Use standard SQL queries and eight interfaces like ODBC, JDBC, Python, PHP and .NET
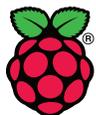
## IoT platforms

thingworx

Node-RED

## Operating systems

Raspbian

Windows IoT

androidthings

Linux

Windows 10

## Communication interfaces

MQTT    REST API    node JS    JSON    python    Java

## c-treeEDGE IoT works well with multiple platforms and environments

FairCom technology has a proven reputation of successfully operating with multiple platforms, systems and environments. c-treeEDGE is no different as it is compatible with the ThingWorx and Node-Red IoT platforms and can natively run on Windows 10 IoT, Android Things and Raspberry Pi systems. More IoT-centric platforms will be added soon.

ThingWorx customers can easily have access to FairCom's legendary robust database technology by downloading the c-treeEDGE IoT Extension for ThingWorx, which provides a connector between c-treeEDGE and ThingWorx. The Extension for ThingWorx allows users to seamlessly integrate their c-treeEDGE database with their ThingWorx IoT platform development environment. The c-treeEDGE extension is available to ThingWorx users via the ThingWorx MarketPlace, and ThingWorx parent company, PTC, has named FairCom a Technology Partner.

## The end result: A fast, flexible and reliable IoT/IIoT database

The solution's benefits and features are what make c-treeEDGE ideal in IoT and IIoT situations where organizations must rely on real-time decisions made in environments that go beyond traditional IT settings. c-treeEDGE can quickly store, categorize and transmit data collected from sensors that monitor mission-critical and/or life-saving equipment. The database assures organizations will be able to maintain data management operations for these mission-critical systems when connectivity to outside locations and the cloud are not available.

## Best in class support

Organizations from around the world have learned of the benefits offered to FairCom database technology users: engineer-to-engineer support. Unlike other vendors, FairCom's support team is not outsourced nor comprised of entry-level positions. Depending on how mission-critical your system is, FairCom support can provide direct access to senior engineers that are advanced c-treeACE and c-treeEDGE experts, able to dive deep into technical issues, and knowledgeable of your application and environment, reducing the time-to-recover in crucial situations. FairCom's support program allows users to achieve maximum value out of their c-treeEDGE database engine at every stage of their application's lifecycle, development through production and ongoing maintenance. FairCom support receives high marks with its customers:

- 97.2% technical support satisfaction rate
- 95.3% technology satisfaction rate

## How to buy

Just as the technical aspects of c-treeEDGE are flexible to meet operation requirements, so are the purchasing options. Contact a FairCom sales representative for pricing and licensing information. For more information see www.faircom.com/products/c-treeEDGE.

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