UMD CHARIOT

Efficient and effective IoT device management solution

UMD Chariot™ is a cloud service that collates *edgeware device* data into a unified stream that can be distributed to multiple *Applications* whilst also providing device asset management. Its key feature is to abstract data source and device management from Applications, reducing this operational burden. UMD Chariot™ is based on a "Broker" architecture which is designed for large scale IoT device deployments.

Application Service To Transform Your Data Landscape

UMD Chariot™ supports connections with multiple Applications (both UMD and third party Applications) which enable additional logic and data automation to be applied to the streamed Edgeware Device data. These operate independently of UMD Chariot™, using their own databases, logic and user interface. UMD has Applications that it hosts, such as UMD *RACE-ware*, an RFID and barcode asset tracking system which can be configured as middleware to support RFID in legacy applications. Importantly, UMD Chariot™ can be used to enhance *your* Applications, such as Enterprise Asset Management Systems, to:

Remove Edgeware Device management and data collection concerns from the Application.

Expand the functional capability of the Application.

Convert "passive assets" into "smart assets" by adding monitored attributes.

Extend geographic reach using cloud technology.

Analyse and action field data.

Provide users real time visibility, allowing timely decision making.

Enhance insights using other data sources streamed from UMD Chariot™.

Unify data sources to a single common output stream.

⊛ UMD CHARIOT™ Architecture

Web Portal

Intuitive website for easy monitoring and management of Edgware Devices, hosted within a centralised cloud.

Brokerage

A **broker** receives and distributes Edgeware events to various Applications in real time. Unlike publish/subscribe systems such as MQTT, UMD Chariot™ directly transmits messages concurrently to multiple, **specified** destination services rather than blind broadcasts. UMD Chariot™ can add additional *metadata* to the Edgeware stream in real time **without modifying** the field device. UMD Chariot™ removes the need for Applications to subscribe to a topic, instead filtering the events on behalf of the Application before delivery. Standardised output alleviates the need to modify the Application when different Edgeware Devices are incorporated.

Device Management

Records **device attributes** for operational convenience, relieving the need for a separate asset management program.

• Name
• Make/model
• Serial number

• Site location
• Time zone
• Organisational owner

• Notes
• Firmware version. Firmware updates Over The Air
  (applicable to UMD OTA capable devices)

Logging: UMD Chariot™ logs inbound events published by the Edgeware Device and the outbound Application webhook results and timings. Logs are conveniently displayed per device.

Use Case Configuration: Target different Applications via webhooks and associate Metadata parameters with the Edgeware Device and/or Device Group *e.g.* "application_id = 26".

Empower your business with real-time insights

Device Groups

Device Groups provide logical groupings of Edgeware Devices for easy identification and management. Group Metadata parameters which are associated with all devices in the group. A Group API key can be shared with all devices in the group allowing a simple and secure device rollout.
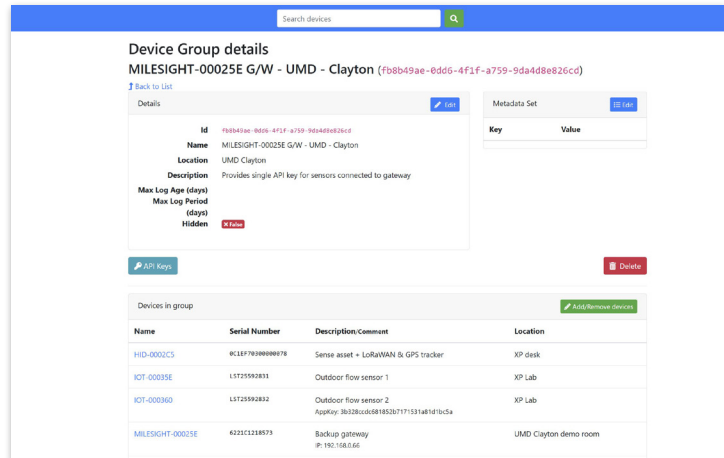
Metadata

Addition of arbitrary Key Value Pair parameters to individual device records and Device Groups.
e.g. "application_id = 11"
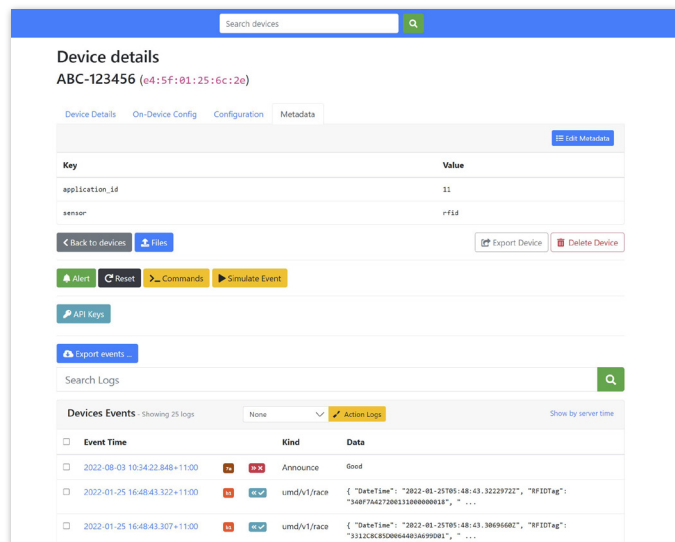
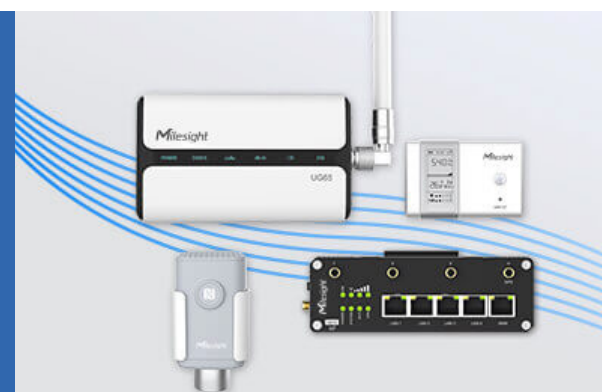## Device Authentication and Security

Device authentication: UMD Chariot™ removes the burden of individual Edgeware Device authentication from Applications, allowing quick integration. UMD Chariot™ is the secure source of trust for Edgeware Devices.

Security: HTTPS encrypted communications and a secure hosted environment protect your data.

Monitor, analyse, manage, optimise your Edgware Devices

Organisation and User Management

Organisation Management: Private management of multiple organisations, each of which have their own fleet of devices.

User Management: Operator authentication and permissions. Single Sign On. Two Factor Authentication.

Detailed Device Events

Software As A Service

UMD Chariot™ is offered via subscription. It is used in conjunction with other business applications to form overall solutions. Customer examples:

• RFID/barcode inventory, asset management and middleware

• Telematics

• Farm management

• OEE (Overall Equipment Effectiveness)

Equip your business with UMD Chariot™ to generate actionable data collected from your Edgeware Devices to improve operations.

About UMD:

Since 1983, Unique Micro Design has been forming long term customer partnerships by delivering engineered solutions, software and support services. By using innovative technologies and techniques our solutions provide a point of difference. UMD has delivered solutions to many diverse industries including retail, manufacturing, warehousing, supply chain, venues and attractions, ticketing, transport, healthcare and agriculture.

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