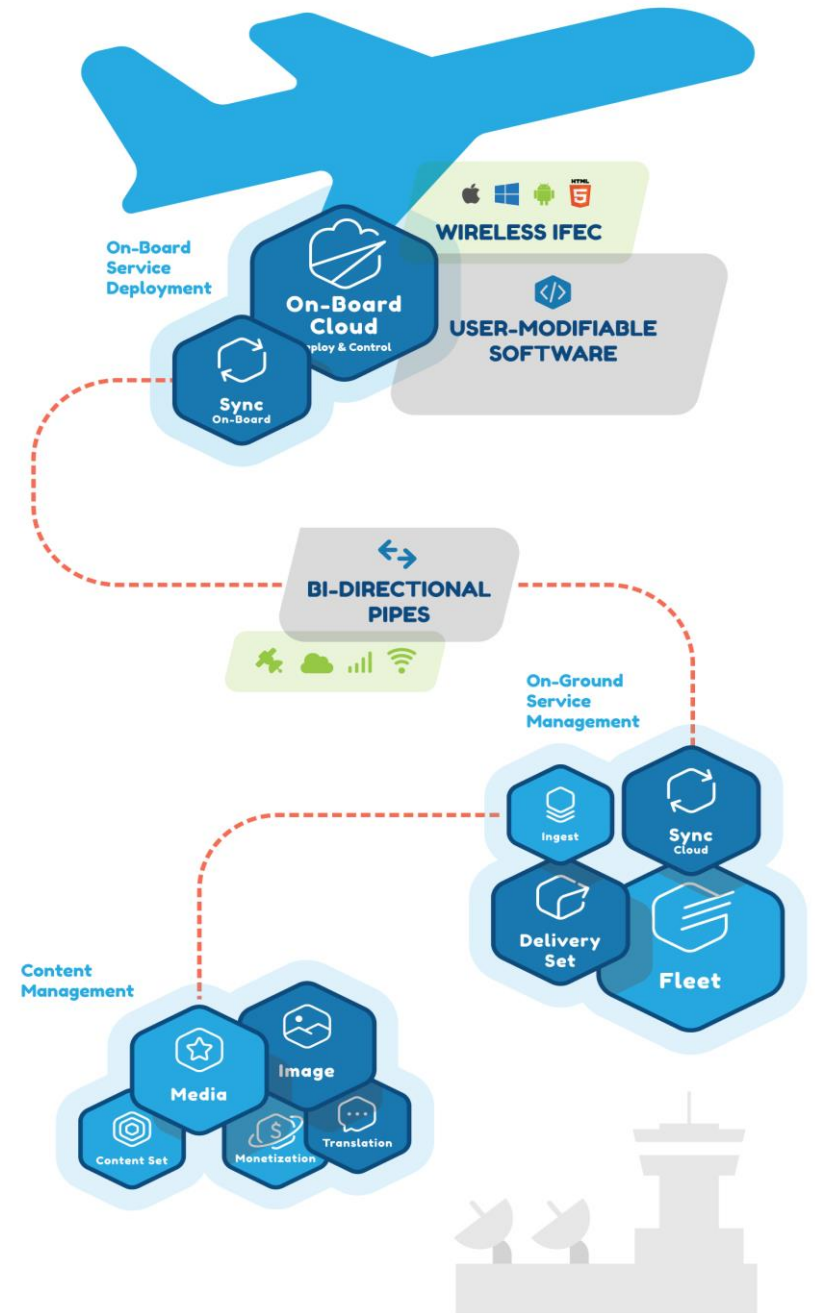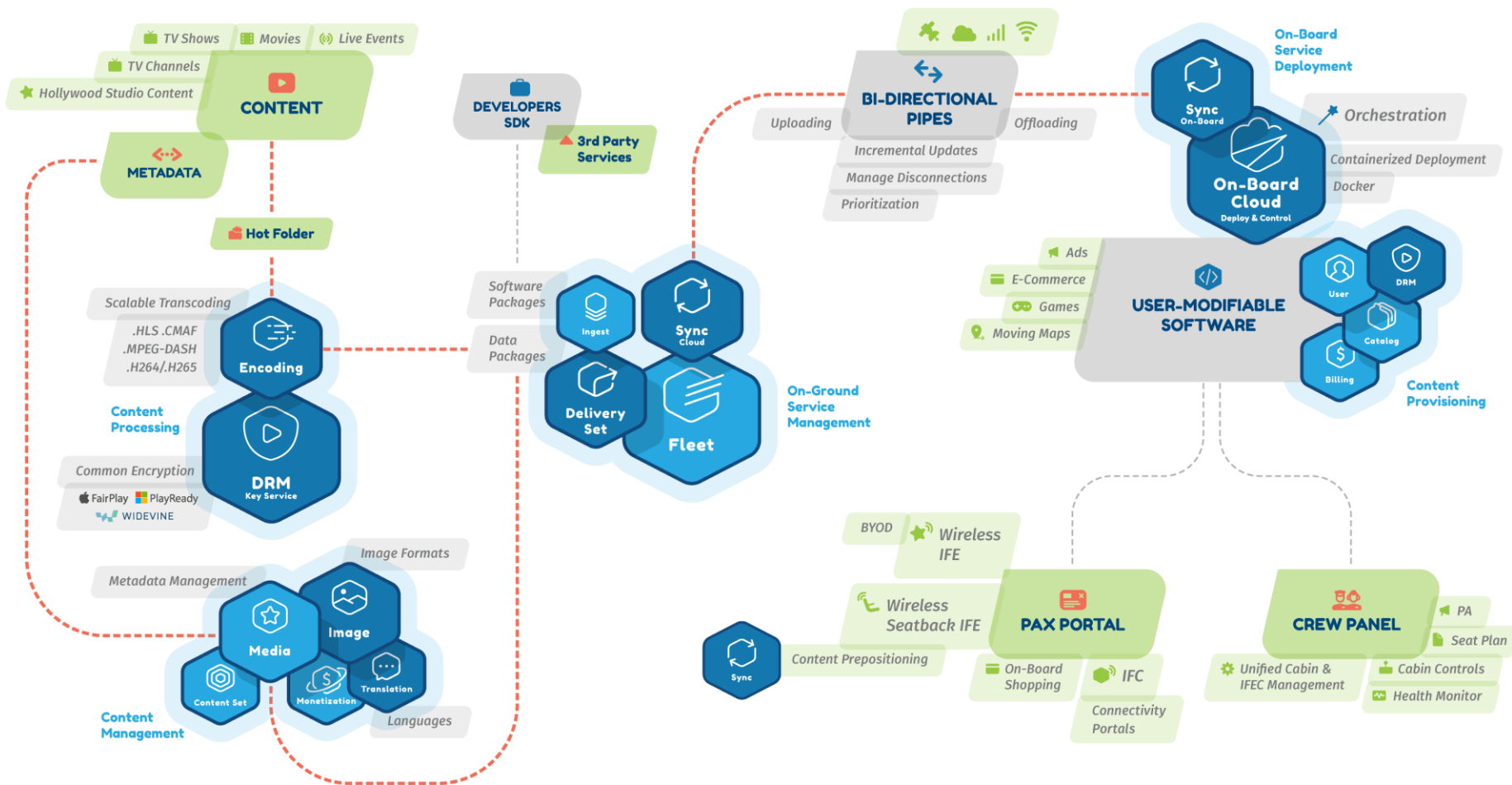# AXINOM SYNC

DISCOVER AXINOM SYNC

Axinom Sync is a content sync and delivery system that allows secure and robust bidirectional synchronization of content, data, and digital services using standardized communication protocols and mediums.

It is built to transfer data quickly, securely, and reliably in any environment. For example, synchronizing on-ground and on-board aircraft data.

Axinom Sync manages all aspects of data synchronization. Including uploading- and offloading data, connection pipe utilization (LAN, Wi-Fi, 3G, LTE, satellite networks), data transfer interruptions, prioritizing important data, and controlling transfer cost.

The whole system architecture also supports the back-channel delivery of any kind of content that is generated on-board server, like system health data, log files, payment data, etc.

Axinom In-Flight Entertainment

powered by AXINOM MOSAIC

CONTENT
- TV Shows
- Movies
- Live Events
- TV Channels
- Hollywood Studio Content

METADATA

DEVELOPERS SDK
- 3rd Party Services

Hot Folder

BI-DIRECTIONAL PIPES
- Uploading
- Offloading
- Incremental Updates
- Manage Disconnections
- Prioritization

Sync On-Board

On-Board Service Deployment

Orchestration

On-Board Cloud Deploy & Control

Containerized Deployment

Docker

Scalable Transcoding
- .HLS .CMAF
- .MPEG-DASH
- .H264/.H265

Software Packages

Data Packages

Encoding

Ingest

Sync Cloud

Content Processing

Common Encryption

FairPlay PlayReady
WIDEVINE

DRM Key Service

Delivery Set

Fleet

On-Ground Service Management

Ads

E-Commerce

Games

Moving Maps

USER-MODIFIABLE SOFTWARE

User

DRM

Catalog

Billing

Content Provisioning

Image Formats

Metadata Management

Media

Image

Content Set

Monetization

Translation

Languages

Content Management

BYOD

Wireless IFE

Wireless Seatback IFE

Sync

Content Prepositioning

PAX PORTAL
- On-Board Shopping
- IFC
- Connectivity Portals

CREW PANEL
- PA
- Seat Plan
- Unified Cabin & IFEC Management
- Cabin Controls
- Health Monitor

SOLUTION COMPONENTS

Modern software methods based on domain architecture and test-driven workflows have helped Axinom in creating this unique solution. Axinom Sync facilitates communication and data transfer between the on-board and on-ground systems by utilizing several components.

It uses a web service API called *Sync Service* to connect with the Cloud Storage, which is a storage where all the data ready for uploading is stored. *Sync Client*, the main synchronization service, handles all data transfers by communicating via the *Sync Service* with the Cloud Storage utilizing Bidirectional Pipes.

CAPABILITIES OF AXINOM SYNC

INCREMENTAL UPDATES

To reduce the amount of data and time that is needed for transfers, Axinom Sync's on-board component compares the content sets and updates only the differences. Also, for roll-backs and contingencies, it keeps track of content versions. This also reduces the associated costs while using limited and expensive data channels.

ROBUST AND SECURE TRANSFER

Axinom Sync uses a combined encryption approach to encrypt data, optimized explicitly for delivering cryptographic data as a stream. The system ensures highest security when delivering and synchronizing data. Both data and services can be encrypted on-the-fly reliably to ensures secure data transfer both ways.

DATA REDUNDANCY AND RECOVERY

Axinom Sync extends the safety of the data from accidental corruption or loss through redundancy, using the system capability to maintain multiple identical copies and versions of the data in separate places, or on different servers.

INTERRUPTION MANAGEMENT

Axinom Sync also allows handling of disconnections or interruptions during synchronization. Using Axinom Sync, the successfully synchronized part of the content can be used on-board, while continuing updates as soon as connectivity is available.

DATA-TYPE AGNOSTIC

There is no limitation on types of content and data that can be synchronized. It can be digital services whether IoT, cabin, crew, or IFEC with media - movies, live streams, newspapers, music, etc. It can also be operational, system log or reporting data such as heartbeat data, passenger data, purchase orders, and payments, shop items, ads, and much more.

CHOICE OF PIPELINE

Axinom Sync supports standard communication protocols and mediums for synchronization:

• Cellular 3G/4G

• Wireless Access

• Satellite

• Physical storage devices like USB and SSD

• Personal devices like Crew phones, laptops and tablets

BIDIRECTIONAL DATA FLOW

The whole system architecture supports bidirectional content delivery. The backchannel can handle any kind of data that is generated on the on-board or home server, like system health data, log files, payment data, etc. Subscribers like payment gateways, analytics tools, shops, can subscribe to backchannel data to gather information they need to process.
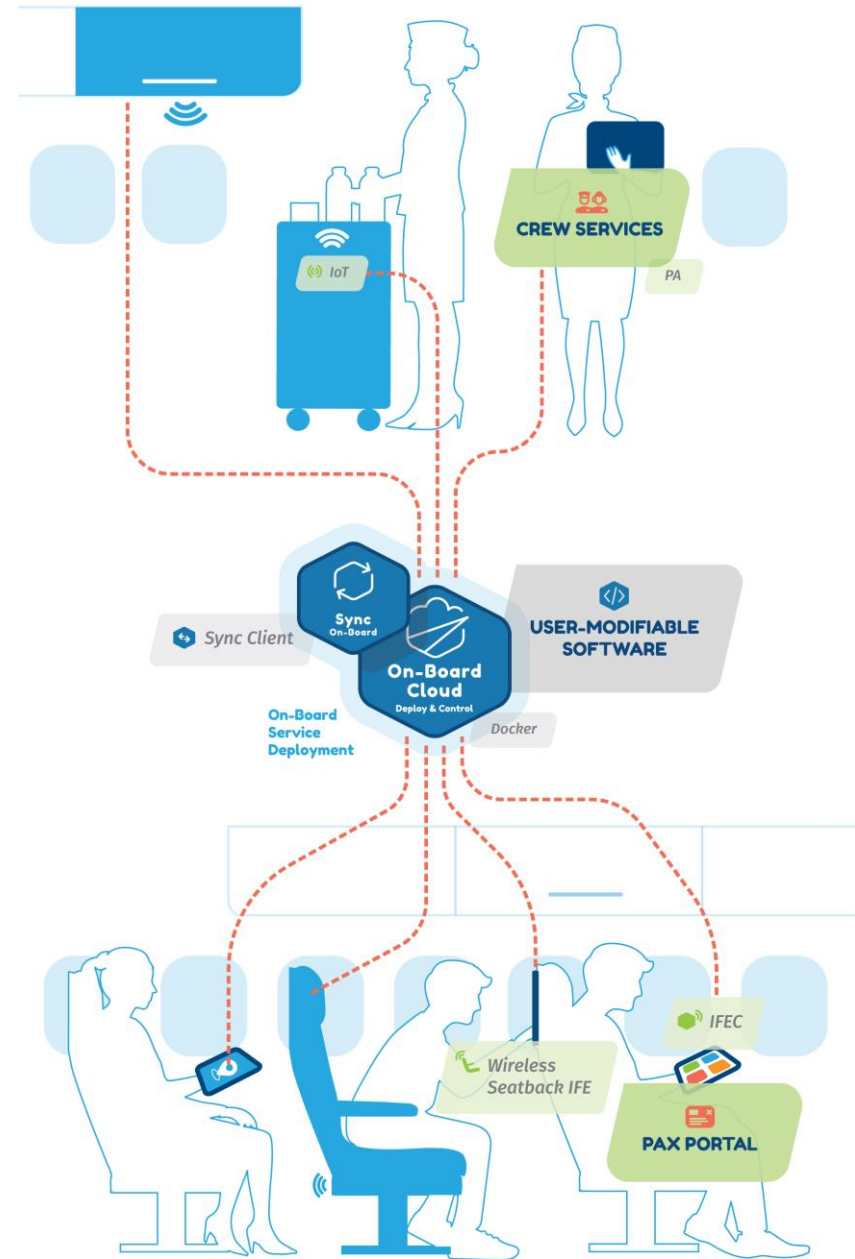
INNOVATIVE USE-CASES

LIMITED ONLY BY IMAGINATION

Axinom Sync, when paired with Axinom On-Board Cloud opens the tightly regulated digital services space in aerospace to digital application providers for innovative and novel applications.

Service providers, integrators, and airframers can benefit from Axinom Sync and Axinom On-Board Cloud to enhance and enrich passenger and crew experience, streamline operations and earn ancillary revenues.

Examples of the types of services that can be built and implemented are:

- Smart cabin services like connected trolleys, lavatories

- Connected seats for seat planning , mapping, and up-selling

- Entertainment including integrated Wireless Seatback IFE, Wireless IFE, and VoD services

- Destination services like hotel and cab booking, itinerary planning

- E-commerce including integration of airport duty-free e-commerce

- Luggage and cargo status, with environment or container sensors data

- Predictive maintenance for cabin hardware

- On-board integrated IoT system applications, and more

axinom!