ARKA

SatTRAC®

GSaaS SUPPORT SERVICES

For Satellite Data Users

OUR GSaaS SUPPORT SERVICE

Our Ground Stations as a Service (GSaaS) Support Services help satellite data users communicate reliably with GSaaS satellite providers, including Azure Orbital or AWS Ground Station to establish satellite contacts and ensure access to their data.

GSaaS ASSESSMENT
A comprehensive assessment of customer requirements and compatibility with GSaaS concepts and operations.

DEPLOYMENT SUPPORT
A comprehensive assessment of customer requirements and compatibility with GSaaS concepts and operations.

APPLICATION TAILORING
Tailoring of the software applications and Virtual Network Functions (VNFs) needed to close the link through a GSaaS contact.

ONBOARDING / INTEGRATION SUPPORT
A comprehensive assessment of customer requirements and compatibility with GSaaS concepts and operations.

CLOUD MIGRATION STRATEGY AND PLANNING
A comprehensive strategy and plan are essential for a successful transition. This includes assessing the legacy systems, identifying the components suitable for migration, determining the migration approach (lift-and-shift, re-platforming or re-architecting) and creating a roadmap for the migration process.

DATA MIGRATION AND MANAGEMENT
Migrating large volumes of data from legacy systems to the cloud can be complex. Our value-added services include data migration planning, ensuring data integrity and security during the transfer, and implementing efficient data management practices in the cloud environment. This may involve data cleansing, transformation and mapping to ensure compatibility with cloud-based applications and services.
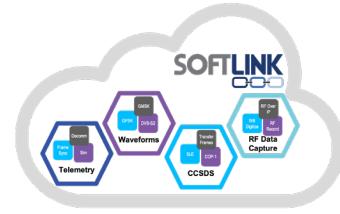
SECURITY AND COMPLIANCE
Satellite ground operations often deal with sensitive and classified data. Our services and offerings include robust security measures to protect data in transit and at rest in the cloud. This includes implementing encryption, access controls, identity and access management and compliance with relevant security standards and regulations.

LEGACY SYSTEM INTEGRATION
Expertise in integrating legacy systems with cloud-based solutions including developing connectors, APIs or middleware to enable seamless data exchange and interoperability between the legacy systems and the cloud environment.

MONITORING AND ANALYTICS
Real-time monitoring of key performance indicators, log analysis and proactive alerting to identify and address any issues or bottlenecks. In addition we can assist in connecting to common logging and alerting platforms in AWS and Azure.

PERFORMANCE OPTIMIZATION, SCALABILITY AND RESILIENCE
Satellite ground operations require real-time data processing and analysis. Our services will help in optimizing the performance of cloud-based systems to meet the latency and throughput requirements of satellite operations. This may involve implementing caching mechanisms, and leveraging cloud-native technologies for efficient data processing. For varying workloads, we offer auto-scaling capabilities, load balancing and fault tolerance.

BEYOND BEGINS HERE

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THE POWER OF SOFTLINK®

ARKA solutions are built on SOFTLINK®, ARKA's flexible and configurable software-defined architecture. SOFTLINK leverages a vetted library of modular, scalable software applications (Apps) and services to deliver extensible solutions. These solutions adapt to match your mission's unique requirements and evolve to accommodate an everchanging business and space ecosystem. Contact us to see how we can develop and tailor Apps / services to meet your individual requirements.

APPLICATION / SERVICE FUNCTIONALITY

ARKA has relevant experience transitioning standard and bespoke satellite ground applications, services, and capabilities to AWS, Azure, and hybrid cloud environments such as the following:

BASEBAND PROCESSING
- G3RUH
- HDLC
- Randomization/Scrambling
- FEC (Viterbi, RS, LDPC, Turbo, BCH, CRC)

CCSDS
- AoS Transfer Frames
- VCDU/MPDU/BPDU
- Space Packets
- Space Link Extensions (SLE)
- CLTU

TELEMETRY / PAYLOAD
- Frame Synchronization
- Decommutation
- Simulated Streams

TEST
- Channel Emulation
- Noise Injection

COMMANDING
- Binary/Ternary
- Spacing and Timed-Release
- Formatting/Encoding
- Echo Checks

RF DATA CAPTURE / TRANSPORT
- Narrowband Digitization
- Wideband Digitization
- RF Recording
- Digital IF Recording
- RF over IP Transport

WAVEFORMS

OPERATIONAL WAVEFORMS:
- BPSK/PM
- BPSK/FM
- BPSK/QPSK
- FSK
- FSK/AM
- GMSK
- UAQPSK
- SQPSK/OQPSK
- Spread Spectrum

Compatible with most small satellite radios and vehicles

NASA WAVEFORMS:
- C2V2
- TDRS

RANGING:
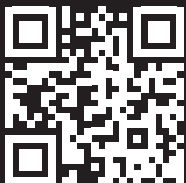- ESA, ESA-like Tone Ranging
- CCSDS PRN Ranging

COMMUNICATION / PAYLOAD WAVEFORMS:
- BPSK/QPSK
- 8PSK
- 16APSK
- 32APSK
- DVB-S2

CUSTOM WAVEFORMS:
- Ask about your waveform

If your requirement is not listed here, our team will work with you to implement the needed functionality into one of our existing Apps to connect you to your satellite.

FOR ADDITIONAL INFORMATION:

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