



# THE POWER OF SOFTLINK®

## Our Software-Defined Architecture

Provides signal, data, and network processing functions — all in software

Modular, scalable software applications and services

Hosted anywhere: hardware, VM, cloud, hybrid

# SOFTLINK®






### OVERVIEW

Our solutions are built on SOFTLINK, our flexible and configurable software-defined architecture. SOFTLINK, developed by ARKA, leverages modular, scalable software applications (Apps) and services to rapidly tailor and continually evolve system capabilities with minimal risk and cost. Our delivered Apps—for example, our Modem App, Front End Processor App, and Recording App, to name a few—support a wide variety of domains and customers, ranging from crew-rated space flight, to national programs, to commercial and SmallSat operations. Robust features include an editable user interface, self-generating documentation, and an optional full test suite (TestExec™).

SOFTLINK's power is rooted in its vetted library of mature and reusable software devices (called "SwDs"), which are combined and ordered to create highly customizable and extensible Apps. What's more, SOFTLINK's open architecture and open API empower Apps to be truly "platform and cloud agnostic," meaning Apps can be deployed on hardware, on Virtual Machines (VMs), in any Cloud, or in a hybrid environment.



### SOFTLINK

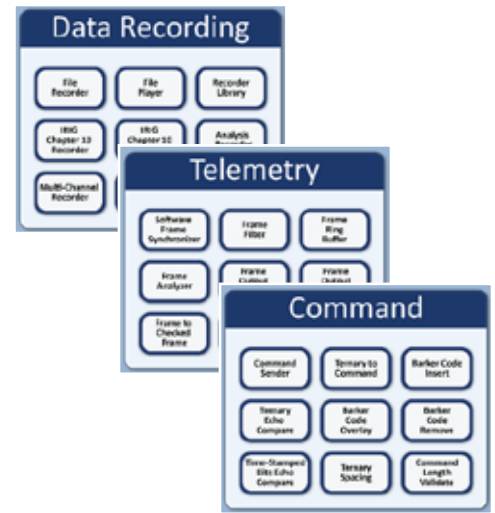
-  **EXTENSIBILITY**  
Modular, scalable Apps rapidly transform and evolve system capabilities
-  **RELIABILITY**  
Apps employ a vetted library of mature (TRL 9), reusable SwDs
-  **TESTABILITY**  
Automated test framework (TestExec)
-  **DEPLOYABILITY**  
Variety of hosting options (hardware, VM, Cloud)
-  **SUPPORTABILITY**  
All our tools and solutions use a single architecture

## HOW SOFTLINK WORKS

SOFTLINK’s flexible modular software Apps / services deliver solutions that can rapidly transform and evolve to meet future requirements with little operational impact. At the heart of SOFTLINK Apps are **software devices** (SwDs) and **processing chains**.

SwDs are discrete capability modules. By discrete, we mean each SwD performs a distinct, singular function specific to satellite, space, range, telemetry, and network communications. Examples include frame synchronization, commanding (binary and ternary), modulation / demodulation (by type and technique), randomization, Bit Error Rate Tests (BERTs), and many more. You pick the combination of capabilities that matches your requirements.

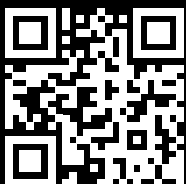
SwDs are combined (or linked) into **processing chains** to process, move, and transform signals / data. The processing chains, built using Python scripts or JSON definitions, define the sequence of processing from an input to an output. Processing chains are then combined into Apps to provide a solution. If needed, Apps can even be combined to create more extensive solutions.



## VETTED SwD LIBRARY

SOFTLINK’s expanding SwD Library is extensive and vetted, housing more than 600 TRL-9 SwDs and over 800 additional tested, CM-controlled, configurable, reusable SwDs. For ease of use, SwDs are organized into mini-libraries by like.

- **Utility SwDs:** Data flow control SwDs provide data queues, threading, and switching. Interface converters switch data from an input data type to an output data type. Other utility SwDs include devices that handle bit level manipulation and packet handling.
- **Network and File I/O SwDs:** Provide support for network protocols (e.g., TCP, UDP, Multicast, PGM), raw sockets, reading data from files, and writing data to files.
- **Telemetry and Commanding SwDs:** For telemetry, provide full support for frame synchronization, time-tagging, and output of telemetry frames. For commanding, performs both binary and ternary formatting, plus echo checking.
- **COMSEC Devices SwDs:** Implement COMSEC interface protocols and the control / status interfaces for commonly used COMSEC devices, including KS-252, KIV-7MS, and all MYK units. Provide full support for AES encryption and decryption.
- **CCSDS and SLE SwDs:** Processes or builds CCSDS processing chains that conform to the standards. ARKA fully supports, AOS Transfer Frames, VCDUs, MPDUs, BPDUs, and Space Packets.



### FOR ADDITIONAL INFORMATION:

2315 Briargate Pkwy., Suite 100  
 Colorado Springs, CO 80920 USA  
 Tel: 719-522-2800 | Fax: 719-522-2810

[arka-group-technologies](#) [www.arka.org](http://www.arka.org)

