

# SOFTWARE FRONT END PROCESSOR (FEP)

Network Gateway transports data streams over Wide Area Networks (WANs)

Serial and IP telemetry and command data

Packet Forward Error Correction (FEC) algorithms improve performance

Optional WAN emulation supports testing

## FEATURES

### WAN GATEWAY:

Developed by ARKA, the Software Front End Processor (FEP) connects control centers and remote ground terminals over their WANs. With support for multiple protocols, the Software FEP is configurable to a range of communications system architectures.

### SUPPORTED DEVICES AND WAN PROTOCOLS:

The Software FEP connects to modems, routers, switches, COMSEC devices, and other FEPs. Supported WAN protocols include ARKA's WAN-EX, TCP, UDP, NORM, and PGM.

### PACKET FEC ALGORITHMS:

WANs with high latency can use the system's Packet FEC). The Packet FEC uses encoding and interleaving of the data streams to perform error recovery over the WAN without retransmission.

### CCSDS SPACE LINK EXTENSION (SLE):

Networks leveraging SLE for communications use the system's SLE User and SLE Provider. There's full support for the CCSDS standard, including both Orange and Blue Books.

### WAN EMULATION:

The Software FEP can be configured with a WAN Emulator for pre-deployment testing. Use the WAN Emulator to characterize your system's behavior by inducing packet loss, latency, and jitter in various network communications test scenarios.

### THE POWER OF SOFTLINK®

All our systems are built on SOFTLINK, our flexible and configurable software-defined architecture. SOFTLINK leverages a vetted library of modular, scalable software applications (Apps) and services to tailor and evolve system capabilities with minimal risk and cost. SOFTLINK's open architecture and open API enable ARKA Apps to be truly "environment agnostic," meaning Apps can run on premise (our hardware or yours), on Virtual Machines (VMs), in containers, or in the Cloud.

### VIRTUAL AND CLOUD DEPLOYMENTS:

When ARKA Apps / services are deployed in the Cloud, they can be hosted in VMs or orchestrated in containers—interoperating across network boundaries. Multiple instances of these environments can exist simultaneously in various locations to provide resilient, fail-safe solutions. What's more, ARKA Apps are "Cloud agnostic," allowing them to perform seamlessly across Cloud platforms.

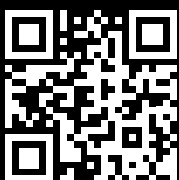


## SPECIFICATIONS

FUNCTIONAL	SPECIFICATIONS
IP Protocols	ARKA's WAN-EX TCP UDP NORM PGM
SLE Services	RAF, RCF, ROCF Offline playback FCLTU, EFCLTU PLOP-1, 2, 3
Packet FEC	Reed-Solomon
Max IP Data Rates	Max 20 Gbps
Time References	NTP and PTP (IEEE 1588)
WAN Emulation	Bandwidth Jitter Latency Packet Loss
Other	Remote RESTful JSON interface Remote GEMS interface

INTERFACE	SPECIFICATIONS
Ethernet Ports	2 1-GigE, expandable to 6 Optional 10 GigE ML
Serial Ports	Starting at 5 fully duplex, fully scalable to meet any density requirements needed
Serial Electrical Interface	RS-422, LVDS, ECL, TTL
Clock / Signal Polarity	Configurable
Optional Connector Panel	DB-9, DB-25, RJ-45, SMA, DB-15, BNC

PHYSICAL	SPECIFICATIONS
Dimensions	1.75" (H) x 20" (D) x 17.5" (W)
Power	120 VAC, 50/60 Hz, 350 Watts
Temperature	5-30°C operating 0-35° non-operating
Humidity	< 90% non-condensing



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