

SOFTWARE FRONT END PROCESSOR (softFEP)

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

FEATURES

WAN GATEWAY:

softFEP connects control centers and remote ground terminals over their WANs. With support for multiple protocols, softFEP is configurable to a range of communications system architectures.

SUPPORTED DEVICES AND WAN PROTOCOLS:

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

PACKET FEC ALGORITHMS:

WANs with high latency can use the system's Packet FEC, which 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.

THE POWER OF SOFTLINK®

Our systems are built on SOFTLINK, our flexible and configurable software-defined architecture. SOFTLINK leverages modular, scalable software applications (Apps) and services to tailor and evolve system capabilities with minimal risk. SOFTLINK's open architecture and open API enable ARKA Apps to be "environment agnostic." They can run on premise, 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. ARKA Apps are also "Cloud agnostic," allowing them to perform seamlessly across Cloud platforms.

WAN EMULATION:

softFEP can be configured with a WAN Emulator for pre-deployment testing and to characterize system behavior by inducing packet loss, latency, and jitter in various network communications test scenarios.

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 23.5 - 30.5" (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 |

*Depth depends on server platform

FOR ADDITIONAL INFORMATION:



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