Hybrid F/A™
Data Sheet

FAIRWINDS TECHNOLOGIES

Capability Summary

Hybrid F/A is a Fairwinds bespoke 5G/Wide Area Network (WAN) Blackrouter engine, available in leading network edge devices, such as the PacStar 465. When combined with Fairwinds Network Services, a **Hybrid F/A**-enabled network edge device combines multi-network diversity and data camouflage capabilities to transmit secure and resilient data to Joint Warfighters. The result is an intelligent network routing engine, which maintains superior performance, across trusted and untrusted connections, in Denied, Degraded, Intermittent and Limited (DDIL) environments.

Hybrid F/A-enabled Network Services include: ***PathLink*** for low latency, high bandwidth data sharing across multiple networks and ***ShadowLink*** for sophisticated data camouflage, used to disguise and protect sensitive network traffic from our adversaries.

PacStar 465: Powered by Hybrid F/A™

Hybrid F/A Engine: Key WAN Features

- Primary, Alternate, Contingency and Emergency (PACE) planning across all echelons
- Automated, sub-millisecond failover to the most optimal network path, which provides high-bandwidth connectivity from upper echelon Command Posts down to the tactical edge
- Dual-modem system, supporting 5G, 4G and 3G communications
- Available in multiple form factors, including the PacStar 465 module that integrates with PacStar 400-Series chassis
- Supports diverse network types including cellular, WiFi, Satellite Communications, Global Positioning System and Land Mobile Radio (LMR) with pre-configured settings for SpaceX Starlink, HughesNet and Iridium
- Compatible with Fairwinds ***PathLink*** and ***ShadowLink*** Network Services

PathLink Network Service: Benefits

- Aggregates separate cellular, satellite and military radio networks into a single communications pipe, enabling high data throughout and <1ms failover, even in denied environments
- Provides real-time access to Position Location Information/Blue Force Tracking from the tactical edge, enabling rapid situational awareness and informed decision-making for key leaders
- Intelligent traffic optimization engine continuously monitors and packets over the most optimal network
- Provides quality of service at the byte level
- Remote network operations and configuration capabilities present a seamless experience for Joint users

ShadowLink Network Service: Benefits

- Masks communications within the “spectral noise,” denying our adversaries the ability to aggregate and learn our military’s standard tactics, techniques and procedures
- Data camouflage engine that randomly distributes packets over an unlimited number of Internet Protocol (IP) addresses, before reassembling them at the “far side”
- Disguises voice, video and data to appear as routine network traffic
- Makes protected data indistinguishable
- Dynamically shifts traffic patterns and pathways to impede adversary operations
- Fragments and disperses sensitive data across multiple networks
- Maintains operational security across trusted and untrusted networks

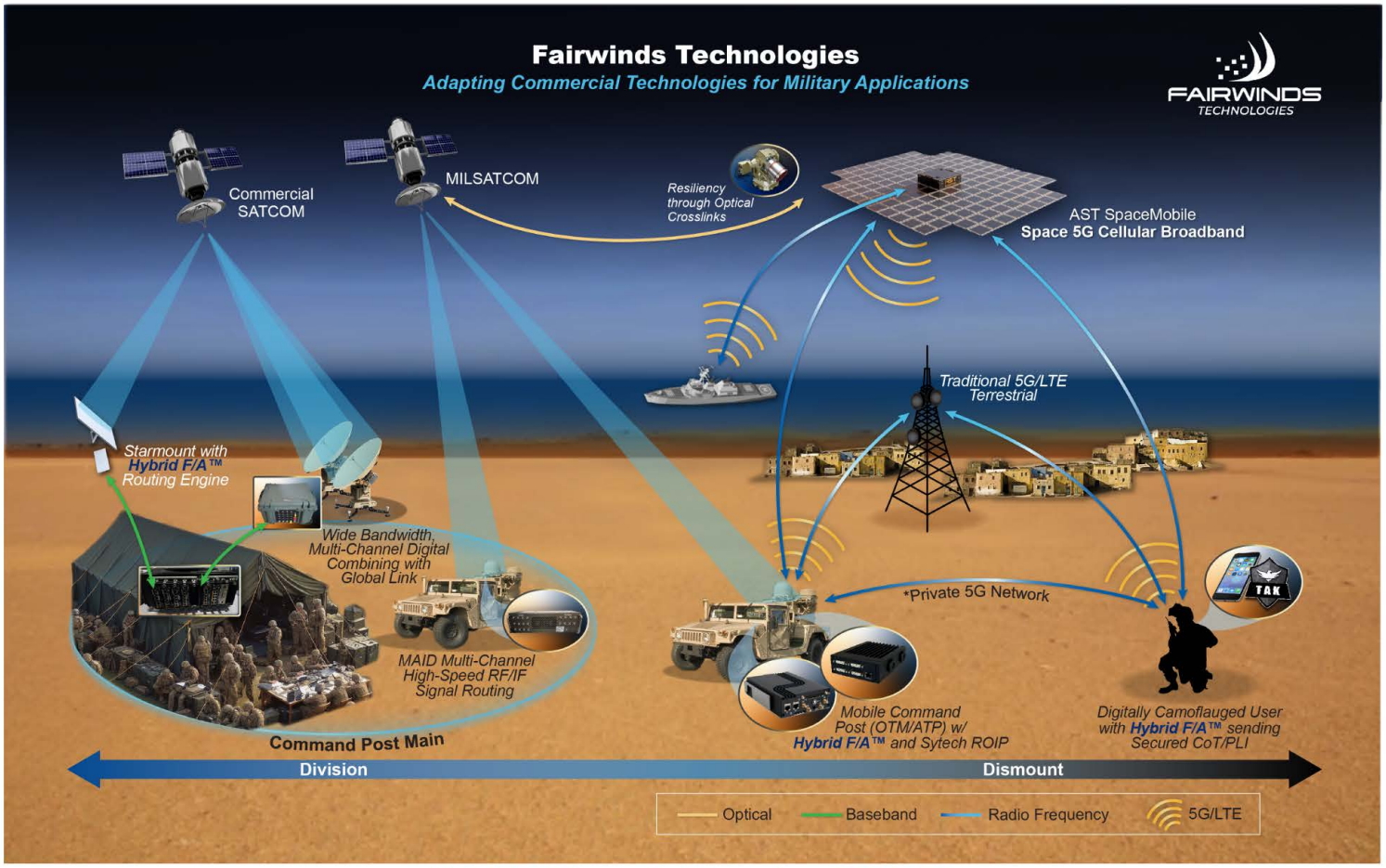
Performance metrics are based on typical use cases and may differ in actual applications.

Technical Details

With ***PathLink***, a **Hybrid F/A**-enabled WAN network edge device ingests data streams from separate network interfaces and segments the traffic into discrete packets for optimal distribution across available channels. The ***PathLink*** Network Service continuously analyzes network conditions across all active connections and dynamically routes each packet to the most efficient path.

With ***ShadowLink***, a **Hybrid F/A**-enabled WAN network edge device leverages data camouflaging to modify traditional indicators of military traffic, such as tunneling protocols and asymmetric upload/download ratios, by introducing compensatory data and emulating local device characteristics common to each host nation or operating environment.

Together with ***PathLink*** and ***ShadowLink***, a **Hybrid F/A**-enabled device delivers secure communications and increased bandwidth, latency and resilient communications down to the tactical edge.



Hybrid F/A Concept of Operations (CONOPS)

Technical Team

Fairwinds designs and integrates communications, networking and IT solutions to serve defense and civilian agencies around the world. Fairwinds strives to meet critical needs, by combining innovative products with specialized services, no matter the mission.

Contact Fairwinds Technologies

Address: 6165 Guardian Gateway, Suites J and K
Aberdeen Proving Ground, MD 21005
Email: sales@fairwinds-tech.com
Website: www.fairwinds-tech.com

QR