ShadowLink
Data Sheet

FAIRWINDS TECHNOLOGIES

Product Summary

On today's battlefield, our adversaries present unprecedented challenges as they use increasingly sophisticated methods to detect and exploit military communications. Our enemies also analyze network traffic to understand coalition military operations. When combined with a **Hybrid F/A**-enabled Wide Area Network (WAN) edge device and ***PathLink*** Network Services, ***ShadowLink*** Network Service defeats these data collection efforts by making military communications indistinguishable from routine civilian network traffic via advanced data camouflage capabilities. This protection extends to the tactical edge, effectively denying adversaries the ability to gain intelligence about force movements and operational patterns.

PacStar 465: Powered by Hybrid F/A™

Hybrid F/A Engine and Associated Network Services

- The **Hybrid F/A** engine exists to enrich leading WAN network edge devices with integral, bespoke 5G/WAN performance, and leverage compatible Fairwinds Network Services, including ***PathLink*** and ***ShadowLink***.
- ***PathLink***, another key capability within the ***Hybrid F/A*** family, aggregates separate cellular, satellite and military radio networks into a single high-throughput data pipe with Primary, Alternate, Contingency and Emergency (PACE) planning across all echelons. ***PathLink*** provides 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.
- The ***PathLink*** Network Service, in conjunction with a **Hybrid F/A**-enabled WAN network edge device, bonds diverse WAN connections including cellular, satellite and military radio communications, into a singular pipe. It employs intelligent routing algorithms to monitor and analyze network metrics such as latency, jitter and bandwidth across all available paths.
- The ***ShadowLink*** Network Service layers onto ***PathLink*** to add data camouflage for secure and reslient data to Joint Warfighters.

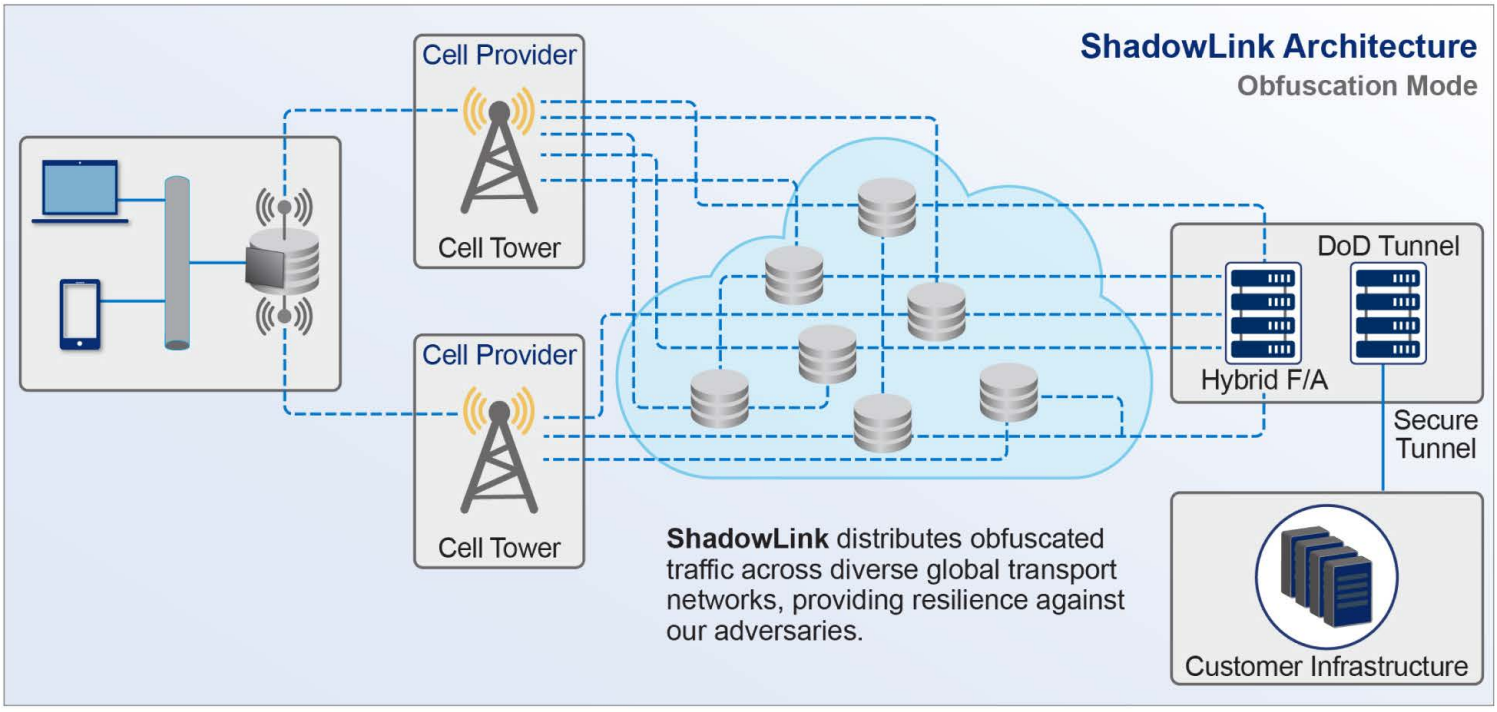
ShadowLink: Key Features

- Masks communications within the “spectral noise,” denying our adversaries the ability to aggregate and learn our 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

The ***ShadowLink*** Network Service, in conjunction with a **Hybrid F/A-**enabled WAN Network edge device, and ***PathLink***, uses data camouflaging to modify traditional indicators of military traffic, such as tunneling protocols and asymmetric upload/download ratios. It introduces compensatory data and emulates local device characteristics common to each host nation or operating environment. The system automatically modifies network protocols and packet structures to transform military communications into traffic patterns that mirror civilian data flows. It randomly distributes these packets across unlimited Internet Protocol (IP) addresses before securely reassembling them at their destination. This approach extends beyond traditional encryption by modifying indicators of military communications, such as tunneling protocols and Virtual Private Network (VPN) signatures, to appear as common applications like streaming services or web browsing. ***ShadowLink*** leverages these innovations to secure network communications and enhance data integrity down to the tactical edge.



Technical Team

FAIRWINDS TECHNOLOGIES

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.

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