

TrellisWare Barrage Relay - Simplifying the Complex in Networking

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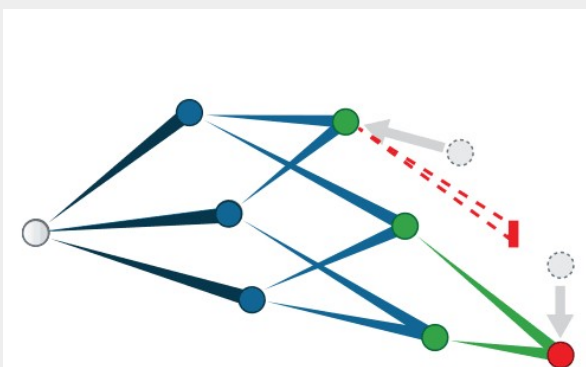
Robust Networking

TrellisWare's approach to mobile ad-hoc networking outperforms typical wireless MANETs because its unique design includes better signal processing techniques. TrellisWare's Barrage Relay™ networking eliminates the need for routing protocols, and allows for massive network scalability with very low overhead.



Barrage Relay Networking

Most MANETs use some form of network routing, or they require full network knowledge. Barrage Relay assumes no supporting infrastructure, it is non-routing (where no IP addressing or gateways are needed), and it requires only minimal network knowledge.



TRANSMISSION SUCCEEDS WITHOUT DISRUPTION, IMMUNE TO VOLATILITY

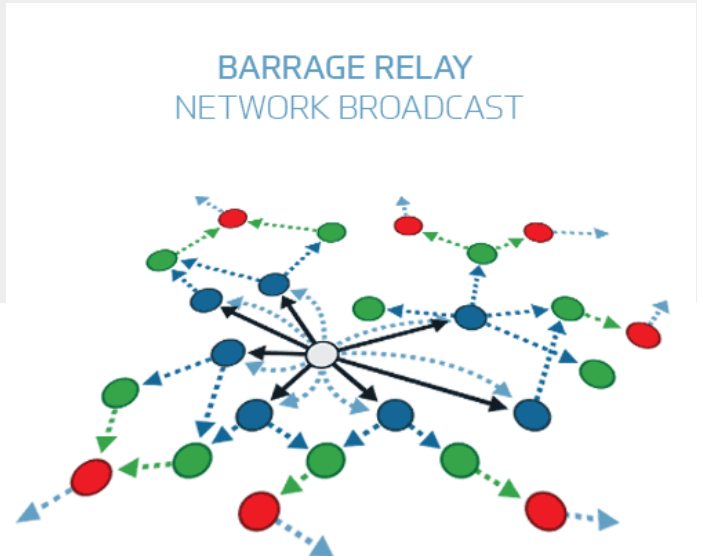
Some MANETs push traffic, or cause network flooding to all nodes which can create same message collisions, and they are limited in that each node can only receive or transmit signals. In a Barrage Relay network, each node transmits, receives, and relays information simultaneously. The transmissions propagate away from the sender hop by hop in a synchronous and coordinated manner.

Barrage Relay technology has built-in collaborative combining techniques that provide redundant communication paths for high message completion rates. It also allows for multiple video transmissions, faster position locations, and it simplifies configurations for grab-and-go deployments.

- ✓ Eliminates routing
- ✓ Minimizes network overhead
- ✓ Robust

Performance Gain

TrellisWare recognizes the challenges that tactical users are up against, so we did something about it. TrellisWare patented Barrage Relay technology uniquely employs collaborative combining techniques:



Advanced Communication

- ✓ Per-Survivor Processing (PSP) – Optimal equalization and dynamics tracking
- ✓ Patented Flexible-Low Density Parity Check (F-LDPC) – TrellisWare’s modern Forward Error Correction (FEC) that checks digital communications and corrects errors in received data
- ✓ Adaptive Iterative Detection (AID) – Near optimal modern receiver processing

These techniques set out to equalize and maintain error-free links during multipath fading, rapidly varying, and restricted propagation channel conditions. The advanced signal processing of the network’s physical layer aligns and combines the RF signals while taking advantage of multipath reflections and relays.

As a result, Barrage Relay enables reception of multiple RF signals at the same time, and it allows for simultaneous transmissions through all nodes at each hop. Since Barrage Relay leverages interference from high multipath it outperforms other traditional MANETs in harsh RF environments.

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