Cloudflare Stream + Viterra Compass for Global SOF Operations

The Department of Defense's (DoD) Intelligence, Surveillance and Reconnaissance (ISR) video infrastructure was built in the wake of 9/11 using broadcast-derived multicast technology, tools designed for a different threat environment and a different force. Today, as Special Operations Forces (SOF) teams operate with smaller footprints, diverse off-platform sensors and contested or degraded networks, that legacy architecture creates dangerous friction. Multicast requires specialized network expertise that operators in the field rarely have; codec and metadata fragmentation make cross-domain video delivery complex and time-consuming. Packet jitter, not bandwidth, remains the leading cause of video quality failure in constrained environments. Cloudflare and Viterra Compass have built a modern alternative: a distributed, edge-first video architecture that delivers trusted ISR video on a global scale, with the speed, resilience and obfuscation that SOF demands.

Cloudflare + Viterra Compass: How the Architecture Works

Cloudflare's global network, spanning 330+ cities, 600+ points of presence and within 50 milliseconds of any internet-connected user, serves as the first landing point for video ingested at the tactical edge. Because every Cloudflare service runs on every server at every data center simultaneously, there are no availability zones to configure and no cloud regions to plan around: sensors connect to their nearest Cloudflare node automatically. Traffic is obfuscated by default, returning only a Cloudflare Anycast IP to any observer on the network, making origin infrastructure invisible to adversarial surveillance.

Viterra Compass, a container-based video management platform, is co-deployed with a Cloudflare client at every edge node. Its C2 API, Navigator, enables Compass instances to communicate, share real-time video quality telemetry and automatically route streams across a distributed topology, normalizing codec, container format and metadata incompatibilities as close to the source as possible. The result is a self-healing, jitter-resistant distribution chain that can run on any hardware, Jetson platforms, Raspberry Pi, mobile devices or Kubernetes clusters, and scale from a single sensor contribution to enterprise-wide delivery without infrastructure changes. Video reaches Joint Worldwide Intelligence Communications System (JWICS) via partnerships with NGA's Geospatial Data Transport Services (GDTS), which maintains cross-domain ATOs and monitors stream health around the clock.

From Naval Intelligence's cross-domain camera deployments to same-day video delivery for fixed-wing ISR aircraft logging 600 hours a month, Cloudflare and Viterra Compass have demonstrated that modern commercial network infrastructure can meet the most demanding DoD video distribution requirements. The rail infrastructure is already in place: any new sensor contribution point connects to its nearest Cloudflare node and flows automatically through the Compass topology to the high side. No cloud region planning. No multicast configuration. No weeks-long troubleshooting cycles. **It just works.**

For more visit: cloudflare.com/government | viteracompass.com