BlastShield Security and Cloaking for Drones

Growth of Commercial and Civil Drone Applications

The use of unmanned aerial vehicles (UAVs), such as drones, is rapidly expanding, with the commercial drone market expected to grow from $8.2 billion in 2022 to $47.4 billion in 2029, a 28.6% CAGR. Drones are being used for:

- Aerial surveying and inspection
- Package delivery and logistics
- Healthcare equipment and drug delivery
- Crop monitoring and inspection
- Power line and pipeline inspection
- Surveillance and physical security
- Film-making
- Disaster management

UAVs are critical to industries that operate in difficult-to-reach areas or require immediate response to situations.

Unmanned Aerial System Cybersecurity Risks

The U.S. Federal Aviation Agency (FAA), Eurocontrol, ICAO, and European Safety Agency (EASA) are responsible for ensuring the safe operation of UAVs in their jurisdictions. Cyber attacks and drone hijacking are the result of weak security and a lack of encryption used in unmanned aircraft systems (UAS).

Many commercial drones are designed to be customized using software development kits (SDKs) that leave the implementation of security controls as an option. The entire UAS is often vulnerable with minimal security controls. Implementing and managing digital certificates, public key infrastructure (PKI), authentication, and encryption are either too complex or an afterthought. Complicating matters, because UAVs operate in public space, they broadcast IP addresses that are easy to scan and target.

BlastShield™

BlastShield is a zero-trust network access (ZTNA) solution that provides a highly-secure and easy-to implement solution that protects the UAS end-to-end. BlastShield software agents are easily deployed on aircrafts, control stations, mobile devices, and cloud applications to create a software-defined perimeter (SDP) that includes phishing-resistant MFA for users, granular access controls, encrypted communications links, and a security orchestration system that can operate in the cloud or on-premises.
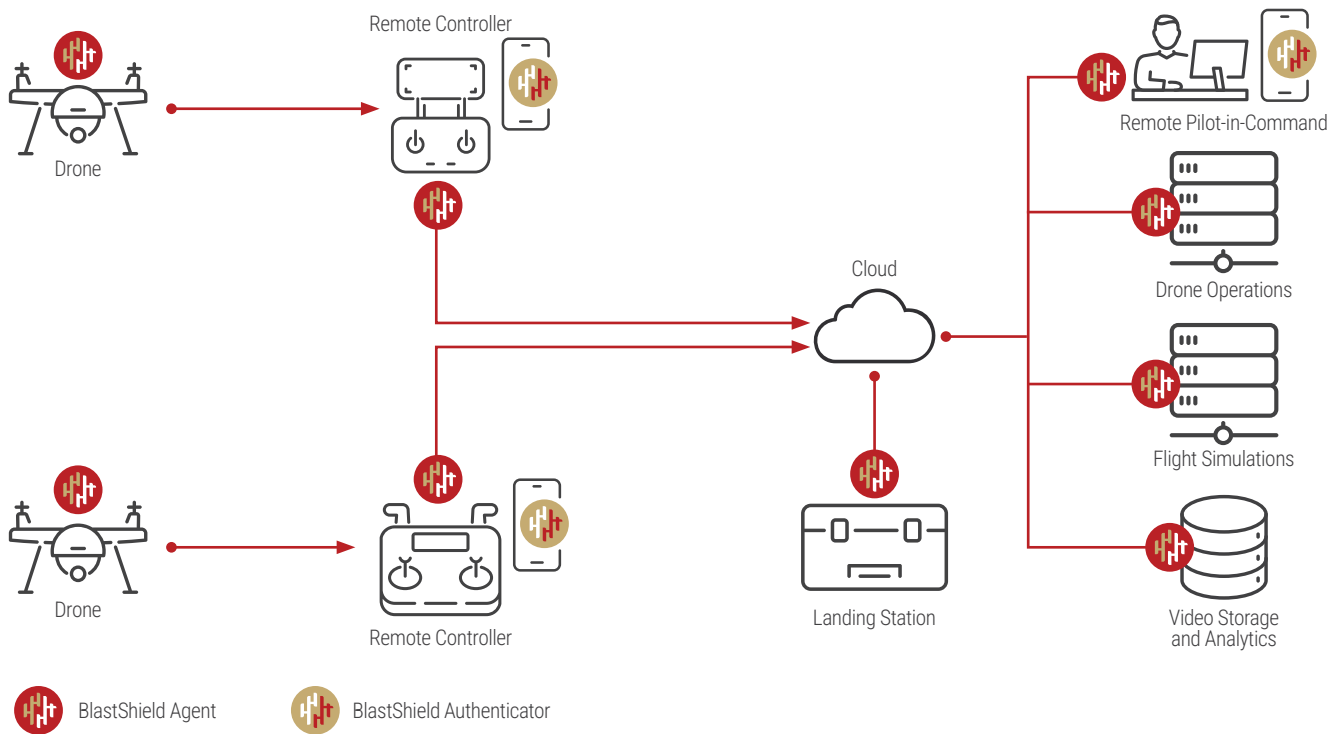
BlastShield replaces hardware-based VPNs and complex, certificate-based PKI management to dramatically simplify UAS security. BlastShield's patented cloaking mechanism makes UAVs invisible to external attackers.

BlastShield Features

- Phishing-resistant MFA authenticates the remote pilot-in-command before connection
- Device cloaking that hides the public IP address and web services of the aircraft, control stations and cloud servers
- Simple orchestration replaces complex PKI and firewall management
- On-premises Orchestrator for air-gapped networks

Figure 1 BlastShield ZTNA Solution for Unmanned Aircraft Systems

Remote Controller

Drone

Drone

Remote Controller

Cloud

Landing Station

Remote Pilot-in-Command

Drone Operations

Flight Simulations

Video Storage
and Analytics

BlastShield Agent

BlastShield Authenticator

BlastShield Solution

BlastShield Authenticator
The BlastShield™ Authenticator is a downloadable software image for iOS and Android mobile devices for user phishing-resistant, password-less authentication.

BlastShield Client
The BlastShield Client provides user access into the BlastShield network. The Client is downloadable software for Microsoft Windows, macOS, iPhone iOS,and Android.

BlastShield Host and Gateway Agents
The BlastShield Host Agent is software that is easily deployed on any aircraft, control station, physical or virtual machine running Linux, including Yocto,Microsoft Windows, and macOS servers.

BlastShield Orchestrator
The BlastShield Orchestrator is a cloud-based or on-premises application that provides a single-pane of glass to manage Users, Agents, Groups, and Policies. The Orchestrator can also be hosted by the customer on-premises.

About BlastWave
BlastWave securely connects Industrial Control Systems, Operational Technology, and Critical Infrastructure networks with Zero Trust Protection and delivers industrial-grade cybersecurity with consumer-grade ease-of-use. Visit **www.blastwave.com** to learn more.

BlastWave

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