

# Mocana CyberSec™

## Securing Unicast and Multicast Communications in Industrial Control Systems

Mocana® CyberSec™ is a zero-coding, high-assurance, efficient, flexible solution for securing multicast communication between controllers and devices in industrial control systems such as SCADA (supervisory control and data acquisition) systems, DCS (distributed control systems), PLCs (programmable logic controllers), and production equipment such as robotics, manufacturing control, material processing, and factory automation.

CyberSec extends IPsec and IKE to the multicast scenario and implements the GDOI (Group Domain of Interpretation) standard to establish security associations among several group members. GDOI alleviates the need to negotiate secrets between every client pair in the group. CyberSec is a plug-and-play solution for unicast and multicast traffic: very frequent, small, UDP/TCP messages between controllers and devices.

CyberSec includes the following components (see Figure 1 below):

- › CyberSec Server (Key Distribution Center) that runs on a Microsoft® Windows® Server and distributes the group secret keys to each CyberSec Client (member) enabling group members to communicate directly to each other.
- › CyberSec Client (agent) binary with an installer for Linux, QNX™, VxWorks®, and Microsoft Windows platforms. The agent runs as a service and writes information to event logs/file.

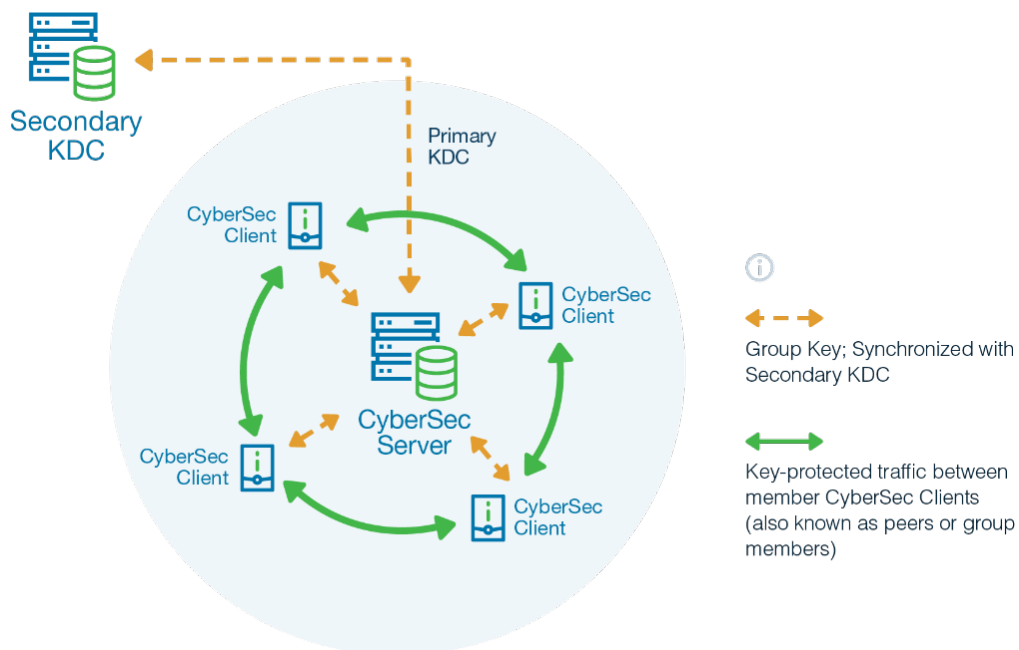


Figure 1. Mocana CyberSec Components

## Features and Benefits

- › Integrated FIPS 140-2 Level 1 cryptography engine
- › Integrated with Mocana TrustCenter™ for secure and remote key and certificate management
- › High availability (HA) configuration for the KDC
- › Key Distribution Center (KDC) on Microsoft Windows platforms
- › CyberSec Clients for Windows, Linux, VxWorks, and QNX platforms
- › GDOI standards-based member and group key management over IKE
- › IPsec-based traffic encryption
- › Dual mode for backwards compatibility with legacy brownfield devices

## Mocana Cyber Protection Platform

Mocana TrustCenter™ is a horizontal platform for embedded trust and convergence of information technology with operational technology. TrustCenter is a suite of services that can be hosted on-premise or in the cloud. CyberSec dovetails seamlessly into the Purdue model for industrial control systems – at layer 3 for operations and control, at layer 2 for area control, and at layer 1 for asset protection. The TrustCenter CyberSec Server serves as a Key Distribution Center (KDC) and provides session key management with key generation, distribution and rotation to groups based on membership and device authentication. The TrustEdge CyberSec Clients provide cryptographic hardening, at manufacture or in-field, to help achieve compliance based on standards such as IEC 62443 and 61850, NERC-CIP, NIST 800-63-3 and 800-53. CyberSec Clients provide network layer encryption (for unicast, multicast and broadcast traffic) with automated key and certificate management – without requiring application reengineering and enable interoperability between greenfield and brownfield devices.

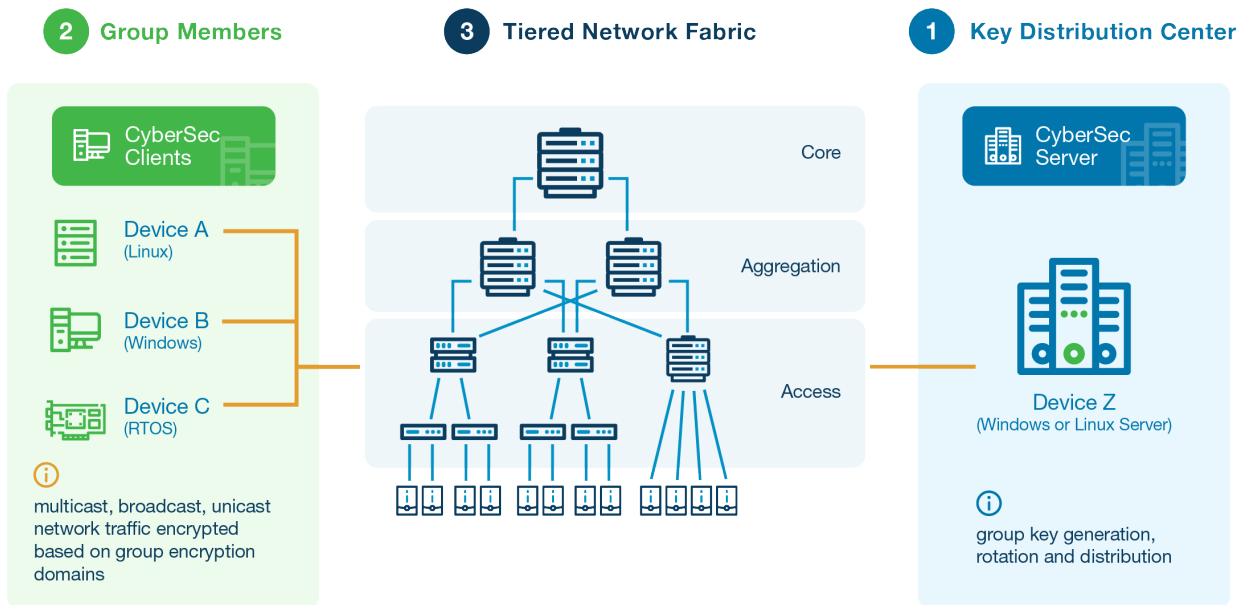


Figure 2. Mocana's Cyber Protection Platform

## About Mocana

Mocana protects more than 100 million devices worldwide and is trusted by the largest aerospace, industrial, energy, healthcare, and communications companies. Find out more at [www.mocana.com](http://www.mocana.com).

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