



CleanPipe service

Empowering CSPs with Next-Generation Clean Pipe Protection

WHOLESALE SOLUTION



Internet Clean Pipe is an essential DDoS mitigation solution for enterprises requiring always-on, secure Internet connectivity. It is typically offered as a value-added service bundled with existing or new connectivity solutions, such as IP Transit.

Angola Cables' Clean Pipe (CP) module enables Communications Service Providers (CSPs) to rapidly enhance or expand their existing security product portfolios by delivering optimal attack detection, notification and mitigation response, while maintaining high-speed Internet access for customers. CP is powered by the Angola Cables Bastions server, deployed locally within the CSP's infrastructure to perform real-time traffic scrubbing.



Clean Pipe As-a-Service

Enables CSP with the capability to deliver managed Clean Pipe security services to their downstream customers.



DDoS Protection

Multi-layered detection and mitigation against network attacks across **Layers 3 and 4**.



Wide Flow Protocol Support

Multi-layered detection engine to analyze flow traffic data and detect traffic anomalies.



Clean-traffic Delivery

Zero added latency, as mitigation is performed locally within the CSP's own scrubbing centre.



Simplified Management & Visibility

Cloud portal and Angola Cables Apps offer real-time dashboards, logs, and alerts; Role-based access control and REST API enable automation and integration.



Time to Mitigate

On Demand - Until 2,5 minutes
Always On - Until 1 minute

KEY BENEFITS



Stronger Security Posture

Always-on monitoring, multi-layer detection, origin protection reduce downtime and malicious traffic.



Simplified Operations & Full Visibility

Fully Managed by CSP's SOC and accessible through an intuitive portal.



Flexible Deployment & Easy Integration

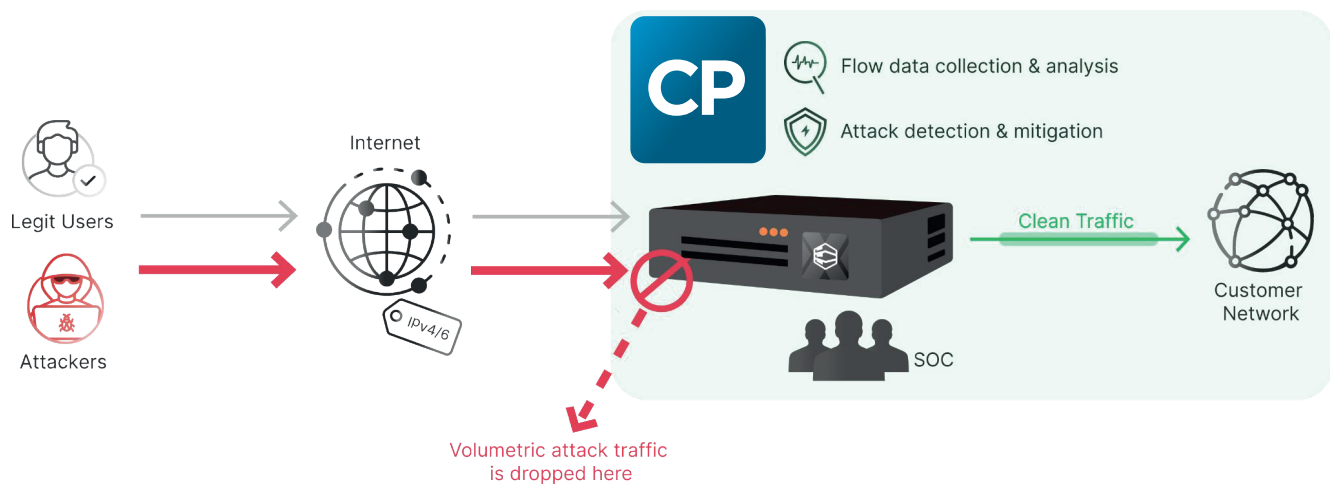
Enables CSPs to adopt the solution with zero latency impact and no significant changes to their existing network topology and routing policies, ensuring a seamless and non-disruptive rollout.

✓ HOW IT WORKS?

Clean Pipe is Angola Cables' Anti-DDoS solution that protects customer infrastructure against Distributed Denial-of-Service (DDoS) attacks. The service monitors network traffic in real time and automatically filters malicious traffic. Only legitimate traffic is forwarded to the customer's network, ensuring service availability.

When a DDoS attack is detected, traffic is automatically redirected to the Angola Cables Scrubbing Center. The platform analyzes and removes malicious traffic in real time. Only legitimate traffic is then forwarded to the customer's infrastructure, ensuring that services remain available.

ANGOLA CABLES CP DIAGRAM



WHO NEEDS CLEAN PIPE?

Large network owners and ASN-level CSPs seeking to enhance their security product portfolios and deliver Clean Pipe services to their downstream customers.

TECHNICAL SPECIFICATIONS

Category	Details
Flow Collection	- Netflow v5/9; - IPFIX; - sflow v2/4/5; - NetStream v5/8/9.
L3-L4 DDoS Detection	- Normal; - Rapid; - Smart detection modes.
L3-L4 DDoS Mitigation	Source filtering, reputation-based blocking, bogon filtering, anti-flooding, custom filtering, rate limiting and traffic policing.
Deployment & Connectivity	- BGP or BGP FlowSpec diversion; - Clean traffic returned via VLAN; - IPv4/IPv6 origin support.
Management & Automation	- Role-based access control and REST API; - Intuitive portal with real-time dashboards, logs and reports; - Notifier app.
Security & Compliance	- ISO 27001, SOC 1 and SOC 2 certified; - PCI DSS compliant; - Privacy and regulatory compliance; - Extensive logging and audit capabilities.

WHY ANGOLA CABLES?



PROVEN TECHNOLOGIES

Leverages Angola Cables's battle-tested detection and mitigation technologies, enabling partner CSPs to confidently deliver robust Clean Pipe services to their downstream.



MANAGED BY EXPERTS

Experienced security analysts deliver 24x7 SOC monitoring, analysis and incident response.



SEAMLESS DEPLOYMENT

Leverages standard BGP and VLAN connectivity, widely supported across CSP environments, enabling quick integration with minimal network changes.



COMPLIANCE READY

ISO 27001, SOC 1/2 and PCI DSS certifications and detailed reporting.

ABOUT ANGOLA CABLES

Angola Cables is a global ICT and digital solutions provider with a strong international presence. The company specializes in connectivity solutions for the wholesale market and delivers tailored digital services and solutions across various industries, including cloud resources for the enterprise sector.

Recognized for its innovation, Angola Cables operates a robust global backbone network, providing access to major Internet Exchange Points (IXPs), Tier I carriers, and leading global content providers. With more than **30 Points of Presence (PoPs)**, connectivity to over **930 interconnected data centers**, and more than **6,000 peering agreements**, traffic across its international network exceeds **18,500 Tbps**.

The company owns and operates an extensive submarine cable network spanning more than **33,000 kilometers through the WACS, SACS, and MONET cable systems**. It further extends its reach by leveraging over **50,000 kilometers of partner cable infrastructure**, connecting the Americas, Africa, Europe, and Asia.

In addition, Angola Cables operates two world-class data centers: **AngoNAP Fortaleza in Brazil and AngoNAP Luanda in Angola**. The company also manages PIX in Brazil and Angonix in Angola — one of Africa's leading Internet Exchange Points (IXPs), directly connected to more than 45 IXPs worldwide.

With a significant international footprint, Angola Cables continues to expand its operations into strategic markets including Brazil, South Africa, the United States, Nigeria, and Portugal. By enabling intercontinental interconnection, the company drives digital and economic development and is ranked among the world's top 25 Internet service providers.

GETTING STARTED

To learn more about our products and services or to request a quote, please contact us:
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