



# Safe Harbor Integrated Probe 1/10/40/100Gb

A self-contained solution for Internet access providers, fixed and airborne Wi-Fi systems, VoIP providers, LTE operators to provide the latest lawful intercept solution to meet regulatory and legal requirements.

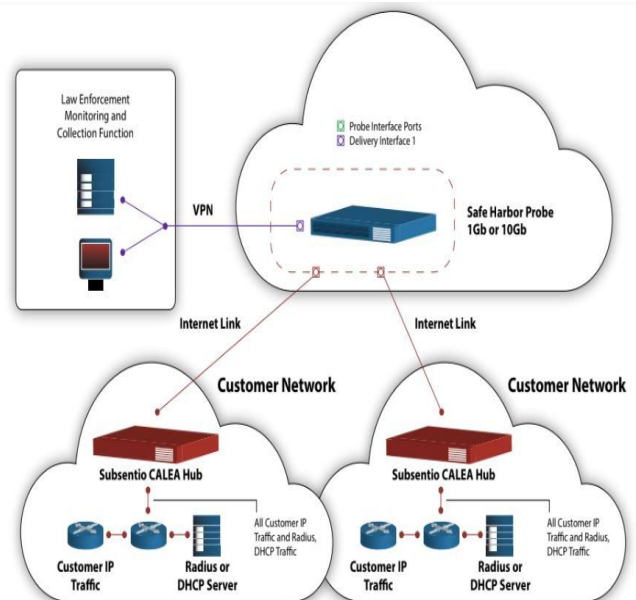
## KEY FEATURES & BENEFITS

- In use at ~100 service providers
- Supports ATIS, 3GPP, ETSI standards
- Full IPv6 support
- Allows four 100Gb or 40Gb inputs, 16 100Gb inputs
- Allows combo of 1, 10, 40, and 100Gb inputs
- Requires no separate mediation or admin system
- Integrated VPN reduces installation complexity
- Provides Email alerts and notifications
- Selectable buffering options for each intercept
- Can operate alone or combined with “subprobes”
- Virtualized version can operate in a cloud environment or on a Virtual Machine

**Data Intercepts:** The Safe Harbor Probe provides for data intercepts on broadband data, LTE, and UMTS networks. Support includes:

- IPv4/ IPv6 static address or prefixed
- DHCP identifiers
- RADIUS identifiers and MSISDN, IMSI, IMEI
- S-VLAN and C-VLAN tag

Remotely provisioned through a secure web-browser interface, the Probe is an easy-to-install, self-contained system that provides interception, administration, delivery and VPN security. The probe can be connected to many different points in the network such as network taps or span/mirror ports. The probe examines network traffic independent of the specific network equipment. Deep-packet inspection supports protocols such as DHCP, RADIUS, GTP, SIP and RTP as well as tracks dynamic IP assignments.



**Multiple Network Configuration**

The intercept can be specified as a pen-register intercept or full content intercept, with optional location reporting. For LTE, the probe can be connected to the S5 interface, or alternatively the S11 and SGI interfaces. The Probe has optional filtering functions to remove VoIP signaling and content from a data intercept.

**VoIP Intercepts:** The Safe Harbor Probe provides complete SIP/RTP VoIP intercepts and VoLTE.

- SIP URIs
- Partial or wild-carder phone numbers
- MSISDN, INSI, IMEI

As the Probe monitors SIP traffic, it looks for the provisioned identifiers in a number of possible places, such as To/From/Contact/P-Asserted-Identity headers. Specific delivery options, for certain data include DTMF (dialed digits) reporting and location reporting. Options also exist to require the probe to detect and remove duplicate calls.

**Delivery Standards:** For data intercepts, including LTE,

- ATIS IAS V2 CALEA standard.
- ETSI 102 232-3 standard
- LTE: 3GPP 33.108.
- For VoIP: ATIS 678 V3 and ETSI 102 232-5

**Input Speeds.** The probe has two slots for input modules. Modules offered are:

- 100Gb with two QSFP28 inputs
- 40Gb with two QSFP+ inputs
- 10Gb with eight inputs\*
- 10Gb with four SFP+ inputs
- 1Gb with four inputs

**Performance.** The 100Gb, 40Gb, and 10Gb interfaces monitor traffic at wire-speed rate. 1Gb inputs support 1 Gb of typical Internet mix for data intercepts and 200 Mbps for RTP (VoIP media). The rate for intercepted traffic is determined by the maximum speed at which the probe can send to a law-enforcement collection system.

- 1Gb on a 1Gb interface and
- 5.5Gb on a 10Gb interface.
- Number simultaneous data-intercept cases: 32
- Additionally, certain maintenance alarms are sent to the Network Management System
- Number of VoIP concurrent calls: 15

#### **Email Alerts and Notifications:**

- Programmable: to send periodic reports to designated email addresses,
- Additionally, certain maintenance alarms are sent to the Network Management System



#### **Safe Harbor Probe Physical and Electrical Characteristics**

- 1U, 16.9" deep
- Operating temperature: 10-35°C
- One 1Gb system port
- Max input rate: 400Gbps
- AC power. Base unit is ~60W max. Each 10G and 40G module adds ~30W max. Each 100G module adds ~60W max. Each QSFP+/QSFP28 transceiver adds ~4W.
- Remote management via the NMS