

# INTERNET SCANNING

## Research and Development



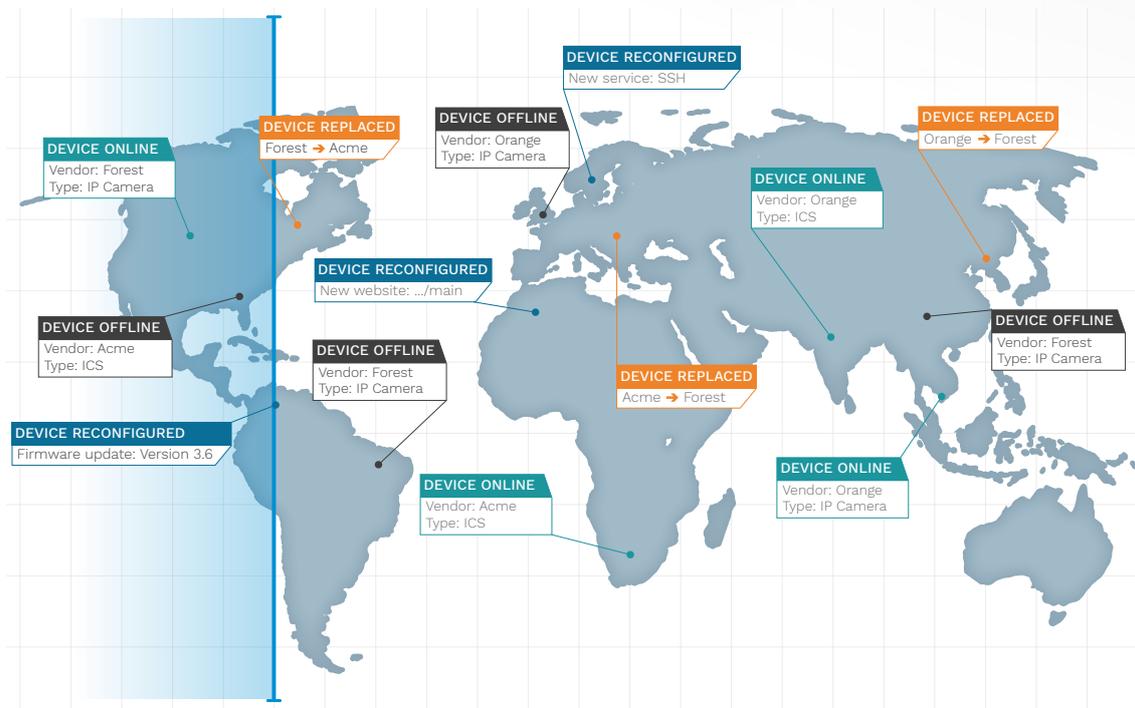
Global, scalable Internet scanning and intelligence providing visibility on devices, protocols, and networks.

Within a fully connected world, knowing how different services are exposed, and through which protocols devices are reachable, is a key element of Internet situational awareness.

At Kudelski Security, we have visibility over the entire IPv4 address space, covering custom device fingerprinting and protocol analysis that goes beyond simple port scanning. Our services provide continuous detection, using fast scanning technology and a global distributed infrastructure. We perform large-scale scanning with custom probes to get results fast. We maintain a database of all scans, providing a historical perspective with insight on how networks are changing over time. Our services are also available to monitor an organizations internal network through onsite scanning.

### Key Outcomes

- Device identification and visibility across the globe
- Visibility over entire Internet-facing IPv4 address space
- Targeted data sets for specific Internet infrastructures
- Historical information on Internet and device state
- On-demand scan results in less than 1 hour
- Custom services, e.g. analytics, manufacturer-specific device fingerprinting, and exotic equipment identification



### The Kudelski Security Advantage

 Global, scalable scanning framework	 Ability to implement specific fingerprinting techniques depending on client's needs	 Distributed infrastructure with worldwide entry points	 Big data analytics platform to identify trends and investigate other correlations
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## How We Engage

Scanning services can be delivered on a per-scan basis or through longer term contracts. Long-term engagements run from six months to two years. Data is delivered on a daily, weekly, or monthly basis.

### Identify Services

An account manager will help clarify your needs, including scan period, protocols, duration, and desired outcomes. For advanced proposals, a technical scan-lead will liaise with your technical team.

### Define Scope & Goals

A technical scan lead will help define the engagement scope and goals. Project planning proceeds according to the requested service and desired outcomes. For custom protocols, a project team is identified and the desired method for communicating data defined.

### Scan and Deliver

We will deliver periodic results as defined in the project scope and goals. Any additional automated or manual analytics and reporting will also be delivered. Historical data access will be provided through a web API.

## Use Cases

Kudelski Security Internet data may be used for many different use cases.

- **Internet-wide Intelligence Gathering:** Some clients need large-scale data gathered to feed to their internal services. For example, a client may need industrial control system (ICS) Internet surveys to evaluate the current ICS risk for specific industry sectors. The client maintains a list of IP-to-sector mappings, and can use our raw ICS feeds to understand the distribution of ICS devices per sector.
- **Device Intelligence:** Kudelski Security can provide device identification and tracking across the Internet. For example, we can fingerprint a specific device, and then all Internet-facing devices of this type can be found and tracked. We can report on the device's lifecycle, including device uptime, configuration changes, and when the device is removed. We can also provide intelligence on what device existed before or after the device is brought online, to show market trends.
- **Internet-Scale Custom Modules:** Our fingerprint and analysis modules are flexible, and support additional device interactions. For example, if a client needs to interact with the device beyond a simple fingerprint, we can provide additional capabilities, such as camera screenshots, command interaction, SNMP traps and API queries.
- **Network Change Monitoring:** We can monitor specific network segments, or the entire Internet, for changes that are of interest to the client, for example, the appearance of any new devices on their corporate IP ranges. Network Change Monitoring can also provide geography-specific trends for any new protocol that a client is considering. We can also help predict when the protocol would reach target saturation levels.
- **Analytics:** The Kudelski Security data lake maintains all of our scanning and protocol data, providing custom analytics on the state of the Internet. Clients can request specific analytics and reports, such as the relationship between ICS protocols and geographic locations, or which companies are providing the most SSL certificates, and how that is changing over time.

Kudelski Security, a division of the Kudelski Group (SIX: KUD.S), is an innovative, independent provider of tailored cybersecurity solutions to enterprises and public sector institutions. Kudelski Security is headquartered in Cheseaux-sur-Lausanne, Switzerland, and Phoenix, Arizona, with operations in countries around the world.

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