distil networks

Beyond Blind Defense:

Gaining Insights from Proactive App Sec

Speaker

Rami Essaid

CEO
Distil Networks

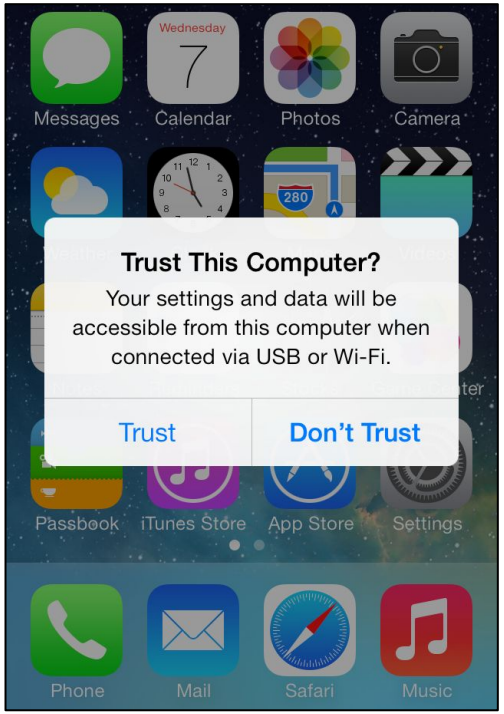
Blind Defense Means Trusting Half Your Web Traffic

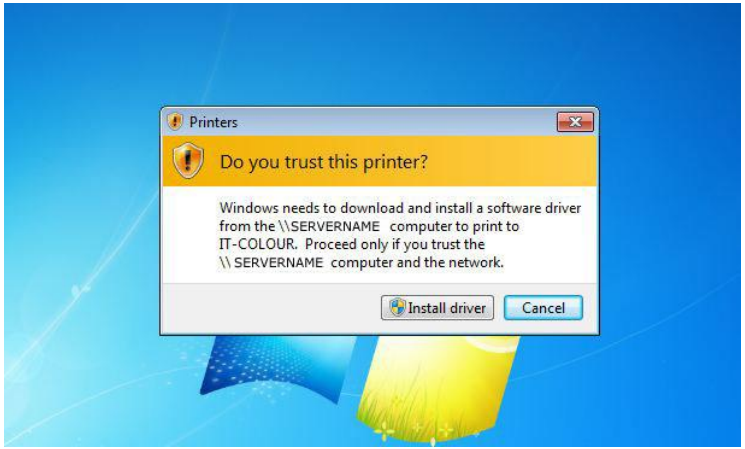
46%

of Web Traffic is Bots

Source: Distil Networks Bad Bot Report 2016

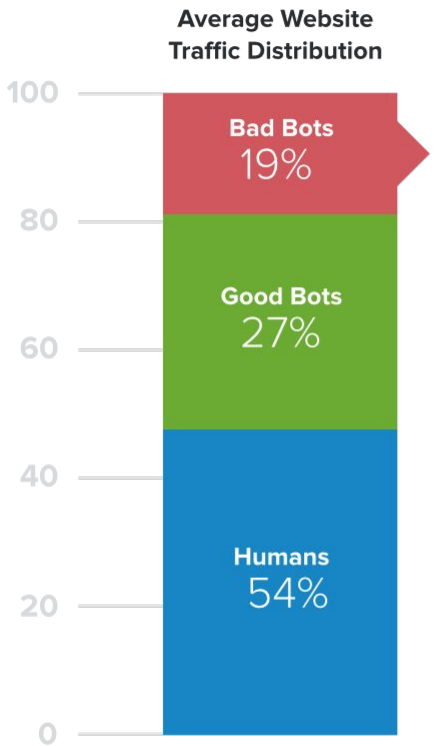
Why Trust? Verification Required.



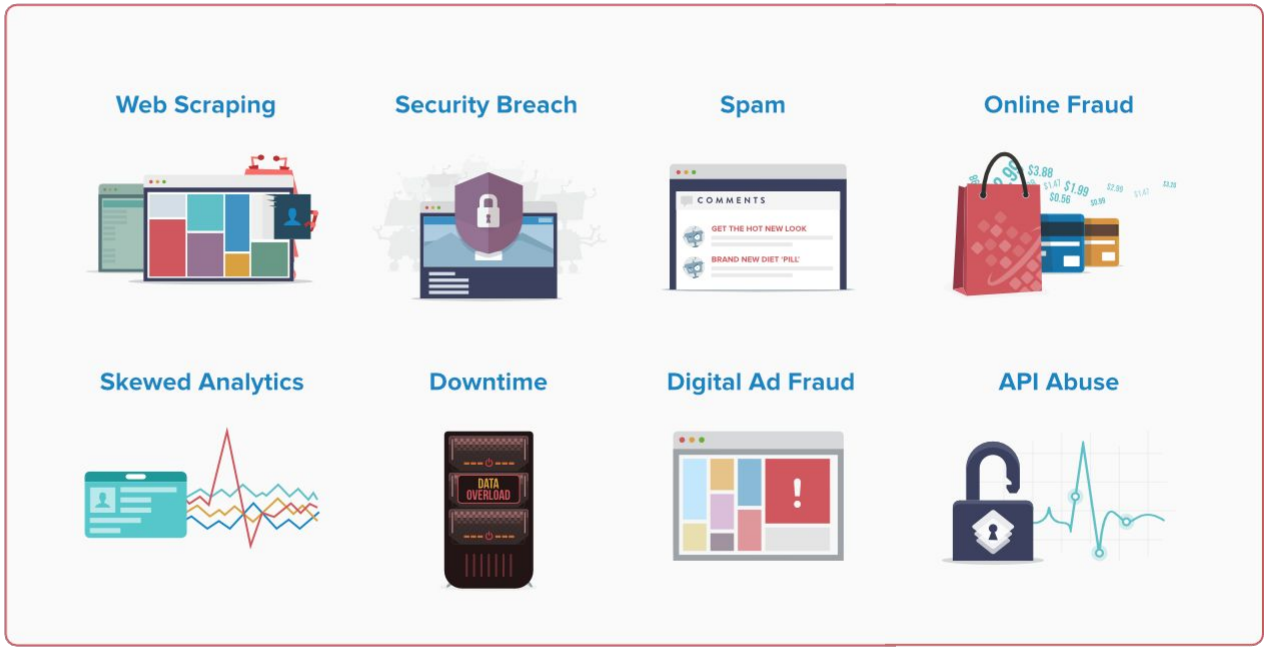


Bad Bots Cause the Majority of Website Problems

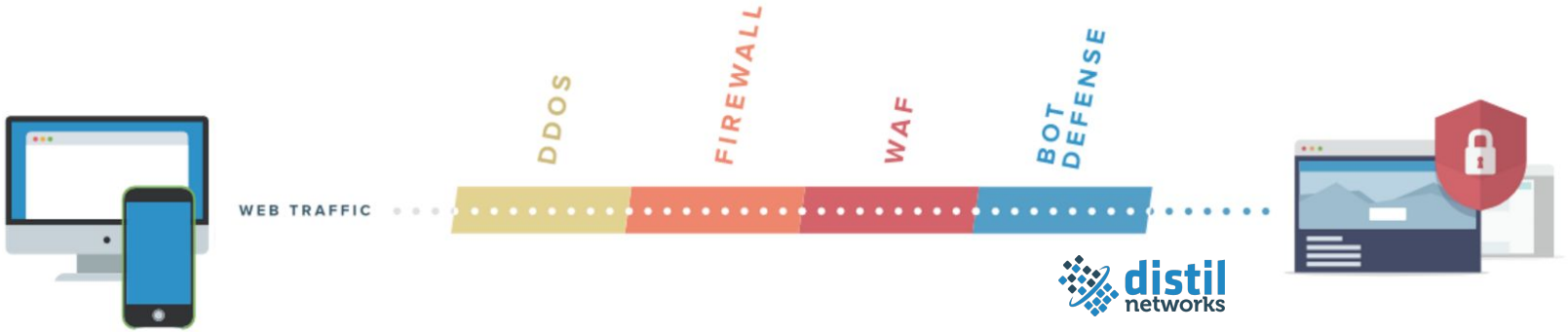
distil networks



19% of Traffic Causes the Following Problems



Web App Security Requires Complementary Solutions



	DDoS Mitigation	Firewall	WAF	Distil Bot Protection
Core Competency	Volumetric attacks on infrastructure	Network layer attacks	Application coding exploits	Automated abuse, misuse, and attacks (scraping, fraud, account takeover, etc.)
Techniques	Scrubbing centers, Large pipes	Access Control Lists (ACLs), Rules-Based	App layer understanding, ACLs, Rules-Based	Real-time Analysis, Fingerprinting, Honeypotting, Machine learning, Behavioral modeling

Majority of Bots are Advanced Persistent Bots (APBs)

distil networks

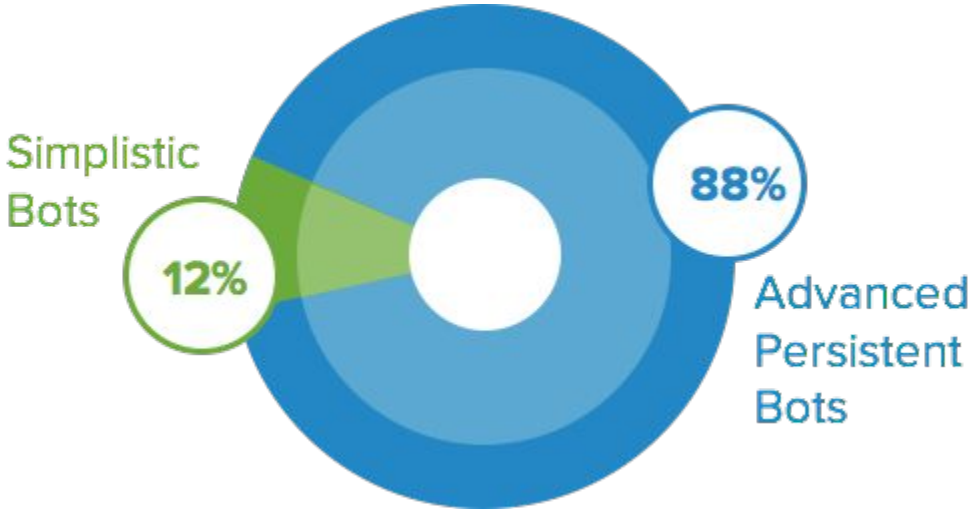
APBs have one or more of the following abilities:

Advanced

Mimic human behavior
Load JavaScript
Load external resources
Support cookies
Browser automation (Selenium, PhantomJS)

Persistent

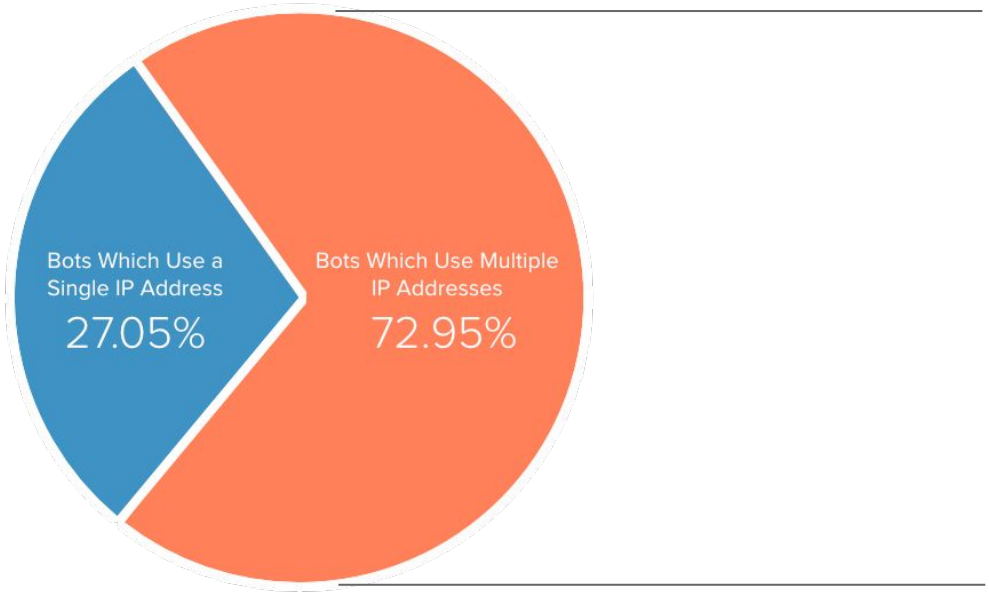
Dynamic IP rotation
Distribute attacks across IP addresses
Hide behind anonymous and peer-to-peer proxies

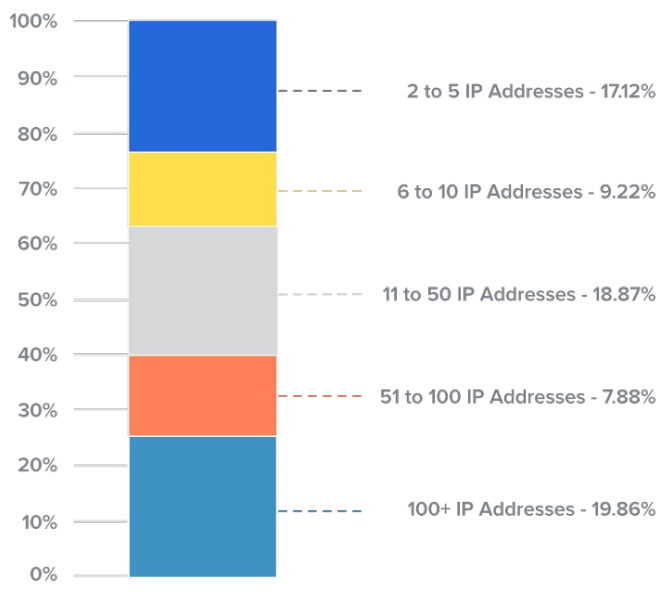


2016 Distil Bad Bot Report

That Majority of Bad Bots Now Use Multiple IP Addresses

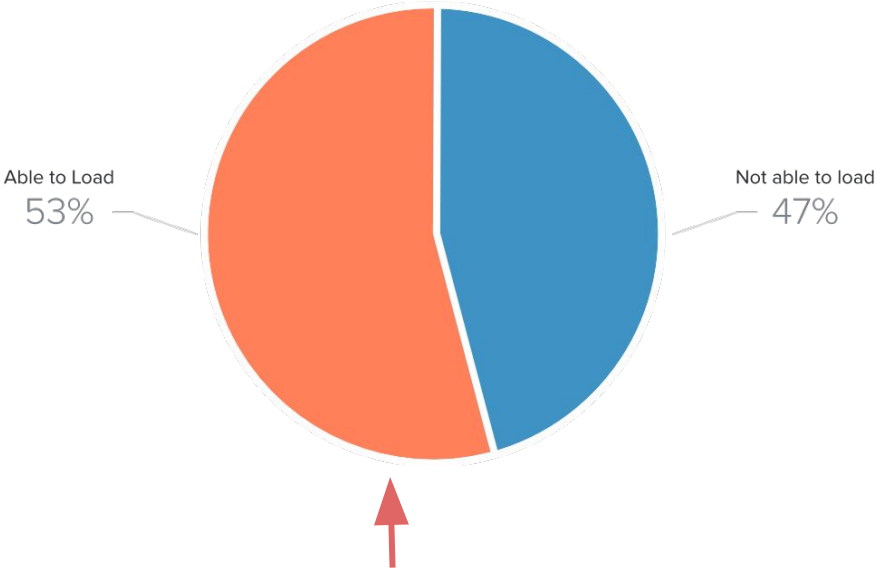
Bots which dynamically rotate IP addresses, or distribute attacks are significantly harder to detect and mitigate





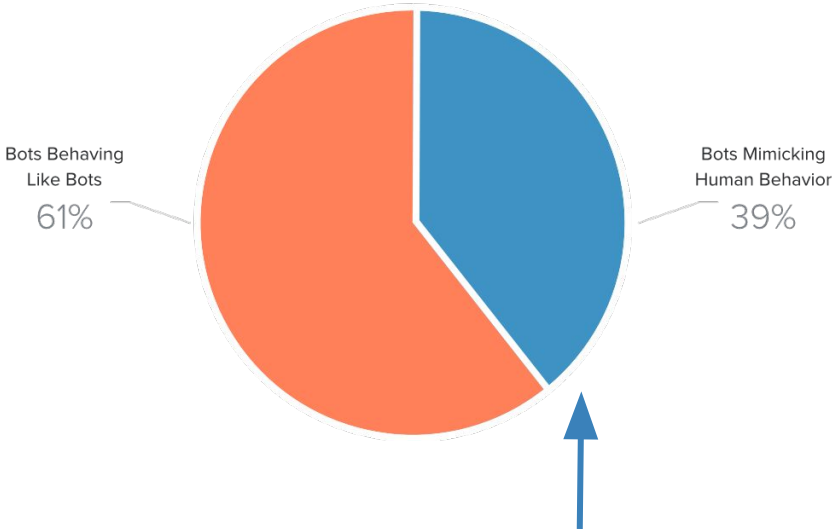
Loading Assets & Bots Mimicking Humans

% of bots able to load external assets (e.g. JavaScript)



These bots will skew marketing tools such as (Google Analytics, A/B testing, conversion tracking, etc.)

% of bots able to mimic human behavior



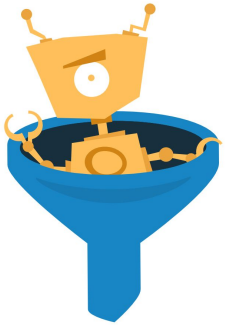
These bots will fly under the radar of most security tools

The Antidote to Blind Defense

distil networks

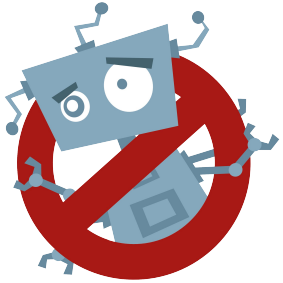
Identify

Hi-Def Fingerprint



Distil

Real-time Detection

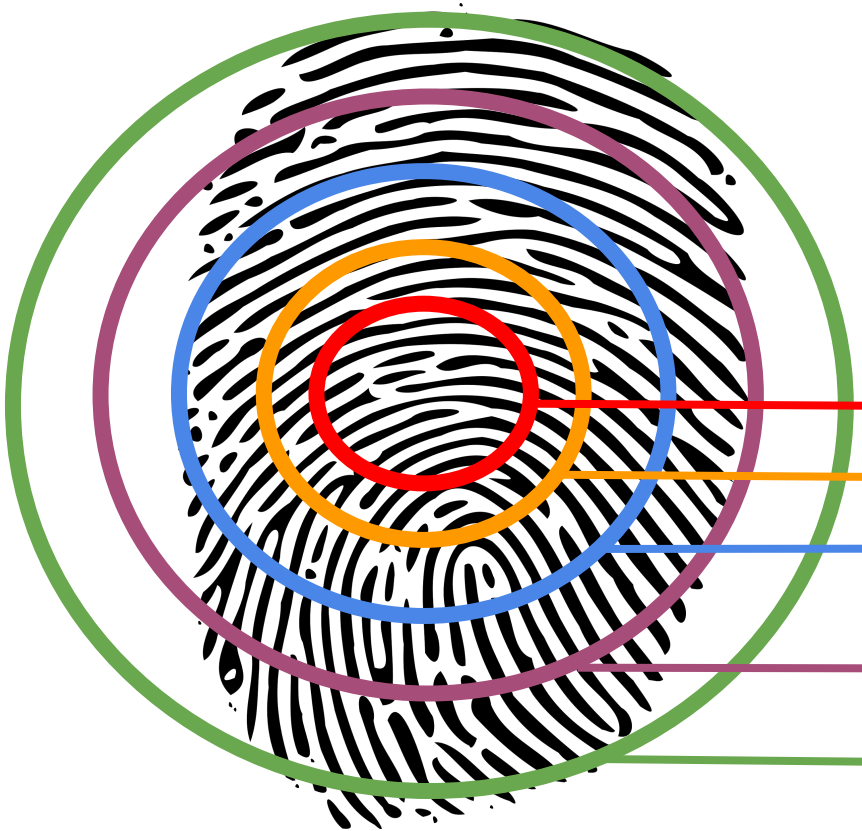


Respond

Control with Certainty

Hi-Def Fingerprinting Eliminates Blind Defense

distil networks



Hi-Def Fingerprint

IP Address

Header & User Agent Information

Cookie Browser

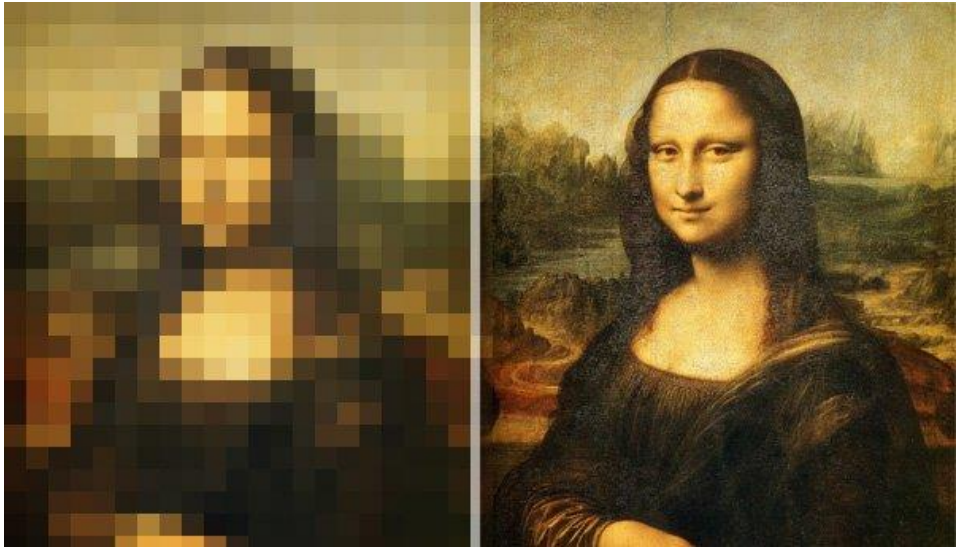
200+ Attributes of data

Navigator, WebGL, Plugins, Audio, Video, etc.

Tamper proofing layer

Delivering a Clear Picture of Your Web Traffic

distil networks



Low Resolution Fingerprint
“Unactionable”

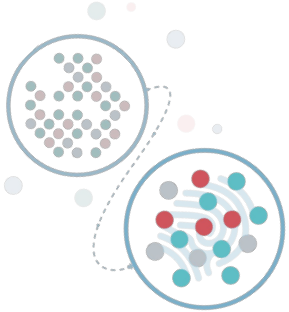
Hi-Def Fingerprint
“Actionable”

The Benefits of a Hi-Def Fingerprint

distil networks

Pre-access Identification

Inspect traffic before website accessed

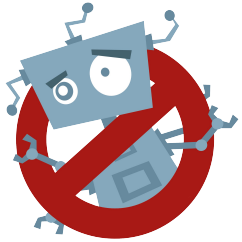


Hi-Def Fingerprint

Analyze over 200 device attributes

Verified Accuracy

False Positive Report



Respond With Confidence

Make better decisions

Shareable Public Fingerprint

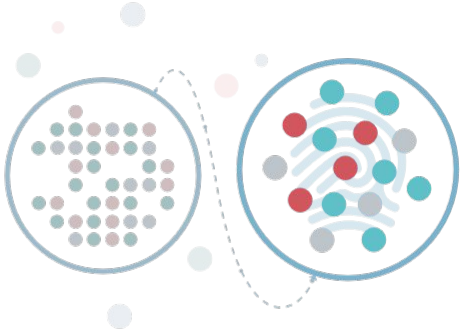
Available for Known Violators Database & SIEM and other security products

Detect and Distil Traffic

distil networks

Pre-Access Detection

Pre-Access Challenge



Progressive Detection

Performed Prior to Access to Website

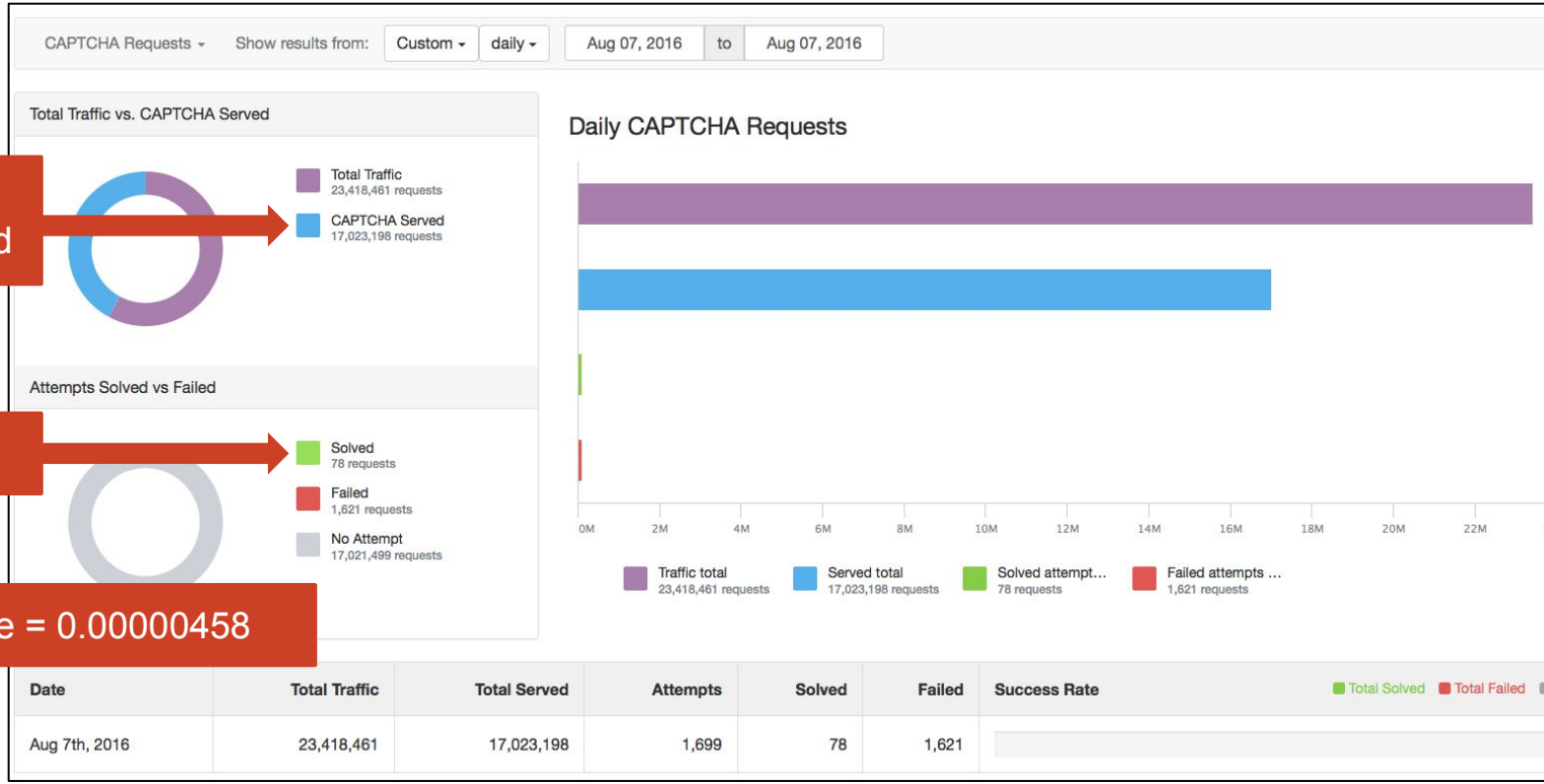
Access to Website Granted

No Longer Blind Defense
Complete Visibility into False Positives

17 million CAPTCHAs served

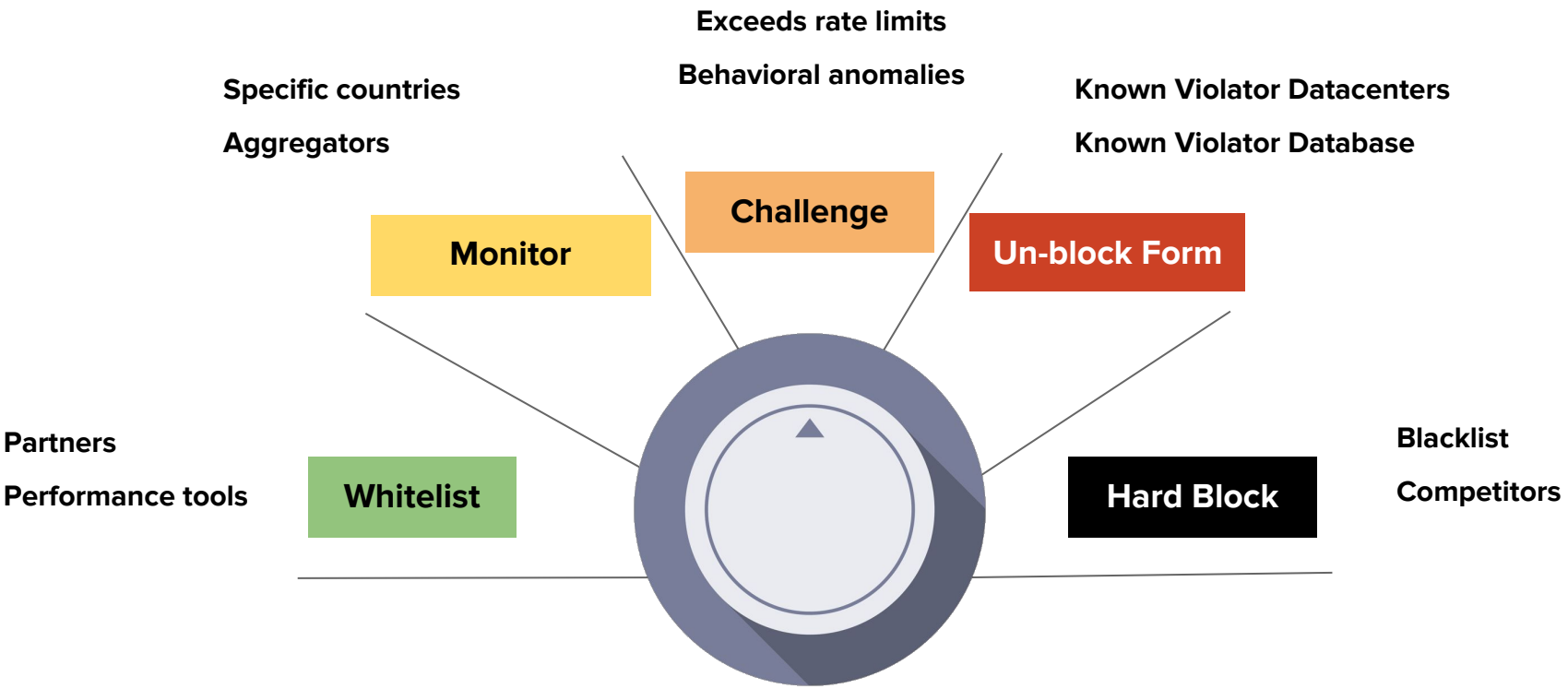
78 solved

False Positive Rate = 0.00000458



Date	Total Traffic	Total Served	Attempts	Solved	Failed	Success Rate
Aug 7th, 2016	23,418,461	17,023,198	1,699	78	1,621	

Controlled Responses Based on Traffic Type



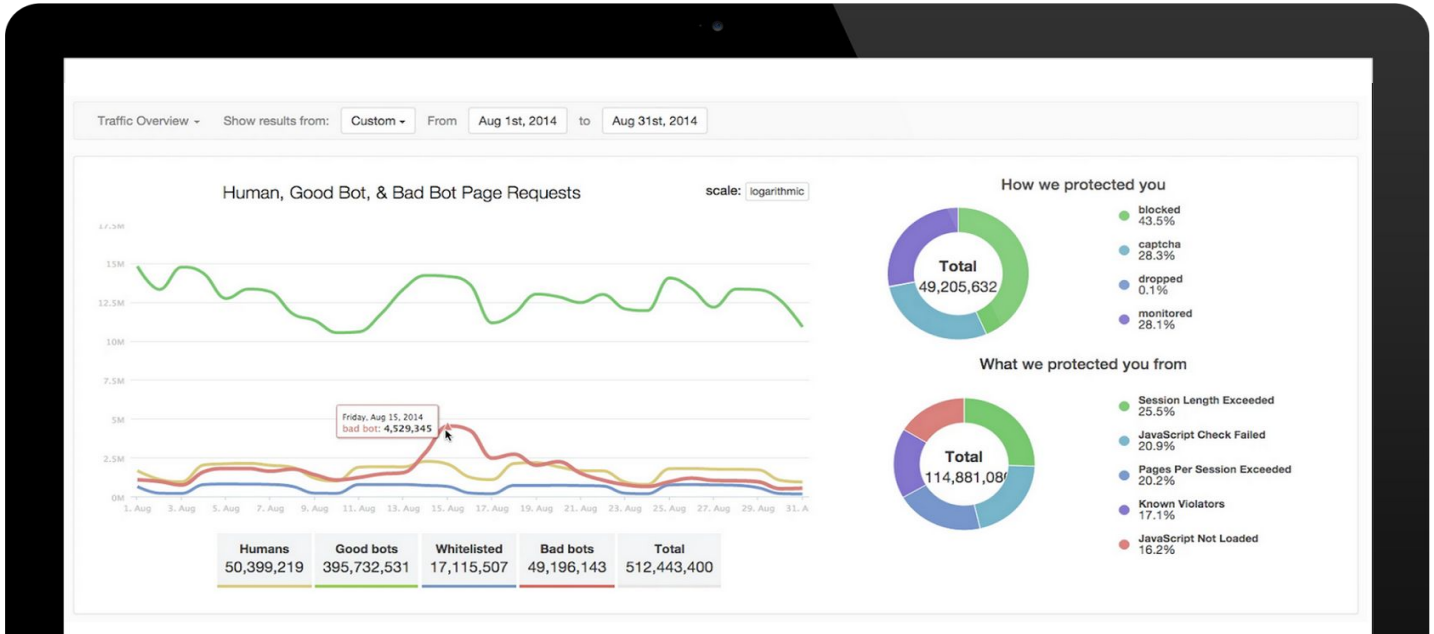
The Only Easy and Accurate Way to Protect Web Applications from Bad Bots, API Abuse, and Fraud.

Two Months of Free Service + Traffic Analysis

distil networks

Offer Ends: October 30, 2016

www.distilnetworks.com/trial/



QUESTIONS....COMMENTS?

INFO@DISTILNETWORKS.COM

OR CALL US ON

1.866.423.0606

Seed Questions for Moderator

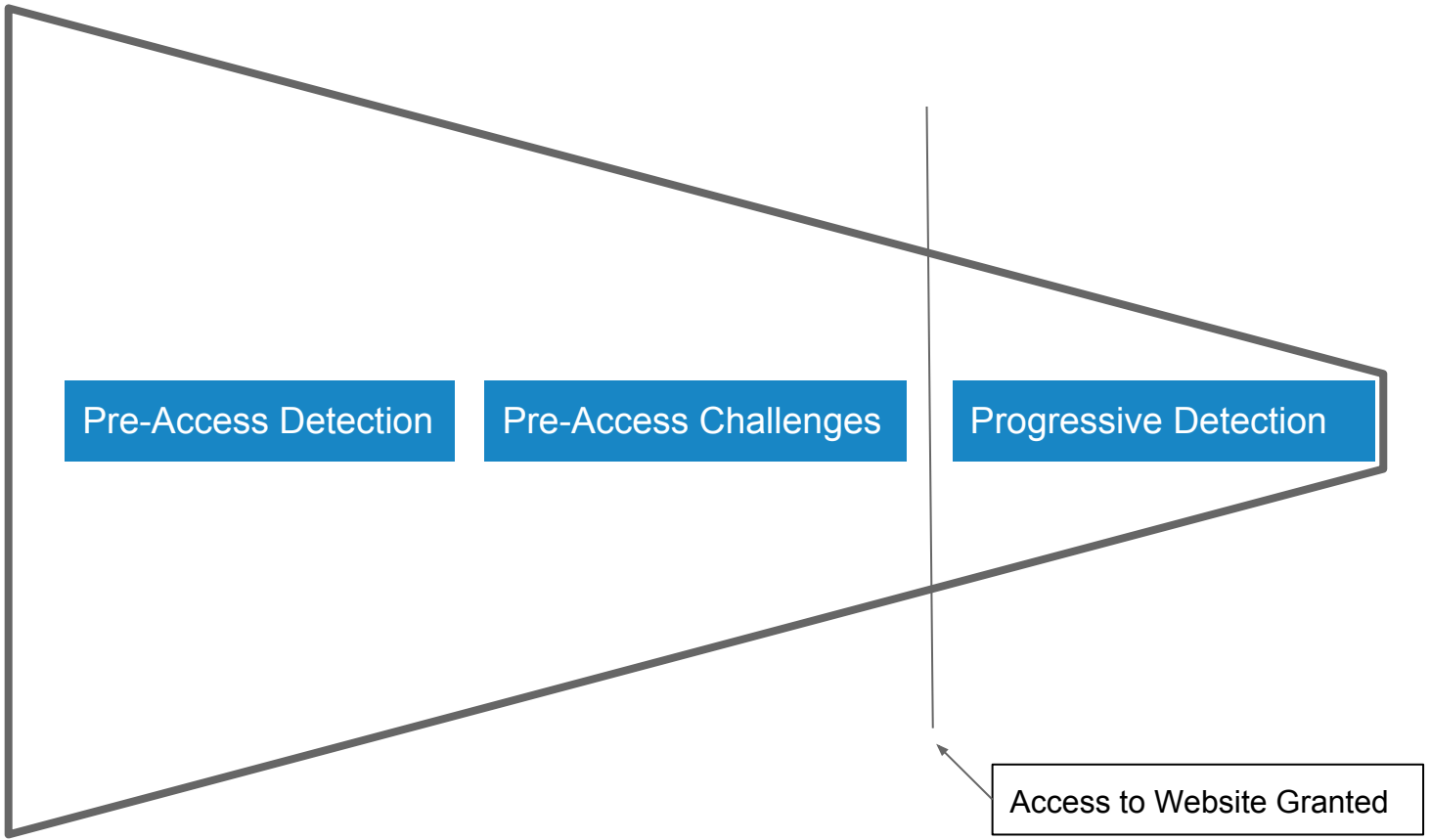
distil networks

Some questions - any that you prefer to answer that we should include?

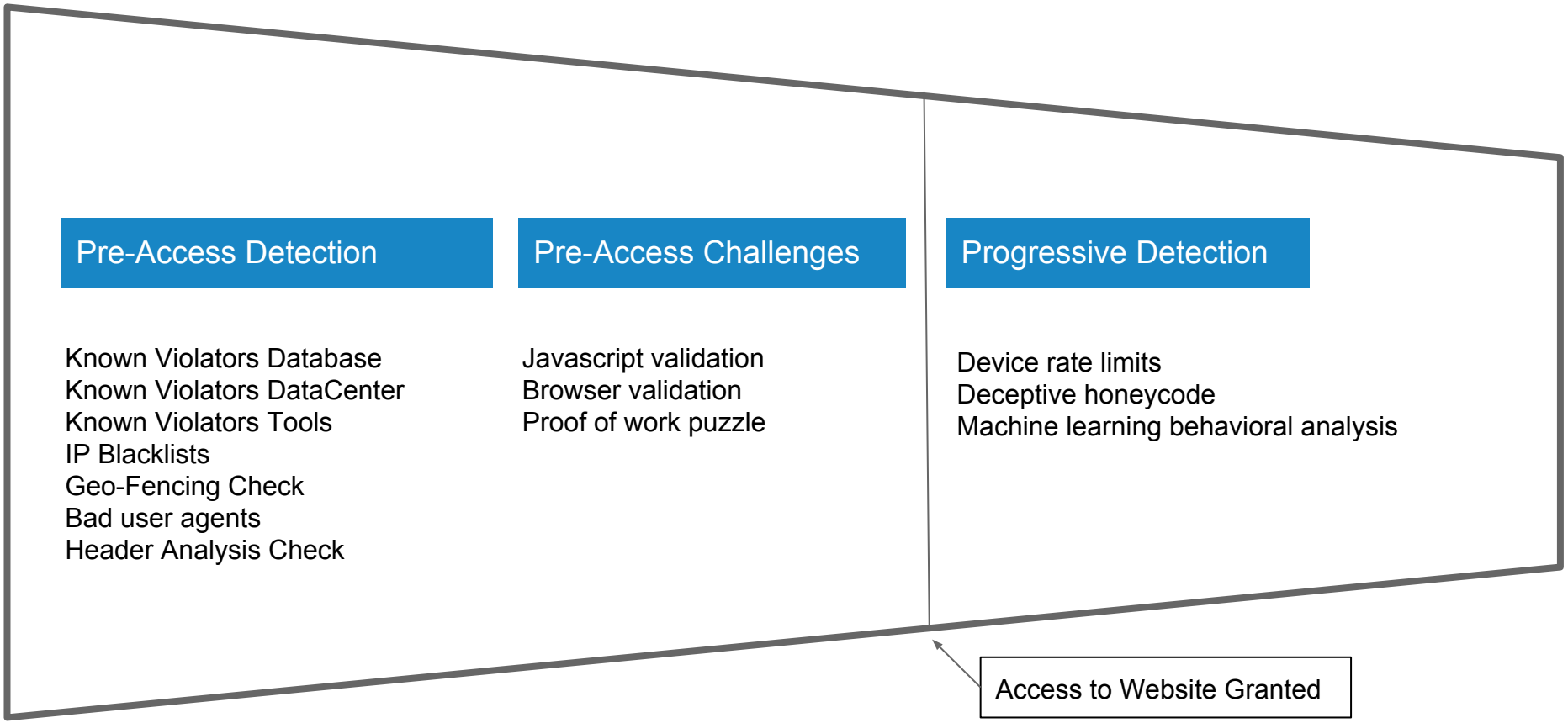
1. How can you identify traffic as malicious on your website, before it has done anything?
2. An attacker can use a browser automation tool like selenium. That would be hard to detect and it is not a real user, correct?
3. Why would you care if a bot is scraping your site? It's public information, this is not a security problem.
4. Is a vulnerability scanner identified? Does it have a fingerprint if it doesn't use a browser?
5. What types of companies use this bot protection?
6. You have to have blind trust on your website, everyone is anonymous on the web. Nobody wants to block customers from visiting our site. There must be false positives that you see, how do you handle that?

Detect and Distil Traffic

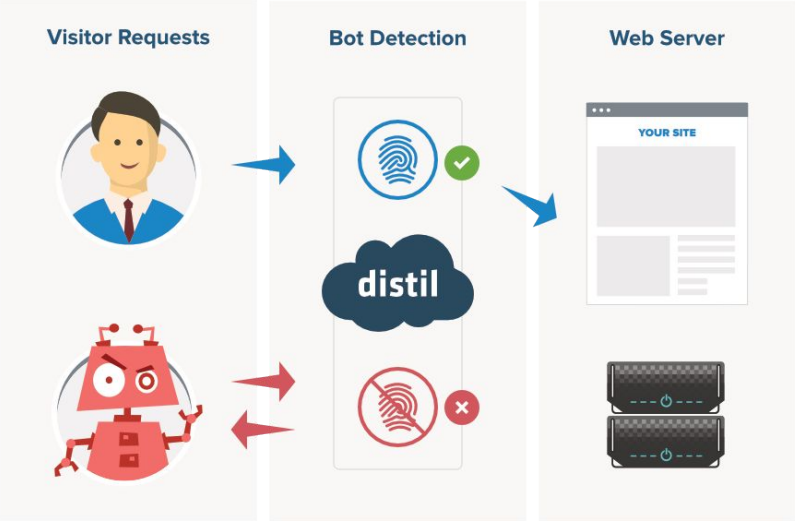
distil networks



Detect and Distil Traffic



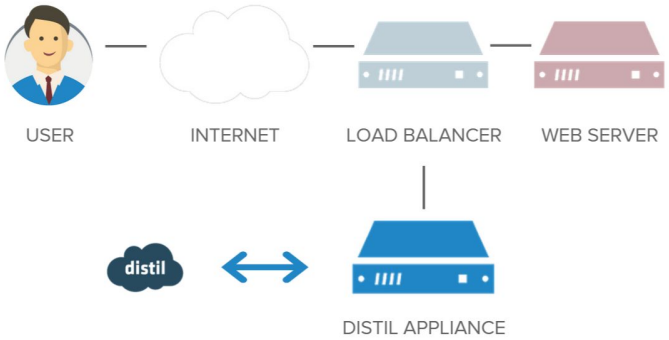
How the Distil Bot Detection Solution Works



As web traffic passes through Distil, the system

1. Fingerprints each incoming connection and compares it to our Known Violators Database
2. If it's a new fingerprint, validates the browser to determine if it's a Bot or Not
3. Based on your preferences, automatically tags, challenges, or blocks the bot

Flexible Deployment Options

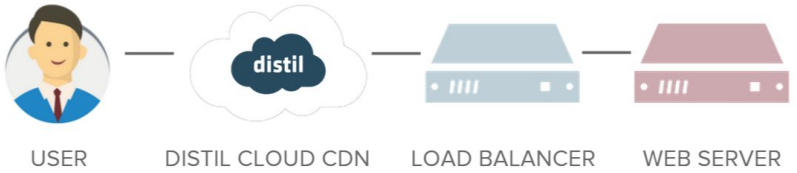


Physical or Virtual Appliances

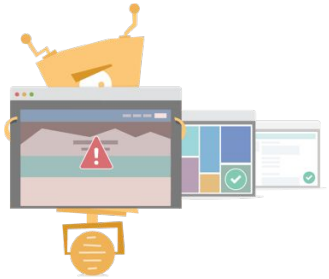
- Install on virtualized or bare metal appliance(s)
- High availability configurations with failover monitoring
- Heartbeat up to Distil Cloud
- Deploys in days

Content Delivery Network

- Automatically compresses and optimizes content for faster delivery
- 17 global datacenters automatically fail over when a primary location goes offline
- Automatically increases infrastructure and bandwidth to accommodate spikes
- Deploys in hours



Advanced Bot Detection Increases Accuracy



Browser Validation

Detects all known browser automation tools, such as Selenium and Phantom JS

Protects against browser spoofing by validating each incoming request as self reported

Behavioral Modeling and Machine Learning

Machine-learning algorithms pinpoint behavioral anomalies specific to your site's unique traffic patterns

Self optimizing algorithms improve bot detection and mitigation without manual configuration

Sticky Bot Tracking With No Impact On Real Users

distil networks

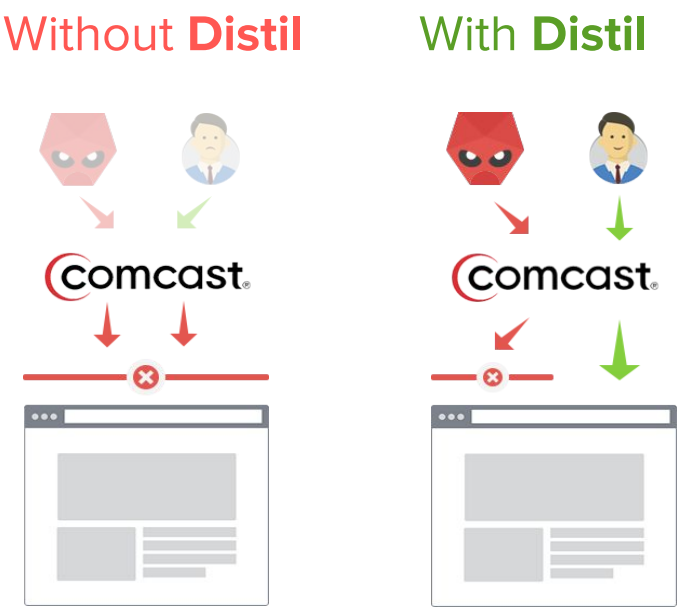
Device Fingerprinting

Fingerprints stick to the bot even if it attempts to reconnect from random IP addresses or hide behind an anonymous proxy or peer-to-peer network

Tracks distributed attacks that would normally fly under the radar

Without Impacting Users Sharing the Same IP

Avoids blocking residential users or organizations that might share the same NAT as the bot or botnet



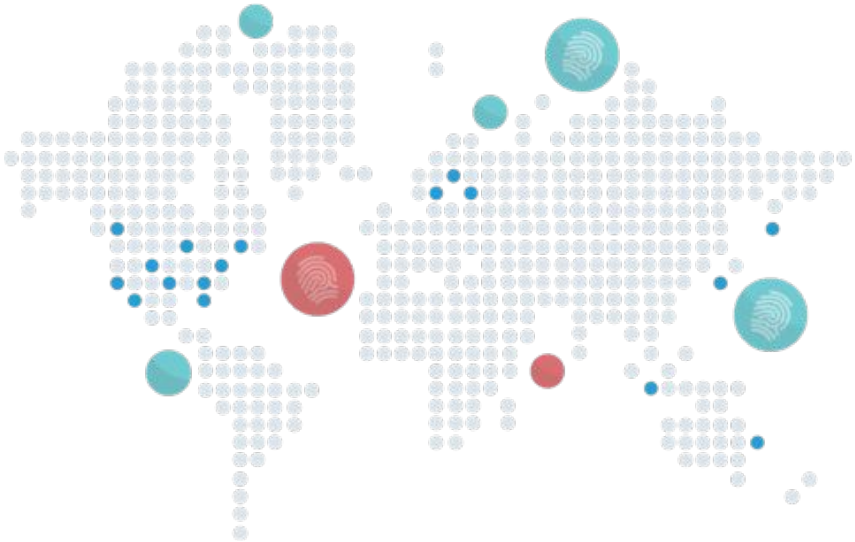
Threat Intelligence From All Distil-Protected Sites

distil networks

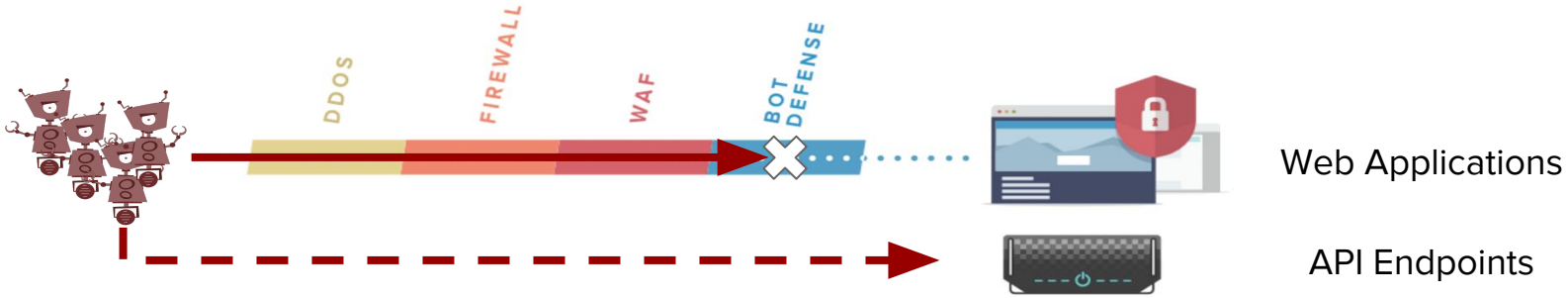
Known Violators Database

Real-time updates from the world's largest Known Violators Database, which is based on the collective intelligence of all Distil-protected sites

Distil customers are automatically protected against new threats discovered anywhere on the network



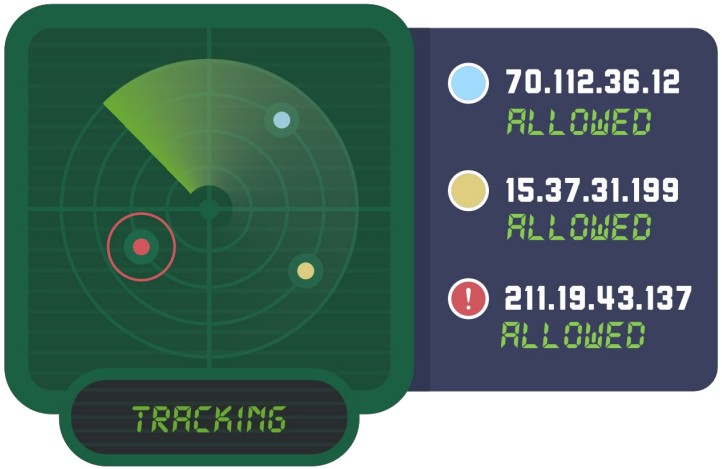
Distil API Security: Overview



Main use cases: Apps calling APIs, Partner APIs

Bots move to API if unable to access main site

Most solutions track API usage by IP



This makes them blind to a couple of key use cases

- **Server sourced** API clients are hosted by cloud providers that can cycle IP's at will
- **Mobile application sourced** clients are behind Wireless provider proxy networks (many devices share an IP)
- **Web browser sourced** clients can be behind a consumer ISP NAT - shared IP for many browsers

Distil tracks API usage by ID

Our flexible ID system can track API usage on a device level. For example:

- **Server sourced** API clients tracked by session or vendor ID's
- **Mobile application sourced** clients tracked by device ID (Apple IDFA, or Google Advertiser ID)
- **Web browser sourced** clients tracked by session ID or if Distil Web Security is present: Distil UID's

API Security Controls

- Configurable ACL
- Country and Organization fencing
- Progressive Thresholds and Graduated Rate Limiting
- Multi-Token Support
- Custom Rules
- Anonymous Proxy Blocking
- Referrer Blocking
- Blocking by Datacenter

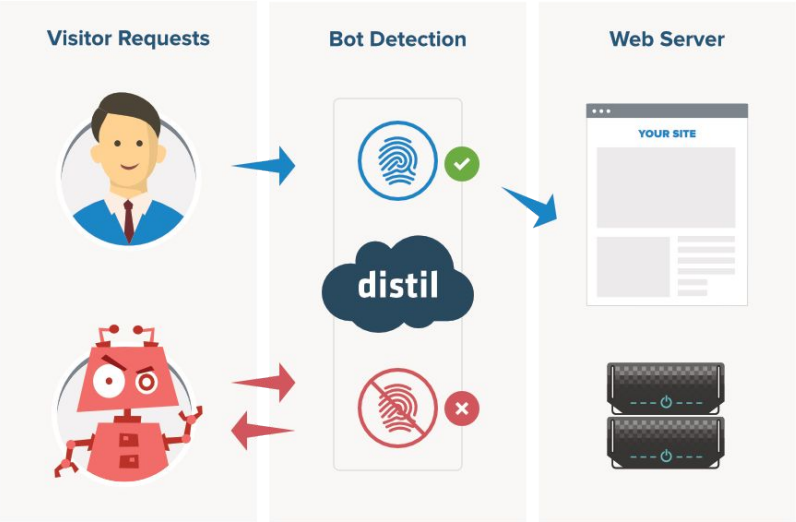
Web Security + API Security

Fully Managed Service (aka High Touch Services)

distil networks

Dedicated Analyst Team

The World's Most Accurate Bot Detection System



Inline Fingerprinting

Fingerprints stick to the bot even if it attempts to reconnect from random IP addresses or hide behind an anonymous proxy.

Known Violators Database

Real-time updates from the world's largest Known Violators Database, which is based on the collective intelligence of all Distil-protected sites.

Browser Validation

The first solution to disallow browser spoofing by validating each incoming request as self-reported and detects all known browser automation tools.

Behavioral Modeling and Machine Learning

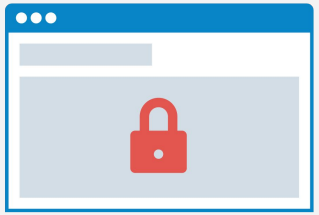
Machine-learning algorithms pinpoint behavioral anomalies specific to your site's unique traffic patterns.

How Companies Benefit from Distil

distil networks

Increase insight & control over human, good bot & bad bot traffic

Block 99.9% of malicious bots without impacting legitimate users



Protect data from web scrapers, unauthorized aggregators & hackers

Slash the high tax bots place on internal teams & web infrastructure