



Stop Malicious Bots!

Detect & Prevent Automated Attacks

Web App Attack Trends in 2019

60%

of 2018 breaches occurred via web apps

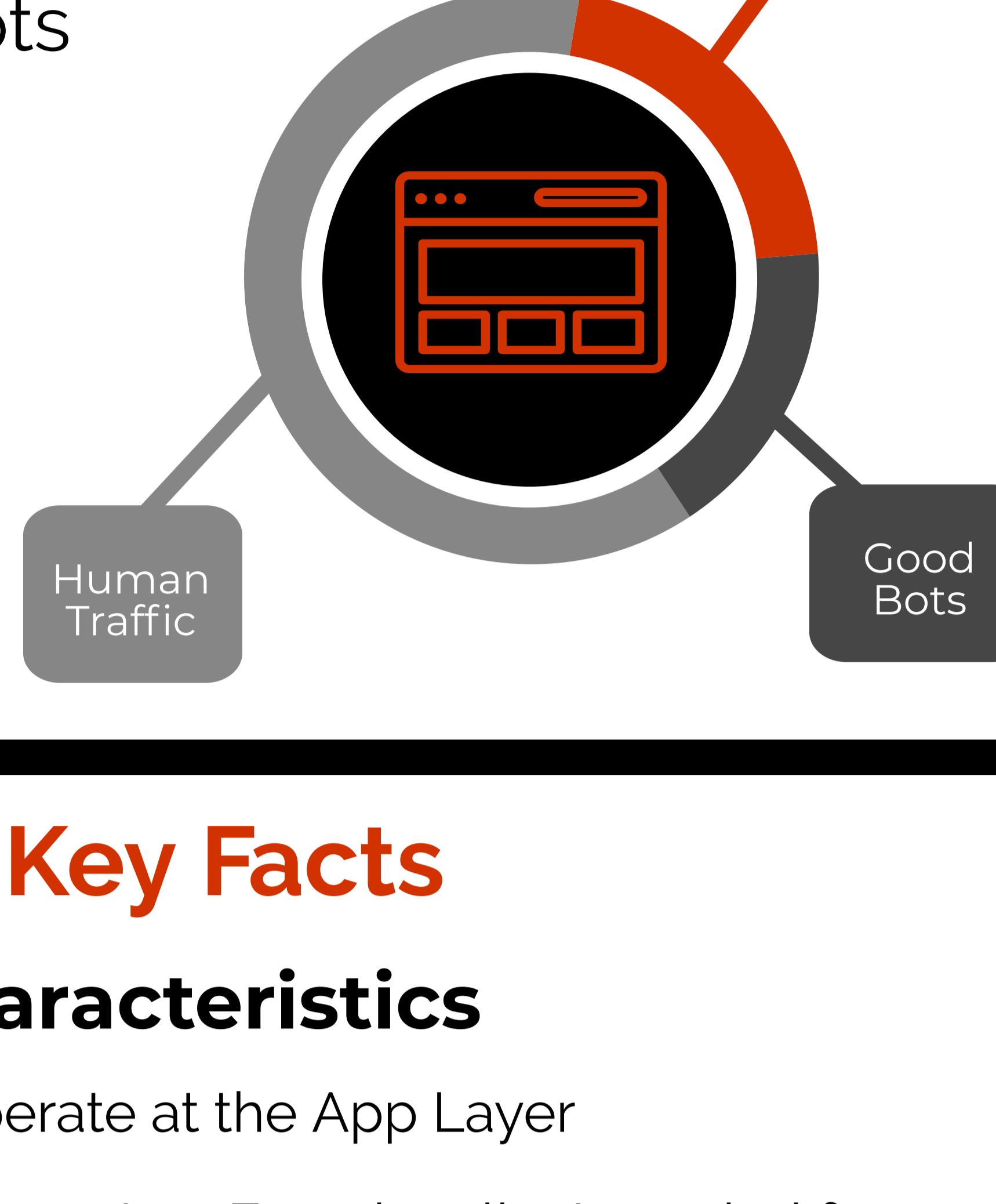
20%

of traffic to web apps originate from malicious bots



Most common approaches to cyber attacks:

- stolen credentials
- brute force attacks
- web app attacks
- automated



Malicious Automation Key Facts

Top Targets

- Healthcare institutions that store PII
- Retail, hospitality, and financial services organizations with credit card/bank information
- Social media and review sites where public opinion can be swayed

Characteristics

- Operate at the App Layer
- Abuse App Functionality Intended for Valid Users
- Coordinate Large Numbers of Attacking Nodes from Different IPs
- Often Invisible to Traditional WAFs

Top 4 Malicious Automations

1



Distributed Password Attack

What: Bots attempt to break into an account by running a series of username and password combinations. Detection is often avoided through use of various hosts and points of presence.

Why: To access high-value information, such as personal information (PII).

2



Credential Stuffing

What: Password combinations, typically acquired from a previous data breach, are plugged into registration or sign-in forms until a valid credential is found.

Why: To break into a targeted website, identify valid credentials to sell, steal or use to make a purchase.

3



Fake Account Creation

What: Automated generation of numerous fake accounts that appear to be legitimate.

Why: Tying up retail inventory in online shopping carts or voting fraud, for example.

4



Carding

What: Hackers use credit card numbers or gift card IDs acquired on the dark web to attempt automated and fraudulent purchases across numerous sites. Purchases are small and often go unnoticed.

Why: To validate the credit card and gift card IDs and resell the information back on the dark web.

Best Practices for Blocking Malicious Bots

2,880

Average # of minutes to detect a bot*

\$177K

Annual spend on bot management personnel*

- Add MFA to admin and customer interfaces.
- Automatically detect abnormal login failures.
- Monitor aggregate login behavior for all apps.
- Add behavioral profiling to important workflows.
- Add anonymizers as a risk factor when analyzing connections.

Based on a 2018 study by Osterman