CLOUDFLARE

PRODUCT BRIEF

Cloudflare API Shield

Manage and secure the APIs that drive business

Modern API challenges

In attacker crosshairs

APIs make the world go around. 58% of dynamic HTTP traffic on the Cloudflare network is API-related.

APIs present exciting business opportunities to deliver products faster and improve customer experience. Now, security and IT leaders have to balance securing their APIs, on top of their web apps, without slowing down innovation.

Security and IT teams need to secure their customers' sensitive data while enabling business operations across web app and API properties.

Customer trust is at stake, after all.

Cloudflare API Shield

Customers can discover, secure and simplify their public API security and management by consolidating their web application and API protection on the Cloudflare edge.

API Shield is part of Cloudflare's Application Security portfolio that also stops bots, thwarts DDoS attacks, blocks application attacks and monitors for supply chain attacks.

Shadow API risks

Development teams often publish new APIs without telling IT, so APIs are operating in the shadows without management or security.

Authentication, data loss and abuse concerns

Once APIs are discovered, they must be secured from attacks and abuse with authentication, schema validation, API abuse protections, and data exfiltration detections.

API performance monitoring

Given APIs drive business, once APIs are monitored and secured, companies must keep an eye on their performance: understand request volumes per endpoint, error rates, latency.

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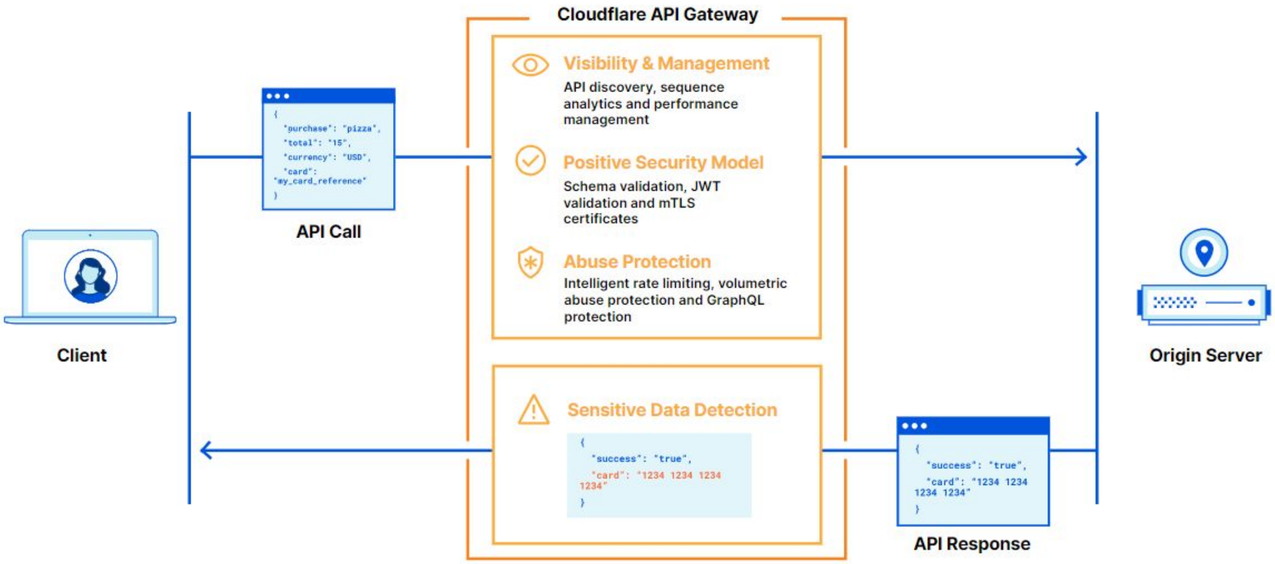
Key Capabilities	
API Management	
Discovery and schema learning	Discover API endpoints in active use and their associated schemas through machine learning driven and heuristics based models.
Sequence and performance analytics	Uncover the most important sequences of API request behavior and analyse API endpoint performance (e.g. requests, latency, error rate, response size, etc).
Developer portal & management	Manage interactive API documentation and host it on your domain with Cloudflare Pages.
API Security	
Authentication validation	Authenticate and validate API traffic with mTLS certificates, JSON web tokens (JWT), API keys, and OAuth 2.0 tokens to block requests from illegitimate clients.
Schema validation	Use API schemas to accept valid API requests and block malformed requests and HTTP anomalies. This complements Cloudflare WAF's negative security model for comprehensive security.
REST and GraphQL abuse protection	Stop volumetric and sequential abuse with per-endpoint session-based Rate Limiting suggestions. Extend denial of service (DoS) protections to GraphQL endpoints.
Sensitive data detection	Detect sensitive data within API responses leaving your origin and alert per-endpoint.
Integrated platform	Cloudflare Application Security is managed through a single, integrated console for triage, rules and analytics.

Product benefits

- Minimize attack surface risks and reduce cyber risk
- Improve API performance
- Reduce operational burden - time and costs
- Consolidate on a unified performance and security platform across web apps and APIs


Cloudflare API Gateway
Visibility & Management
API discovery, sequence analytics and performance management
Positive Security Model
Schema validation, JWT validation and mTLS certificates
Abuse Protection
Intelligent rate limiting, volumetric abuse protection and GraphQL protection
Sensitive Data Detection
API Call
Client
Origin Server
API Response

```
{
  "purchase": "pizza",
  "total": "15",
  "currency": "USD",
  "card":
"my_card_reference"
}
```

```
{
  "success": "true",
  "card": "1234 1234 1234
1234"
}
```

```
{
  "success": "true",
  "card": "1234 1234
1234 1234"
}
```

Figure 1: Cloudflare API Shield Architecture

Cloudflare Leadership

The Cloudflare application security portfolio has received numerous accolades for its strength and breadth. Cloudflare was named Leader in the most recent Forrester Wave: Web Application Firewalls. Gartner named Cloudflare Customers' Choice Leader for DDoS Mitigation Solutions in 2023 Gartner® Peer Insights™ "Voice of the Customer": DDoS Mitigation Solutions. Forrester named Cloudflare a Strong Performer in the The Forrester Wave™: Bot Management Software, Q3 2024. IDC named Cloudflare a Major Player in the 2024 IDC MarketScape for Web Application and API Protection (WAAP) Enterprise Platforms.