



# Zero Trust

## In the era of Artificial Intelligence

**José Does**  
Principal Solutions Architect  
Cloudflare

# AI is the next paradigm shift...

# AI is the next paradigm shift...

November 30, 2022

Product

## Introducing ChatGPT

Try ChatGPT ↗

Try ChatGPT for Work >

 Listen to article

0:04

 Share

We've trained a model called ChatGPT which interacts in a conversational way. The dialogue format makes it possible for ChatGPT to answer followup questions, admit its mistakes, challenge incorrect premises, and reject inappropriate requests.

# AI is the next paradigm shift...



Give me a list of 10 mind blowing things that have become available or mainstream due to AI since ChatGPT's launch in November 2022

# AI is the next paradigm shift...

Give me a list of 10 mind blowing things that have become available or mainstream due to AI since ChatGPT's launch in November 2022



**Just 3 years  
later...**

Here are those 10 advancements, each summarized in a single line.

1. AI now generates high-fidelity, cinematic video clips from simple text prompts (e.g., Sora).
2. Models like GPT-4o can see, hear, and speak in real-time, understanding live video and audio.
3. AI can perfectly clone your voice and translate your speech while preserving your unique voice.
4. Autonomous AI agents can execute complex, multi-step tasks for you, like booking trips or coding.
5. AI is supercharging scientific discovery by modeling all of life's molecules to create new drugs.
6. AI coding assistants can now understand your entire codebase to autonomously write and debug features.
7. You can now generate complete, studio-quality songs with vocals from a simple text prompt (e.g., Suno).
8. AI models show advanced reasoning, capable of passing difficult professional exams like the Bar.
9. AI search engines (like Perplexity) give direct, synthesized answers to questions instead of just links.
10. AI is now in wearable devices (like glasses) that can see your surroundings and provide real-time info.

## ...but it comes with its own risks

### Limited Visibility

**85%**

of IT decision-makers say employees are adopting AI tools even before their IT teams can assess them<sup>1</sup>



### Complex Risk Management

**63%**

of breached organizations lack AI governance policies<sup>2</sup>



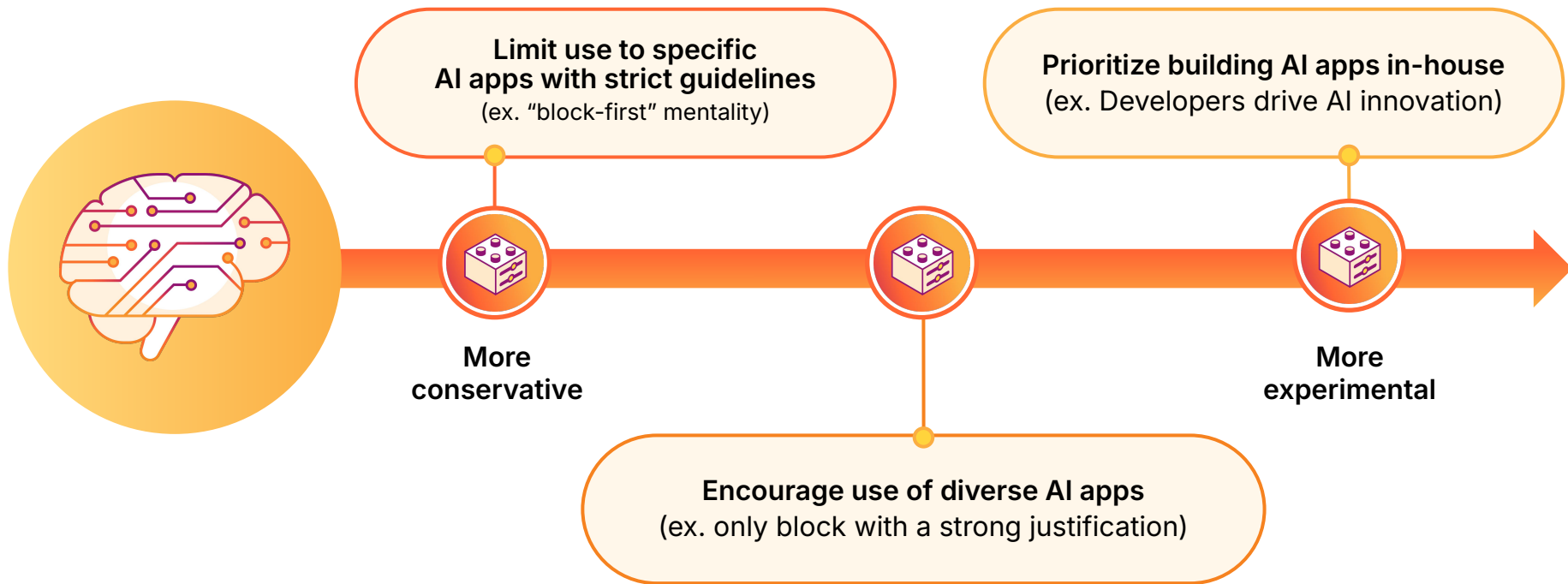
### Ineffective Data Governance

**93%**

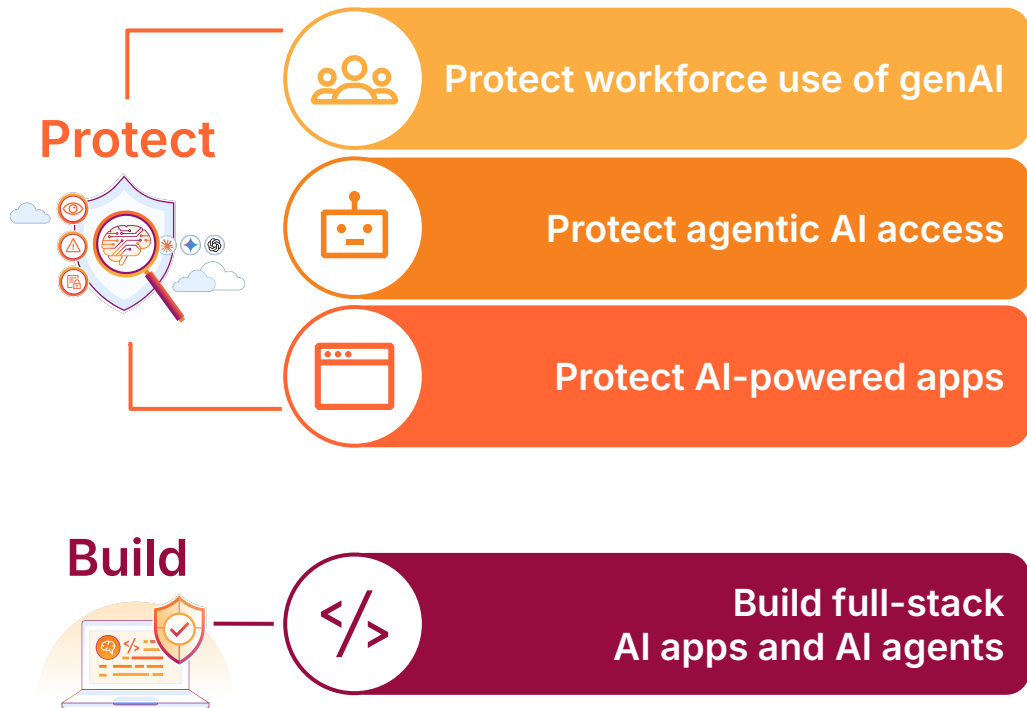
of employees admit to putting information into AI tools without approval<sup>3</sup>



# So what should be your attitude towards AI adoption?



# Enable safer, faster AI transformation with Cloudflare



## Mission

Empower every organization to innovate with AI without compromising security.

*Cloudflare is the place to build world class, secure AI experiences.*

## Protect



Protect workforce use of genAI



Protect agentic AI access



Protect AI-powered apps

## Build



Build full-stack  
AI apps and AI agents



# Workforce use of Gen AI

comes with privacy, security and compliance risks



**Employees can use unapproved or sketchy third-party AI ("Shadow AI")**

- 91% of employees admit using "shadow AI"

**AI chatbot startup WotNot leaks 346,000 files, including passports and medical records**

An Indian AI startup that helps businesses build custom chatbots has leaked almost 350,000 sensitive files after the data was left unsecured on the web.



**Employees can violate legal agreements or compliance frameworks by using AI**

- e.g. hiring decisions, patient / customer data

News | Article | May 30, 2025

**Health care workers are leaking patient data through AI tools, cloud apps**



**Employees can leak sensitive information by using AI**

- Financials, secrets, credentials, code, PII..

**Samsung workers made a major error by using ChatGPT**

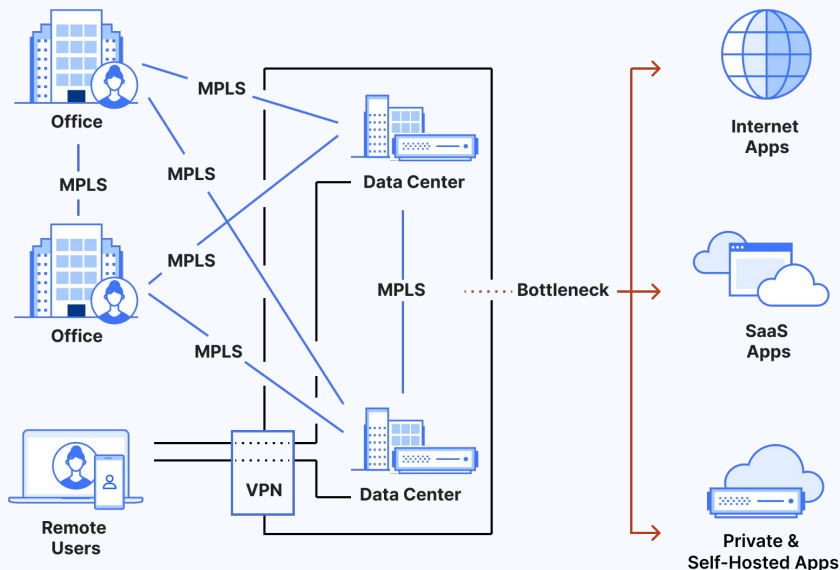
News | By Lewis Maddison published 4 April 2023

Samsung meeting notes and new source code are now in the wild after being leaked in ChatGPT

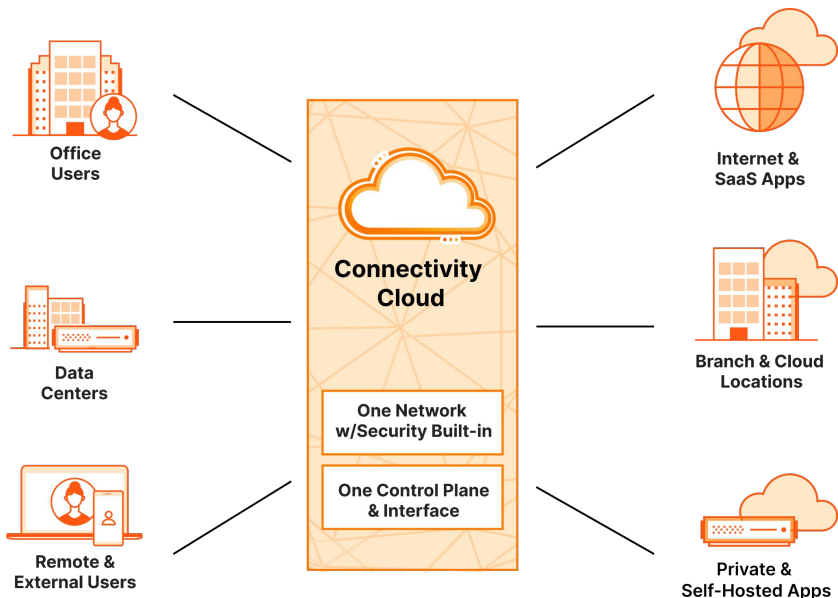
# SASE is an architecture design for Zero Trust

## And the path to secure Gen AI

Legacy corporate network

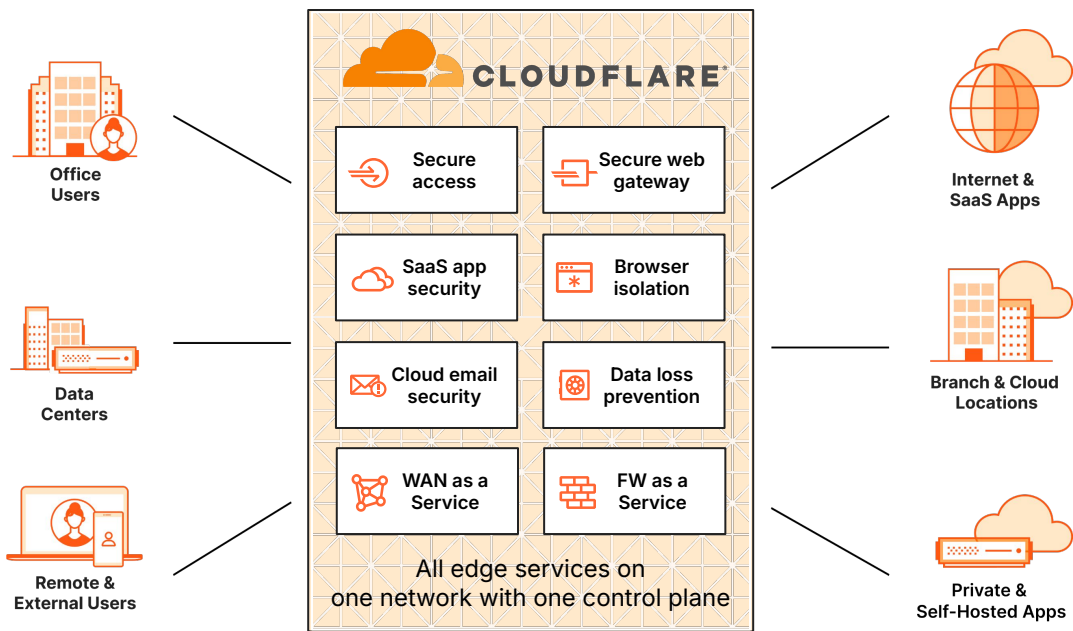


SASE corporate network **with Cloudflare One**



# Cloudflare One

## Our Zero Trust SASE platform



### Secure access

simplify and secure connecting any user to any resource

### Threat defense

keep your users safe from threats over any port and protocol

### Policy compliance

simplify regulatory compliance and protect sensitive data

### SaaS security

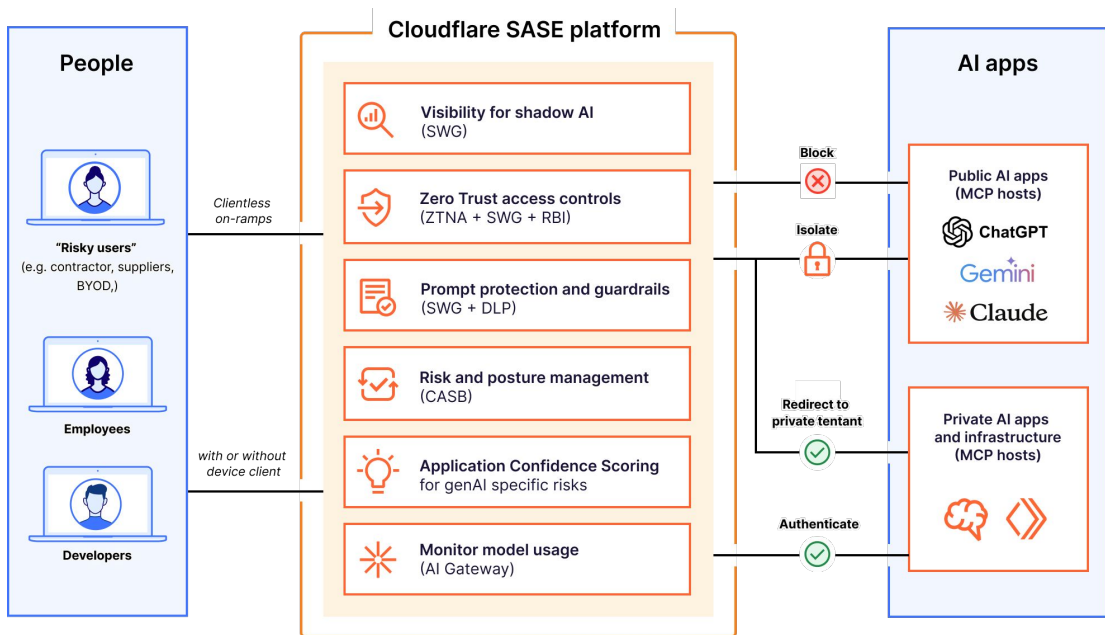
visibility and control of applications including email

### Network modernization

improved productivity, simpler operations, reduced attack surface

# Cloudflare One

## Securing Gen AI



### Step 01

Discover Shadow IT

### Step 02

Discover AI integrations with SaaS apps  
Discover AI provider misconfigurations

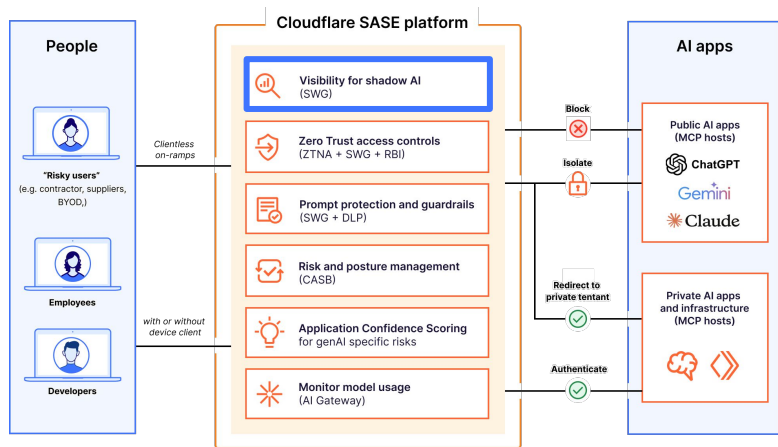
### Step 03

Block + redirect risky AI apps

### Step 04

Control approved AI apps

# Cloudflare One Securing Gen AI

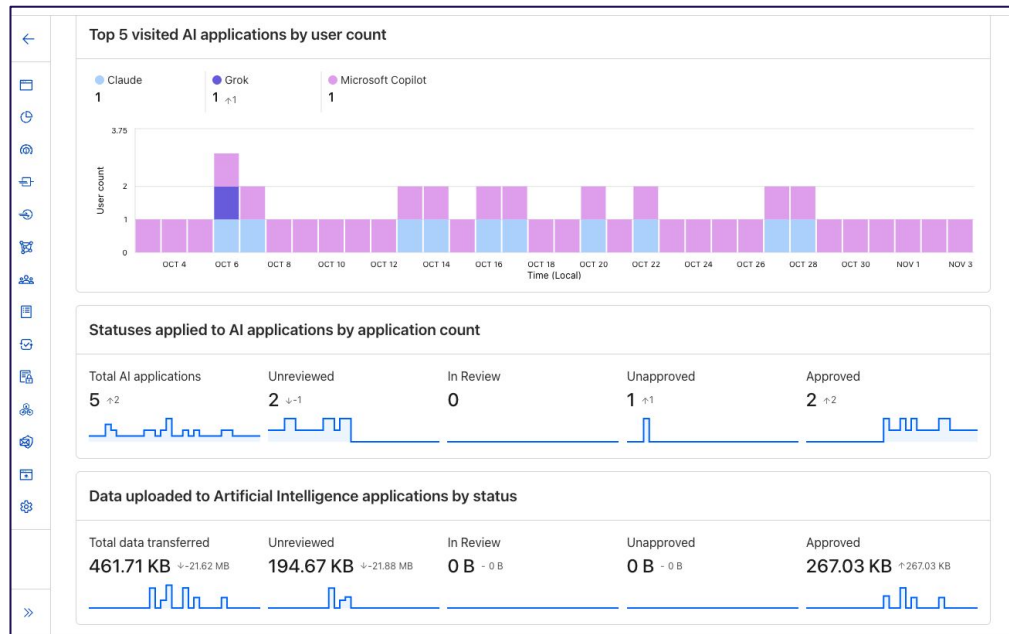


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Discover AI provider misconfigurations

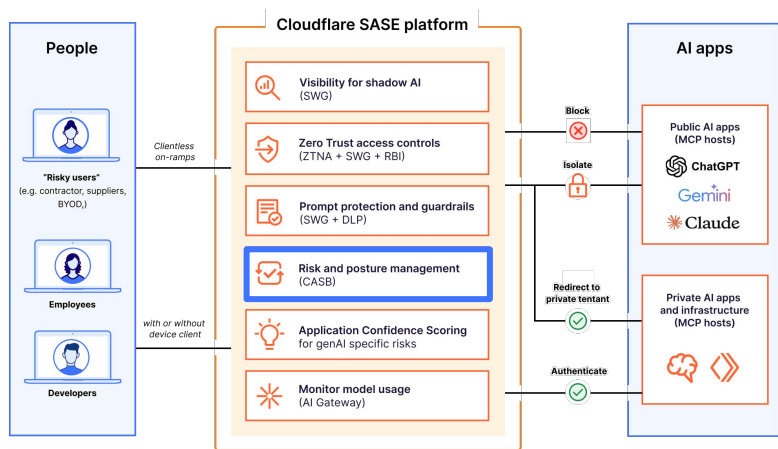
**Step 03**  
Block + redirect risky AI apps

**Step 04**  
Control approved AI apps



- **Discover** Discover who is using which 3rd-party AI applications
- **Set Applications Status** as Approved, Unapproved, In Review, Unreviewed

# Cloudflare One Securing Gen AI

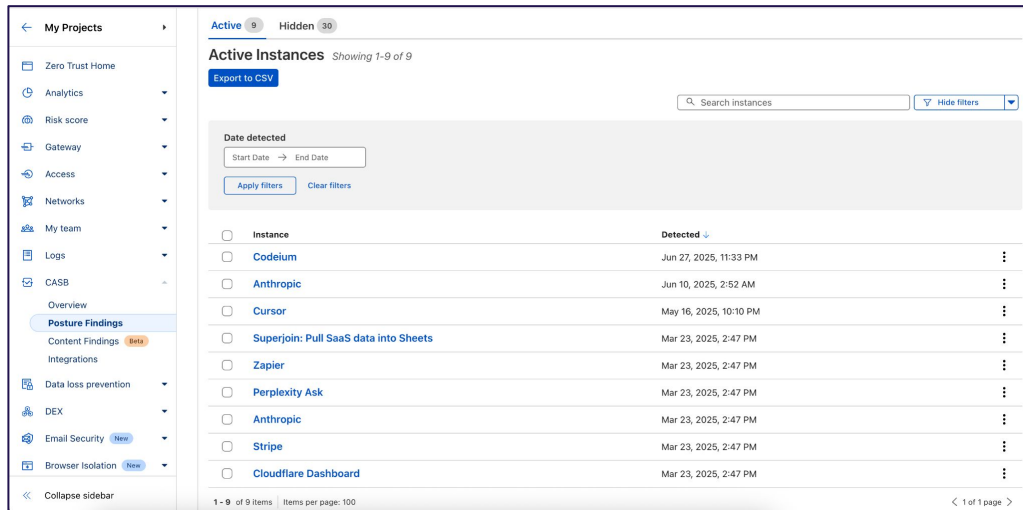


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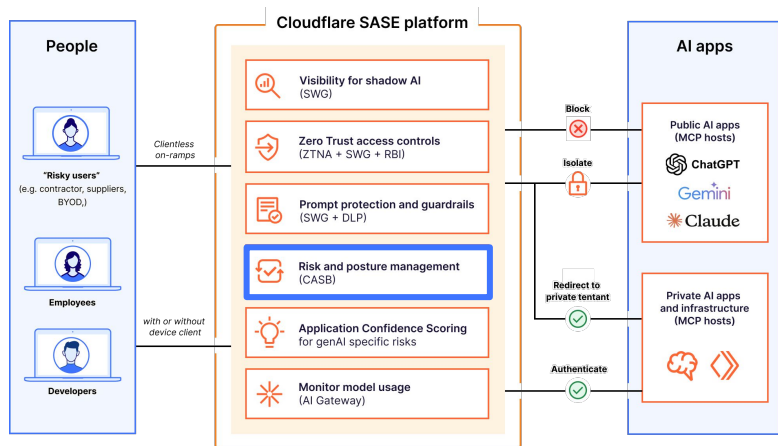
**Step 04**  
Control approved AI apps



- **Discover third party AI apps** integrated with SaaS applications such as Microsoft 365 and Google Workspace
- **Disable unapproved** third party AI apps

# Cloudflare One

## Securing Gen AI



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### Posture Findings

Review and take action against security issues found in your SaaS application and cloud environment configurations. [Posture documentation](#)

SaaS 12 Cloud 0 Remediated findings 0

#### Your SaaS posture findings Showing 1-12 of 12

Review detected posture security issues across your SaaS integrations. Manage a finding to view more details and instances.

[Export to CSV](#)

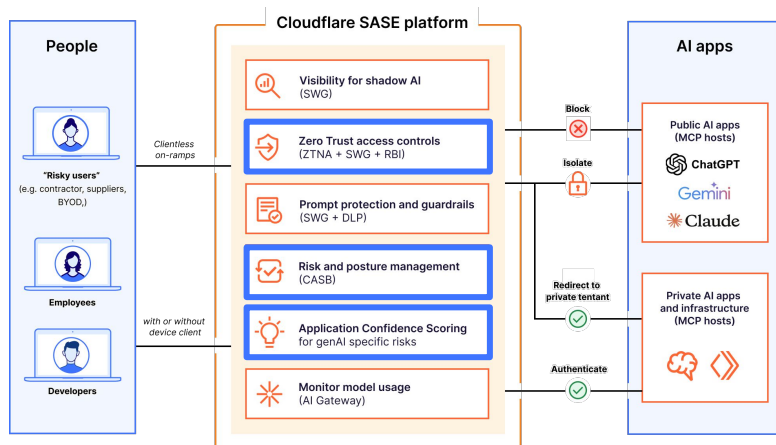
Search findings [Show filters](#)

<input type="checkbox"/>	Severity	Finding type	Instances	Integration	Date detected	
<input type="checkbox"/>	Critical	OpenAI: Uploaded attachment with DLP Profile match	41	AI Week 2025 (OpenAI)	Today	
<input type="checkbox"/>	High	OpenAI: GPT with Custom Actions enabled	3	AI Week 2025 (OpenAI)	Yesterday	
<input type="checkbox"/>	Medium	OpenAI: GPT with Code Interpreter enabled	5	AI Week 2025 (OpenAI)	Yesterday	
<input type="checkbox"/>	Medium	OpenAI: GPT with web browsing enabled	8	AI Week 2025 (OpenAI)	August 12, 2025	
<input type="checkbox"/>	High	OpenAI: GPT publicly accessible via GPT Store	1	AI Week 2025 (OpenAI)	August 11, 2025	
<input type="checkbox"/>	High	OpenAI: GPT publicly accessible via public link	4	AI Week 2025 (OpenAI)	August 10, 2025	
<input type="checkbox"/>	Medium	OpenAI: Inactive user	7	AI Week 2025 (OpenAI)	August 9, 2025	
<input type="checkbox"/>	High	OpenAI: Project API key not rotated	6	AI Week 2025 (OpenAI)	August 8, 2025	
<input type="checkbox"/>	Medium	OpenAI: Unused project API key	9	AI Week 2025 (OpenAI)	August 7, 2025	
<input type="checkbox"/>	High	OpenAI: Admin API key not rotated	2	AI Week 2025 (OpenAI)	August 6, 2025	

- **Discover misconfigurations** that can cause data loss or misuse on Gemini, Claude and ChatGPT
- **Discover sensitive data** that has been uploaded in chat attachments
- **Discover** GenAI specific insights

# Cloudflare One

## Securing Gen AI

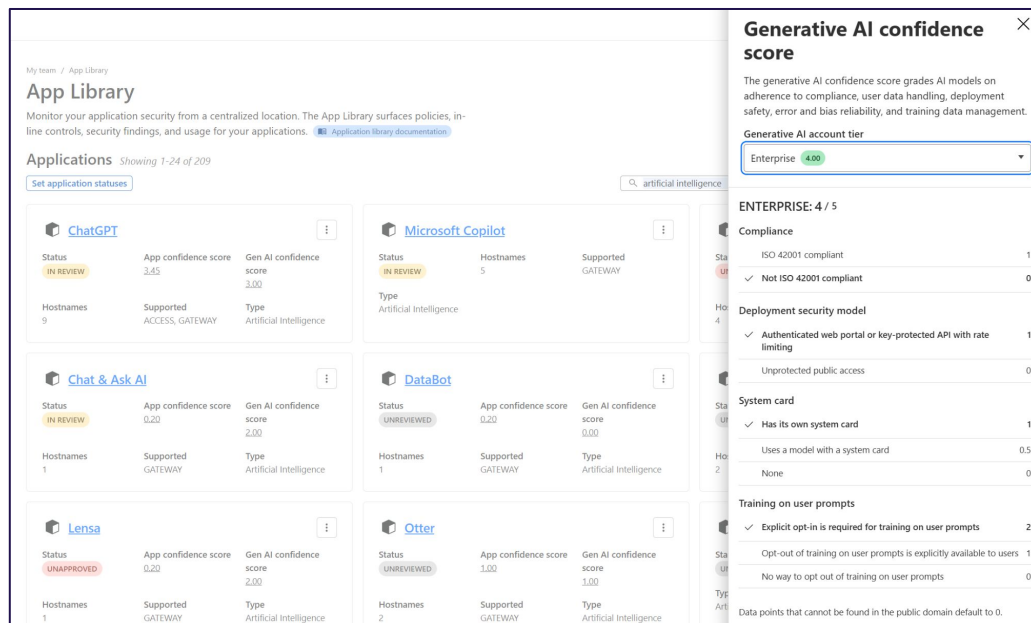


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The screenshot shows the Cloudflare App Library interface, displaying a list of AI applications and their associated confidence scores.

**App Library**  
Monitor your application security from a centralized location. The App Library surfaces policies, in-line controls, security findings, and usage for your applications. [Application library documentation](#)

**Applications** Showing 1-24 of 209

**ChatGPT**

Status	App confidence score	Gen AI confidence score	Hostnames	Supported	Type
IN REVIEW	3.45	3.00	9	ACCESS, GATEWAY	Artificial Intelligence

**Microsoft Copilot**

Status	App confidence score	Gen AI confidence score	Hostnames	Supported	Type
IN REVIEW	5	5	5	GATEWAY	Artificial Intelligence

**Chat & Ask AI**

Status	App confidence score	Gen AI confidence score	Hostnames	Supported	Type
IN REVIEW	0.20	2.00	1	GATEWAY	Artificial Intelligence

**DataBot**

Status	App confidence score	Gen AI confidence score	Hostnames	Supported	Type
UNREVIEWED	0.20	0.00	1	GATEWAY	Artificial Intelligence

**Lensa**

Status	App confidence score	Gen AI confidence score	Hostnames	Supported	Type
UNAPPROVED	0.20	2.00	1	GATEWAY	Artificial Intelligence

**Otter**

Status	App confidence score	Gen AI confidence score	Hostnames	Supported	Type
UNREVIEWED	1.00	1.00	2	GATEWAY	Artificial Intelligence

**Generative AI confidence score**

The generative AI confidence score grades AI models on adherence to compliance, user data handling, deployment safety, error and bias reliability, and training data management.

**Generative AI account tier**

Enterprise 4.00

**ENTERPRISE: 4 / 5**

**Compliance**

- ISO 42001 compliant 1
- Not ISO 42001 compliant 0

**Deployment security model**

- Authenticated web portal or key-protected API with rate limiting 1
- Unprotected public access 0

**System card**

- Has its own system card 1
- Uses a model with a system card 0.5
- None 0

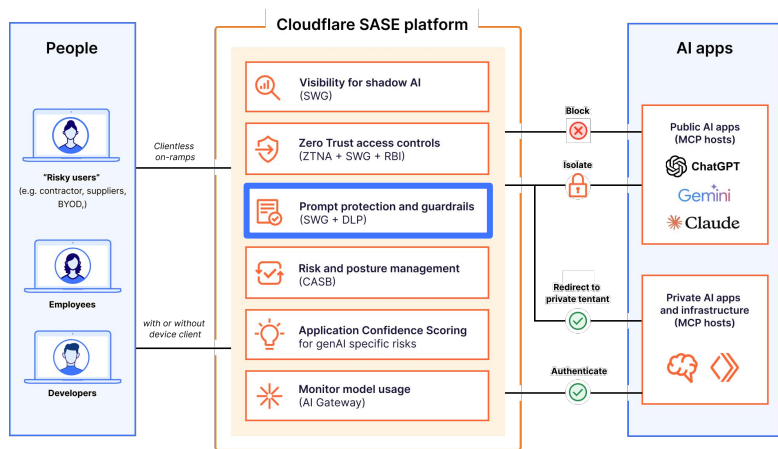
**Training on user prompts**

- Explicit opt-in is required for training on user prompts 2
- Opt-out of training on user prompts is explicitly available to users 1
- No way to opt out of training on user prompts 0

Data points that cannot be found in the public domain default to 0.

- **Use** application and GenAI confidence scores to define status of AI tools, such as, Approved, Unapproved, In Review, Unreviewed of AI tools
- **Block** access to Unapproved and/or unreviewed AI tools
- Or **Redirect** from Unapproved and/or unreviewed AI tools to the approved ones

# Cloudflare One Securing Gen AI

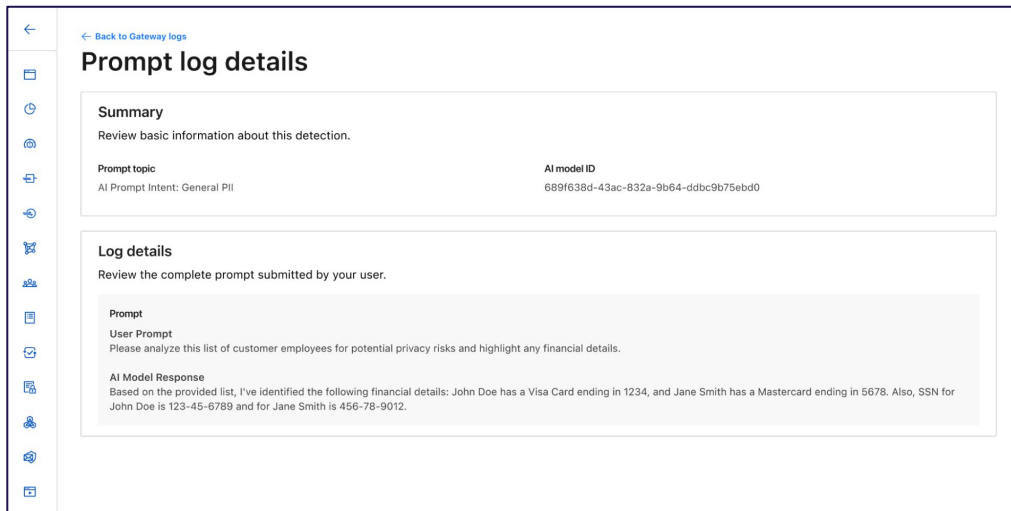


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- **Apply identity and device posture policies** so that only approved employees with compliant devices can access approved AI tools
- **Apply DLP and/or Isolation policies** to restrict how sensitive data is shared
- **Log prompts, classify prompts** based on content and intent and **apply guardrails** based on its classification

## Protect



Protect workforce use of genAI



Protect agentic AI access



Protect AI-powered apps

## Build



Build full-stack  
AI apps and AI agents



# Example: creating an invoice


**D** Help me create a PayPal invoice to charge \$2 for socks

I'd be happy to help you create a PayPal invoice for \$2 for socks. Let me guide you through the process of creating this invoice step by step.

Let me create a detailed guide that shows you how to create this invoice:

PayPal Invoice Guide: Charging \$2 for Socks





Document



Is there anything specific about this invoice you'd like me to add to the guide? For example, do you need information about:


- Setting up recurring invoices
- Adding shipping details
- Including multiple items
- Adding a discount code


Let me know if you need any adjustments or have questions about the process!

    Retry

Claude can make mistakes. Please double-check responses.

Reply to Claude...

+  Research BETA

Claude 3.7 Sonnet 

## How to Create a PayPal Invoice for \$2 Socks

### Step 1: Log in to your PayPal account

- Go to [PayPal.com](https://www.paypal.com)
- Enter your email address and password
- Click "Log In"

### Step 2: Navigate to the invoicing section

- From your dashboard, click on "Invoicing" in the top menu
- If you don't see it immediately, you may need to click on "More" or look under "Tools"

### Step 3: Create a new invoice

- Click the "Create Invoice" button (usually a blue button)

### Step 4: Enter recipient information

- Add your customer's email address
- Optionally, include their name and billing address

### Step 5: Add the item details

- In the item description, enter "Socks"
- For quantity, enter "1" (or the actual quantity if more than one pair)
- For price, enter "2.00"
- The currency should be set to USD by default (adjust if needed)
- The tax field can be left at 0% unless you need to charge tax

### Step 6: Additional invoice details

**Without MCP:** AI tells you what to do and you do it

# Example: creating an invoice

**D** Help me create a PayPal invoice to charge \$2 for socks

I'd be happy to help you create a PayPal invoice for socks. To create an actual invoice that your customer can pay, I need a few pieces of information. Let me use the PayPal invoice creation tool to set this up for you.

paypalInvoiceCreation

Great! I've created a PayPal invoice for your socks. Here are the details:

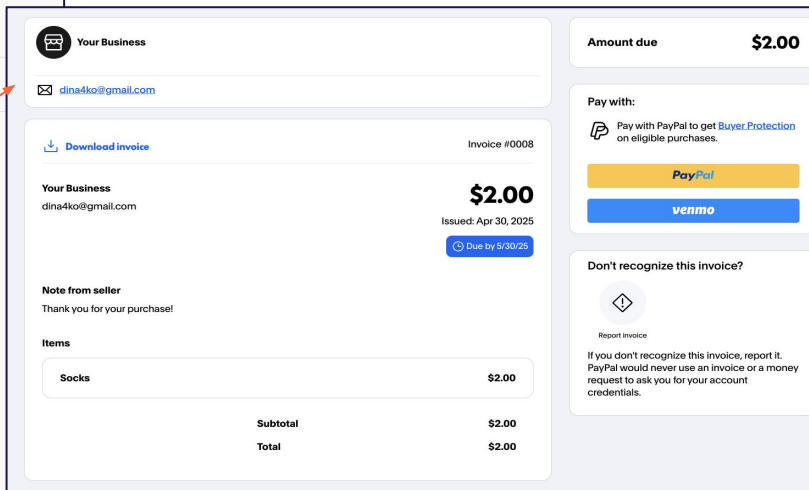
- Item: Socks
- Amount: \$2.00 USD
- Due date: May 30, 2025
- Business email: [dina4ko@gmail.com](mailto:dina4ko@gmail.com)

Your invoice has been created and is ready to share with your customer. You can send them this link:

<https://www.paypal.com/invoice/p/#RBJWSFKMKH6TVLNL>

When your customer clicks this link, they'll be able to view the invoice and complete payment through PayPal. The money will be deposited directly to your PayPal account.

Is there anything else you'd like to adjust on this invoice before sharing it with your customer?



**Your Business**  
dina4ko@gmail.com

Invoice #0008

**\$2.00**  
Issued: Apr 30, 2025  
Due by 5/30/25

**Note from seller**  
Thank you for your purchase!

**Items**

Socks	\$2.00
<b>Subtotal</b>	<b>\$2.00</b>
<b>Total</b>	<b>\$2.00</b>

**Amount due \$2.00**

**Pay with:**  
Pay with PayPal to get **Buyer Protection** on eligible purchases.

**PayPal**  
**venmo**

**Don't recognize this invoice?**  
Report invoice  
If you don't recognize this invoice, report it. PayPal would never use an invoice or a money request to ask you for your account credentials.

**With MCP: the AI does it for you**

# You can also interact with Cloudflare using MCP

## WARP Toggle Off Events Summary

Based on the data from the **jdores-org** account for today (November 4, 2025), here are the findings:

### Total Toggle Off Events: 14

However, looking at the data more closely, all 14 events came from the **same device**:

- **Device ID:** 2421adf7-b40b-11f0-b750-1ae08bc4d7dd
- **Hostname:** win10vm01
- **Serial Number:** 8479-5166-5206-4065-3284-5980-02

### Unique Users Who Toggled WARP Off: 1

The events occurred between **15:03:55 UTC** and **15:07:08 UTC** today, suggesting this was likely one user repeatedly toggling WARP off on their Windows 10 VM device, possibly during troubleshooting or testing.

### Key Insights:

- **1 unique user/device** toggled WARP off today
- **14 total toggle events** occurred within a 4-minute window
- All events were from the same Windows 10 virtual machine ( win10vm01 )

**Task completed successfully** - The query shows that only 1 user toggled their WARP client off today in the jdores-org account, though they did so multiple times in quick succession.

I would like to see how many users have toggled off their WARP client today?

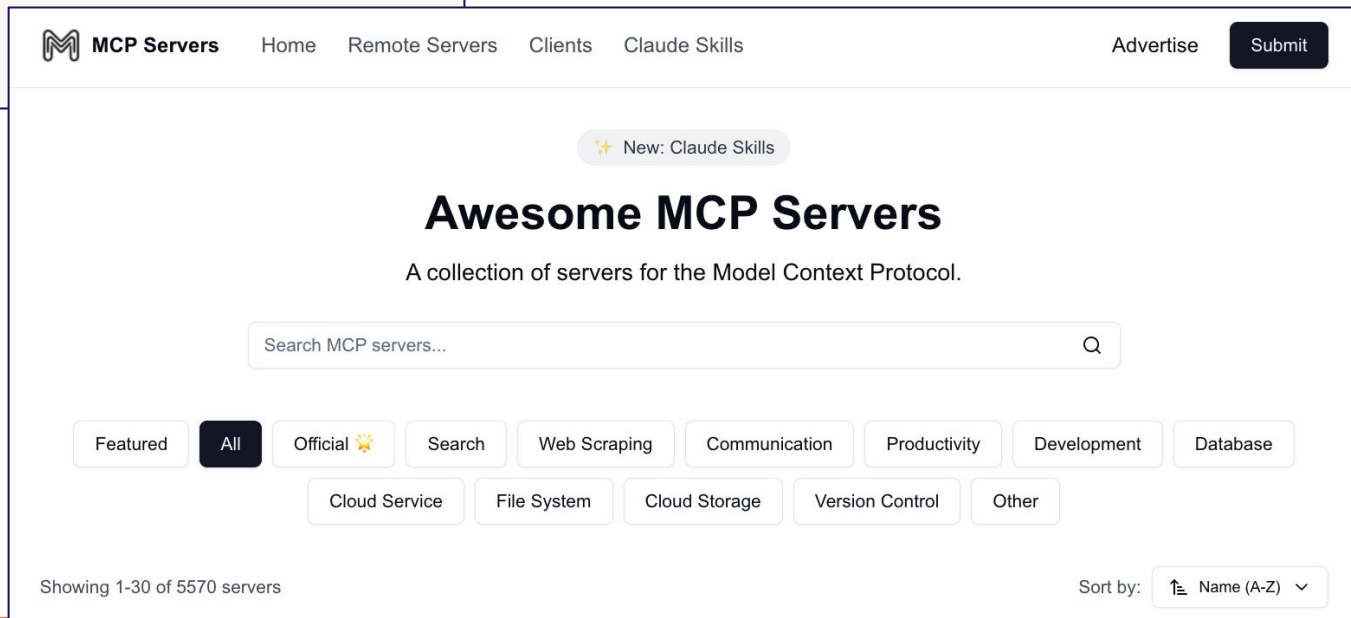
# MCP popularity is growing exponentially

Announcements

## Introducing the Model Context Protocol

25 Nov 2024 • 3 min read

Less than  
1 year later...



The screenshot shows the MCP Servers website. The header includes the MCP Servers logo and navigation links: Home, Remote Servers, Clients, and Claude Skills. There are also links for Advertise and a Submit button. A banner for 'New: Claude Skills' is visible. The main heading is 'Awesome MCP Servers' with the subtitle 'A collection of servers for the Model Context Protocol.' Below this is a search bar labeled 'Search MCP servers...'. A row of category buttons includes Featured, All (selected), Official, Search, Web Scraping, Communication, Productivity, Development, and Database. A second row of buttons includes Cloud Service, File System, Cloud Storage, Version Control, and Other. At the bottom, it says 'Showing 1-30 of 5570 servers' and a 'Sort by' dropdown menu set to 'Name (A-Z)'.

# Agentic AI and MCP

comes with visibility, safety and security risks



**MCP servers can act autonomously against corporate resources**

- Can make errors, be attacked, or poisoned



## MCP Servers Hit by 'NeighborJack' Vulnerability and More

By David Ramel | 06/25/2025

Model Context Protocol (MCP) servers, a relatively new idea from Anthropic to connect advanced AI systems with tools, data sources and other resources so they can act as autonomous agents, is now being subject to cybersecurity attacks like every other piece of software.



**Employees can use unapproved or unregistered MCP servers ("Shadow MCP")**

- No visibility into which MCP servers are used



## First Malicious MCP Server Found Stealing Emails in Rogue Postmark-MCP Package

📅 Sep 29, 2025 👤 Ravi Lakshmanan



**Employees can share sensitive credentials with MCP servers**

- Leading to unsafe autonomous actions by MCP

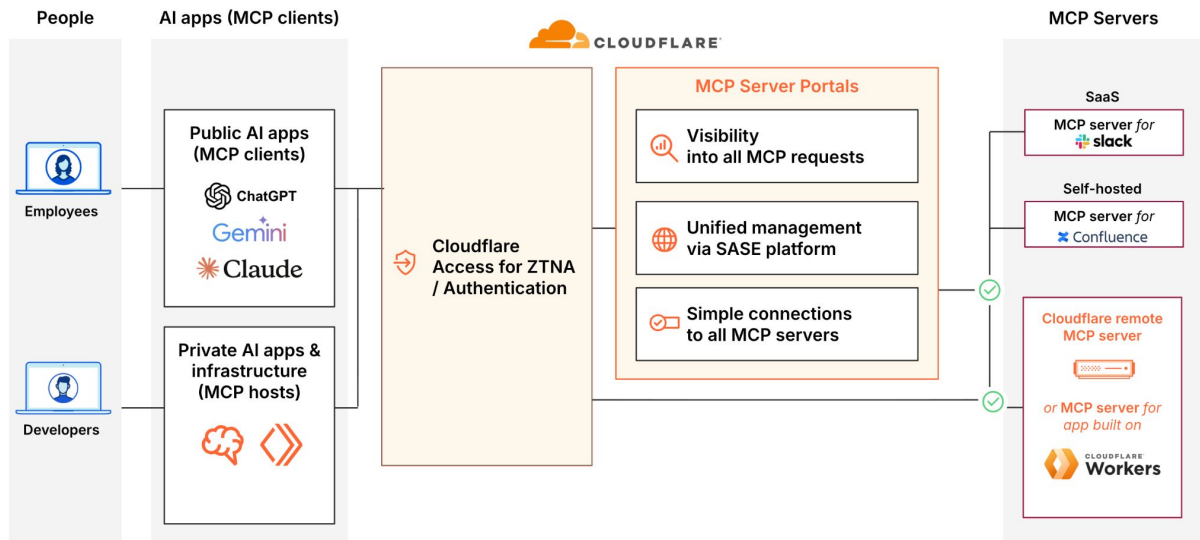


## Today's MCP Horror Story: The GitHub Prompt Injection Data Heist

Just a few months ago in May 2025, [Invariant Labs Security Research Team](#) discovered a critical vulnerability affecting the official GitHub MCP integration where attackers can hijack AI agents by creating malicious GitHub issues in public repositories. When a developer

# Cloudflare One

## Discover and control MCP servers



- **Create a central registry** of approved MCP servers
- **Discover** how users and interacting with MCP via comprehensive request logs
- **Control** who can access what MCP servers with least-privilege

## Protect



Protect workforce use of genAI



Protect agentic AI access



Protect AI-powered apps

## Build



Build full-stack  
AI apps and AI agents



# Public-facing AI-powered apps come with reliability and security risks



**App can be coerced into producing wrong or embarrassing outputs**

- Prompt injection, jailbreaking, biased inputs



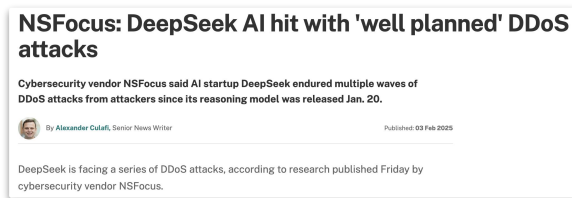
**App have embedded AI that security teams are don't know about**

- Creating risks for the enterprise



**App can suffer from volumetric attacks**

- Because DDoS still works on LLMs



# OWASP Top 10 for Large Language Models (2025)

## Prompt Injection

Manipulation of model through crafty inputs to influence decision

## Sensitive Information Disclosure

Sensitive data being exfiltrated from the model

## Supply Chain Vulnerabilities

Vulnerable component embedded in the model

## Data and Model Poisoning

LLM training data is tampered with

## Improper Output Handling

Output accepted without validation

## Excessive Agency

Models can perform actions due to excessive permissions

## System Prompt Leakage

Sensitive information in the prompt

## Vector and Embedding Weaknesses

Malicious actors can exploit weaknesses in models using RAG

## Misinformation

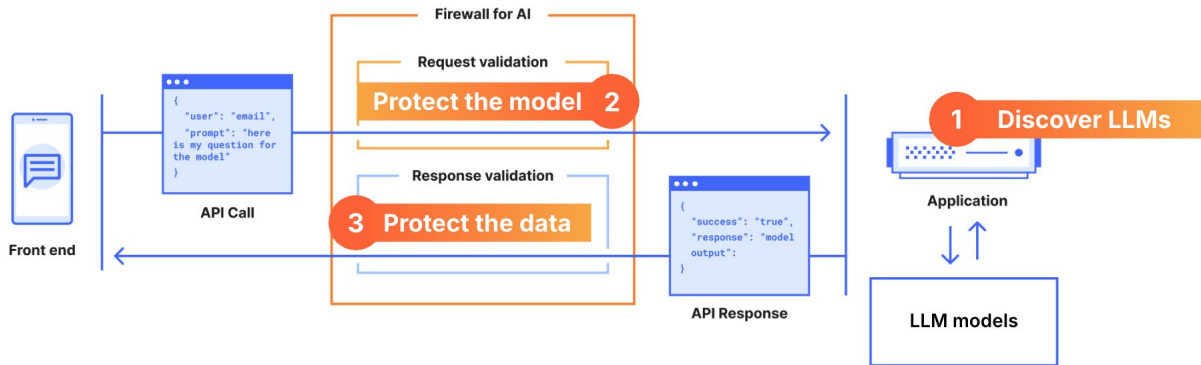
Excessive trust on the output of LLM leading to misinformation

## Unbound Consumption

DDoS attacks, service degradation, etc

# Cloudflare Firewall for AI

Empowers security teams to protect AI applications



- Automatically **discover** and label LLM endpoints
- **Visibility** & analytics on LLM-bound traffic and any associated risks
- **Protect and mitigate** against LLM threats and attacks using rules and actions

## Protect



Protect workforce use of genAI



Protect agentic AI access



Protect AI-powered apps

## Build

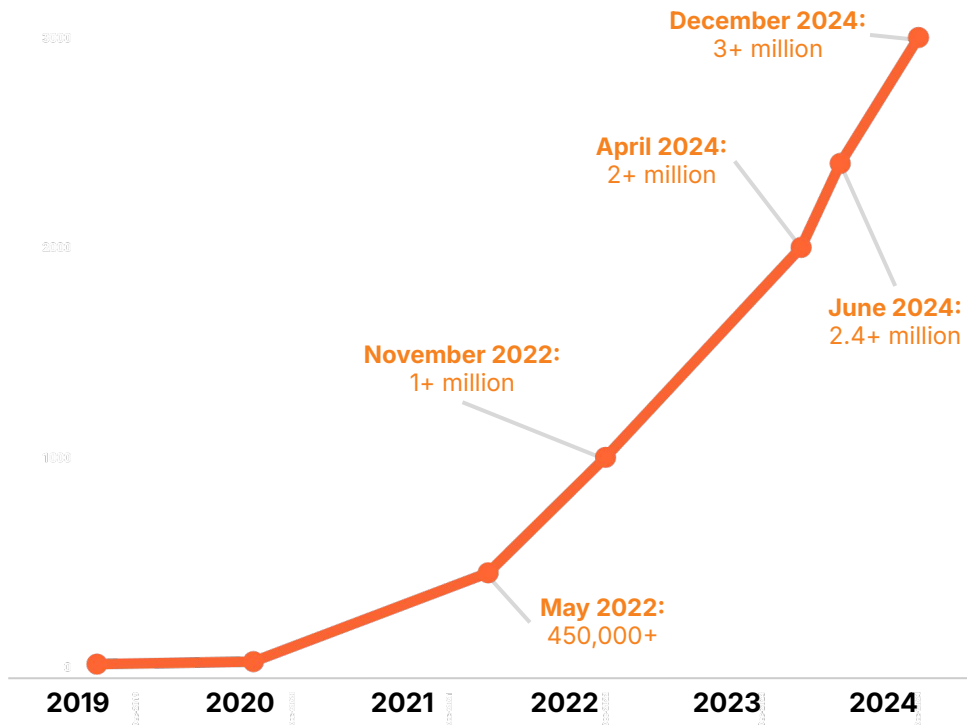


Build full-stack  
AI apps and AI agents



# Cloudflare Developer Platform

The secret is out...



3+

MILLION

developers on the  
Cloudflare platform

# Your application + our network

Deploy once, run everywhere

**335+**

**cities**  
in 125+  
countries,  
including  
mainland  
China

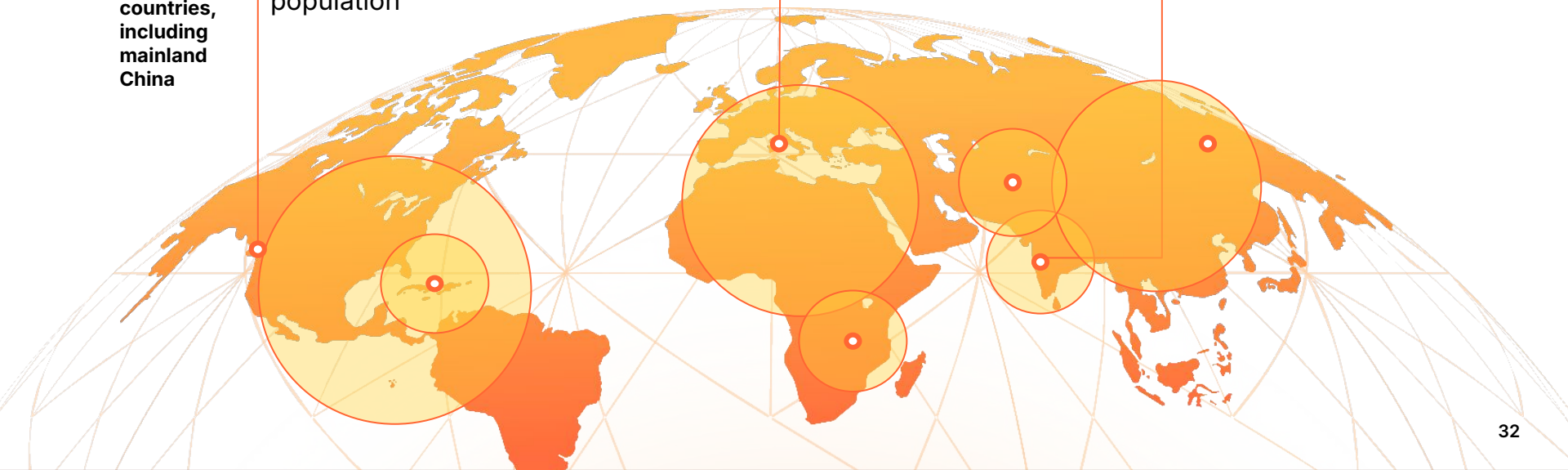
Code executes within 50ms  
of ~95% of the Internet-  
connected global  
population

**200+**

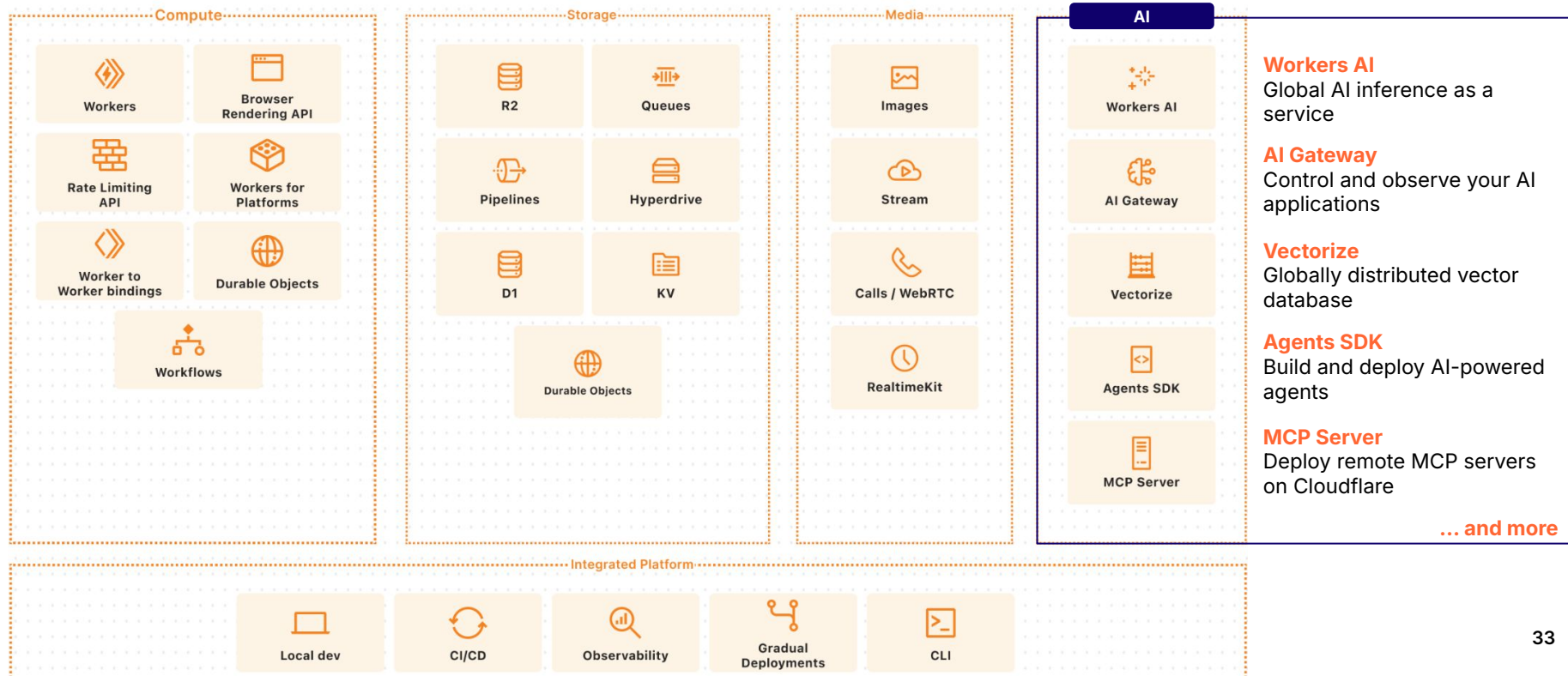
**cities**  
with GPUs

Growing constellation of  
cities for AI inference  
powered by GPUs

**Deploy from  
region: Earth**



# Cloudflare is the best developer platform to build Secure AI experiences



# Thank you!

→ Let's connect!



→ Want to dive deeper?



Accelerate your  
AI journey



Cloudflare's  
own MCP  
servers

→ Come visit us at  
the **Cloudflare**  
**booth**

