

OpenGateway: an Open-Source Agent Gateway for Cross-Domain Agents in Complex Collaborative Tasks

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GitHub: <https://github.com/anAtheist987/OpenGateway>

Motivation

◆ Multi-Agent Scenarios:

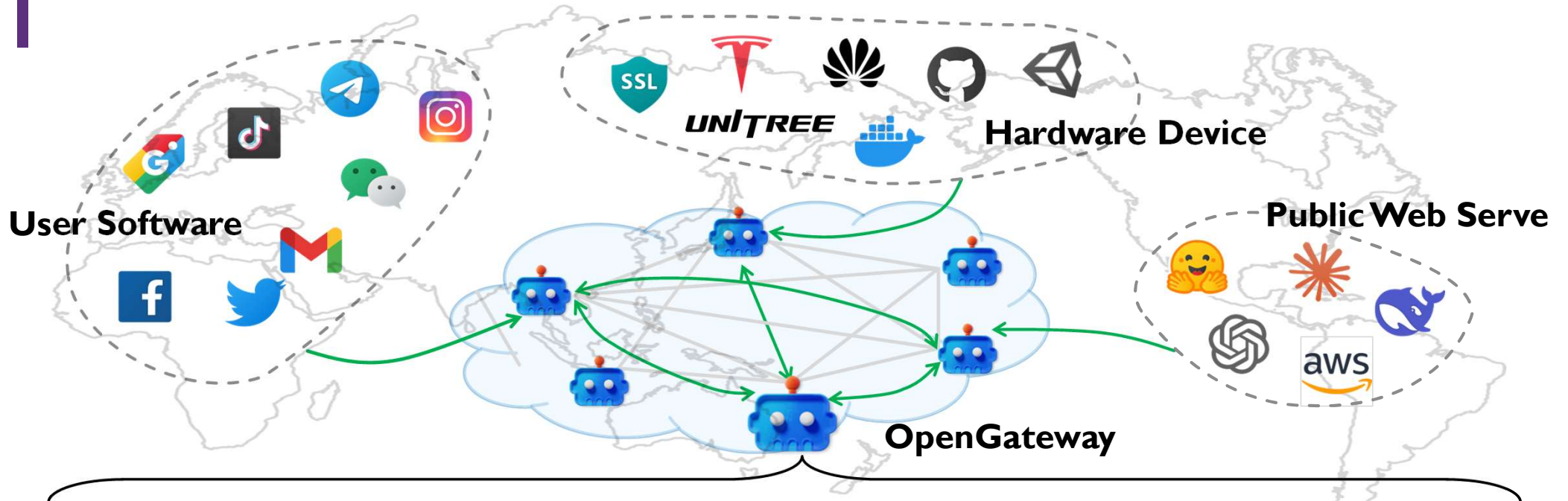
- ◆ DDoS defense
Requires Real-time Response
- ◆ Travel planning
Across Multiple MIS
Requires Workflow Continuity
- ◆ Smart Factory
Requires Protocol Translation
Hardware Heterogeneity

◆ Existing Products:

- ◆ OpenClaw
Pro: strong channel routing and session isolation
Con: external exposure and weak authentication
- ◆ Higress
Pro: unified governance for agent traffic, tools, and model access
Con: higher adoption and operational complexity
- ◆ Agentgateway by Solo.io
Pro: MCP support—security, observability, and control
Con: more control-oriented than collaboration-oriented



Overview of Open Gateway



Heterogeneous Connectivity

Automatic protocol translation and agent capability discovery

Task Orchestration

Complex task decomposition and dynamic routing

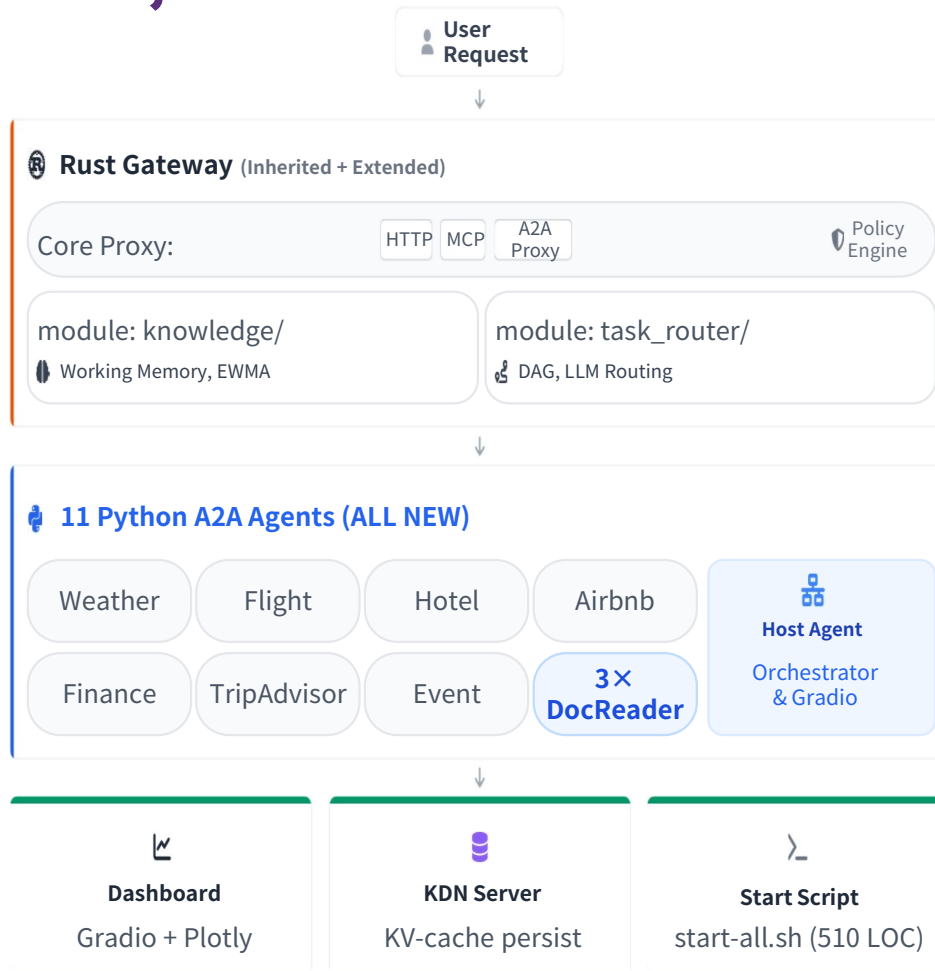
Working Memory

Historical state reuse and states maintain

Security Assurance

Sensitive data isolation and agent authentication

Project Architecture: what we built on Agentgateway by Solo



◆ New capabilities in current version:

- ◆ **Working Memory**
FNV-1a fingerprint & EWMA stats
- ◆ **Sematic Router**
Complexity scoring & DAG decomposition
- ◆ **Observability**
Real-time dashboard visualization
- ◆ **Travel Agent Demo**
Planning scenario with 11 new Agents ⁴



Travel Agent

Multi-agent travel planning — semantic routing to specialized agents

• Live

🔄 Clear

🗨️ Chat

I will be going to Los Angeles next week for a two-day conference (Wednesday to Friday), departing from Shanghai.

Please provide me with:

- Flight options
- Hotel recommendations
- Weather reminders
- A checklist for approval and reimbursement

Preferences:

- No red-eye flights
- Hotel within 30 minutes of the conference venue
- Priority on punctuality and safety

🗨️ 助手回复

13:05:54

Enter travel query... (Enter to send, Shift+Enter for new line)



👤 Agent Call Tree

Real-time agent activation and intermediate outputs

```
## 📄 **PAGE 1: TRAVEL OPTIONS**
```

```
---
```

```
### ✈️ **FLIGHT OPTIONS** (Successfully Retrieved)
```

I was able to retrieve comprehensive flight data from Shanghai to Los Angeles

```
---
```

```
#### 🏆 **Option 1: China Eastern MU 583** - BEST VALUE ★★★★★
```

Detail	Information
Departure	PVG 13:10 (1:10 PM)
Arrival	LAX 10:05 (10:05 AM)
Duration	11h 55m (Direct)
Aircraft	Boeing 777
Price	\$1,361 USD (Round Trip)
Legroom	32 inches (Above average)
Features	Wi-Fi, In-seat power & USB, On-demand video
On-Time Performance	✅ No delay warnings
Carbon Emissions	620 kg (-15% vs typical)

```
**Why Choose:** Best price, daytime departure, excellent legroom, no delays
```

AgentGateway · Knowledge Management Dashboard

演进式知识管理：工作记忆 · 语义路由 · KDN 协同推理加速

✅ 已连接 AgentGateway Admin API | ⚠️ KDN Mock 模式

[🗺️ 旅行规划 Agent](#) | [📅 工作记忆](#) | [🌐 KDN 知识分发网络](#) | [📡 任务路由器](#)

多 Agent 旅行规划系统

8 个专业 Agent 通过 AgentGateway 统一代理，Host Agent 自动协调子 Agent 响应复杂旅行查询。

🔄 刷新状态

自动刷新 (15s)

Agent 运行状态

Agent	状态	直连端...	网关代...	网关状态	功能
 Weather Agent	● 在线	10001	:3002	● 代理就绪	Helps with weather
 Flight Agent	● 在线	10006	:3007	● 代理就绪	Helps with searching for flights, comparing prices, and planning air travel
 Hotel Agent	● 在线	10007	:3008	● 代理就绪	Helps with searching for hotels, vacation rentals, and accommodations
 Finance Document Agent	● 在线	10009	:3009	● 代理就绪	Finance-only document extraction agent for reimbursement policy process and materials.
 InfoSec Document Agent	● 在线	10010	:3010	● 代理就绪	InfoSec-only document extraction agent for secrecy and information-security policy process and materials.

Open Source Code & Community

- ◆ **Join Our Journey** 🚀 : Try <https://github.com/anAtheist987/OpenGateway> now !
- ◆ **Ready to Use** ✅ : Task Orchestration & Working Memory
- ◆ **Coming Soon** ⏳ : Agent Registration, Automatic Cross-Protocol Translation, etc.
- ◆ **Active IETF Draft** 📄 : <https://www.ietf.org/archive/id/draft-agent-gw-01.html>



OpenGateway

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An intelligent agent gateway with built-in semantic routing, working memory, and knowledge management — enabling context-aware request dispatching, runtime observability, and cross-session knowledge reuse for multi-agent systems.