



google-a2a / A2A



&lt;&gt; Code

Issues 69

Pull requests 10

Discussions

Actions

Projects

A2A / README.md



holtskinner docs: Add A2A Intro Video to Docs and README (#733) ✓

57694c7 · 2 days ago



74 lines (51 loc) · 4.04 KB ·



Preview

Code

Blame



Raw



# Agent2Agent (A2A) Protocol

pypi

v0.2.5

License

Apache 2.0



**An open protocol enabling communication and interoperability between opaque agentic applications.**

The Agent2Agent (A2A) protocol addresses a critical challenge in the AI landscape: enabling gen AI agents, built on diverse frameworks by different companies running on separate servers, to communicate and collaborate effectively - as agents, not just as tools. A2A aims to provide a common language for agents, fostering a more interconnected, powerful, and innovative AI ecosystem.

With A2A, agents can:

- Discover each other's capabilities.

- Negotiate interaction modalities (text, forms, media).
- Securely collaborate on long running tasks.
- Operate without exposing their internal state, memory, or tools.

## Intro to A2A Video

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## Why A2A?

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As AI agents become more prevalent, their ability to interoperate is crucial for building complex, multi-functional applications. A2A aims to:

- **Break Down Silos:** Connect agents across different ecosystems.
- **Enable Complex Collaboration:** Allow specialized agents to work together on tasks that a single agent cannot handle alone.
- **Promote Open Standards:** Foster a community-driven approach to agent communication, encouraging innovation and broad adoption.
- **Preserve Opacity:** Allow agents to collaborate without needing to share internal memory, proprietary logic, or specific tool implementations, enhancing security and protecting intellectual property.

## Key Features

- **Standardized Communication:** JSON-RPC 2.0 over HTTP(S).
- **Agent Discovery:** Via "Agent Cards" detailing capabilities and connection info.
- **Flexible Interaction:** Supports synchronous request/response, streaming (SSE), and asynchronous push notifications.
- **Rich Data Exchange:** Handles text, files, and structured JSON data.
- **Enterprise-Ready:** Designed with security, authentication, and observability in mind.

## Getting Started

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- 📖 **Explore the Documentation:** Visit the [Agent2Agent Protocol Documentation Site](#) for a complete overview, the full protocol specification, tutorials, and guides.
- 📄 **View the Specification:** [A2A Protocol Specification](#)
- 🐍 Use the [A2A Python SDK](#)
  - `pip install a2a-sdk`
- 🎬 Use our [samples](#) to see A2A in action

## Contributing

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We welcome community contributions to enhance and evolve the A2A protocol!

- **Questions & Discussions:** Join our [GitHub Discussions](#).
- **Issues & Feedback:** Report issues or suggest improvements via [GitHub Issues](#).
- **Contribution Guide:** See our [CONTRIBUTING.md](#) for details on how to contribute.
- **Private Feedback:** Use this [Google Form](#).
- **Partner Program:** Google Cloud customers can join our partner program via this [form](#).

## What's next

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### Protocol Enhancements

- **Agent Discovery:**
  - Formalize inclusion of authorization schemes and optional credentials directly within the AgentCard .
- **Agent Collaboration:**
  - Investigate a `QuerySkill()` method for dynamically checking unsupported or unanticipated skills.
- **Task Lifecycle & UX:**

- Support for dynamic UX negotiation *within* a task (e.g., agent adding audio/video mid-conversation).
- **Client Methods & Transport:**
  - Explore extending support to client-initiated methods (beyond task management).
  - Improvements to streaming reliability and push notification mechanisms.

## About

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The A2A Protocol is an open-source project by Google LLC, under the [Apache License 2.0](#), and is open to contributions from the community.