

# A Powerful Combination

A2A + Cloud Run + Gemini Enterprise

Disclaimer: The views and opinions expressed in this video are my own and do not necessarily reflect the official policy or position of my employer.

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# The Problem: Siloed AI Agents

Agents are often locked into their framework, making interoperability difficult, brittle, and expensive.

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# The Solution: **Agent-to-Agent (A2A)** Protocol

## **What is A2A?**

A2A (Agent-to-Agent) is

An open standard for AI Agents.

It's the "HTTP for agents," allowing them to discover, communicate, and collaborate.

## **Why Does it Matter?**

**Interoperability:** Any A2A-compliant agent can talk to another.

**Decoupling:** Build your agent once, use it everywhere.

**Reusability:** Your agent becomes a composable microservice.

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# Part 2:

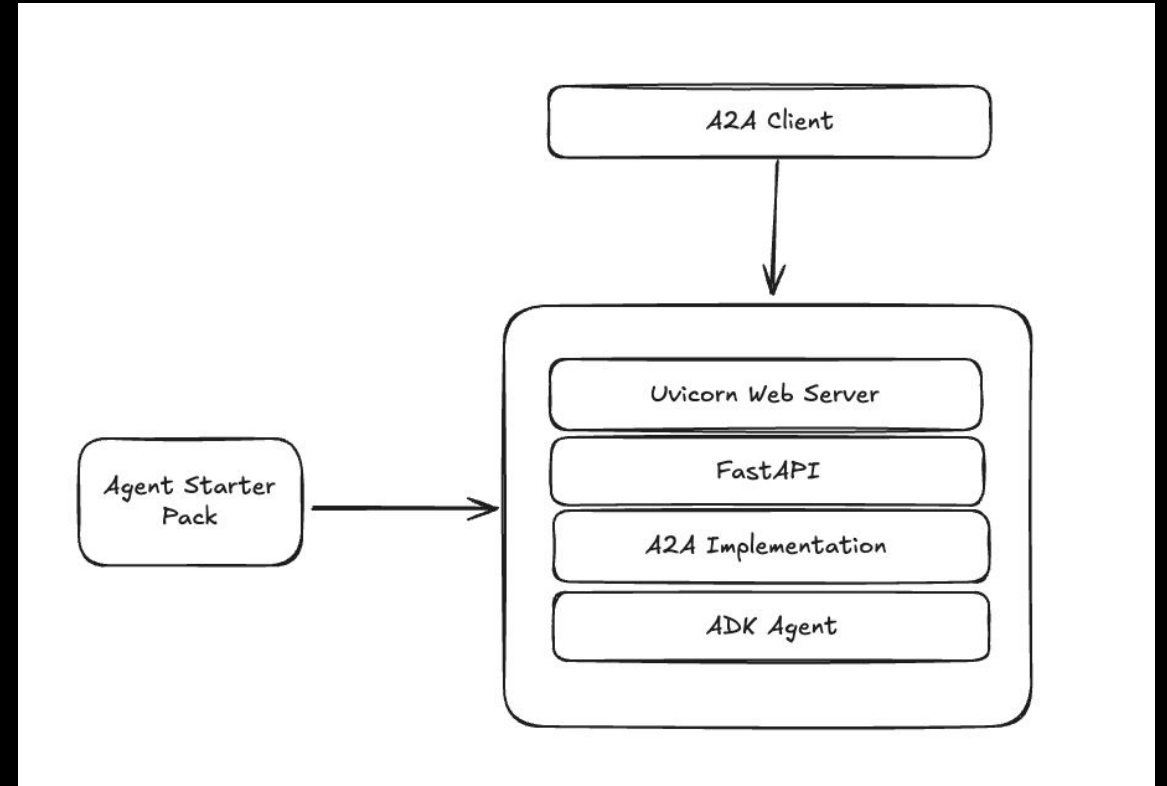
# The 5-Minute Deployment

Launching an A2A Agent to Cloud Run with Agent Starter Pack.



# How-To: **Fast Path** to Production

- ▶ **Agent Starter Pack:** Provides A2A-compliant boilerplate, containerisation, and deployment scripts.
- ▶ **Cloud Run:** Serverless, scalable, and secure hosting for your agent.
- ▶ **The Result:** A production-ready, public A2A endpoint in minutes.





Demo

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## Part 3:

# Validation: Proving It's Open

An open protocol means *\*any\** client can communicate with it.

# How-To: The A2A Card

## The A2A Agent Card

The agent publishes a standard discovery document. This card advertises its identity, capabilities, and endpoints.

```
GET /.well-known/agent-card.json
```

Field	Value	Notes
Agent Name	root_agent	The primary identifier for this agent.
Input/Output	text/plain	Accepts and provides simple text-based data.
Transport	JSONRPC	The preferred communication protocol.
URL	https://a2a-weather-agent...	The endpoint for accessing the agent.
Protocol Version	0.3.0	
Agent Version	0.0.0	



# How-To: The A2A Card

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### Available Skills (Tools)

This agent has the following specialized functions it can execute:

- 1. `model` (Core LLM Skill)
  - **Description:** The underlying Large Language Model (LLM) intelligence.
  - **Function:** Provides accurate and useful general information.
  - **Tags:** `llm`
- 2. `get_weather` (Tool)
  - **Description:** Simulates a web search to retrieve current weather information.
  - **Input:** Requires a **location query** (e.g., "London").
  - **Tags:** `llm`, `tools`
- 3. `get_current_time` (Tool)
  - **Description:** Simulates retrieving the current time for a specified city.
  - **Input:** Requires a **city name** (e.g., "Tokyo").
  - **Tags:** `llm`, `tools`

# How-To: A Simple Client

## Simple Python Client

No special SDKs are required. Just a simple HTTP request using the A2A protocol format.

```
requests.post(agent_url, ...)
```

```
# Send the streaming request to the A2A endpoint
response = requests.post(
    f"{SERVICE_URL}/a2a/app",
    headers=headers,
    json=request.model_dump(mode="json", exclude_none=True),
    stream=True,
    timeout=60,
)
```

Step	Role	Action/Tool	Details	Result/Output
1.	User	Input	Query submitted.	"Hello! Weather in New York?"
2.	Agent	→ Call Tool	Agent selects the appropriate skill.	<code>get_weather(query='New York')</code>
3.	Tool	Execution	The weather data is retrieved (simulated).	<b>Result:</b> "It's 90 degrees and sunny."
4.	Agent	→ Response	Agent processes and formats the result.	"The weather in New York is 90 degrees and sunny."
5.	System	Complete	Task finished.	<b>Status:</b> <code>completed</code>

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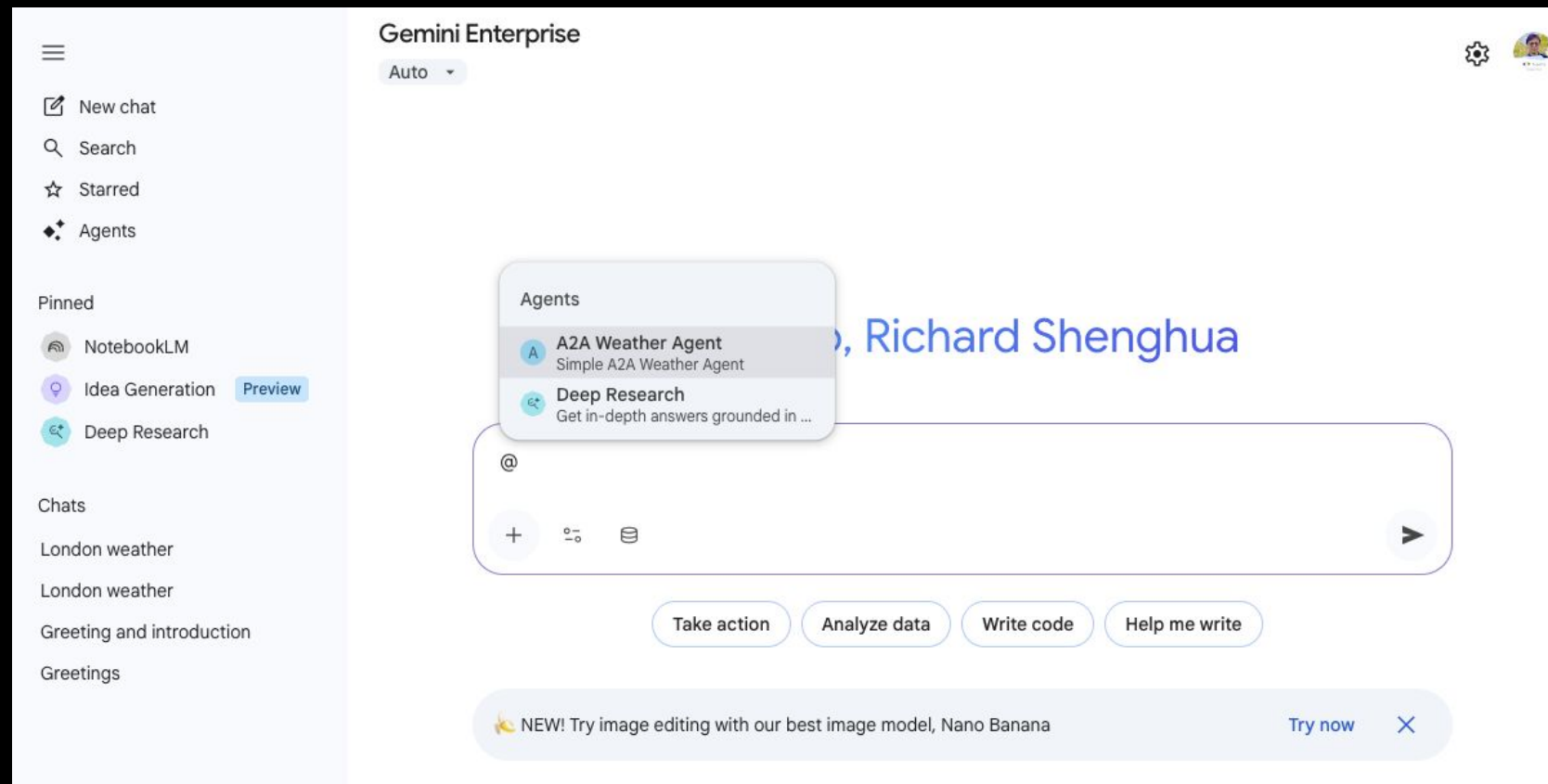
# Part 4:

# The Powerful Combination

**Gemini Enterprise** now supports the A2A protocol (in preview).

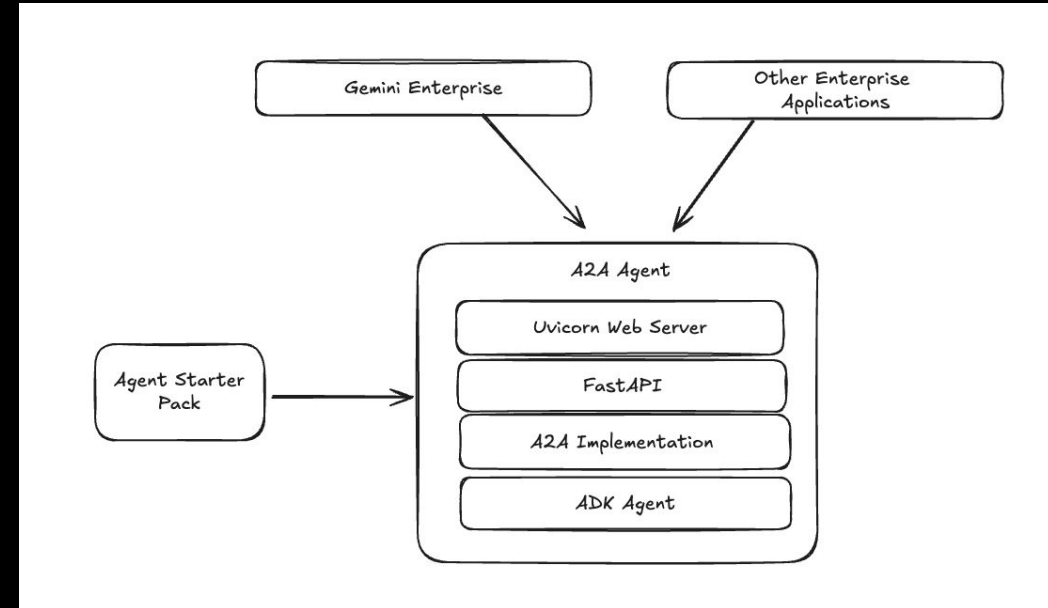
# What is Gemini Enterprise

**Gemini Enterprise** is an advanced, agentic AI platform from Google Cloud designed to bring the full power of Google AI to every employee and every workflow within a business.



# How it works: Gemini Enterprise Integration

- ▶ Gemini Enterprise can register **external A2A agents (preview)**.
- ▶ It uses the agent's public **A2A card** to discover its capabilities.
- ▶ It orchestrates tasks, delegating to your custom agent on **Cloud Run**.
- ▶ **One Agent, Multiple Clients:** Your custom agent is now a first-class citizen in the enterprise.





# Demo

# Why This is Significant



## No Vendor Lock-In

Your agent is built on an open standard, not a proprietary API.



## Composable AI

Build specialised, best-in-class agents and compose them into larger workflows.



## Enterprise-Grade

Securely integrate your custom logic into the Gemini Enterprise platform.

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# One Agent, Used **Everywhere.**

A2A + Cloud Run + Gemini Enterprise decouples your AI, making it a reusable, interoperable, and powerful enterprise asset.

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