

# 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.

# 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:

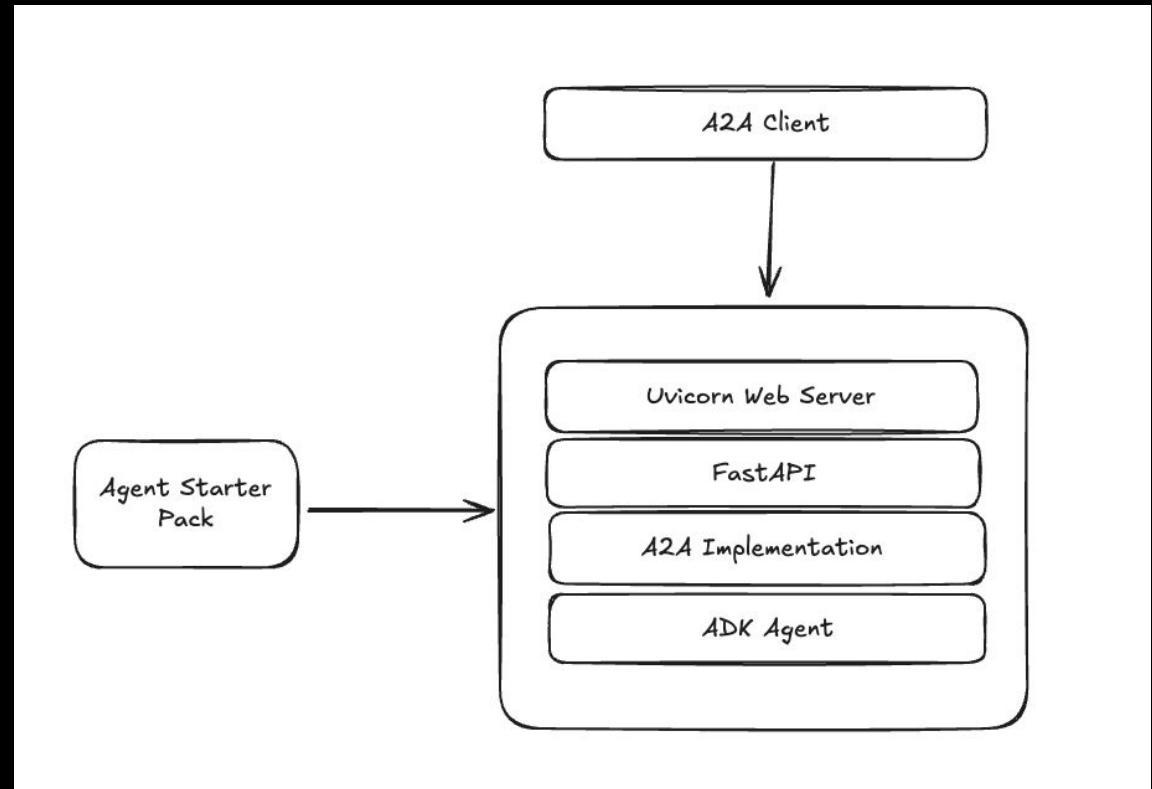
# The 5-Minute Deployment

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

# How-To: The A2A Card

## The A2A Agent Card

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

### 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.	get_weather(query='New York')
3.	Tool	Execution	The weather data is retrieved (simulated).	Result: "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.	Status: completed

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## Part 4:

# The Powerful Combination

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

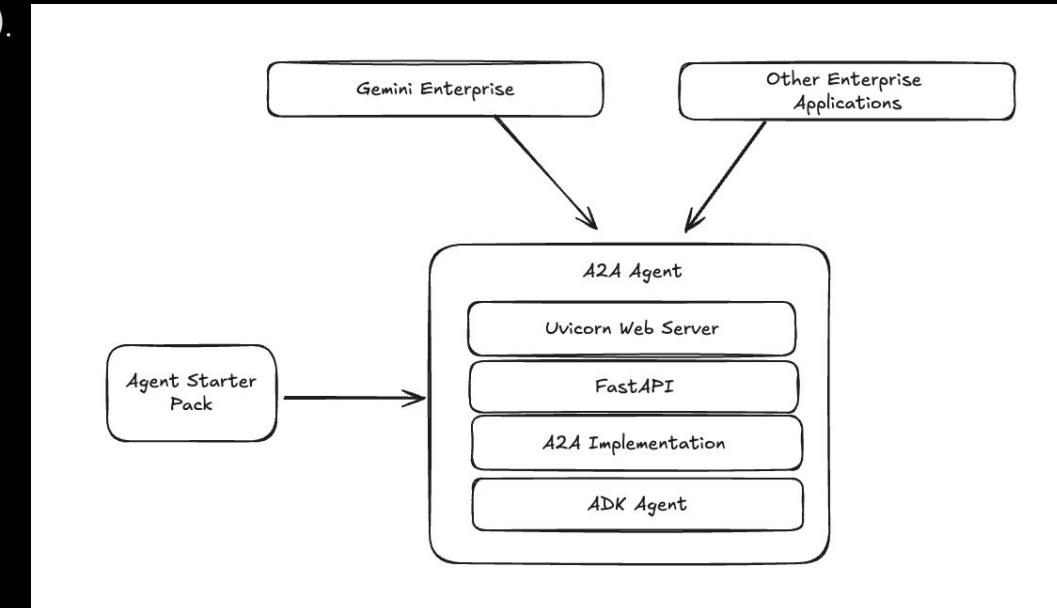
# What is Gemini Enterprise

**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.

The screenshot shows the Gemini Enterprise web interface. On the left is a sidebar with navigation links: New chat, Search, Starred, Agents, Pinned (NotebookLM, Idea Generation, Deep Research), Chats (London weather, Greeting and introduction), and Greetings. The main area is titled "Gemini Enterprise" with a dropdown menu set to "Auto". It features a large input field containing the text "Hello, Richard Shenghua". A tooltip labeled "Agents" is open over the input field, listing "A2A Weather Agent" (Simple A2A Weather Agent) and "Deep Research" (Get in-depth answers grounded in ...). Below the input field are buttons for "@", "+", and a file icon, followed by a "Send" button (a right-pointing arrow). At the bottom are four buttons: "Take action", "Analyze data", "Write code", and "Help me write". A promotional banner at the bottom says "NEW! Try image editing with our best image model, Nano Banana" with a "Try now" button and a close "X".

# 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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