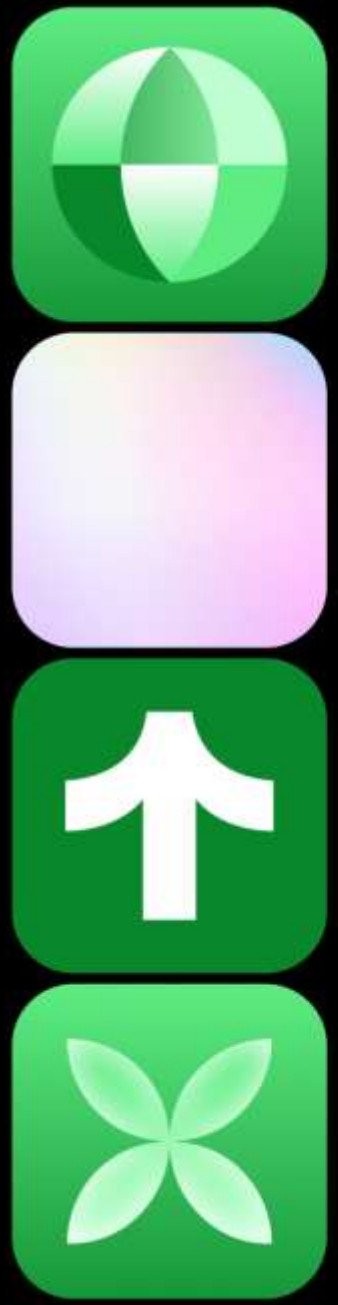


Agent Client Protocol in GitHub Copilot

Jun Han

GitHub Copilot

自我介绍 —— 韩骏

- 微软开发平台事业部 高级软件工程师
- 《Visual Studio Code 权威指南》作者
- VS Code 中文社区创始人
- 955.WLB repo 创建者
- 20 多款 VS Code插件（Code Runner 8000万下载量）
- 内推 100 多人拿到微软 offer
- QCon、PyCon、JSConf、.NET Conf、Microsoft Tech Summit、Google Developer Group、COSCon 等大会讲师

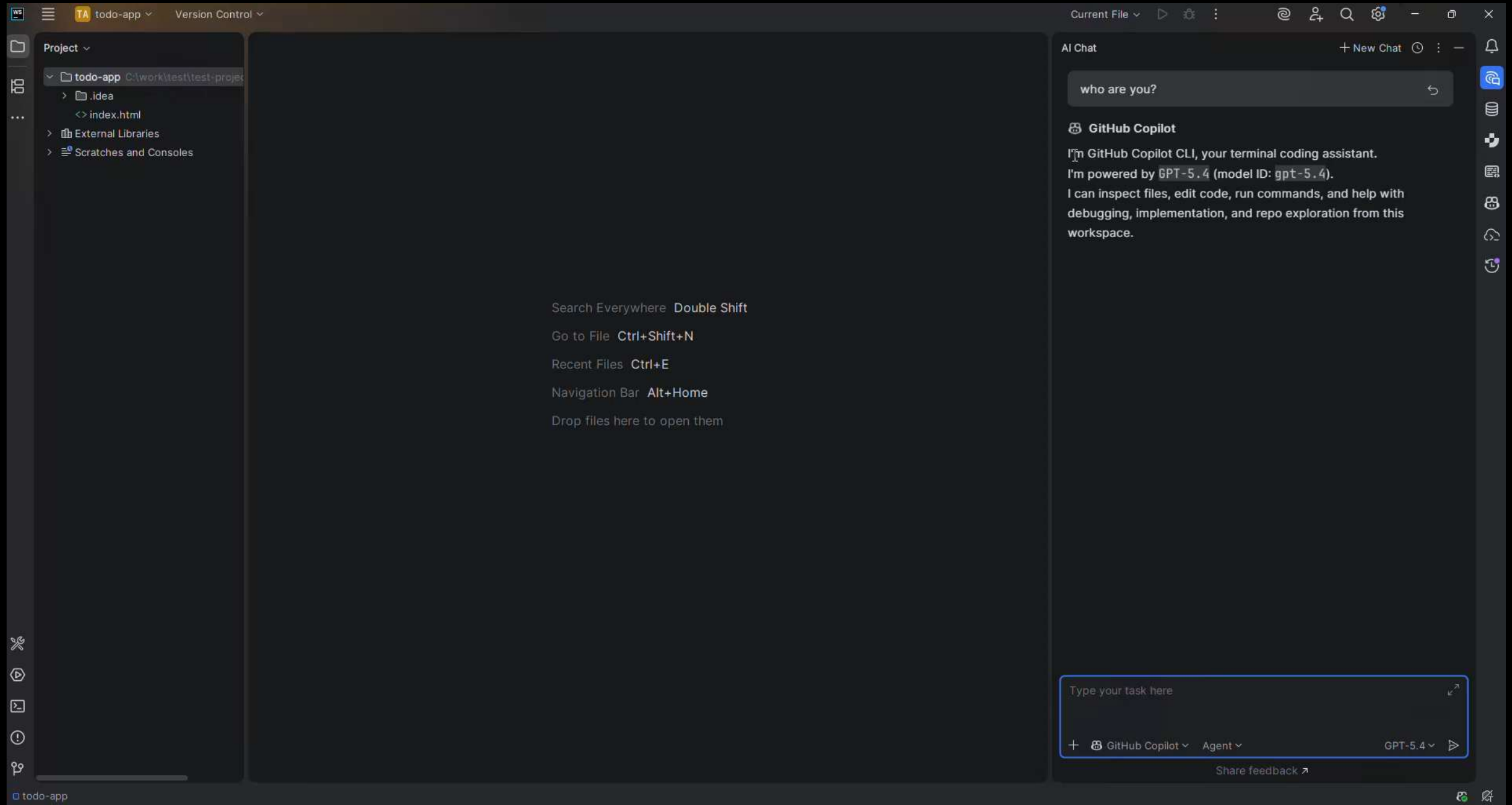


公众号“HJ说”

Agent Client Protocol (ACP)

2026 年不懂 ACP
相当于
2025 年不懂 MCP & Skills

GitHub Copilot in JetBrains AI Assistant via ACP

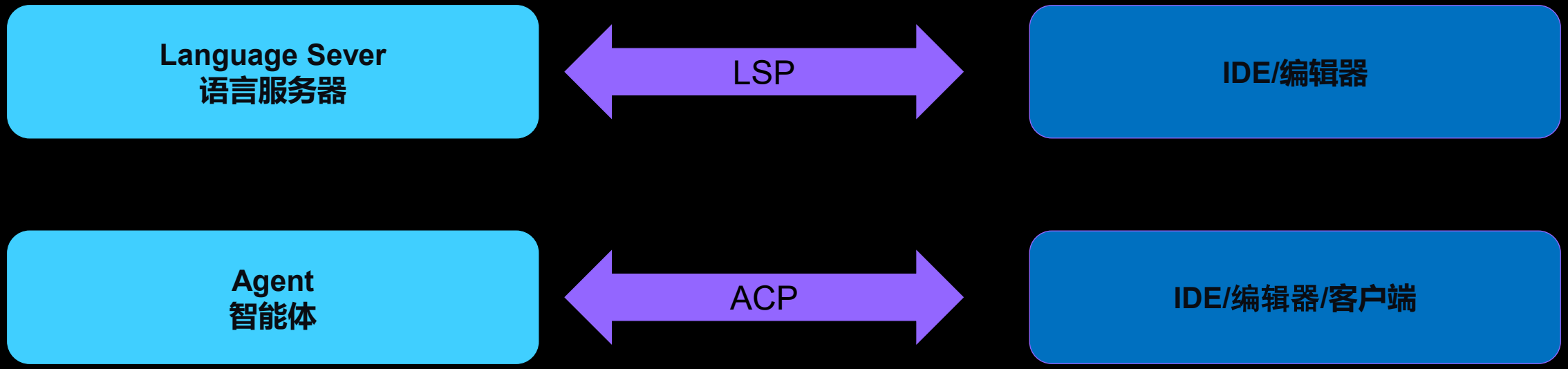


Why

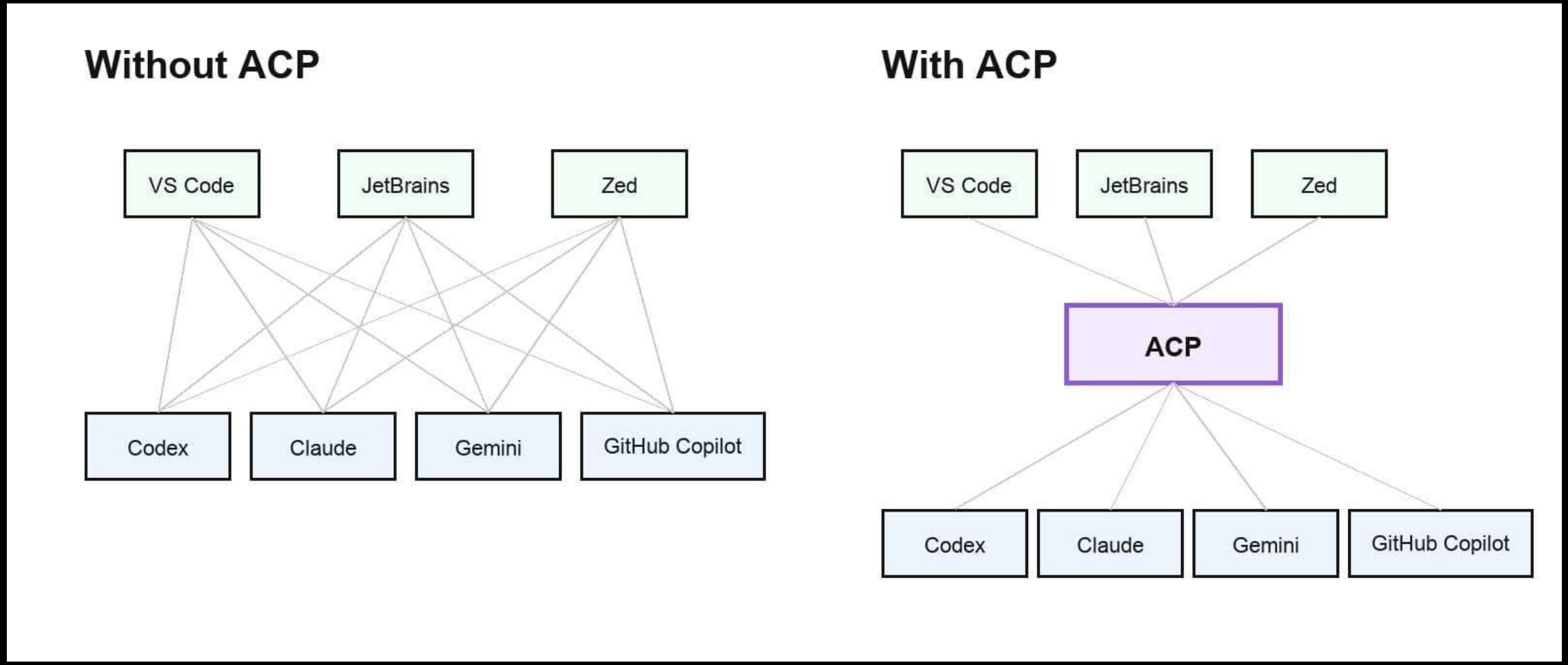
为什么需要 ACP？

- 打破“IDE × Agent”双向耦合
- 减少集成成本：一次实现，多端可用
- 避免锁定：开发者可自由选择 Agent 与 IDE
- 像 LSP 之于语言一样，ACP 之于 Agent

ACP —— Agent 界的 LSP



The Power of ACP: M×N → M+N



What

通信模型（JSON-RPC 2.0）

Methods (Request-response) + Notifications (One-way messages)

- 初始化：initialize、authenticate
- 会话：session/new、session/load
- 交互：session/prompt、session/update
- 控制：session/cancel、session/request_permission

传输层（Transports）

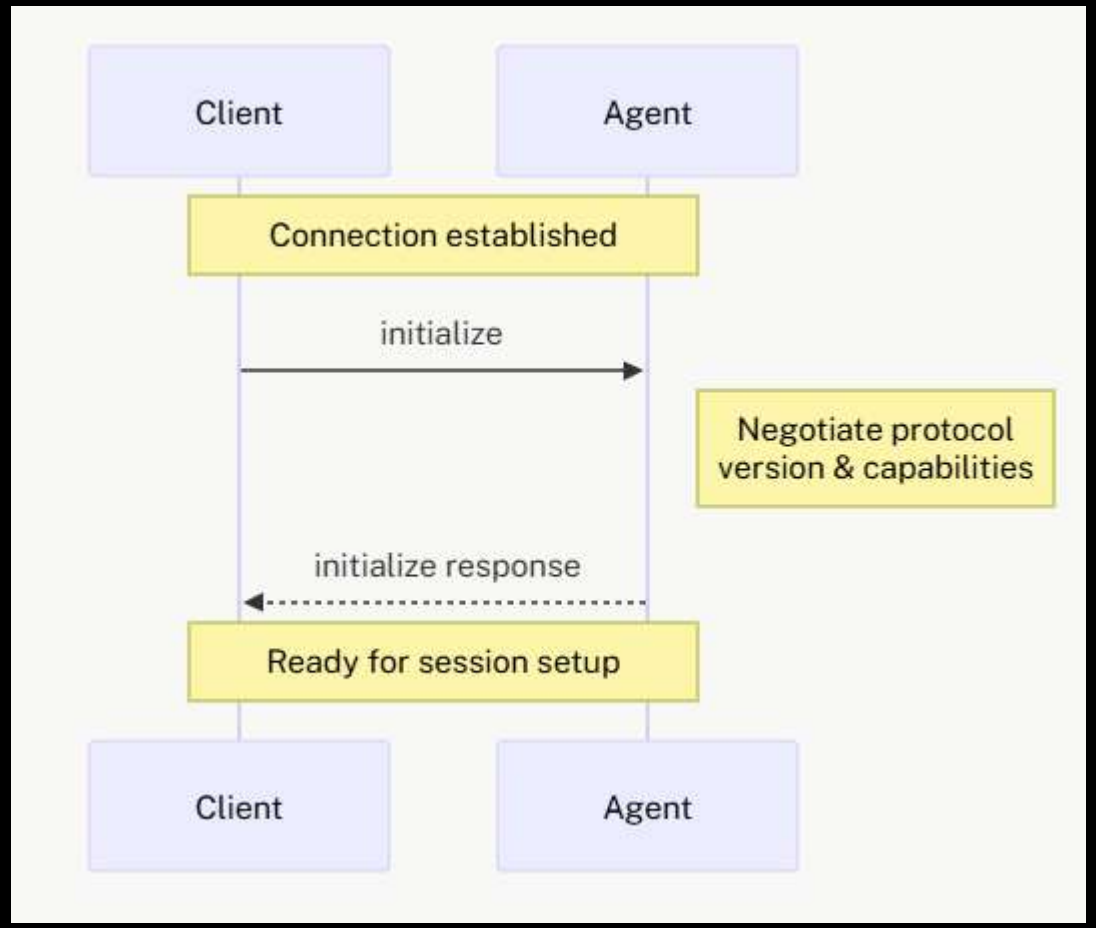
默认：stdio（JSON-RPC 行分隔）
Agent 作为 IDE 子进程启动
stdout 仅输出 ACP 消息，stderr 可用于日志

Streamable HTTP：提案中（远程场景）
支持自定义 transport（保持 JSON-RPC 语义）

Lifecycle

- Initialization
- Session Setup
- Prompt Turn
- …

Initialization

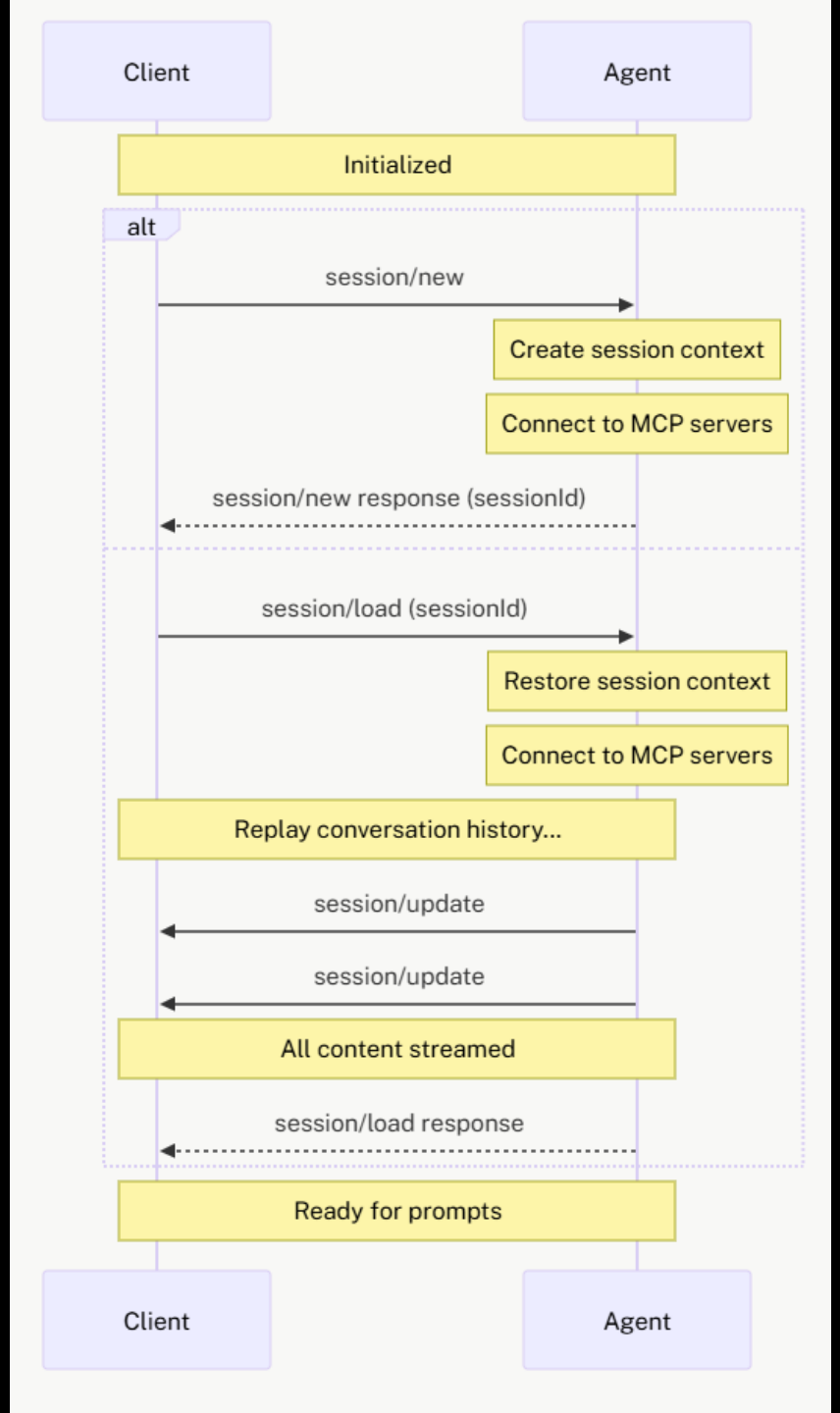


Client -> Agent

```
{
  "jsonrpc": "2.0",
  "id": 0,
  "method": "initialize",
  "params": {
    "protocolVersion": 1,
    "clientCapabilities": {
      "fs": {
        "readTextFile": true,
        "writeTextFile": true
      },
      "terminal": true
    },
    "clientInfo": {
      "name": "my-client",
      "title": "My Client",
      "version": "1.0.0"
    }
  }
}
```

Agent -> Client

```
{
  "jsonrpc": "2.0",
  "id": 0,
  "result": {
    "protocolVersion": 1,
    "agentCapabilities": {
      "loadSession": true,
      "promptCapabilities": {
        "image": true,
        "audio": true,
        "embeddedContext": true
      },
      "mcpCapabilities": {
        "http": true,
        "sse": true
      }
    },
    "agentInfo": {
      "name": "my-agent",
      "title": "My Agent",
      "version": "1.0.0"
    },
    "authMethods": []
  }
}
```



Session Setup

Client -> Agent

```
{
  "jsonrpc": "2.0",
  "id": 1,
  "method": "session/new",
  "params": {
    "cwd": "/home/user/project",
    "mcpServers": [
      {
        "name": "filesystem",
        "command": "/path/to/mcp-server",
        "args": ["--stdio"],
        "env": []
      }
    ]
  }
}
```

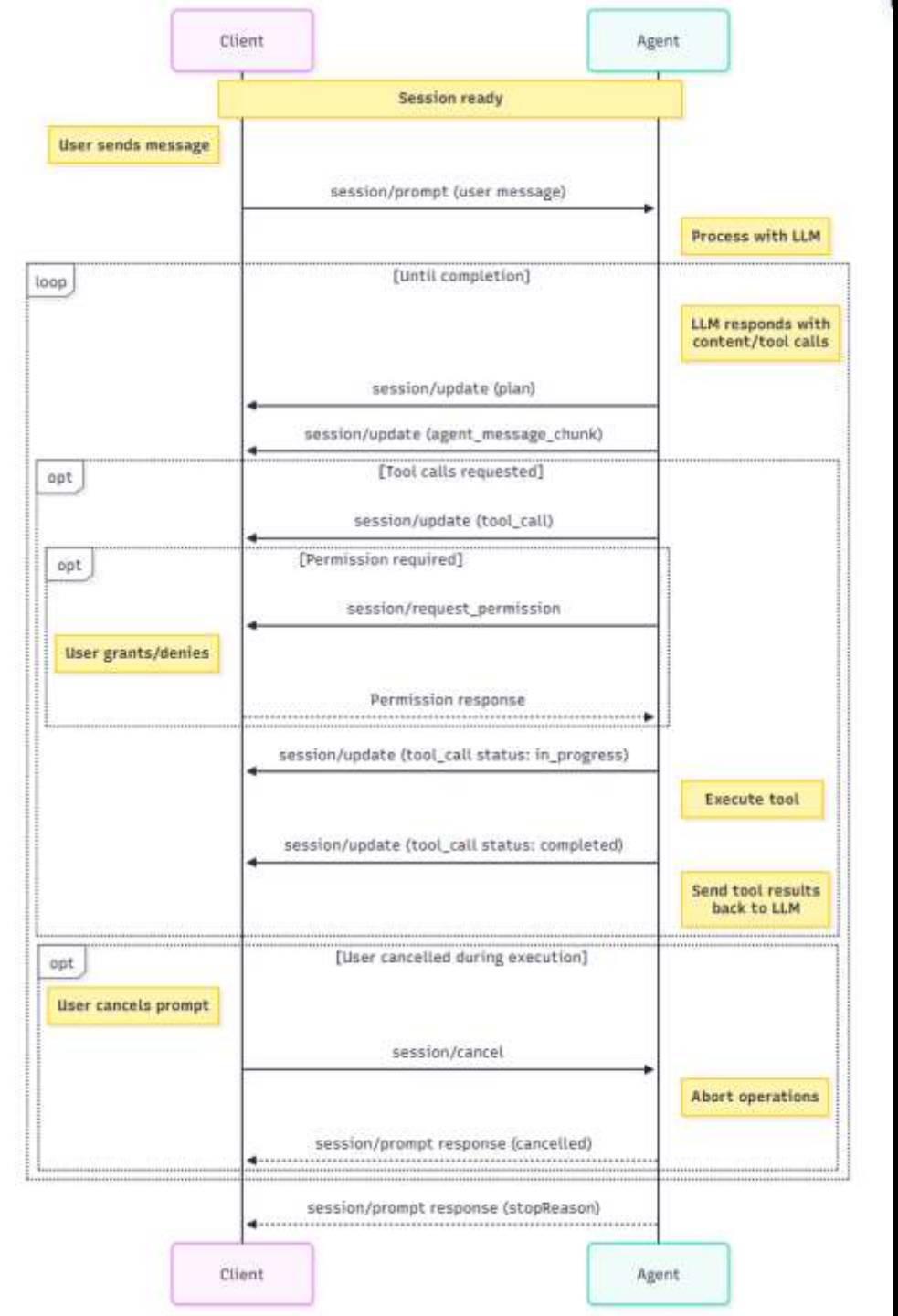
Agent -> Client

```
{
  "jsonrpc": "2.0",
  "id": 1,
  "result": {
    "sessionId": "sess_abc123def456"
  }
}
```

Prompt Turn (简化版)



Prompt Turn (完整版)



工具调用生命周期

tool_call（pending）→ tool_call_update（in_progress）→ completed/failed

支持内容类型：文本 / diff / 终端输出
可报告文件位置，便于 IDE 追踪变更
请求权限：session/request_permission

权限与安全交互

Allow once / Always

Reject once / Always

IDE 决定策略：
自动许可、手动确认、策略化阻止

How

Get started with ACP TypeScript Examples

https://github.com/agentclientprotocol/typescript-sdk/tree/main/src/examples

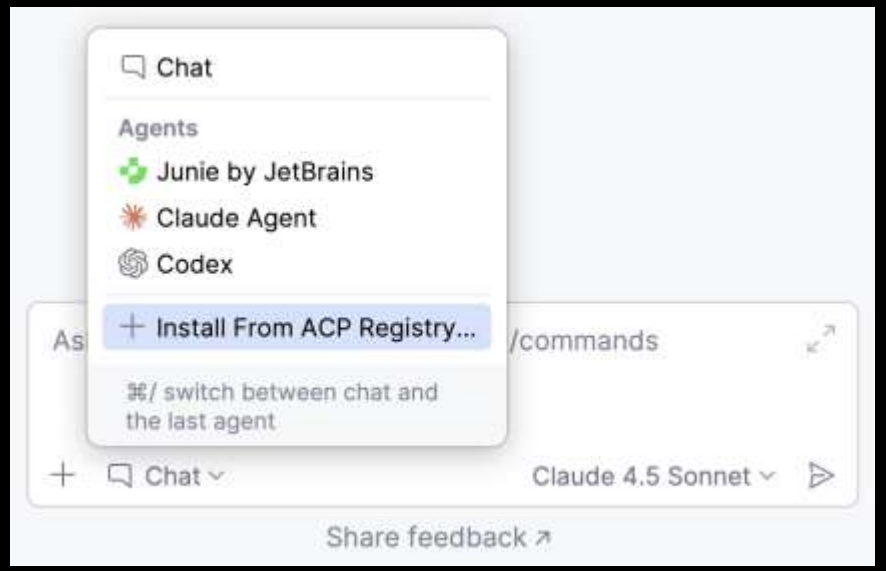
Try GitHub Copilot ACP

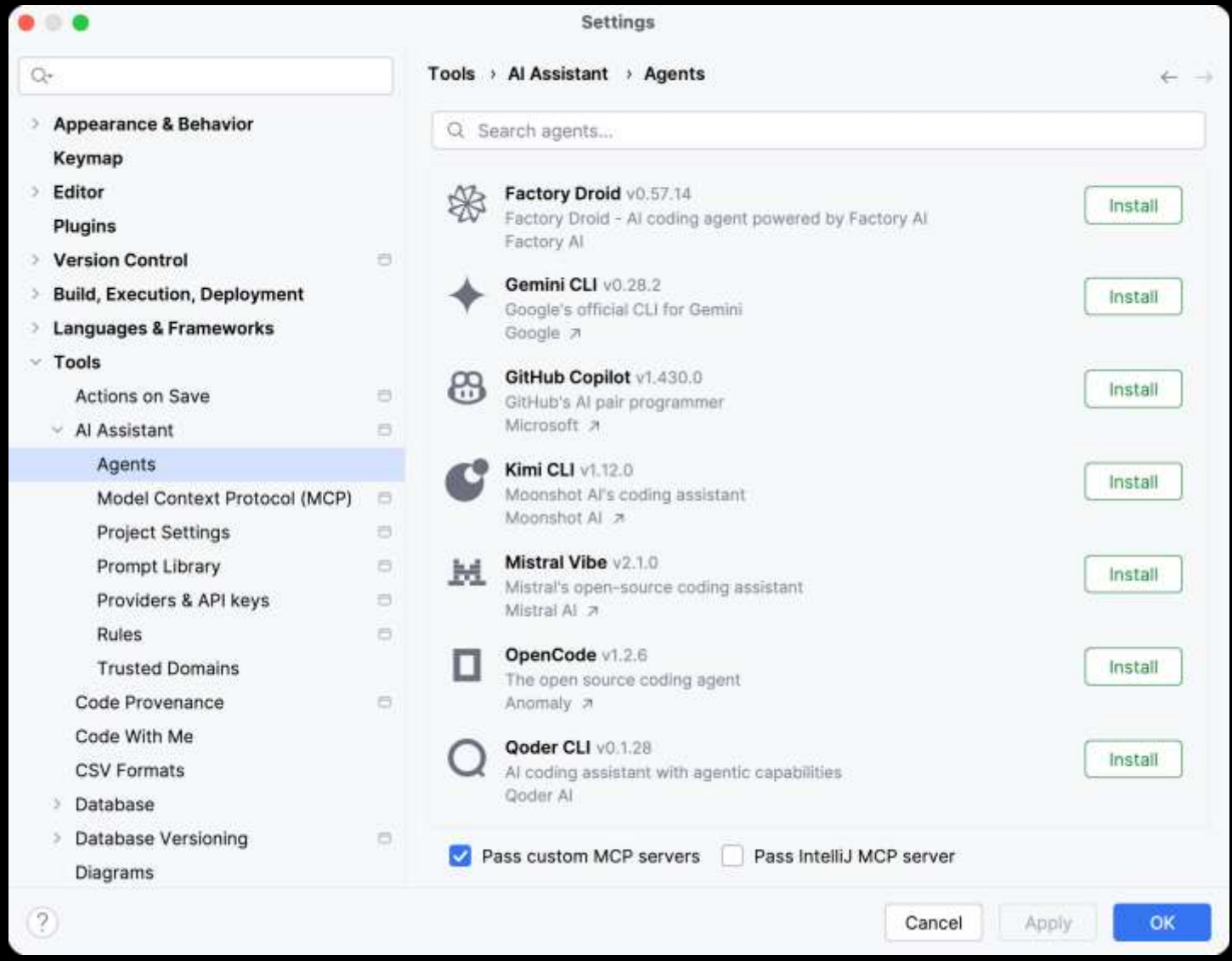
```
npx -y @github/copilot-language-server --acp
```

https://github.com/github/copilot-language-server-release?tab=readme-ov-file#agent-client-protocol-acp-preview

GitHub Copilot available now in JetBrains ACP Registry!

Try GitHub Copilot in version 2025.3.2 or later of JetBrains IDE with the AI Assistant plugin.







Learning Resources



Learning Resources

Agent Client Protocol

- **Introduction:** *https://agentclientprotocol.com/get-started/introduction*
- **Protocol:** *https://agentclientprotocol.com/protocol/overview*
- **TypeScript library:** *https://agentclientprotocol.com/libraries/typescript*

GitHub Copilot for ACP

- **Try GitHub Copilot for ACP:** *https://github.com/github/copilot-language-server-release?tab=readme-ov-file#agent-client-protocol-acp-preview*
- **Install GitHub Copilot from JetBrains ACP Registry:** *https://www.jetbrains.com/help/ai-assistant/acp.html#install-agent-from-registry*

Three More Things!

在任意地方任意时间，轻松连上任意 ACP Agent

如果你是 VS Code 用户，可以用 ACP Client extension：

https://github.com/formulahendry/vscode-acp

如果你想要在 Windows/macOS/Linux 上有一个轻量级的 ACP Desktop 界面，可以用跨平台的 ACP UI：

https://github.com/formulahendry/acp-ui

如果你想要在手机微信（iOS 或者 Android）连上 Agent，可以用 WeChat ACP：

https://github.com/formulahendry/wechat-acp



GitHub Copilot: 多 IDE 的新一代 Agentic 体验

欢迎提交您的反馈！



Thank you