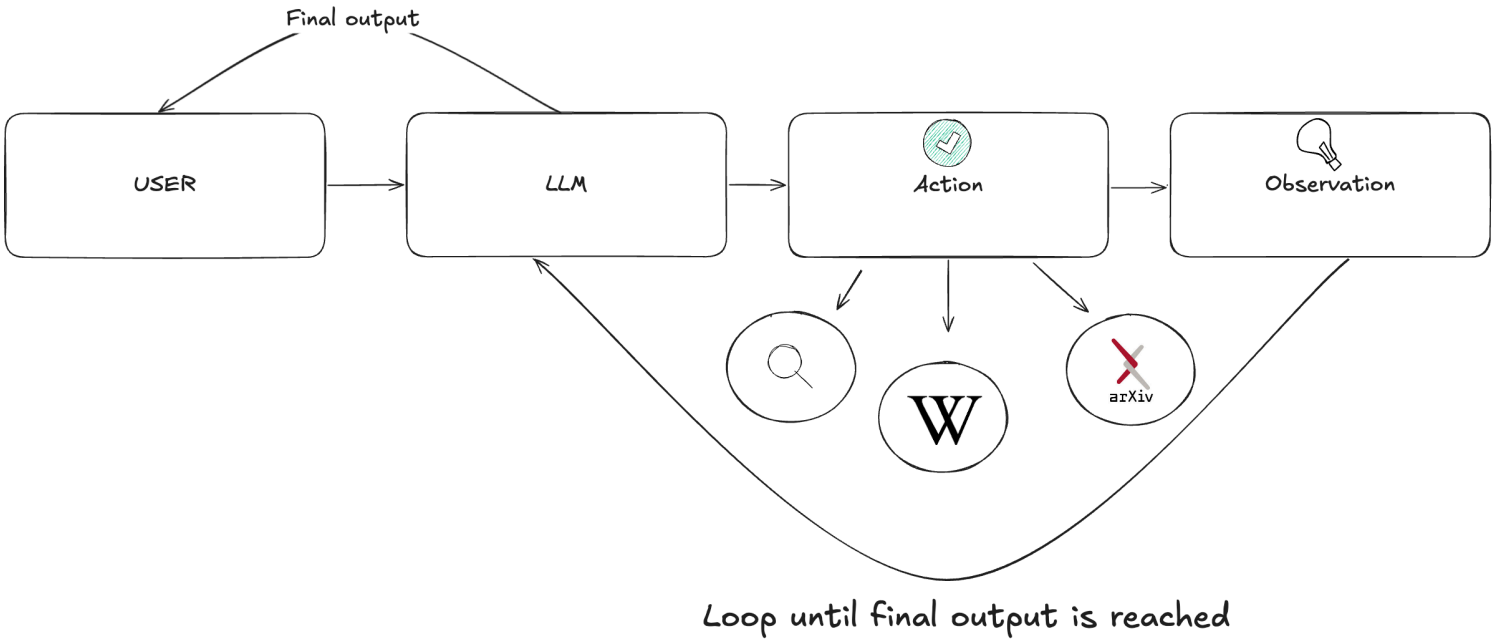
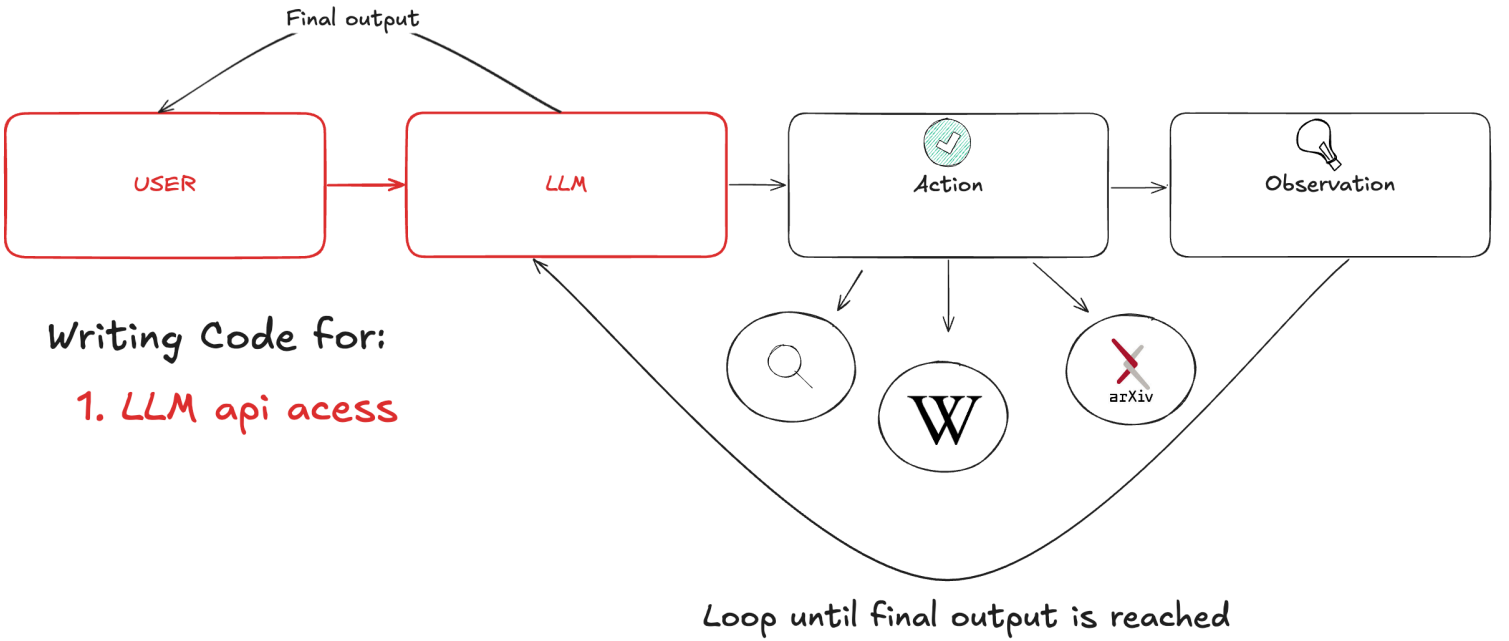
Building Agents with MCP

The HTTP Moment of AI?

Building an Agent in 2025


Final output
USER
LLM
Action
Observation
arXiv
Loop until final output is reached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Writing Code for:
1. LLM api acess
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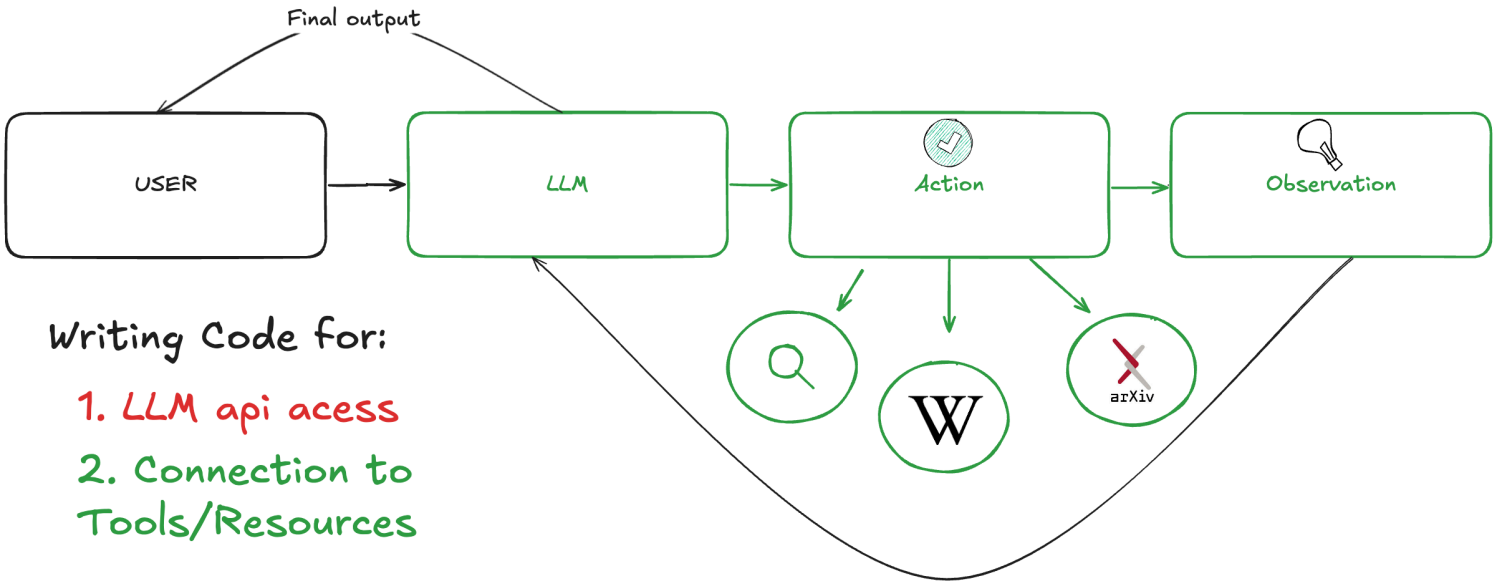
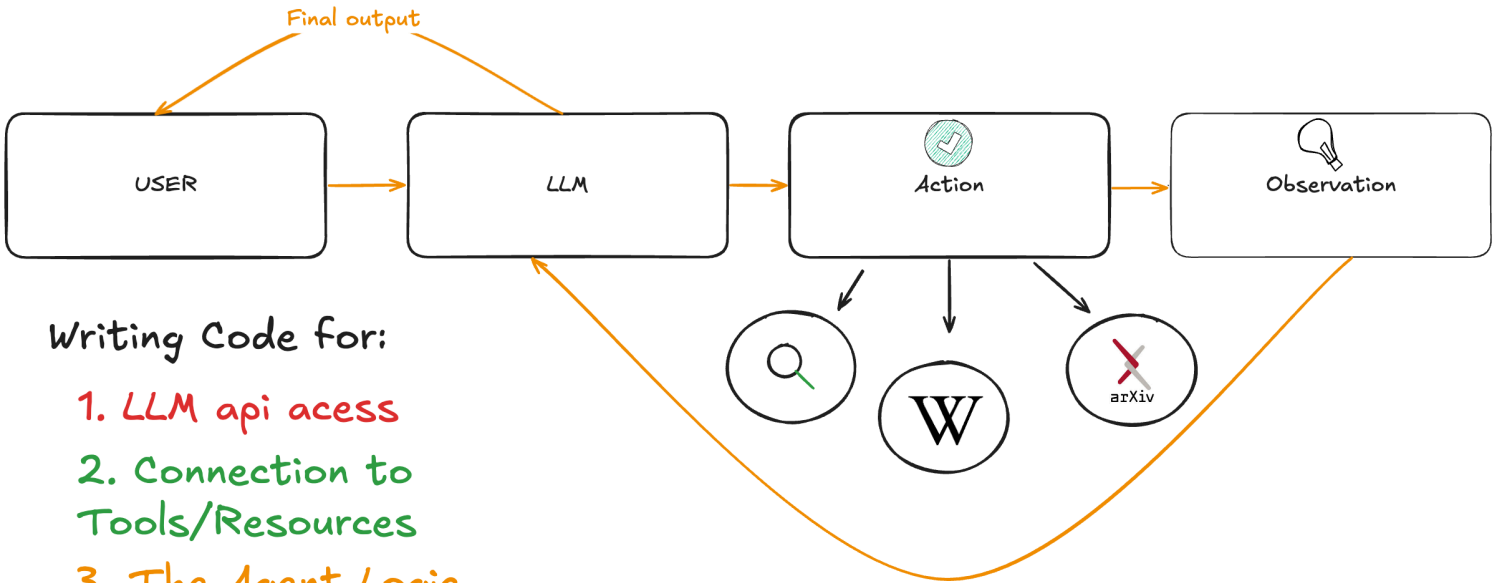
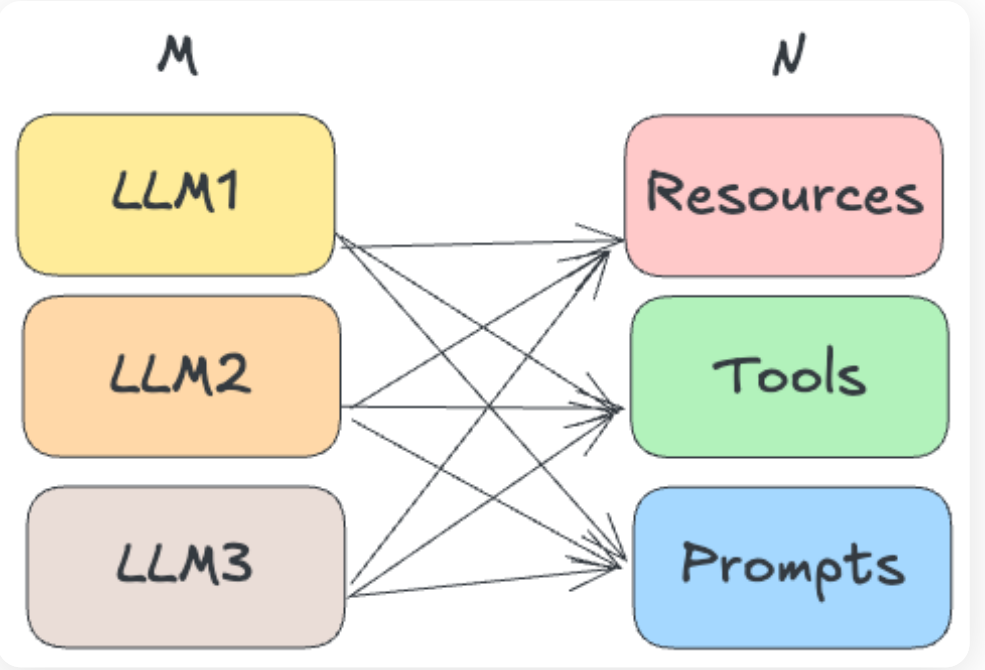


Writing Code for:

1. LLM api acess
2. Connection to Tools/Resources


Final output
USER
LLM
Action
Observation
arXiv
Writing Code for:
1. LLM api acess
2. Connection to Tools/Resources
3. The Agent Logic
Loop until final output is reached

The MN Integration Problem: Multiple LLMs



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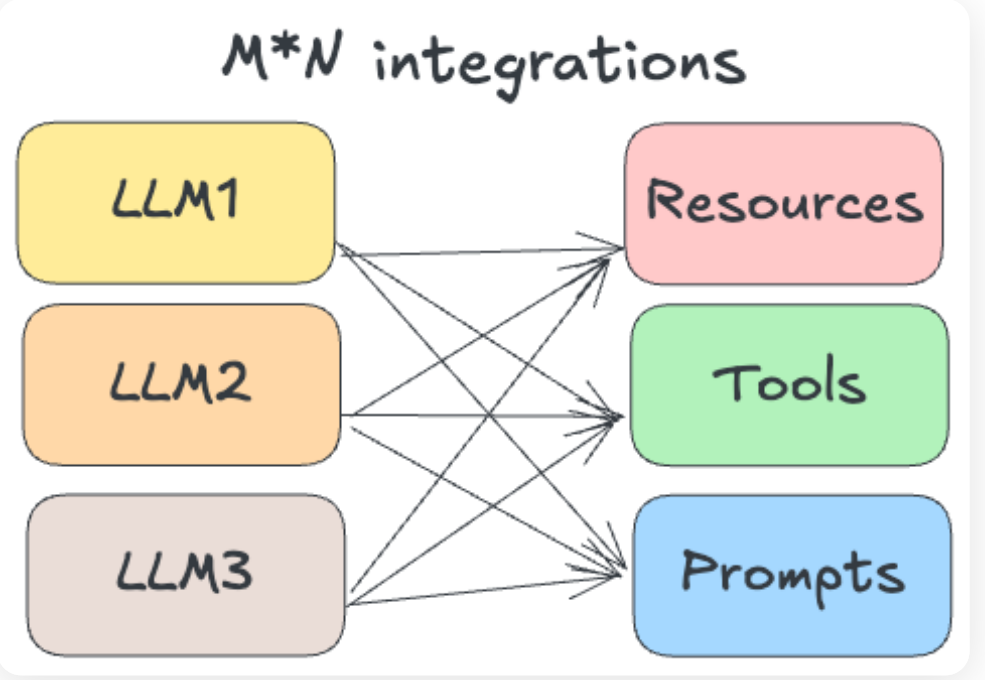

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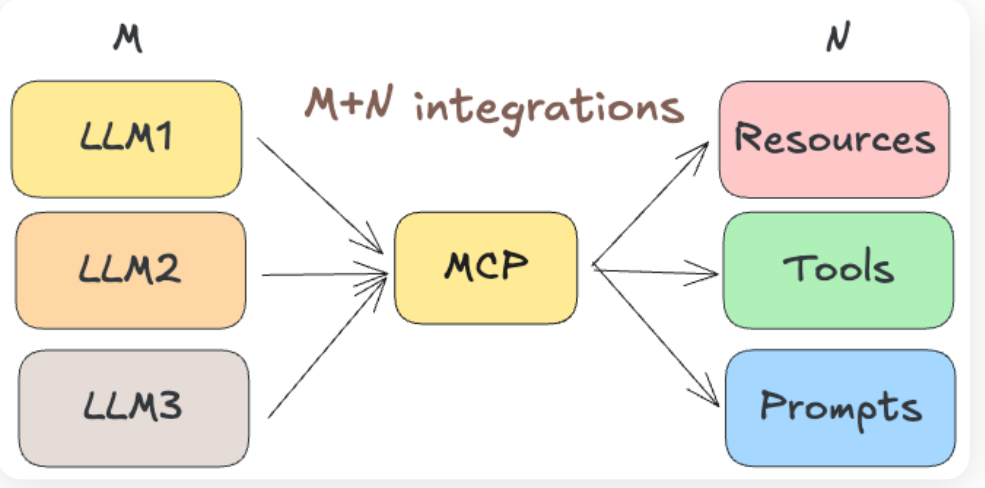
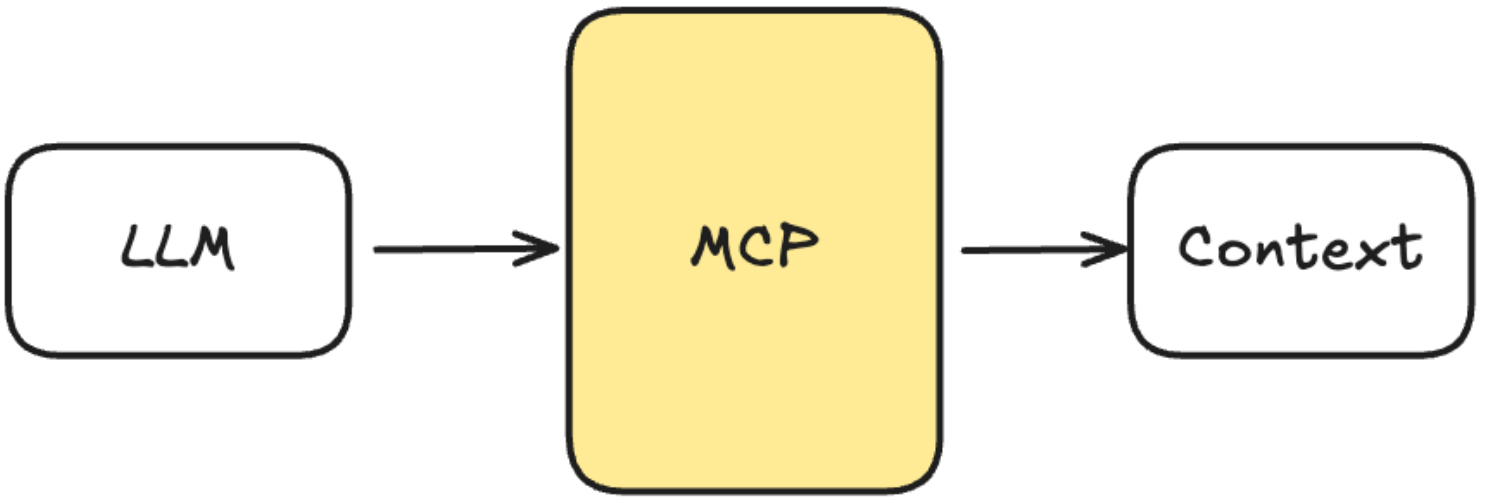


What is MCP?

Open Protocol to standardize connections between LLMs and Context



MCP is what makes AI actually useful for real apps

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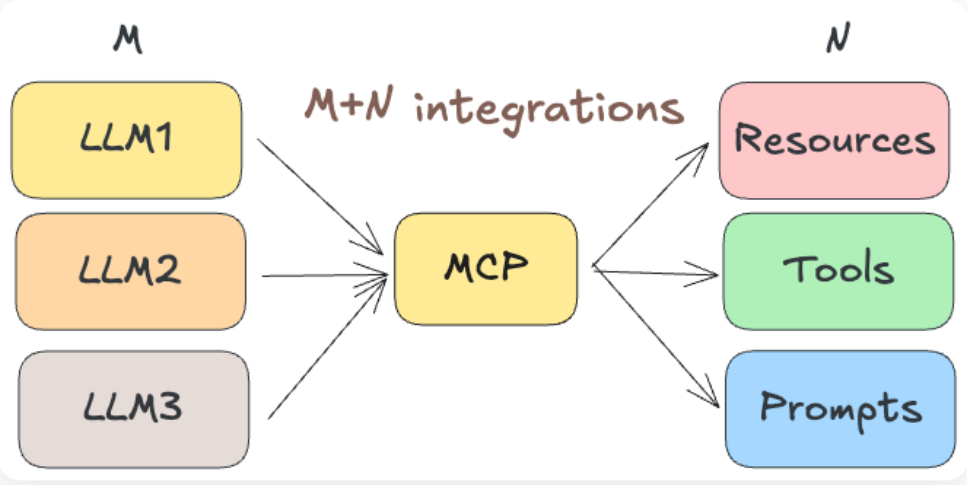
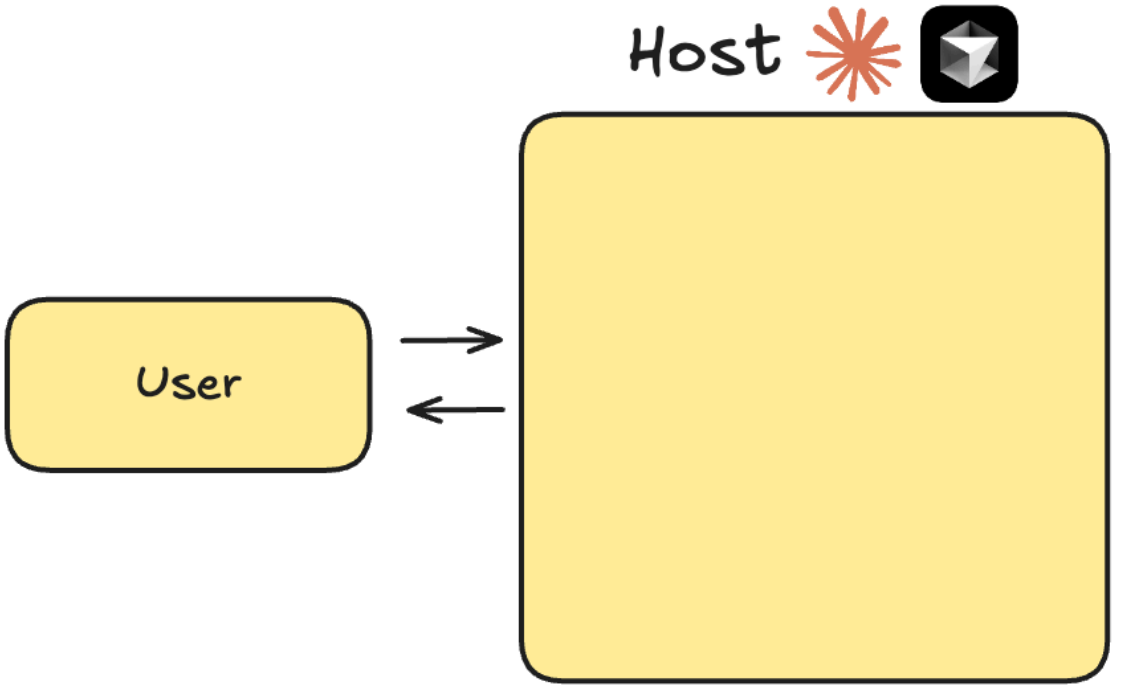
And for building agents!

MCP Simplifies the Integration of Problem for Agent Development



MCP Core Components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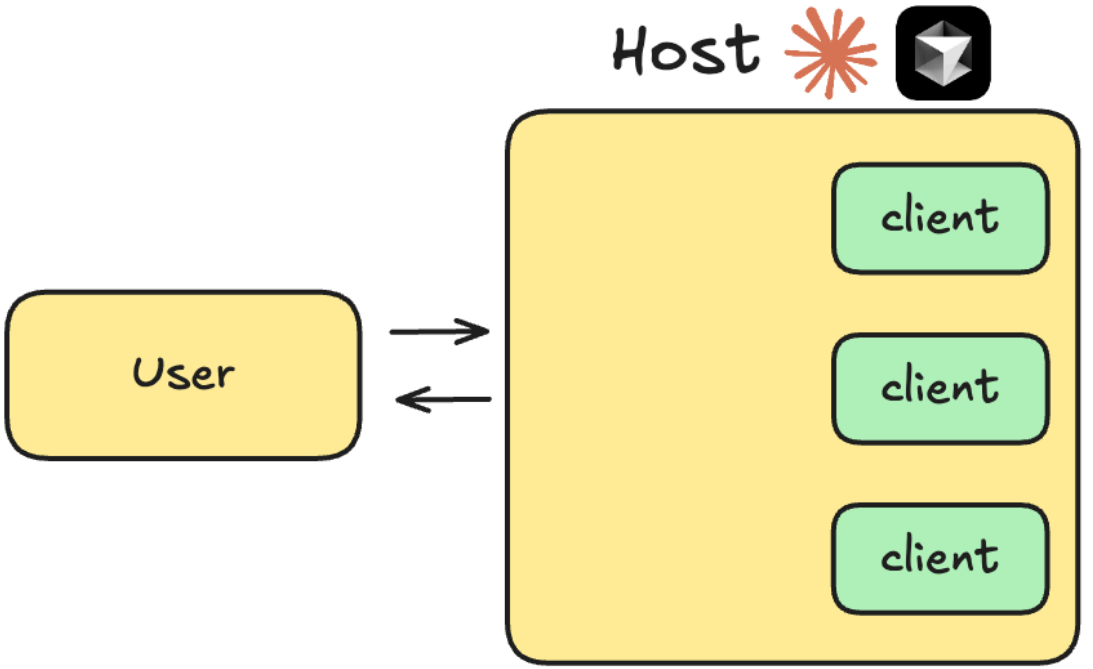
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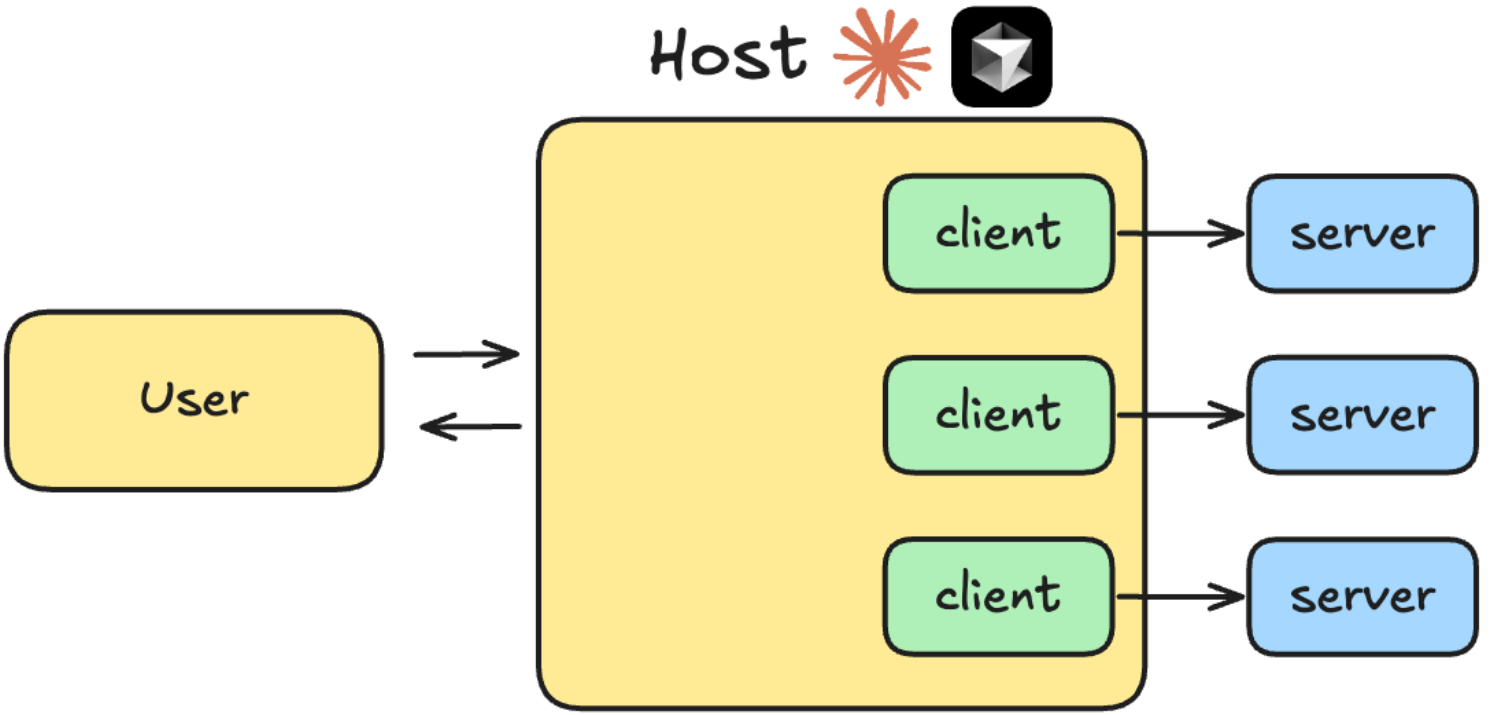
Host
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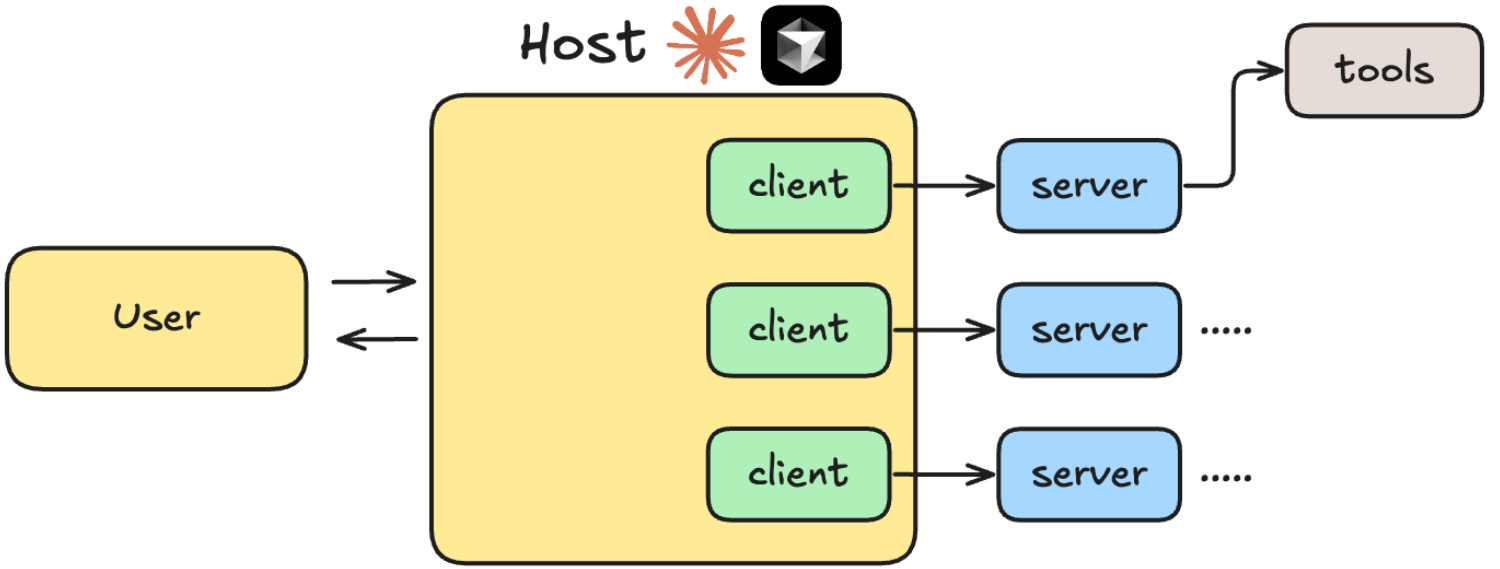
Host
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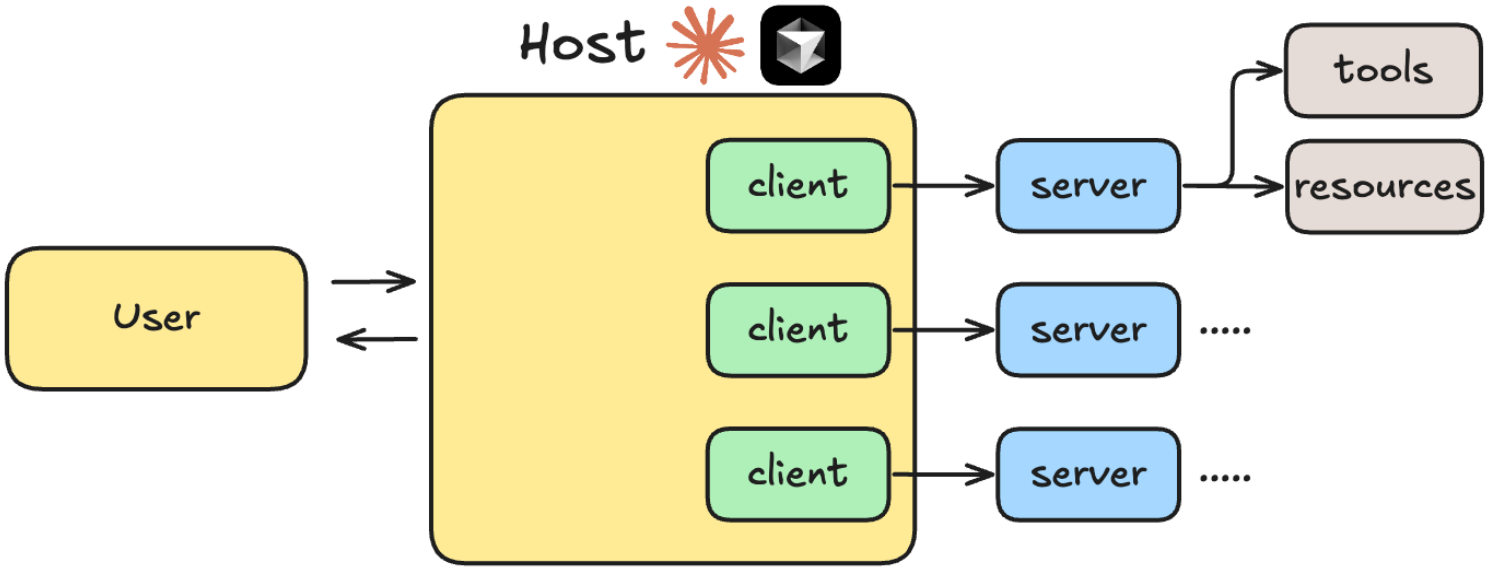
Host
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server
server
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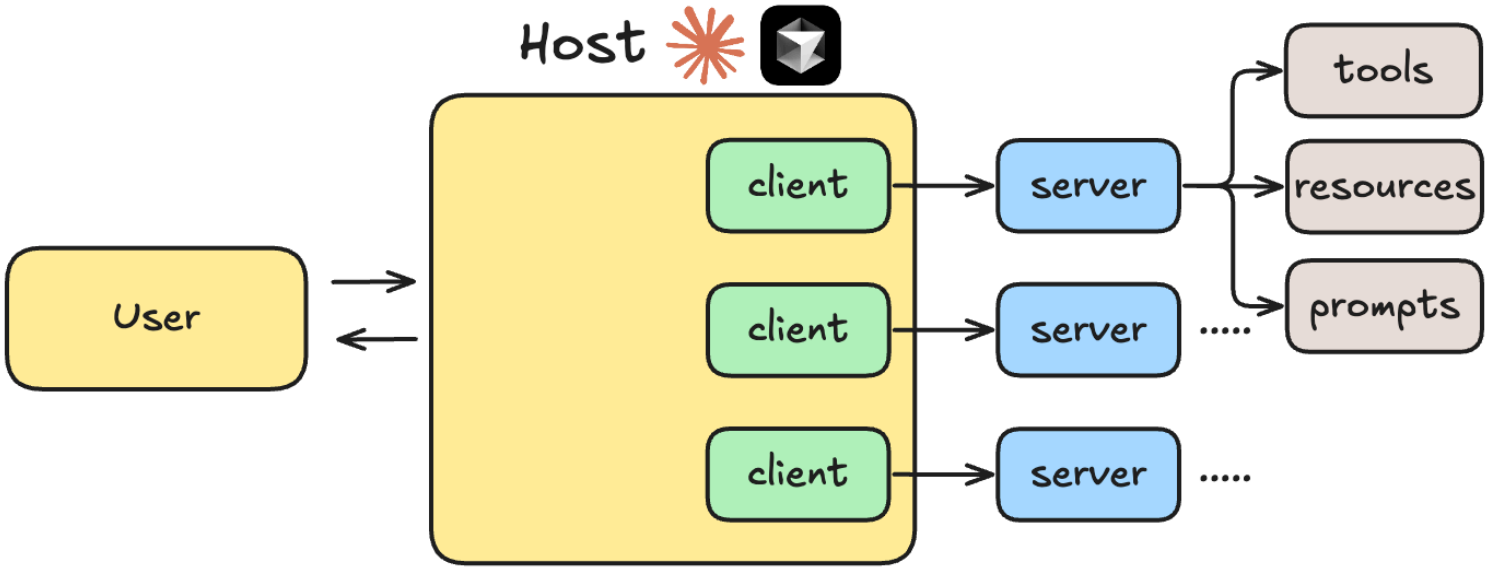
tools
resources


Host
User
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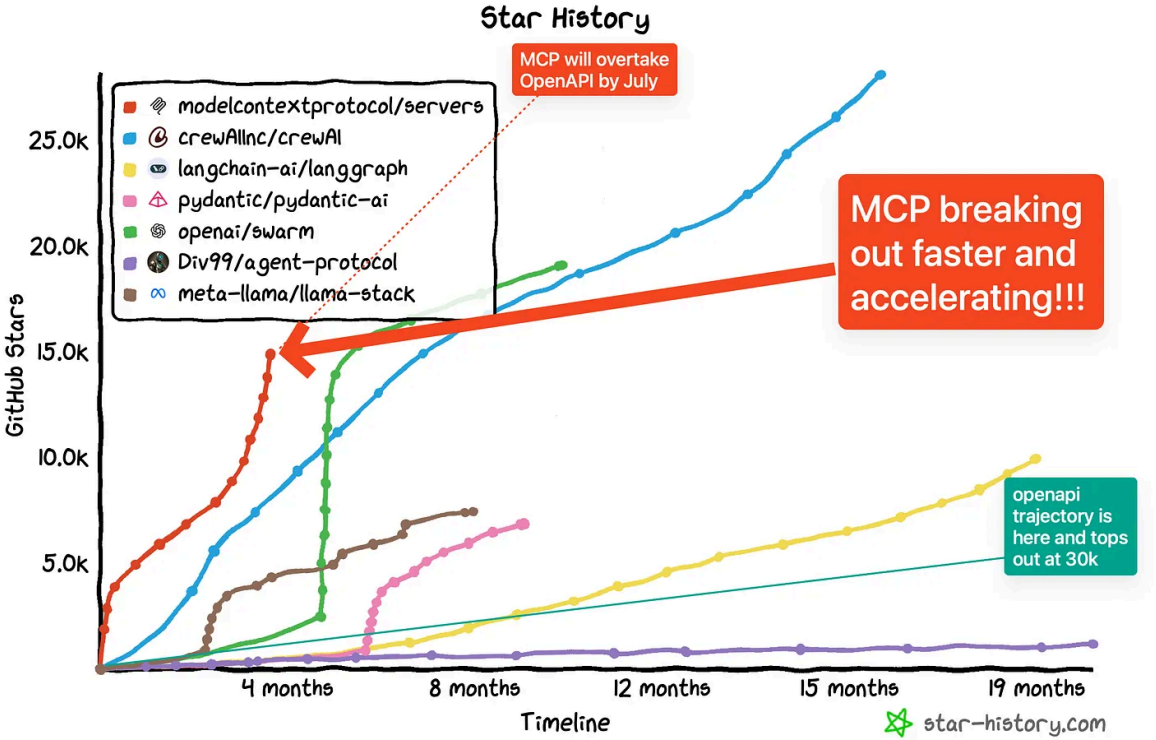
tools
resources
prompts

MCP is Growing Super Fast



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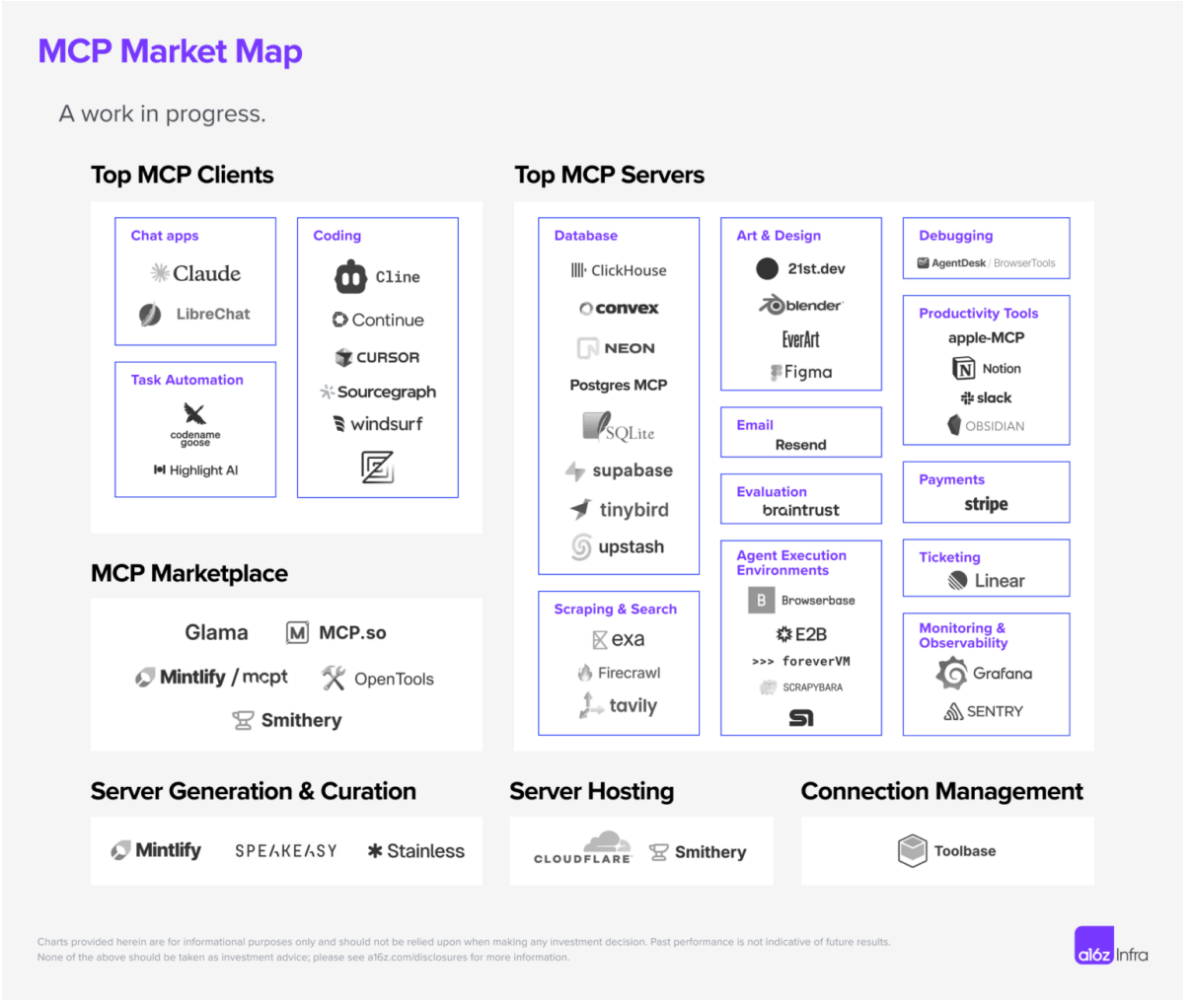
- Platforms like **Agent.ai with Cursor** - The HubSpot moment for AI development

The Growing MCP Ecosystem



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- Multi-Language Support (Python, TypeScript, Swift, Kotlin, Java, Go)

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Key Takeaway: Extensive guardrailing needed for production deployments

The Protocol "Wars"

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MCP vs A2A vs ACP

Three Major Players Competing/Complimenting? for Standardization:

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Current Reality: Fragmentation risk vs innovation through competition

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