MCP Workshop

Medhat Elmasry

Medhat Elmasry

- Instructor at BCIT
- Independent Contractor
- Microsoft MVP since 2017
- Founded .NET BC User Group in 2003
- Speaker
- https://blog.medhat.ca
- medhat@elmasry.ca

What is the Model Context Protocol (MCP)?

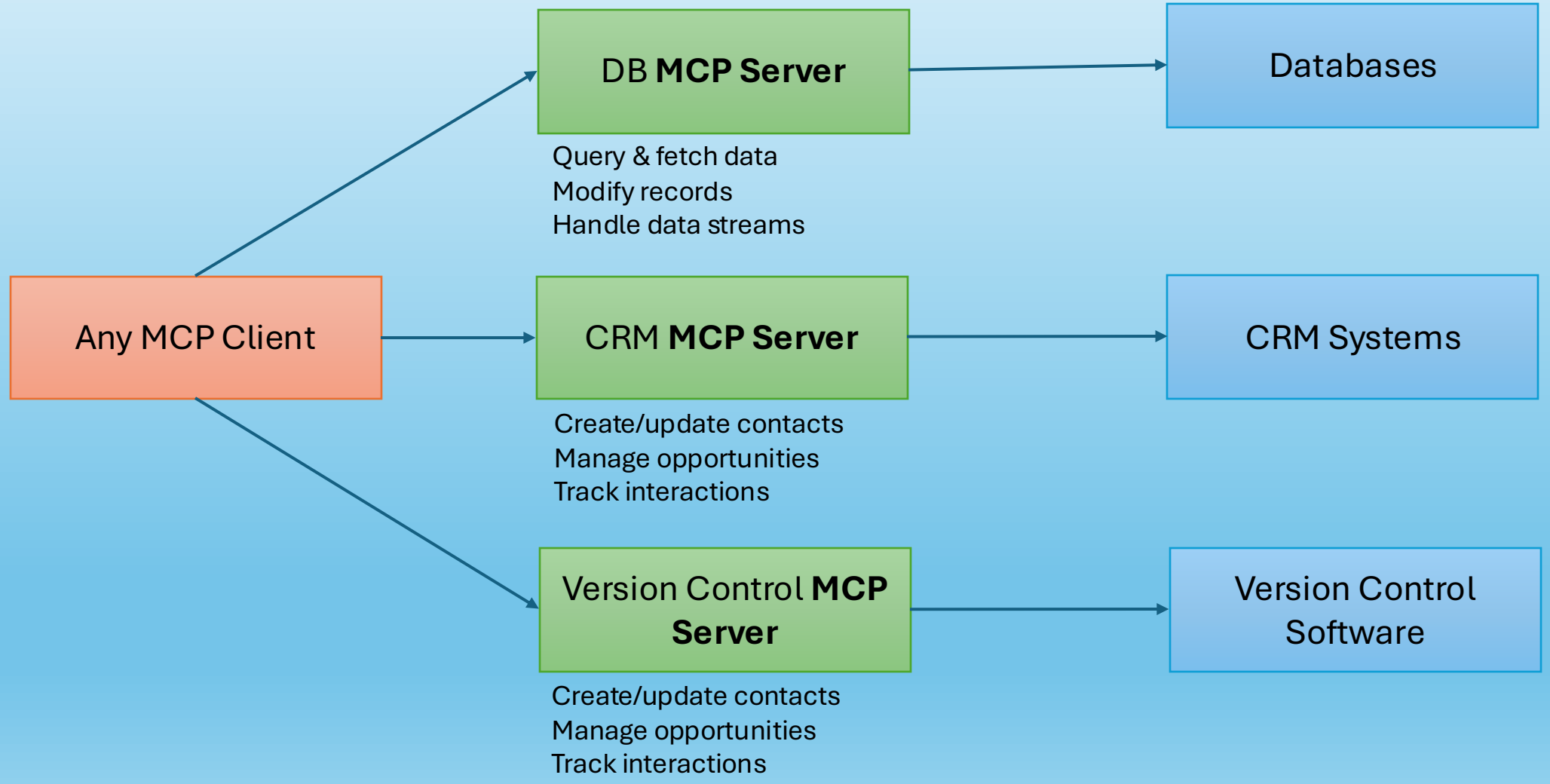
Model Context Protocol (MCP) is an open standard developed by Anthropic, the company behind Claude AI models.

MCP is an open protocol that enables seamless integration between:

MCP standardizes how AI applications interact with external systems:

- Prompts
- Tools
- Resources

With MCP: Standardized AI Development

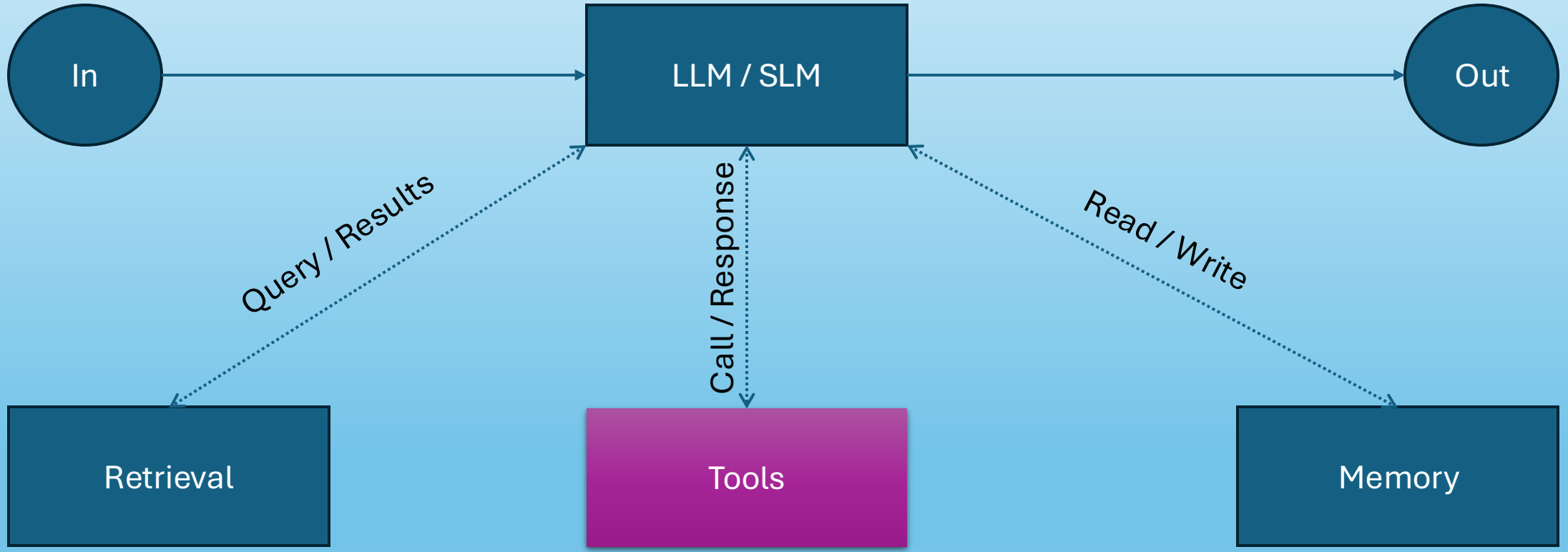


With MCP: Standardized Development

For AI application developers	• Connect your app to any MCP server with 0 additional work
For tool or API developers	• Build an MCP server once, see adoption everywhere
For end users	• More powerful and context-rich AI application
For enterprises	• Clear separation of concerns between AI product teams

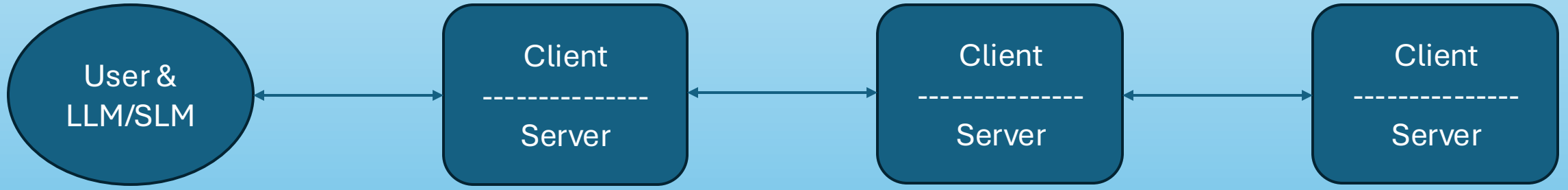
MCP will be the foundational protocol for agents

Building Effective Agents with MCP



Building Effective Agents with MCP

Composability → An MCP client can be a server and vice-versa (AKA Chaining)



Official MCP SDKs

NuGet Packages

ModelContextProtocol

ModelContextProtocol.AspNetCore

MCP vs RAG

Retrieval-Augmented Generation (RAG) and Model Context Protocol (MCP) are two distinct approaches for enhancing the capabilities of Large Language Models (LLMs)

RAG	**MCP (AKA …. USB for AI)**
• Limited to text (sematic search) • Search vector DB with every prompt	• Protocol for connecting tool with any external data like databases, file systems, API, etc….. • Retrieve data and take actions
• Clean up data • Chunk data • Create embeddings • Store in vector database • Convert prompt into embeddings • Search for relevant records	• Configure server in config file • MCP client judges whether to contact MCP server • Client / Server model
Dictates how	Does not dictate how

What's next for MCP?

REMOTE SERVERS + AUTH

OFFICIAL MCP REGISTRY API

Workshop

- Wet your fingers by going through five tutorials at https://medhat.ca/mcp.html
- Best go through 1 … 5 in sequence
- Ask others (or myself) if you are stuck and we will get through any bumps together.

Thank you