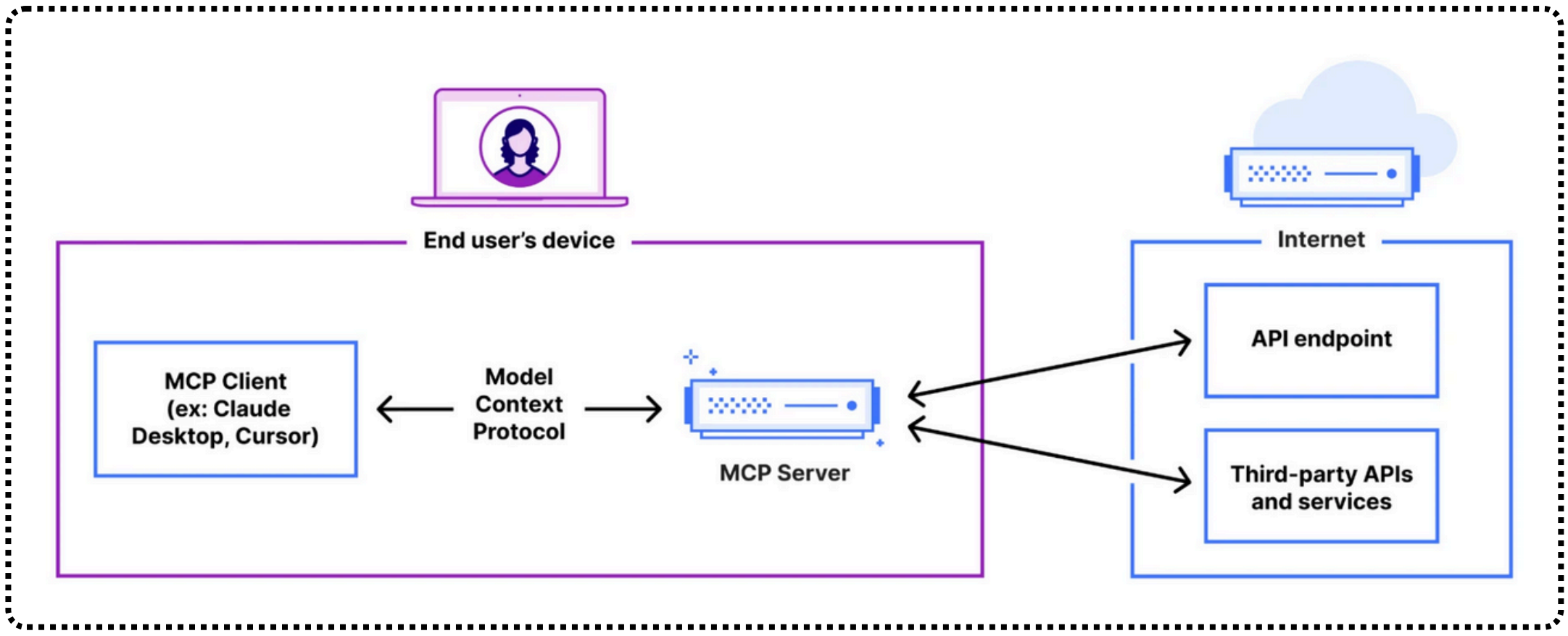
How to Convert Any FastAPI App into MCP Server using FastAPI-MCP?



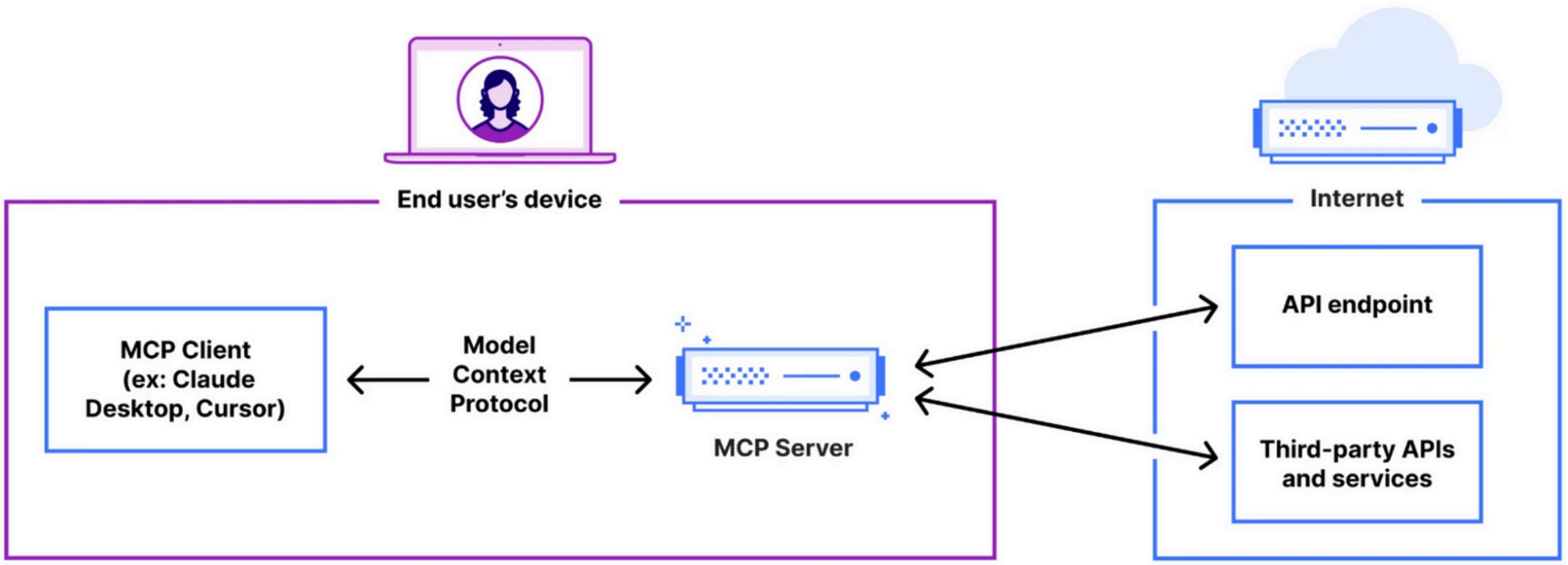

```python
from fastapi import FastAPI, HTTPException,
Query
import httpx

from fastapi_mcp import FastApiMCP
```

FastAPI with MCP

FastAPI is a very simple tool built in Python which helps you to build web applications using APIs. It is designed to be easy to use as well as fast at the same time. Think of FastAPI as a smart waiter who takes your order (**HTTP requests**), goes to the Kitchen (Database/Server) and then takes your order (Output) and then shows it to you. It’s a great tool for building Web backends, Services for Mobile apps etc.

MCP is an open standard protocol by Anthropic that provides a functionality for the LLMs to communicate with external data sources and tools. Think of MCP as a toolkit that provides the right tool for the given task. We’d be using MCP for creating a server.

Now, what if these functionalities are given to your LLM? It will make your life much easier! That’s why FastAPI to MCP integration helps a lot. FastAPI takes care of the services from different sources and MCP takes care of the context of your LLM. By using FastAPI with MCP server, we can get access to every tool deployed over the web and utilize that as a LLM tool and make the LLMs do our work more efficiently.



In the above image, we can see that there is an MCP server that is connected to an API endpoint. This API endpoint can be a FastAPI endpoint or any other third party API service available on the internet.

What is FastAPI-MCP?

FastAPI-MCP is a tool which lets you convert any FastAPI application into some tool that LLMs like ChatGPT or Claude can understand and use easily. By using FastAPI-MCP you can wrap your FastAPI endpoints in such a way that they will become a plug and play tool in an AI ecosystem utilizing LLMs.

What APIs Can Be Converted into MCP Using FastAPI-MCP?

With FastAPI-MCP, any FastAPI endpoint can be converted into a MCP tool for LLMs. These endpoints should include:

- GET endpoints: Converted into MCP resources.
- POST, PUT, DELETE endpoints: Converted into MCP tools.
- Custom utility functions: Can be added as additional MCP tools

FastAPI-MCP is a very easy-to-use library that automatically discovers and converts these endpoints into MCP. It also preserves the schema as well as the documentation of these APIs.

To get a hands-on, kindly visit this link

Advanced Generative AI

How to Convert Any FastAPI App into MCP Server using FastAPI-MCP?

Learn how FastAPI-MCP connects your chatbot to tools seamlessly, boosting its capabilities in this comprehensive tutorial.