



GPU Debugging in Theia and VSCode

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Agenda

- Debug Adapter Protocol
- ROCgdb VSCode extension/ Theia Plugin
- Demonstration



Debug Adapter Protocol Architecture

Debug Adapter protocol



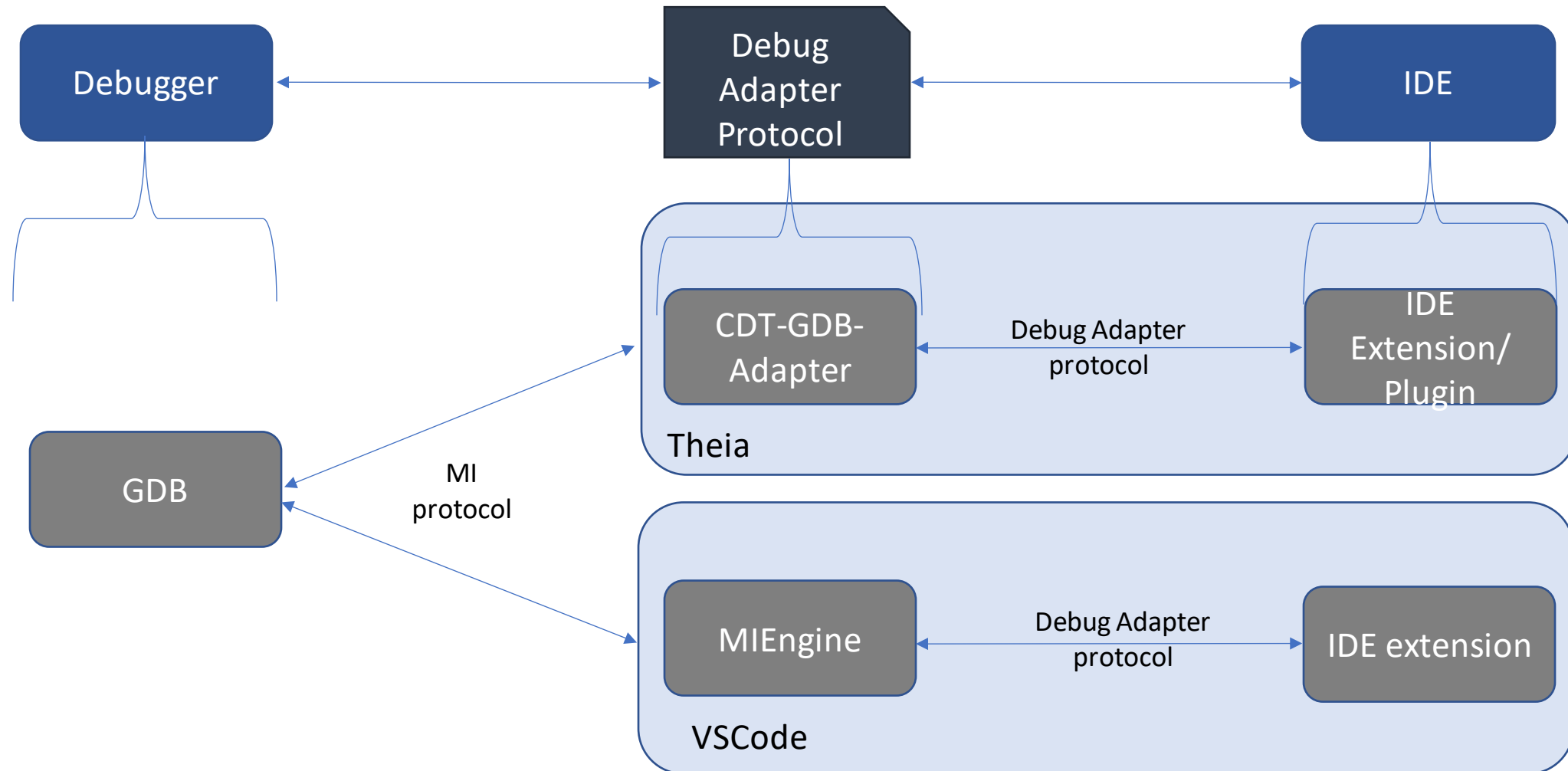
Exemple : The Next step command

```
Content-Length: 119\r\n\r\n{\n  "seq": 153,\n  "type": "request",\n  "command": "next",\n  "arguments": {\n    "threadId": 3\n  }\n}
```

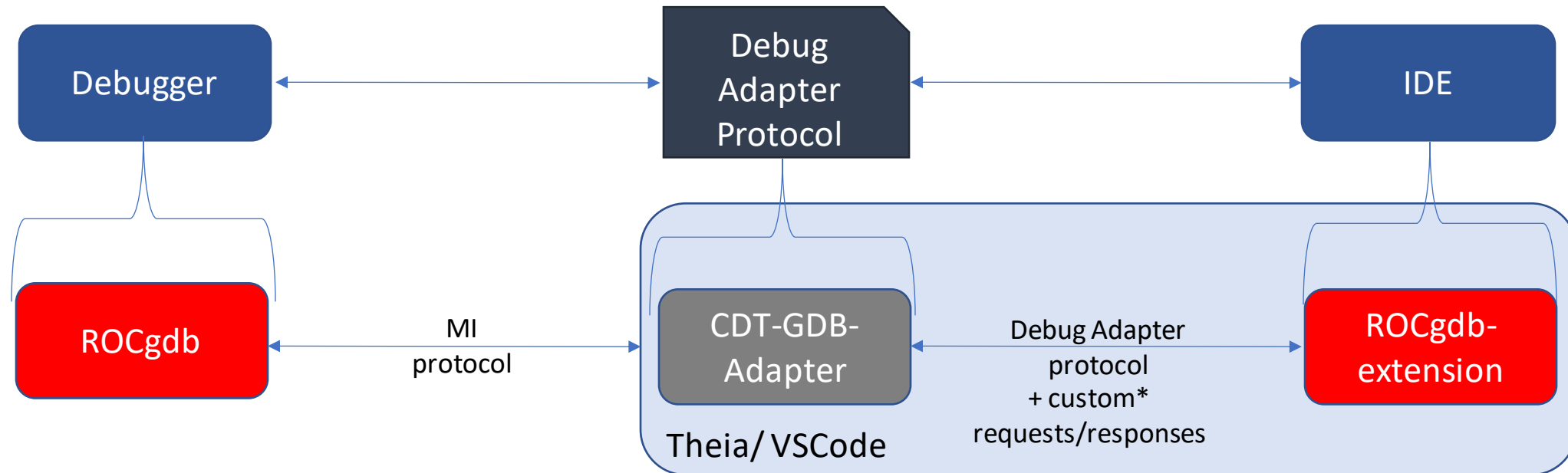
<https://microsoft.github.io/debug-adapter-protocol/overview>



Debug Adapter Protocol Architecture



Debug Adapter Protocol Architecture



* Debug Adapter protocol need improvement for debugging GPU



ROCgdb Theia Plugin/ VSCode extension

Objectives :

- Create an IDE extension/plugin for gpu debugging in Theia and VSCode
- Using ROCgdb at first.



ROCgdb Theia Plugin/ VSCode extension – API choice

Why VSCode API ?

- Can be easily installed at runtime
- Theia is compatible with VSCode api
- Easier to find resources



ROCgdb Theia Plugin/ VSCode extension

- New Extension using VSCode Extension API
- Use Theia VSCode extension compatibility
- Give the user all the information that ROCgdb can provide
- Fully compatible with AMD's ROCgdb (Symbolic variable update)



Demonstration



The End

Thank you for attention.

Any question ?



Annexe

- Debug Adapter Protocol : <https://microsoft.github.io/debug-adapter-protocol/>
- ROCgdb-extension repo : <https://github.com/dorsal-lab/ROCgdb-extension>

