F# OpenCL C Type Provider

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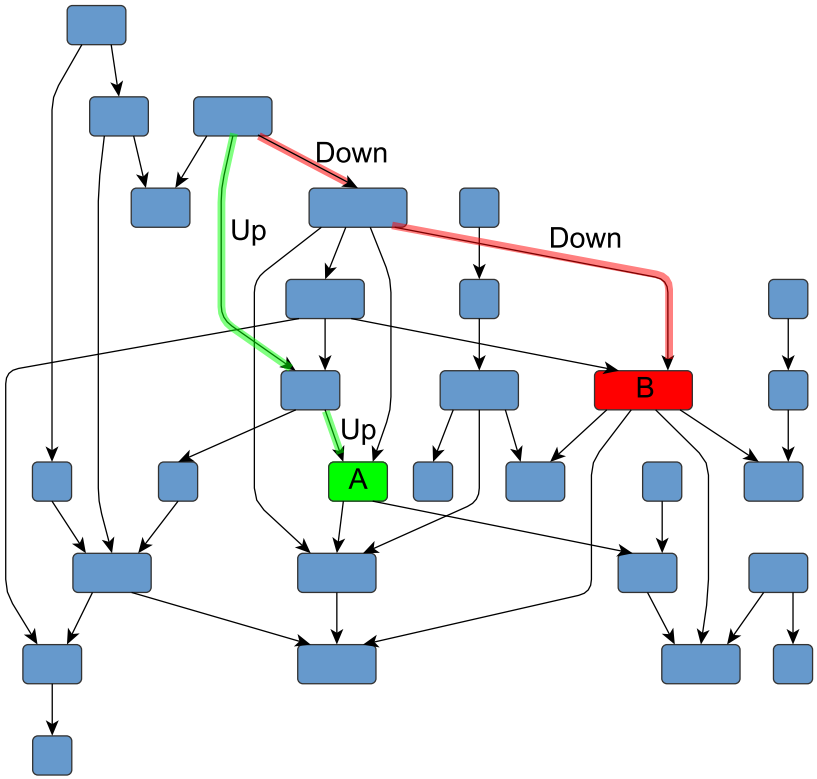
GPGPU



(Almost) SIMD architecture

- Huge amount of “simple” ALUs on single chip
- Massively parralel ....
- May be a good choice for huge data processing

Applications of GPGPU

- Initially is sientific computations
  - Phis
  - ...
  - ...
- But more amd more general application
  - finances
  - bio

Problem: GPGPU <-> High level programming

- .NET, JVM, etc
- Interaction is a problem!

Existing solutions and problems

- !!!!

Brahma.FSharp

- !!!!

Type providers

OpenCL C type provider

Architecture

Limitations

- !!!
- !!!
- !!!
- !!!

Examples

future work

- !!!
- !!!
- !!!
- !!!

Summary

- Algorithm for context-free path querying
- Works on any input graph
- Supports any context-free constraints
- Is independent of matrix representation
- Can utilize GPGPU easily and efficiently

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  https://github.com/YaccConstructor/Brahma.FSharp

Thakns!