The OpenCPU system: towards a universal interface for scientific computing

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Even though bridges to embed R in general purpose software have been available for several years, they have not been able to facilitate the big break through of R as a ubiquitous statistical engine. In my experience, the primary cause for the limited success is that low-level tools are difficult to implement, do not scale very well, and leave the most challenging problems unsolved. Substantial plumbing and expertise of R internals is required for building actual applications on these tools. What is needed to scale up embedded scientific computing is a system that seperates the application layer from the computational back-end, similar to how e.g. SQL separates application from database. The OpenCPU API defines an interface that captures the domain logic of scientific computing and abstracts implementation details, in a way that allows for independent development of client and server components, by different people that do not speak each others language.

References

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