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An overview of the distributed system classification and integration framework DeCIF.

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Summary: We present an overview of a semantical reference model for distributed systems, called DeCIF. Technically, DeCIF is a collection of structured mathematical notions that principally give rise to an additional semantical interpretation of arbitrary formal specification formalisms or languages, respectively, if these are intended to describe (parts of) distributed systems. This approach of a reference model must needs assume some basic formal assumptions about distributed systems. These assumptions are restrictions, too. But there is no way out: Either the reference would become too general and thus of no practical use, or it would contain an exhaustive enumeration and discussion of special cases and exceptions. This would make a mathematical treatment hardly practicable, and it would in any case make the formal presentation of the model completely unreadable.

We however strived for firstly making the restricting decisions as transparent as possible, and secondly choose an amount of modularity that makes a modification of DeCIF a feasible task. We nevertheless believe that DeCIF covers both a widely accepted intuition of the logical nature of distributed systems and the most part of semantical reality in current formal specification languages.

Reviewer: [Reviewer \(Berlin\)](#)

MSC:

[68Q60](#) Specification and verification (program logics, model checking, etc.)

Keywords:

[semantical reference model for distributed systems; DeCIF](#)

Software:

[DeCIF](#)