

THEORETICAL COMPUTER SCIENCE SEMINAR

The Spirit of Node Replication

Loïc Peyrot PhD student Université de Paris, IRIF

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Abstract. We devise a calculus λR , where substitution is done constructor by constructor, which we call node replication. We implement two weak strategies of the calculus: call-by-name and call-by-need with fully lazy sharing. We argue that node replication is a natural framework for full laziness, an optimization otherwise only obtained by means of meta-level operations or through graph-related syntaxes. Finally, we demonstrate observational equivalence between the two strategies by giving an appropriate non-idempotent intersection type system.