THE UNIVERSITY OF SYDNEY

Honours Research Proposal

Email this proposal to Josiah and Katie in Monday of Week2

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Tentative Project Title	Obtaining Fault Tolerance in the Synchronous Dataflow Model		

Abstract

Stream processing is an old idea, made new with modern technologies. In this paper we look at the new requirements of the stream processing paradigm Synchronous Data Flow (SDF) in the context of cloud and distributed systems, specifically relating to communication costs, redundancy and speed. This paper examines the tradeoffs between those three requirements, given the cloud context, in order to optimise the computation of stream programs. A framework is developed to simulate and test this optimisation, and finally to allow the execution of programs written in the Streamit language.

5 (Five) References

- **J. R. Gurd, C. C. Kirkham and I. Watson, "The Manchester Prototype Dataflow Computer" ACM V.28-1; Jan 1985**
- **S. S. Battacharyya, E.A. Lee and P.K. Murthy, "Software Synthesis from Dataflow Graphs", Kluwer Academic Publishers; 1996**
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