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Final report on Formal Models
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This deliverable presents a summary of the progress made in Workpackage 1, Formal Models, during the year 2004 and Jan-Feb 2005.

The main achievements are:

- The completion of a rigorous, detailed, and experimentally-validated failure semantics for the real-world Sockets API and underlying network protocols.
- A demonstration of fully-formal reasoning about an executable-code description (in the Acute/OCaml intersection) of a distributed protocol.
- A verification of a P2P algorithm, covering static-topology behaviour of the DKS of WP2.
- Development of support for executing transactions on top of structured peer-to-peer (P2P) networks.
- Publication of work on the analysis of the properties of peer-to-peer systems for connection-based anonymity.
- Publication of two position papers based on the above.

Combining these results with those of Workpackage 3, we can now work with *fully specified systems*, with rigorous semantic foundations for the underlying TCP/UDP/Sockets networking, for the Acute programming language with marshalling support, and for the P2P algorithms written therein.