TECHNOLOGY

A Method for Eliminating the Requirement for Synchronized Clocks in Distributed Routing Approaches that are Dependent on the Temporal Ordering of Events

OVERVIEW

A new approach to routing in highly dynamic networks has been recently introduced. The Temporally Ordered Routing Algorithm (TORA) is a significant departure from traditional datagram routing approaches used in static or quasi-static hardwired networks. A unique aspect of TORA is the use of time information to establish the temporal-order of topological change events and structure algorithmic reactions. However, a significant limitation of the original TORA design is a requirement for synchronized clocks among the set of distributed nodes executing the routing computation. If the clocks are not perfectly synchronized, the TORA design can compute erroneous routing information.

Researchers at the University of Maryland have developed a novel method that augments the original TORA design and eliminates the requirement for synchronized clocks. This method greatly increases the practicality of the TORA design. In networks where a sufficiently accurate synchronized time source (e.g. GPS time) is available, the new method will improve system robustness by allowing for continued proper operation through time source errors, failures, or periods of unavailability. The new method also allows such routing approaches to be used in networks where a sufficiently accurate synchronized time source is not available.

A patent is pending on this invention. For further information, please contact the Office of Technology Commercialization, (301) 405-3947, Email: otc@umd.edu.

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Additional Information

INSTITUTION

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PATENT STATUS

Patent(s) pending

LICENSE STATUS

Available for non-exclusive license

CATEGORIES

- Information Technology

EXTERNAL RESOURCES

- US Patent 6,628,643

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