

# Call For Paper

## International Workshop on Reliability in Decentralized Distributed Systems

<http://www.cs.rmit.edu.au/fedconf/rdds2006cfp.html>

In conjunction with OnTheMove Federated Conferences (OTM'06)

<http://www.cs.rmit.edu.au/fedconf>

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### IMPORTANT DATES

Abstract Submission [June 30, 2006](#)  
Paper Submission [July 10, 2006](#)  
Acceptance Notification [August 10, 2006](#)  
Camera Ready Due [August 20, 2006](#)

### THEME

Middleware has become a popular technology for building distributed systems from tiny sensor networks to large scale peer-to-peer (P2P) networks. Support such as asynchronous and multipoint communication well suited for constructing reactive distributed computing applications over wired and wireless network environments. While middleware infrastructures exhibit attractive features from an application developer perspective (e.g., portability, interoperability, adaptability etc.), they are often lacking in robustness and reliability. Distributed systems become increasingly large and complex, thereby compounding many reliability problems that necessitate different strategies and solutions.

For example, in the inherently distributed nature of P2P networks, the most common solution to reliability is to take advantage of redundancy. The same task can be initially assigned to multiple peers. In file sharing applications, data can be replicated across many peers. In messaging applications, messages can be simultaneously sent along multiple paths. Redundancy may not be appropriate, however, in resource constrained environments such as wireless ad hoc networks where more lightweight alternatives are needed. Some systems even rely on autonomic management technologies inspired by nature and biological organisms to cope with the challenges of scale, complexity, heterogeneity and unpredictability. In any case the system model (e.g., communication, failures) and application requirements are key factors in the design of reliable mechanisms.

Among different aspects of reliability issues, this workshop focuses on reliability in decentralized distributed systems. While decentralized architectures are gaining adoption in most application domains there is still some reluctance in deploying them in systems with high dependability requirements. This has led, over the past few years, to several academic and industrial research efforts aimed at correcting this deficiency. For the most part, these research efforts have been independent of each other, and have often focused on specific pieces of the dependability puzzle. Our aim, in this Workshop, is to bring researchers and practitioners together, to further our insights on reliable decentralized architectures and to investigate collectively the challenges that remain.

The Workshop solicits contributions on topics related to, but not limited to, the following:

- Reliable communication, architectures and algorithms
- Lessons learned in building/using dependable middleware: what works, what doesn't?
- Integrating dependable embedded and enterprise middleware systems
- Trade-offs in adding other "ilities" (survivability, adaptability, scalability, availability, mobility, security, real-time, etc.) to reliable middleware infrastructures
- Integration of dependability into formal distributed object models
- Shaping/enhancing standards for reliable middleware
- Evaluating dependability for middleware applications
- Limitations of existing fault tolerance technologies in the context of middleware applications
- Metrics, benchmarks and performance studies in evaluating reliability for middleware applications
- Combining different dependability strategies, e.g., replication with transactions
- Self-healing, self-protecting systems
- Autonomic system management
- Reliability measurement, modelling and evaluation
- Tools for design and evaluation of reliable systems
- Application-specific reliable system (e.g., embedded systems, Web, databases)
- Enabling technologies for self-managing systems and networks
- Economic, biological and social models used for autonomic communications
- Timeliness and availability in support of reliability
- QoS for reliable systems

### GOAL

The purpose of the RDDS 2006 workshop on Reliability in Distributed Decentralized Systems is to bring together researchers from diverse communities who are interested in building dependable reliable distributed systems in decentralized form, to explore ways of making today's middleware technologies more robust, and to discuss and exchange experimental or theoretical results, novel design, work-in-progress, experience, case study, and trend-setting ideas. We seek contributions from researchers of a background, in particular peer-to-peer systems, messaging, ad hoc communication, middleware and distributed systems, and autonomic management systems.

### SUBMISSION REQUIREMENTS

All submitted papers will be carefully evaluated based on originality, significance, technical soundness, and clarity of expression. All submissions must be in English. Submissions should be in PDF format and must not exceed 10 pages in the final camera-ready format for regular papers and 4 pages for position papers. Author's instructions can be found at: <http://www.springer.de/comp/lncs/authors.html>  
The paper submission site is located at: <http://www.cs.rmit.edu.au/fedconf/rdds/2006/papers>  
Accepted workshop contributions will be published by Springer-Verlag as LNCS (Lecture Notes in Computer Science) as a part of the workshop proceedings of the 2006 International On The Move Federated Conferences (OTM). Registering to the OTM conference and RDDS workshop is a prerequisite for the paper to be published.