

**Project Proposal
for a new
INCITS Standard**

RapidIO™™ Interconnect Specification
version 1.3

21 June 2005

1 Source of Proposed Project

1.1 Title: RapidIO™ Interconnect Specification, version 1.3

1.2 Date Submitted: 21 June 2005.

1.3 Proposing Group: RapidIO™

2 Process Description for the Proposed Project

2.1 Project Type: D – Fast Track Development.

2.2 Type of Document: Standard.

2.3 Definitions of Concepts and Special Terms: none.

2.4 Expected Relationship with Approved Reference Models, Frameworks, Architectures, etc. None, it is expected that this standard will be used in closed systems.

2.5 Recommended INCITS Development Technical Committee: RapidIO™ using INCITS Fast Track process MoA.

2.6 Anticipated Frequency and Duration of Meetings, None

2.7 Target Date for Initial Public Review (Milestone 4): November 2005.

2.8 Estimated Useful Life of Standard or Technical Report: 5 Years.

3 Business Case for Developing the Proposed Standard or Technical Report

3.1 Description RapidIO™ is a definition of a system interconnect. System concepts such as processor programming models, memory coherency models and caching are beyond the scope of the RapidIO™ architecture. The support of memory coherency models, through caches, memory directories (or equivalent, to hold state and speed up remote memory access) is the responsibility of the end points (processors, memory, and possibly I/O devices), using RapidIO™ operations. RapidIO™ provides the operations to construct a wide variety of systems, based on programming models that range from strong consistency through total store ordering to weak ordering. Inter-operability between end points supporting different coherency/caching/directory models is not guaranteed. However, groups of end-points with conforming models can be linked to others conforming to different models on the same RapidIO™ fabric. These different groups can communicate through RapidIO™ messaging or I/O operations.

3.2 Existing Practice and the Need for a Standard

The proposed project involves a compatible evolution of the present RapidIO™ Interconnect standard, ISO/IEC 18372-2004 version 1.

3.3 Implementation Impacts of the Proposed Standard

3.3.1 Development Costs

RapidIO™ has and will continue to provide the necessary resources.

3.3.2 Impact on Existing or Potential Markets

This proposed project is intended to provide more options and make improvements to the current RapidIO™ standard.

3.3.3 Costs and Methods for Conformity Assessment

The current RapidIO™ standard is in use and its users are satisfied with the reasonableness of its costs.

3.3.4 Return on Investment

ROI information is considered proprietary data by the member organizations, but members have stated that the ROI is expected to be large.

3.4 Legal Considerations None

3.4.1 Patent Assertions

All patent claims are covered by Letter of Assurance under RAND. RapidIO™ follows the ANSI and ISO patent policies.

3.4.2 Dissemination of the Standard or Technical Report

Drafts of this document will be disseminated electronically. Dissemination of the final standard will be restricted, as the document becomes property of INCITS, ANSI, RapidIO™, and/or ISO/IEC.

4 Related Standards Activities

4.1 Existing Standards:

ID Number Title

ISO/IEC 18372-2004 RapidIO™ Interconnect

4.2 Related Standards Activity

ID Number Title

4.3 Recommendations for Close Liaison

Technical Committee T11.

5 Units of Measurement used in the Standard

The International System of Units (SI) units will be used.