

Research in Information Technology

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ュ	Issu	1115	LII

The Editor's Note

Information for Authors

Feature Article: Performance, Overhead, and Packetization Characteristics of Java Application Level Protocols

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4

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The Editor's Note

RIT continues its efforts to disseminate fresh ideas and new knowledge based on our scholarly pursuits in user-centered computing. Our mission is to publish peer-reviewed articles that present original research findings germane to the theories and practices of information technology. We seek papers that present substantive additions, comments and challenges to the theory and practice of programming, networking, information management, web systems and user-centered design.

In this issue, Mark Pendergast adds to the programming literature on performance evaluation methodologies that measure efficiencies of Java application level protocols used for peer-to-peer communications. His specific efficiency focus is on measuring transmission latency, data packetization, and the speed of bytes transmitted when testing protocols such as datagram (UDP), DataStreams, ObjectStreams, Remote Method invocation, and Piped Streams. Pendergast describes the variation in packetization efficiency and latency between the protocols and proposes a new record-oriented data stream, given that his preliminary performance tests show it to be several times more efficient than ObjectStreams.

As always, keep *Research in IT* in mind when considering where to place your, or your students' next article. We also encourage you to consider commenting on or responding to what you read here or elsewhere through letters to the editor or response statements to our authors.

Rob Friedman, Editor-in-Chief

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Information for Authors

Mission

Research in IT is a publication of the ACM SIG for Information Technology Education (SIGITE). It welcomes submissions of articles for peer review that present original research findings that are germane to the theories and practices of information technology as a scholarly discipline within the computing education community. Papers that present substantive additions, comments and challenges to the theory and practice of programming, networking, information management, web systems and user-centered design in rigorous ways should be addressed to the Editor-in-Chief.

Research in IT is published twice a year, in January and July. Submissions received at least three months prior to an issue date (October 1 for January, April 1 for July) will be considered for those issues. Because articles will be archived in the ACM Digital Library, submissions must include:

- An abstract: a concise and precise statement of the main points of the article, limited to one hundred words in length.
- Appropriate ACM Classification and Descriptors as found on the ACM URL (link at http://www.acm.org/about/class/1998).
- One or more General Term as found on the ACM URL (link at http://www.acm.org/about/class/1998).
- Three to five keywords related to the main topics of your article.

Formatting Guidelines

When you submit a paper to Research in IT, please attend to these specifications:

Fonts

Title: Ten or fewer words; 18-point bold Arial or Helvetica.

Author(s) Name(s): 12-point bold Arial or Helvetica.

Author information: 9-point Arial or Helvetica indicating complete postal and 10-point Arial or Helvetica for electronic addresses for all authors.

The Body: 9-point Times New Roman throughout.

Section and Sub-section Headings: 12-point bold Times New Roman. Use all CAPS for section headings. Use mixed case fonts for all subheadings.

Layout

Paper size: Letter: 8.5 by 11 inches.

Margins: 0.75 inch for left and right margins; 1.0 inch for top and bottom margins. Center the title and author information; full justification thereafter.

The body of the article is to be in two-column format, each 3.33 inches, with a 0.34-inch separator.

Figures

Figure captions should be in 9-point Times New Roman Bold, numbered consecutively and centered below figures.

Tables

Table captions should be in 9-point Times New Roman Bold, numbered consecutively and centered above tables.

References

All references used within the document and the description of citations must conform to the style currently used in the Communications of the ACM.

Length

Articles submitted to Research in IT should not exceed ten thousand words and should not exceed thirty pages, inclusive of diagrams, figures, tables, images, and appendices.

Transmittal

Submissions should be sent via email attachment in MS Word only to the Editor-in-Chief. When there are multiple authors, the submitting author should copy all the others. Only the submitting author will be responsible for communicating with the editors and reviewers. Authors' names and any other identifying information will be excised before the paper is sent out for review.

Review Process

Research in IT reviews submissions in two ways: editor review and peer review. Every article submitted is read by the Editor-in-Chief to ascertain its appropriateness to the mission of the publication and the general interests of our readership. The paper is then distributed to at least two Associate Editors or other reviewers who have domain expertise. Submitting authors will receive, via email, reviewers' comments and a publication decision: accept as is; accept with revision based on review comments; or reject. If revisions are required, then the

submitting author will be responsible for incorporating comment-based changes or revising relevant sections of the paper to demonstrate the validity of the original and/or why specific comments are not being addressed. The Editor-in-Chief has the discretion to request further and/or additional modifications; an 'accept with revisions' decision is not a guarantee of publication.

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