

# Technical Program

## 12<sup>th</sup> Annual IEEE International Symposium on Network Computing and Applications

IEEE NCA13

Hotel Marlowe  
Cambridge, MA USA

[www.ieee-nca.org](http://www.ieee-nca.org)  
22 – 24 August 2013

Sponsored by



Patrons



*Irianc*

Paper presenters are indicated in bold.

## Thursday, 22 August 2013

8:00 – 8:45 Serrano Foyer	<b>Registration and Breakfast</b>	
8:45 – 9:00 Serrano B/C	<b>Opening Remarks</b>	
	<b>Session 1 (Short Papers): Sensor and Cloud 1</b>	<b>Session Chair TBA</b>
	<i>Using Mobile Sensors to Enhance Coverage in Linear Wireless Sensor Networks</i>	
9:00 – 10:00 Serrano B/C	<b>Nader Mohamed</b> , Jameela Al-Jaroodi, Imad Jawhar and Abdulla Eid <i>A Hierarchical Distributed Loop Self-Scheduling Scheme for Cloud Systems</i> <b>Yiming Han</b> and Anthony Chronopoulos <i>Reliability Analysis of Linear Wireless Sensor Networks</i> <b>Nader Mohamed</b> , Jameela Al-Jaroodi and Imad Jawhar	
10:00 – 10:20 Serrano Foyer	<b>Break</b>	
10:20 – 10:50 Serrano B/C	<b>Best Student Paper</b> <i>Rollerchain: a DHT for Efficient Replication</i> <b>Joao Paiva</b> , Joao Leitao and Luis Rodrigues	<b>Session Chair TBA</b>
10:50 – 11:10 Serrano Foyer	<b>Break</b>	
	<b>Session 2: Data streams and Content Management</b>	<b>Session Chair TBA</b>
	<i>Sketch *-metric: Comparing Data Streams via Sketching</i> <b>Emmanuelle Anceaume</b> and Yann Busnel	
11:10 – 12:10 Serrano B/C	<i>Flocks: Evaluation of a QoS- and Content-Aware Overlay</i> <b>Stefan Wieser</b> , Laszlo Böszörményi and Pier Luca Montessoro <i>Media Streams Planning with Transcoding</i> <b>Pavel Troubil</b> , Hana Rudova and Petr Holub	
12:10 – 13:30 Alexis A	<b>Lunch</b>	
	<b>Session 3 (Short Papers): Distributed Data Processing</b>	<b>Session Chair TBA</b>
	<i>Data Partitioning for Video-on-Demand Services</i>	
13:30 – 14:10 Serrano B/C	<b>Bairong Lei</b> , Ivan Surya, Shahin Kamali and Khuzaima Daudjee <i>Distributed and Dynamic Map-less Self-reconfiguration for Microrobot Networks</i> <b>Hicham Lakhlef</b> , Hakim Mabed and Julien Bourgeois	
14:10 – 14:30 Serrano Foyer	<b>Break</b>	

## Session 4: Dependability and Performance

Session Chair  
TBA

*Enabling Distributed Key-Value Stores with Low Latency-Impact Snapshot Support*

14:30 – 16:00  
Serrano B/C

**Jorda Polo**, Yolanda Becerra, David Carrera, Jordi Torres, Eduard Ayguadé,  
Mike Spreitzer and Malgorzata Steinder

*Self-healing Performance Anomalies in Web-based Applications*

**João Paulo Magalhães** and Luís Moura Silva

*A Delay-Tolerant Network Routing Algorithm Based on Column Generation*

**Guilherme Amantea**, Hervé Rivano and Alfredo Goldman

16:00 – 17:00 **On Your Own**

17:00 – 18:00 **Travel to Akamai**

### Visit and Demonstrations at Akamai Technologies, Inc.

Host  
**Mark Holland**

Akamai® is the leading cloud platform for helping enterprises provide secure, high-performing user experiences on any device, anywhere.

18:00 – 19:30

Akamai delivers between 15-30% of all Web traffic

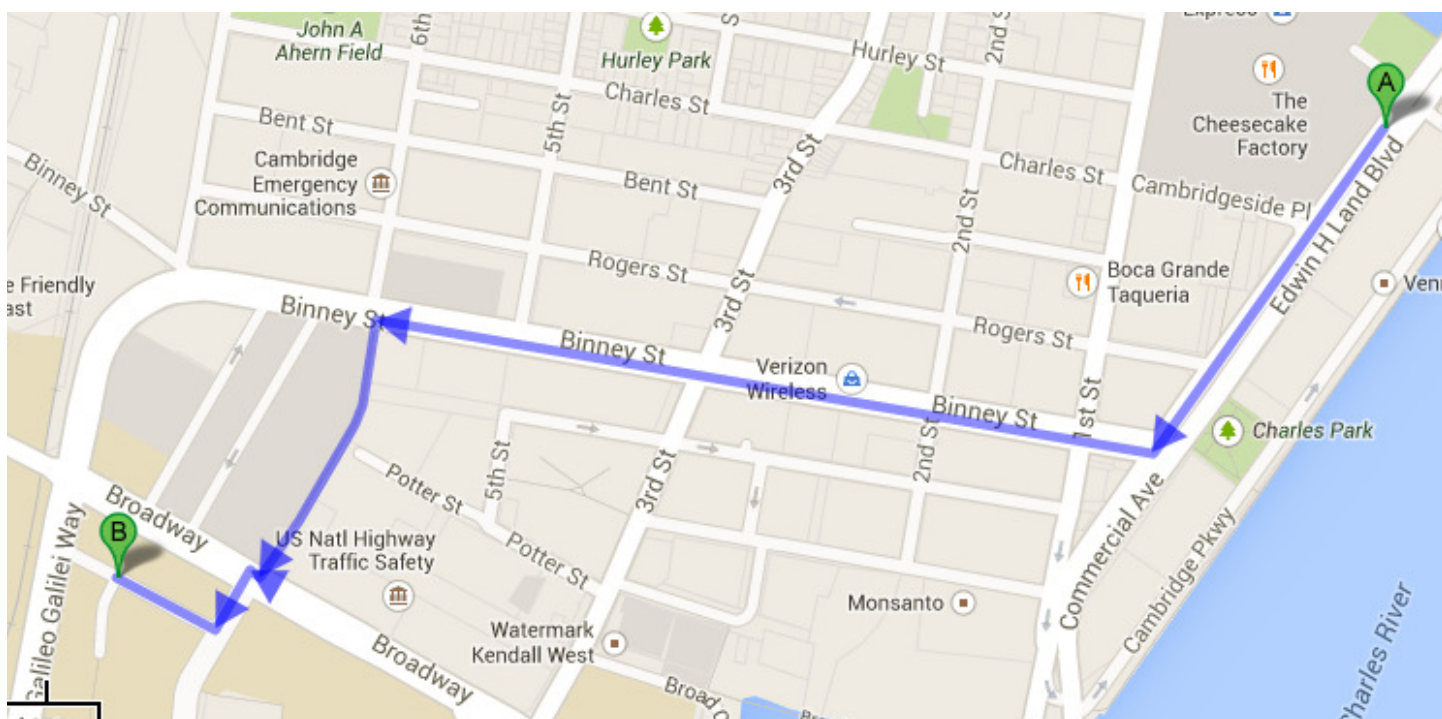
Akamai delivers daily Web traffic reaching more than 10 Terabits per second

Akamai delivers over 2 trillion daily Internet interactions

Akamai helps securely enable more than \$250 billion in annual e-commerce for its online retail customers

### Akamai Technologies, Inc.

8 Cambridge Center  
Cambridge, MA 02142



# Friday, 23 August 2013

8:00 – 9:00  
Serrano Foyer **Breakfast**

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## Session 5 (Short Papers): Sensor and Cloud 2

**Session Chair**  
TBA

*NaaS: QoS-aware Cloud Networking services*  
**Ines Ayadi**, Simoni Noëmie and Gladys Diaz

9:00 – 10:00  
Serrano B/C *Performance Modeling and Evaluation of Novel Scheduling Algorithm for LTE Networks*  
**Salman Alqahtani**

*Incorporating Rate Adaptation into Green Networking for Future Data Centers*  
**Lin Wang**, Fa Zhang, Chenying Hou, Jordi Arjona Aroca and Zhiyong Liu

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10:00 – 10:20  
Serrano Foyer **Break**

## Best Paper

**Session Chair**  
TBA

10:20 – 10:50  
Serrano B/C *Towards a Forecasting Model for Distributed Denial of Service Activities*  
**Claude Fachkha**, Elias Bou-Harb and Mourad Debbabi

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10:50 – 11:10  
Serrano Foyer **Break**

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## Session 6: Energy and SLA-Aware Resource Management 1

**Session Chair**  
TBA

*An Universally Stable and Energy-Efficient Scheduling Protocol For Packet Switching Network*  
**Yangguang Shi**, Fa Zhang and Zhiyong Liu

11:10 – 12:40  
Serrano B/C *Hybrid Cloud Management to Comply Efficiently with SLA Availability Guarantees*  
**Andres Javier Gonzalez** and Bjarne Emil Helvik

*Energy Aware Networked Cloud Mapping*  
**Aris Leivadeas**, Chrysa Papagianni and Symeon Papavassiliou

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12:40 – 14:00  
Alexis A **Lunch**

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## Session 7 (Short Papers): Viability and Recommendation

**Session Chair**  
TBA

*On the Viability of Speculative Transactional Replication in Database Systems: a Case Study with PostgreSQL*

**Sebastiano Peluso**, Roberto Palmieri, Francesco Quaglia and Binoy Ravindran

14:00 – 15:00  
Serrano B/C *RATE: Recommendation-aware Trust Evaluation in Online Social Networks*  
**Wenjun Jiang**, Jie Wu and Guojun Wang

*Composition-safe re-parametrization in Distributed Component-based WSN Applications*

**Wilfried Daniels**, Pedro Javier del Cid and Danny Hughes

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15:00 – 15:20  
Serrano Foyer **Break**

<b>Session 8: Customization and Configuration of Networks</b>		<b>Session Chair</b>
	<i>An Architecture for Runtime Customization of Smart Devices</i>	<b>TBA</b>
15:20 – 16:20 Serrano B/C	<b>Maria Fazio</b> , Giovanni Merlino, Dario Bruneo and Antonio Puliafito	
	<i>A Secure, Flexible Framework for DNS Authentication in IPv6 Autoconfiguration</i>	
	<b>Hosnieh Rafiee</b> and Christoph Meinel	
16:20 – 16:30 Serrano Foyer	<b>Break</b>	
<b>Keynote</b>		<b>Session Chair</b>
16:30 – 17:30 Serrano B/C	Mark Holland, Principal Architect, Web Experience Service Performance, Akamai Technologies, Inc. Cambridge, MA, USA	<b>TBA</b>
17:30 – 18:00	<b>On Your Own</b>	
18:00 – 21:00 Muse	<b>Banquet</b>	

# Save the Date

**13th Annual IEEE International Symposium**

**on**

**Network Computing and Applications**

**IEEE NCA14**

**21 - 23 August 2014 (tentative)**

**Hotel Marlowe  
Cambridge, MA**

**Current information will be available at  
[www.ieee-nca.org](http://www.ieee-nca.org)**

# Saturday, 24 August 2013

7:30 – 8:00  
Muse Foyer

## Breakfast

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### Session 9 (Short Papers): Sensors and Cloud 3

Session Chair  
TBA

*Video Streaming Over Wireless LAN With Network Coding*

**Mo'taz Al-Hami**, Abdallah Khreishah and Jie Wu

*Improving Neighbor Detection for Proximity-Based Mobile Applications*

9:00-10:20 **Behnaz Bostanipour** and Benoit Garbinato

Muse A/B

*Exploit-based Analysis of Attack Models*

**Phongphun Kijsanayothin** and Rattikorn Hewett

*Introducing an Intelligent MapReduce Framework for Distributed Data*

*Processing in Clouds*

**Amir Hossein Basirat** and Asad I. Khan

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10:20 – 10:40  
Muse Foyer

## Break

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### Session 10: Wireless Sensor Networks

Session Chair  
TBA

*Overlay Multicast Protocol with Proxy Districts for Dynamic Wireless Sensor Networks*

**Soochang Park**, Noel Crespi, Seungmin Oh and Sang-Ha Kim

*3D Localization in Wireless Sensor Networks Using Unmanned Aerial Vehicle*

10:40 – 12:10 **Leandro Villas**, Daniel Guidoni and Jo Ueyama

Muse A/B

*Quality-of-Experience driven Acceleration of Thin Client Connections*

Mayutan Arumaithurai, **Jan Seedorf**, Maurizio Dusi, Edo Monticelli and Renato Lo Cigno

*Analysis of Sensor Network Operating System Performance Throughout The Software Life Cycle*

**Gowri Sankar Ramachandran**, Danny Hughes, Wouter Joosen and Barry Porter

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12:10 – 13:30  
Alexis A

## Lunch

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### Session 11: Distributed Techniques

Session Chair  
TBA

*HyflowCPP: A Distributed Transactional Memory Framework for C++*

**Sudhanshu Mishra**, Alexandru Turcu, Roberto Palmieri and Binoy Ravindran

13:30 – 15:00 *Tempo-toolkit: Tempo to Java Translation Module*

Muse a/B

**Chryssis Georgiou**, Peter Musial and Christos Ploutarchou

*Preventing brute force attacks against stack canary protection on networking servers*

**Hector Marco** and Ismael Ripoll

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15:00 – 15:20  
Muse Foyer

## Break

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## Session 12 (Short Papers): Energy and SLA Aware Resource Management 2

Session Chair  
TBA

15:20 – 16:20  
Muse A/B  
*ACS: Specifying “smart” applications using sense-process-consume flows*  
**Pedro Javier del Cid**, Nelson Matthys, Danny Hughes, Sam Michiels, Wouter Joosen

*The Impact of Transmission Power Control In Wireless Sensor Networks*  
**Lina Xu**, Declan Delaney, Gregory O'Hare and Rem Collier

*Leveraging Web prefetching systems with data deduplication*  
**Pedro Neves**, Paulo Ferreira and João Barreto

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16:20 – 16:30  
Muse A/B  
**Closing Remarks**

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## Thanks to all the volunteers who made NCA13 a success.

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apuliafito@unime.it

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Osaka University, Japan  
t-tutiya@ist.osaka-u.ac.jp

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seanjgeoghegan@gmail.com

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Madrid, Spain  
antonio.fernandez@imdea.org

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romano@inesc-id.pt

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salvatore.distefano@polimi.it

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Greece  
papavass@mail.ntua.gr

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pgasti@nyit.edu

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