Universitat de les Illes Balears

Med-Hoc-Net'2008

7th Mediterranean Ad Hoc Networking Workshop

Med-Hoc-Net 2008

IFIP TC6 Workshop
Sponsored by the following IFIP Working Groups:
WG6.3 (Performance of Computer Networks)
WG6.8 (Mobile and Wireless Communications)

Organised by the Universitat de les Illes Balears
in cooperation with the Asociación de Técnicos de Informática

Palma de Mallorca, Spain
June 25 – 27, 2008

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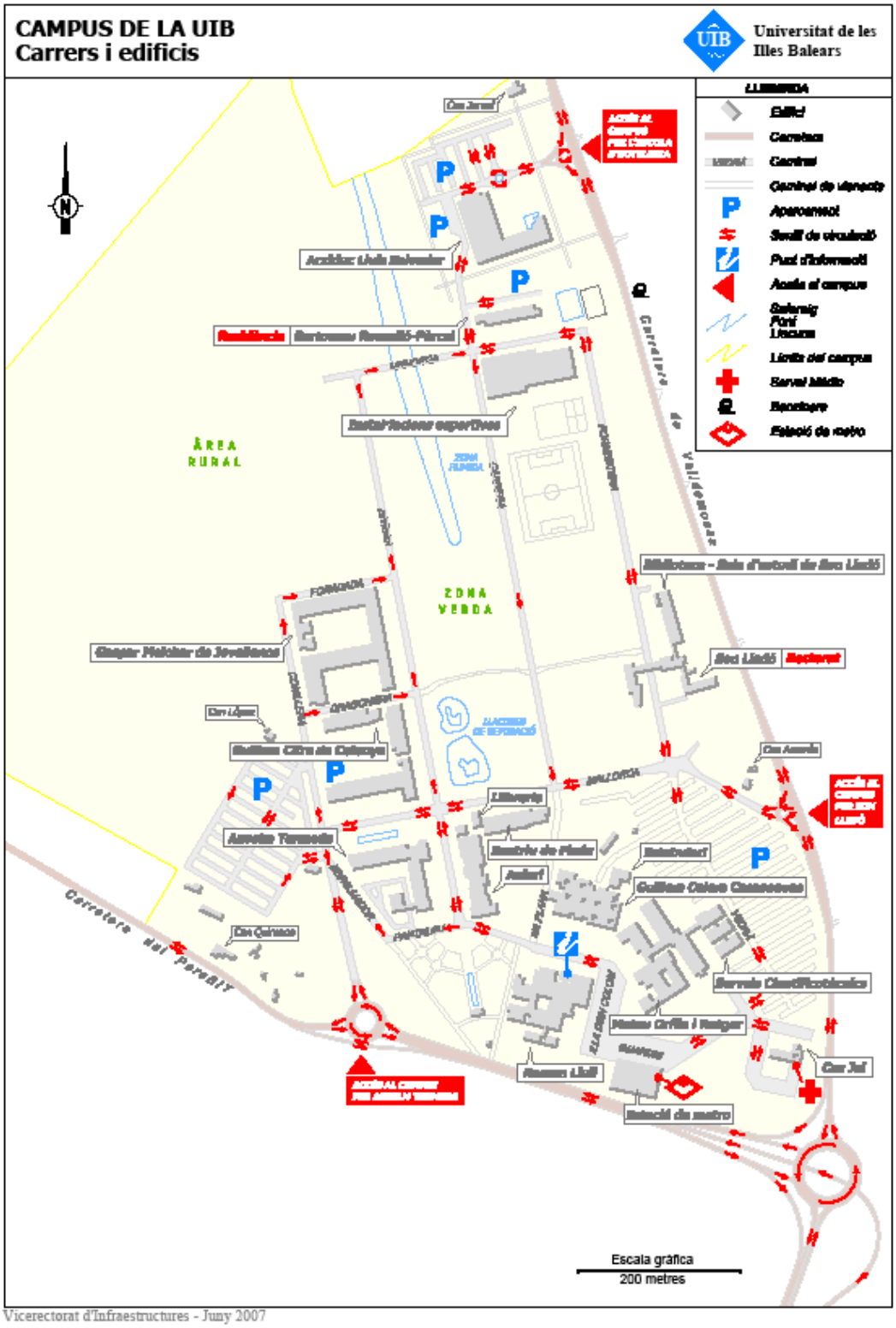
	S. Nikoletseas, CTI/University of Patras, GR
	L. Orozco-Barbosa, Universidad de Castilla-La Mancha, ES
	M. Pérez, Universidad Miguel Hernández, ES

LOCATION

The sessions will be held at the Conference room (Sala d'Actes) of the Gaspar Melchor de Jovellanos building in the UIB campus (Valldemossa road km 7.5).



TRANSPORTATION

A bus will pick up the conference attendees at the official hotels at 08:00 on Wednesday 25 and at 07:30 the other two days to bring them to the conference site. At the end of the sessions a bus will transport the attendees to the official hotels.

TUTORIALS

T-1
Mobile P2P networks with applications to vehicles and health-nets

Mario Gerla, UCLA (USA)

Abstract

Peer-to-peer (P2P) systems have met enormous success in the *Internet* because of the many advantages they offer with respect to traditional client/server systems, namely: scalability, dependability and robustness. These advantages are achieved through decentralized organization. P2P systems are now emerging also in *wireless, mobile ad hoc networks* – for example: content distribution, file sharing, auctioning, distributed games and urban environment sensing. Due to the nature of peer interactions, mobile P2P systems require *fundamentally new protocol designs* with respect to not only Internet P2P models but also conventional MANET scenarios. Popular MANET routing schemes are not suited. New application level routing schemes such as *"gossiping" and "epidemic dissemination"* and new concepts inspired by "*social networking*" must be explored.
In this tutorial we define the basic principles of mobile P2P networking and illustrate them in representative applications drawn from vehicle and remote health monitoring scenarios.

Biography

Dr. Mario Gerla, Professor, UCLA, Computer Science Dept. Dr Gerla is one of the Pioneers of the ARPANET, with over 35 year of experience in Computer and Communications Networks. Dr. Gerla received his M.S. and Ph.D. degrees from UCLA in 1970 and 1973. He became IEEE Fellow in 2002. At UCLA, he was part of a small team that developed the early ARPANET protocols under the guidance of Prof. Leonard Kleinrock. He worked at Network Analysis Corporation, New York, from 1973 to 1976, transferring the ARPANET technology to several Government and Commercial Networks. He joined the Faculty of the Computer Science Department at UCLA in 1976, where he is now Professor. At UCLA he has designed and implemented some of the most popular and cited network protocols for ad hoc wireless networks including distributed clustering, multicast (ODMRP and CODE Cast) and transport (TCPW) under DARPA and NSF grants. He has lead the $12M, 6 year ONR MINUTEMAN project, designing the next generation scalable airborne Internet for tactical and homeland defense scenarios. He is now leading two advanced wireless network projects under ARMY and IBM funding. In the vehicular network scenario, with NSF and Industry sponsorship, he has led the development of peer to peer applications for safe navigation, urban sensing and location aware applications (see www.cs.ucla.edu/NRL for recent publications).

Outline

- Brief review of P2P Internet implementations (eg, BitTorrent, Pastry, etc)
- Emerging mobile P2P environments and requirements (eg, Vehicle 2 Vehicle systems; CarTorrent; BlueTorrent; Mobile, urban sensor networks, etc)
- Case studies based on vehicular and health monitoring scenarios

T-2
The Wi-xx family versus 4G generation

Guy Pujolle, Université Pierre et Marie Curie (France)

Abstract

WiMedia, Wi-Fi, WiMAX, WiRAN, the Wi-family is getting bigger; so does the network architecture. It is encouraging to see the fast development of the new IEEE wireless technologies promising the ultimate Internet service deployment on wireless and mobile infrastructures since they would offer larger bandwidth at cheaper price compared to the telecommunication wireless radio resource.
On another hand the 4G systems (LTE, UMB) will be able to provide a comprehensive IP solution where voice, data and streamed multimedia can be given to users on an "Anytime, Anywhere" basis, and at higher data rates than previous generations.
After a survey of Wi-xx family skill and 4G technologies, we will present a comparison and some advices on the key challenges in planning a deployment of these new generations.

Biography

Guy Pujolle is currently a Professor at the Pierre et Marie Curie University (Paris 6) and a member of the Scientific Advisory Board of Orange/France Telecom Group. He was appointed by the Education Ministry to found the Department of Computer Science at the University of Versailles, where he spent the period 1994-2000 as Professor and Head. He was Head of the MASI Laboratory (University Pierre et Marie Curie - Paris 6), 1981-1993, Professor at ENST (Ecole Nationale Supérieure des Télécommunications), 1979-1981, and member of the scientific staff of INRIA (Institut National de la Recherche en Informatique et Automatique), 1974-1979. Dr. Pujolle is the French representative at the IFIP Technical Committee on Networking. He is an editor for International Journal of Network Management, WINET, Telecommunication Systems and Editor in Chief of the Journal "Annals of Telecommunications". Guy Pujolle is co-founder and member of the scientific boards of QoSMOS (www.qosmos.fr), Ucopia Communications (www.ucopia.com), Ginkgo-Networks (www.ginkgo-networks.com), EtherTrust (www.ethertrust.com), and Virtuor (www.VirtuOR.com).

Outline

- *WiMedia; UWB, WiNet, Bluetooth 3.0*
- *Wi-Fi: IEEE 802.11n, MIMO, IEEE 802.11r, 11s, 11v*
- *New Wi-Fi engineering*
- *Mobile WiMAX, WIMAX phase 2, 1EEE 802.16n*
- *WiRAN, cognitive radio, smart antenna*
- *Interconnection of the Wi-xx family, IEEE 802.21, Fast MIP*
- *3G, HSDPA, HSUPA, HSOPA*
- *LTE, UMB, etc.*
- *The wireless Internet, B3G, new services*
- *Key challenges*

WEDNESDAY JUNE 25

08:00 Bus departure from the hotels

08:30 Registration

09:00 TUTORIAL 1
Mobile P2P networks with applications to vehicles and health-nets
Mario Gerla, UCLA (USA)

10:30 Coffee break

11:00 TUTORIAL 1 (continuation)

12:30 Lunch

14:00 TUTORIAL 2
The Wi-xx family versus 4G generation
Guy Pujolle, Université Pierre et Marie Curie (France)

15:30 Coffee break

16:00 TUTORIAL 2 (continuation)

17:30 Bus departure

18:00 Guided tour around the old town of Palma starting at the Town Hall (Plaça de Cort)

20:00 Reception at the Palma Town Hall building
Offered by the Palma Town Hall

THURSDAY JUNE 26

07:30 Bus departure from the hotels

08:00 Registration and breakfast

08:30 Opening Session

09:00 KEYNOTE SPEECH

Ad Hoc Cognitive Radio Networks: Research Challenges
Ian F. Akyildiz, Georgia Institute of Technology (USA)

10:00 SESSION 1: RECONFIGURATION AND OPTIMIZATION NETWORKS

End to End QoS Mapping between Metroethernet and Wimax
L. Dutra, Universidade de Brasilia (Brazil), C. Barenco, Universidad Simón Bolívar (Venezuela), C. Bon, SERPRO (Brazil), G. Amvame, Universidade de Brasilia (Brazil), & L. Gomes, SERPRO (Brazil)

A Mobility Model for Personal Networks (PN)
Y. Gu, V. Prasad & I. Niemegeers, Delft University of Technology (Netherland)

Replicated Random Walks for Service Advertising in Unstructured Environments
D. Kogias, Natianal and Kapodistrian University of Athens, K. Oikonomou, Ionian University, & I. Stavrakakis, Natianal and Kapodistrian University of Athens (Greece)

11:15 Coffee break

11:40 SESSION 2: SENSOR NETWORKS

An Autonomic Communication Framework for Wireless Sensor Networks
J. Sun, & R. Cardell-Oliver, University of Western Australia (Australia)

An Autonomous Energy-Aware Routing Scheme: a Supplementary Routing Approach for Path-Preserving Wireless Sensor Networks
F.-Y. Leu, G.-C. Li & W.-C. Wu, Tunghai University (Taiwan)

FlowerNet - How to design a user friendly Sensor Network
B. Gressmann & H. Hellbrueck, University of Luebeck (Germany)

Distributed Policy Management Protocol for Self-Configuring Mobile Ad Hoc Networks
M. Ayari, F. Kamoun, National School of Computer Sciences (Tunisia), & G. Pujolle. LIP6-Université Pierre et Marie Curie (France)

13:15 Light Lunch break

14:00 SESSION 3: ROUTING ALGORITHMS AND PROTOCOLS I

Performance Evaluation of a fair P2P Auctions over MANETs
I. Doghri, & H. Kaffel-Ben Ayed, Université de la Manouba (Tunisia)

A Scalable Adaptation of the OLSR Protocol for Large Clustered Mobile Ad hoc Networks
L. Canourgues, Rockwell Collins France & IRIT/ENSEEIHT & TeSA Lab., J. Lephay, L. Soyer, Rockwell Collins France & A.-L. Beylot, IRIT/ENSEEIHT (France)

15:00 Bus departure from the campus

21:00 Workshop Banquet

FRIDAY JUNE 27

07:30 Bus departure from the hotels

08:00 Registration and breakfast

08:30 SESSION 4: SECURITY AND PRIVACY

Securing Multihop Vehicular Message Broadcast using Trust Sensors
M. Gerlach, O. Mylyy, Fraunhofer FOKUS (Germany), N. Mariyasagayam & M. Lenardi, Hitachi Sophia Antipolis Labs. (France)

Scalable Exchange of Packet Counters in OLSR
I. Gawedzki & K. Al Agha, Université Paris Sud 11 (France)

Intrusion Detection in Mobile Ad Hoc Networks Using Classification Algorithms
A. Mitrokotsa, Vrije Universiteit, Amsterdam (Netherland), M. Tsagkaris & C. Douligeris, University of Pyraeus (Greece)

Security for Context-Aware ad-hoc Networking Applications
Y. Venturini, V. Coroama, T. C. M. B. Carvalho, University of Sao Paulo (Brazil), M. Naslund & M. Pourzandi, Ericsson Research (Sweden)

10:30 Coffee break

11:00 SESSION 5: MAC PROTOCOLS

No Ack in IEEE 802.11e Single-Hop Ad-Hoc VoIP Networks
J. Barceló, B. Boris, A. Sfairopoulou, C. Cano, & M. Oliver, Universitat Pompeu Fabra (Spain)

Constraining the network topology in IEEE 802.15.4
A. Abbagnale, E. Cipollone & F. Cuomo, Università di roma "La Sapienza" (Italy)

Throughput and Delay Bounds for Cognitive Transmissions
F. Borgonovo, M. Cesana & L. Fratta, Politecnico di Milano (Italy)

Wireless Broadcast with Network Coding: Dynamic Rate Selection
S. Y. Cho, Ecole Polytechnique, & C. Adjih, INRIA (France)

13:00 Light Lunch break

14:00 SESSION 6: ROUTING ALGORITHMS AND PROTOCOLS II

A Reactive Wireless Mesh Network Architecture
B. Wehbi, A. Laouiti, & A. Cavalli, Telecom SudParis (France)

MEA-DSR: A Multipath Energy-aware Routing Protocol for Wireless Ad Hoc Networks
F. de Rango & S. Marano, Università di Calabria (Italy)

A New Energy Efficient Multicast Routing Approach in MANETs
M. Nozad Bonab, Islamic Azad University, Marand Branch, M. Dehghan, Amirkabir University, Tehran, & B. Zarei, Islamic Azad University, Shabestar Branch (Iran)

15:15 COLSING SESSION

15:30 Bus departure from the campus