
Global Communications Newsletter

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Highlights from IEEE/IFIP Manweek 2008: Fourth International Week on Management of Networks and Services

By George Kormentzas, University of the Aegean, Greece

The 4th IEEE/IFIP International Week on Management of Networks and Services (Manweek 2008) was held 22–26 September 2008 on Samos, a Greek island with ages-long history. Samos is considered to be the birthplace of the goddess Hera on the banks of the river Imvrassos, and it is the place where mathematician Pythagoras, astronomer Aristarchos, and philosopher Epikouros lived. Manweek 2008 extended the key concept of the three previous Manweeks of putting together relevant workshops and conferences by bringing one more workshop on board (NGNM) and integrating related EC projects (AutoI, PEACE, UNITE), cost actions (TMA), and forum meetings (ACF), thus building an even more structured event in the area of network management and services. In this context the actual duration of Manweek 2008 was 10 days, 18-27 September 2008, for the first time in the history of network and services management conferences.

The organizing committee of Manweek 2008 put together a very interesting program including technical sessions and panels of six workshops and conferences in the area of management of networks and services (i.e., DSOM, MMNS, IPOM, MACE, EVGM, NGNM), three keynote speeches by European Commission (EC) Project Officers, and one demonstration of the operation of a virtual distributed testbed (VDT) for B3G experimentation. The first keynote speaker was Francisco Guirao, and his speech was entitled “European Research on Future Networks.” He gave the vision of future networks and services within the context of the European research programs. Special emphasis was given to FP7 where the future of the Internet is going to be a central subject for research on overcoming the structural limitations of the current Internet architecture. The second keynote speaker was Bart Van-Caenegem, also from EC. He discussed EU funded network security research in FP7, presenting both the current project portfolio, as well as the research funding challenges related to security, privacy, and trust in a future Internet environment. The last keynote speaker was George Tselentis, again from EC. He delivered a talk related to future Internet research experimentation (FIRE) and discussed how EC is going to stimulate the building of large experimentation platforms, which could be the drivers for the future Internet. The VDT demonstration was related to this keynote speech.

The keynote speeches were complemented with three panels that gave the opportunity for broader attendee participation. The first panel had the theme “Network Self-Management and Vertical Policy Interactions in E2E Virtualized Networks” and was moderated by Ralf Wolter, CISCO Germany. The panelists formed a good mix of academic and industry representation. The second panel was

about scenarios for a FIRE facility, and the moderator was George Tselentis (EC) with four panelists who act as technical coordinators of four important EC-funded projects in the area of future Internet (PII, OnelabII, Vital++, and UNITE). The third panel had the theme “Large Scale Service Deployment: Research Challenges.” The moderator was Filip De Turck (Ghent University, Belgium), and the panelists were IEEE Comsoc President Dr. Douglas Zuckerman, and two representatives from DoCoMo and NTT.

Manweek 2008 received a total of 169 submissions. Specifically, DSOM '08 received 45 submissions (14 papers accepted as full, giving an acceptance rate of 31%), MMNS '08 received 46 submissions (15 papers accepted as full and one paper accepted as short, giving an acceptance rate of 33% or 35%), IPOM '08 received 30 submissions (12 papers accepted as full, giving an acceptance rate of 40%), NGNM '08 received 26 submissions (13 papers accepted as full, giving an acceptance rate of 50%), EVGM '08 received 10 submissions (4 papers accepted as full, giving an acceptance rate of 40%), and MACE '08 received 22 submissions (8 papers accepted as full and 4 papers accepted as short, giving an acceptance rate of 36% or 55%). The overall Manweek 2008 acceptance rate for full papers was 39%. The accepted papers formed a technical program of 21 sessions in two tracks with the exception of the second day of the Manweek 2008 conference, when there were three tracks. The proceedings of DSOM '08, MMNS '08, IPOM '08, and MACE '08 were printed by Springer LNCS (vols. 5273–5276), while the NGNM '08 and EVGM '08 proceedings were printed by Multicom (Lecture Notes vol. 9).

Manweek 2008 hosted plenary meetings for the EC-funded projects AutoI (18–19 September), PEACE (18–19 September), and UNITE (26 September), two-day meetings of Traffic Management and Analysis (TMA) COST Action (22–23 September) and Autonomic Communications Forum (ACF, 24–25 September), a three-day TPC meeting for IM '09 (22–24 September), a joint IFIP WG6.6/CNOM meeting chaired by IFIP WG6.6 chair Prof. Aiko Pras (24 September), and a two-day IFIP TC6 meeting chaired by its President, Prof. Guy Leduc.

About 200 attendees from 28 countries enjoyed the event as well as both the Doryssa Bay Resort (i.e., the venue of the event), which actually resembles a typical Greek village, and the city of Pythagorio with many historical sites, very good restaurants, and a wonderful beach. The famous samiotiko wine facilitated the sharing of research experiences and results and the identification of common opportunities for research collaboration, under either an academic umbrella or ICT FP7.

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WiMAX Developments in the Middle East and Africa

By Saad Z. Asif, Telenor Pakistan

WiMAX is on the lips of every person associated with the ICT industry in the Middle East and North Africa (MENA) and Pakistan. WiMAX refers to the IEEE 802.16 standard-based technology. It enables the delivery of last mile wireless broadband access as an alternative to wireline broadband technologies such as cable and digital subscriber line (DSL) and wireless technologies such as EV-DO and HSPA. In this article we look into the current WiMAX developments that

are taking place in this region.

The current surge in demand for WiMAX in these areas is attributed to four factors:

- Telecommunications market liberalization: TML was necessary for countries to gain World Trade Organization (WTO) membership. TML policies are helping the governments to improve their economic standings, in turn increasing the penetration of broadband users.

- Inadequacy of existing infrastructure: The existing broadband (copper) infrastructure is inadequate in many countries. DSL and cable modems are the primary means to access the Internet. Frequent fiber cuts and right of way are also big challenges for operators.

- Competition: The incumbents have to protect their existing base against new entrants, which results in the introduction of new services such as WiMAX.

- 3G spectrum cost: The cost of third-generation (3G) spectrum is very high compared to the cost of WiMAX frequencies. For example, operators only paid \$1 million to acquire 21 MHz of WiMAX, whereas they would pay a minimum of \$291 million for 20 MHz of 3G in Pakistan.

WiMAX, whether based on 802.16d or 802.16e, will mainly be used in fixed and portable modes, not in its mobile form. The reasons are lack of modern public transportation, lack of telecommuting, lack of awareness, and license obligations. For example, in Pakistan the regulator has enforced zero mobility (handovers from one cell to another are not allowed) in the 3.5 GHz spectrum. 3.5 GHz is the primary frequency band used to offer WiMAX services in MENA.

In 2005 Algeria became the first Arab country to have WiMAX service launched via Smart Link Communication (SLC). Table 1 provides a more detailed outlook on MENA's WiMAX industry, which has more than 70,000 subscribers.

The major drawbacks related to innovation in MENA are:

- Nonexistence of R&D and manufacturing houses

- Absence in the standard development organizations

- Lack of intellectual property work

All these factors have shown their marks in the developments of WiMAX in these countries. For example, there are more than 70 plus operators and Internet service providers (ISPs) pursuing WiMAX, but just a handful (7%) are members (just regular members) of the WiMAX Forum. Their membership is like a health club membership that one barely uses twice a year! Their contributions in the developments of IEEE 802.16 d/e are negligible, and they are not members of IEEE-SA. These factors and political instability have also caused brain drain from MENA to technologically savvy nations. Also, not a single piece of equipment central to WiMAX technology was researched, developed, or manufactured in this part of the world.

We expect that WiMAX will play a role in migration toward a knowledge-based economy

Countries	Operators	WiMAX status
Algeria	SLC LaCom	ISS 2005 Conducted a 802.16d trial in 2006; filed bankruptcy in Nov 2008
	Icosnet Algeria Telecom	ISS summer 2008 Preparing to launch in 2009
Bahrain	Zain Bahrain MENA Telecom	ISS 2007 802.16e commercial launch in 2009
Egypt	Two ISPs - EgyNet and TE Data	ISS 2008 in tourist resorts
Iran	Datak TeleCom, Laser TeleCom, Shatel Telecom	ISS 2007/2008
	Paya Comm. Ltd, Iran Mobin, MTN IranCell, MTCE, RDG	Awarded provincial licenses in Nov 2008
Iraq	IRAQTEL	ISS 2007
	Kalimat Telecom	ISS 2008
Jordan	Batelco's UMC	ISS 2007
	Wi-tribe	ISS 2008
Kuwait	Arab Telecom	ISS 2007
Libya	Libya Telecom and Technology	Launch expected in early 2009
	General Post & Telecom Co.	Launch mid to late 2009
Lebanon	CedarCom	ISS 2006
	Comium	ISS 2008
Morocco	Wania	ISS 2007
	Meditel	ISS 2006
Pakistan	Wateen Telecom	Largest network in the country since Dec 2007 covering 22 cities
	Mobilink	ISS late 2008 in Karachi only
	LinkdotNet (ISP)	ISS 2007
	TeleCard (ISP)	Planning to launch in 2009
Qatar	Wi-tribe	Planning to launch in 2009
	Vodafone-Qatar	Received license in Sept. 2008
Saudi Arabia	STC	ISS 2007
	ITC	ISS 2006
	Mobily	ISS Fall 2008
	Batelco	Has the license
UAE	Etisalat	Under customer friendly trial
	du	In trial
Yemen	Nexen Petroleum (energy company)	Service restricted to oil fields only

Note: ISS: In service since

TABLE 1: WiMAX availability status.

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Ecuadorian Branches and Chapters Organize an International Telecommunications Event: JST 2008

By: Alex Aguirre, Student Activities, IEEE Ecuador Section

In Quito, Ecuador, during 14–16 May 2008, the third edition of the Jornadas de Sistemas de Telecomunicaciones (Telecommunications Systems Journey) 2008 (JST 2008) was held. This event was organized by the Escuela Politecnica Nacional IEEE Student Branch and its Communications Student Chapter. The event had among its sponsors the Proyecto VLIR-ESPOL Componente 8, the Ecuadorian Communications Chapter, CEDIA, and the IEEE-ESPOL Student Branch, among others. Additionally, there was total support from the IEEE Communications Society, which brought to the event two distinguished authorities, Celia Desmond and Dr. Curtis Siller, who participated with two keynote conferences during the event.

The first day of the event there were a series of tutorials that began at 9:00 a.m. These tutorials were taught by companies such as Nokia Siemens, Telefonica, Geocom, CLA Direct, Fortinet, Uniplex, and Telconet. At the end of the day at 19:00 the formal inaugural ceremony took place with the participation of institutional authorities, international speakers, members of Quito's City Council, members of the IEEE-EPN Student Branch, professors and students from several universities around the country and the world. During this important occasion, the event's General Director, Servio Lima, welcomed the participants and gave a summary of previous events. It is important to mention that there were around 150 participants from different Latin American countries. Then EPN's Director, Alfonso Espinosa Ramon, while declaring the event inaugurated, said that as universities become integrated through joint efforts and exchange of criteria, with certainty there will be better perspectives for development of the institutions. These journeys not only increment scientific and technical knowledge in the telecommunications arena, but also strengthen the personal relationships among the participants, the professors and students of the different universities.

Continuing, Quito's City Council representative declared Honorable Visitors among the international speakers: Dr. Curtis Siller, Celia Desmond, Dr. Jaudelice Calvancante de Oliveira, and Fernando Blácido, giving them diplomas and replicas of the Virgen de Quito statue.

Additionally, the Quito City Council's delegate gave the Escuela Politecnica Nacional IEEE Student Branch special recognition for its valuable work for more than 30 years.

Thursday, May 15, began very early with the registration process, where participants were able to attend the first keynote speech by Dr. Curtis Siller, "Timed-Based Resource Reservation for End-to-End Quality of Services in Packet Networks." There were simultaneous translation services during the three days of the event.

The second keynote talk was offered by telecommunications expert Celia Desmond, who presented "Project Management for Telecommunications Projects." This is the third time Ms. Desmond has visited Ecuador to participate in an international event.

During the afternoon, technical papers received during the Call for Papers phase in previous months were presented. Approximately 100 papers had been submitted, from which the best 30 were selected. These selected papers were subjected to very close scrutiny based on rigorous qualification criteria, managed by Pablo Hidalgo, who coordinated the JST 2008 Technical Committee.

At the end of the day the organizers took the participants to visit the Centro Historico de Quito (Quito's historic district), which is UNICEF's Humanity Cultural Patrimony. The participants were able to know more about the history of the



The Distinguish Lecturers: Dr. Jaudelice Cavalcante, Dr. Curtis Siller, and Celia Desmond with Alex Aguirre, Relations & Media Committee President



The event's Organizing Committee during the visit to the Centro Historico de Quito. From left to right: Stephany, Belen, William, Jorge, Karina, Telmo (Local Coordinator), Alejandra, Valeria, Coky, Hoover, Santiago, and Daniel.

main churches and buildings of this very beautiful and much visited district.

The last day of the event, Friday May 16, began with the highly anticipated keynote talk by Dr. Jaudelice Cavalcante de Oliveira, "Dominant Set Based ALLIANCES: A New Approach to Handle Bursty Traffic and Collisions in Sensor Networks."

During the day, Pablo Paredes, Mentor of the IEEE-EPN Student Branch, presented an interesting and short presentation about "Obsessive Compulsive Disorders and Potential Research Engineering Projects to Aid Patients and Health Care Professionals."

Concluding the keynote talks, Fernando Blacido, a distinguished telecommunications professional, presented "Hacia un Mundo Convergente (Toward a Convergent World)." He discussed the latest trends and developments in the Ecuadorian and world markets in new generation networks.

Making the best of the available time, the IEEE-EPN Student Branch volunteers coordinated a meeting with its Women in Engineering (WIE) affinity group and Jaudelice Cavalcante de Oliveira. They were able to share the life and leadership experiences of such a valuable woman, who is a truly inspiring example to many women in their engineering careers.

Many other presentations continued until the end of the day, concluding a very successful journey and fulfilling all the criteria of the organizing committee. The participants all received participation certificates. It is worth mentioning that these certificates were exclusively funded by the IEEE Communications Society. This was a good added value the organizers could offer to the participants thanks to Doug Zuckerman, ComSoc President, and his staff.

The IEEE-EPN student branch wants to express our

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Spanish Government Announces €130 Million Investment to Start a Dark Fiber Model for Its R&D Communication Network

By Juan Pedro Muñoz-Gea and Josemaría Malgosa Sanahuja, Spain

Spanish universities and R&D centers have their own academic and research network called RedIRIS, which is administered by the Red.es public entity. Currently, RedIRIS administers a communication infrastructure composed of 20 broadband nodes scattered around Spain. It consists of a trunk network with a mesh topology (called RedIRIS-10), composed of links with capacity up to 10 Gb/s. Therefore, RedIRIS allows the Spanish research community to use advanced national (and international) communication services. This is the reason today more than 300 academic and research institutions are connected to the RedIRIS network.

From its creation, the RedIRIS infrastructure has been constructed following the capacity-rent model, which consists of contracting a link collection with specific technology, capacity, and operation characteristics to be able to satisfy the demand for a period between two and four years. At the beginning of each period, the commercial operator that offers the most attractive solution to solve the new technical necessities is contracted.

However, with the predictable increase in future high-capacity circuit demand, the cost of the capacity-rent model is unattainable. Therefore, all European countries have studied new commercial models based on the property (or the lack of it in long-term rent) of the physical infrastructure, which is called the dark fiber model. Despite requiring high initial investment, this model also involves important economic sav-

ings when a service with a much bigger potential capacity transmission is considered.

In particular, the Spanish government decided to start the RedIRIS NOVA project, whose objective is the design and deployment of a new dark fiber network model for their R&D connectivity services during the 2008–2011 period. The project will connect the RedIRIS regional networks to one another with dark fiber, and all of them with the international academic network (GEANT 2) throughout its neighboring European countries: Portugal and France (FCCN and RENATER networks, respectively). To be precise, this project investment consists of €130 million to acquire an indefeasible right of use (IRU) of the lines offered by the operators for a minimal duration of 10 years, and appropriate optical transmission equipment to implement bearer communication services throughout the lifetime of the project.

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Actually, these synergies made Manweek 2008 a very successful and inspirational event. Combined with a three-hour guided bus tour around Samos, the event became unforgettable.

The next Manweek will take place in Venice, Italy, back to its usual date, 26–30 October 2009. The admirable effort of Raouf Boutaba (Chair of the Manweek Steering Committee) and the support of IFIP WG6.6/CNOM made it possible to have Manweek 2008 one month ahead of its usual dates, causing a domino effect for IM '09. I would really to thank them from my heart.

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thanks for the total support of the IEEE Communications Society, which through its president Doug Zuckerman and previous President Nim Cheung helped surpass the expectations for this event. In the same way, the organizing committee thanks all the national and international enterprises that through their support helped develop a very rich and valuable set of talks and presentations, adding great value to this type of event. Finally, we congratulate the technical reviewers, who with their experience and knowledge made possible the selection of the best papers.

This text was translated by IEEE Student Branch Mentor Pablo Paredes, who can be contacted at pablo.e.paredes@intel.com.

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for the rich countries of the region and will mainly be used as a substitute for DSL. The cost of customer premises equipment (CPE), lack of education, and absence of local content will be the major hurdles for penetration of WiMAX in the poorer nations. We hope that in the coming years these countries will start contributing to IEEE and 4G standards, and provide funding and manpower for R&D. Lastly, MENA should take the developments in WiMAX and 4G as an opportunity, avoid being a spectator, and become a valuable contributor to the overall food chain.

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