

IEEE NetSoft 2017 - WORKSHOPS

Workshop 1: HTSN 2017

Hot-topics in Softwarized Networks 2017

Monday, July 3, 2017

Track 1: Network Accelerated FunctiOns (NEAF-IO 2017)

Track General Chairs:

Roberto Bifulco, NEC Labs Europe, Germany
Fabian Schneider, NEC Labs Europe, Germany

Session Chair: Fabian Schneider, *NEC Labs Europe, Germany*

09:00-10:30 **On offloading programmable SDN controller tasks to the embedded microcontroller of stateful SDN dataplanes**

Salvatore Pontarelli, Marco Bonola, Giuseppe Bianchi, *University of Rome Tor Vergata, Italy*
Valerio Bruschi, *CNIT, Italy*

A Pipeline Functional Language for Stateful Packet Processing

Nicola Bonelli, Stefano Giordano, Gregorio Procissi, *Università di Pisa, Italy*

10:30-11:00 Coffee Break

11:00-12:30 **Towards traffic classification offloading to stateful SDN data planes**

Davide Sanvito, Daniele Moro, Antonio Capone, *Politecnico di Milano, Italy*

Realizing Stateful Flow Processing with Forwarding Tables and In-Switch-Generated Messages (invited)

Peer Hasselmeyer, Fabian Schneider, Andreas Ripke, *NEC Laboratories Europe, Germany*

12:30-14:00 Lunch Break

Track 2: Security in Network Function Virtualization and Software Defined Networks (SNS 2017)

Track General Chairs:

Dr. Shao Ying Zhu, University of Derby, UK
Linus Maknavicius, Nokia Bell Labs, France
Eleni Trouva, NCSR Demokritos, Greece
Dr. Colin Allison, University of St Andrews, UK
Dr. George Gardikis, Space Hellas, Greece

Session Chair: Shao Ying Zhu, *University of Derby, UK*

14:00-16:00 **KEYNOTE SPEECH**

Trust and integrity in softwarized networks

Antonio Lioy, *Politecnico di Torino, Italy*

SHIELD: A Novel NFV-based Cybersecurity Framework

G. Gardikis, K. Tzoulas, K. Tripolitis, A. Bartzas, S. Costicoglou, *Space Hellas S.A., Greece*
B. Gaston, C. Fernández, C. Dávila, *i2CAT, Greece*
L. Jacquin, H. Attak, Hewlett Packard Labs, *United Kingdom*
D. Katsianis, I. Neokosmidis, *INCITES Consulting SARL, Luxembourg*
T. Batista, R. Preto, *UBIWHERE Lda., Portugal*
A. Lioy, *Politecnico di Torino, Italy*

A. Litke, N. Papadakis, D. Papadopoulos, *Infili Technologies PC, Greece*
A. Pastor, J. Nuñez, *Telefonica I+D, Spain*
N. Davri, G. Xylouris, M. Kafetzakis, *ORION Innovations P.C., Greece*
M. Terranova, C. Giustozzi, *Agenzia per l'Italia Digitale, Italy*
E. Trouva, Y. Angelopoulos, A. Kourtis, *NCSR "Demokritos", Greece*

Detecting and Mitigating Denial of Service Attacks against the Data Plane in Software Defined Networks

Raphael Durner, Michael Wiedemann, Wolfgang Kellerer, *Technical University of Munich, Germany*
Claas Lorenz, *Genua GmbH, Germany*

A Model for the Analysis of Security Policies in Service Function Chains

Luca Durante, Lucia Seno, Fulvio Valenza, Adriano Valenzano, *CNR-IEIT, Italy*

Measuring the effectiveness of SDN mitigations against cyber attacks

Ralph Koning, Ben de Graaff, Robert Meijer, Cees de Laat, Paola Grosso, *University of Amsterdam, The Netherlands*

16:00-16:30 Coffee Break

Track 3: Multi-Provider Network Slicing and Virtualization (MPNSV 2017)

Track General Chairs:

Olivier Dugeon, *Orange, France*
Alex Galis, *University College London (UCL), UK*
Carlos Jesús Bernardos Cano, *Universidad Carlos III de Madrid, Spain*

Session Chair: Stuart Clayman, *University College London, London, UK*

16:30-18:00 **TUTORIAL**

Multi-domain federation: scope, challenges, and opportunities

Luca Cominardi, *University Carlos III Madrid, Spain*

SDNetkit: A Testbed for Experimenting SDN in Multi-Domain Networks

Habib Mostafaei, Gabriele Lospoto, Roberto di Lallo, Massimo Rimondini, Giuseppe Di Battista, *Roma Tre University, Italy*

Sharing of Crosshaul Networks via a Multi-Domain Exchange Environment for 5G Services

Luis Miguel Contreras Murillo, *Telefonica I+D – Spain*
Carlos Jesús Bernardos Cano, Antonio Oliva, *Universidad Carlos III de Madrid, Spain*
Xavier Costa-Pérez, *NEC Laboratories Europe, Germany*

Workshop 2: OSSN 2017

The 2nd International Workshop on Open-Source Software Networking 2017

Workshop General Chairs:

JongWon Kim, GIST (Gwangju Institute of Science & Technology), Korea
Fulvio Rizzo, Politecnico di Torino, Italy
Ivan Seskar, Rutgers University, USA

Monday, July 3, 2017

Session 1: Orchestration

Chair: Fulvio Rizzo, Politecnico di Torino, Italy

11:00-12:30 **End-to-End Service Orchestration across SDN and Cloud Computing Domains**

Roberto Bonafiglia, Gabriele Castellano, Ivano Cerrato, Fulvio Rizzo, *Politecnico di Torino, Italy*

Automated Cloud Migration based on Network Traffic Dependencies

Jargalsaikhan Narantuya, Hannie Zang, Hyuk Lim, *Gwangju Institute of Science and Technology, Republic of Korea*

X-MANO: An Open-Source Platform for Cross-domain Management and Orchestration

Antonio Francescon, Giovanni Baggio, Riccardo Fedrizzi, Roberto Riggio, *CREATE-NET / FBK, Italy*
Enrico Orsini, *Intecs, Italy*

Prototyping NFV-based Multi-access Edge Computing in 5G ready Networks with Open Baton

Giuseppe Carella, Michael Pauls, Thomas Magedanz, *Technical University of Berlin, Germany*
Marco Cilloni, Luca Foschini, Paolo Bellavista, *University of Bologna, Italy*

12:30-14:00 Lunch Break

Session 2: Services

Chair: Jong Won Kim, GIST (Gwangju Institute of Science & Technology), Korea

14:00-16:00 **KEYNOTE SPEECH**

In kernel-network functions: replacing Linux networking tools with Iovisor-based software

F. Rizzo, *Politecnico di Torino, Italy*

Load balancing on distributed datastore in OpenDaylight SDN controller cluster

Taehong Kim, Seong-Gon Choi, *Chungbuk National University, Republic of Korea*
Jungho Myung, Chang-Gyu Lim, *Electronics and Telecommunications Research Institute, Republic of Korea*

An Open-Source Virtual Set-Top-Box for Softwarized Networks

Gabriele Baldoni, Alfio Lombardo, Sergio Micalizzi, Corrado Rametia, Alessandro Vassallo, *University of Catania, Italy*

Per-User NFV Services with Mobility Support

Matteo D'Ambrosio, Mario Ullio, Vinicio Vercellone, *TIM, Italy*
Ivano Cerrato, Fulvio Rizzo, *Politecnico di Torino, Italy*

16:00-16:30 Coffee Break

Session 3: Monitoring and troubleshooting

Chair: Thomas Magedanz, *Technical University of Berlin, Germany*

16:30-18:00 **Overload and Failure Management in Service Function Chaining**

Jaewook Lee, Haneul Ko, Dongeun Suh, Seokwon Jang, Sangheon Park, *Korea University, Republic of Korea*

SmartX MultiView Visibility Framework Leveraging Open-Source Software for SDN-Cloud Playground

Muhammad Usman, Aris Risdianto, Jungsu Han, Moonjoong Kang, JongWon Kim, *Gwangju Institute of Science and Technology, Republic of Korea*

PANEL

Can Academia and Industry Collaborate on OpenSource Software?

Moderator: F. Risso, *Politecnico di Torino, Italy*

- JongWon Kim, *Gwangju Institute of Science & Technology (GIST), Korea*
- Thomas Magedanz, *Fraunhofer FOKUS, Germany*
- Antonio Manzalini, *Telecom Italia, Italy*
- Marco Di Girolamo, *Hewlett Packard Enterprise, Italy*
- Nicola Iotti, *Caligoo, Italy*

Workshop 3: NetFog 2017

The 1st International Workshop on Network programmability: From the data center to the Ground 2017

Workshop General Chairs:

Roberto Bruschi, Consortium for Telecommunications (CNIT), Genova, Italy
Claudia Campolo, University Mediterranea of Reggio Calabria, Italy
Florian Wamser, University of Würzburg, Germany

Monday, July 3, 2017

Session 1: Virtualization in multi-domain environments

Chair: Roberto Bruschi, *Consortium for Telecommunications (CNIT), Genova, Italy*

11:00-12:30 **Energy Efficient Dynamic Flow-based Management For Relay-assisted Heterogeneous Networks**

Li Li, Yifei Wei, Mei Song, *Beijing University of posts and telecommunications, Republic of China*
Xiaojun Wang, *Dublin City University, Ireland*

A Scalable SDN Slicing Scheme for Multi-domain Fog/Cloud Services

Roberto Bruschi, Paolo Lago, *CNIT, Genoa Research Unit*
Franco Davoli, Jane Frances Pajo, *University of Genoa, Italy*

On Experimenting 5G: Testbed Set-up for SDN Orchestration across Network Cloud and IoT domains

Silvia Fichera, Molka Gharbaoui, Piero Castoldi, *Scuola Superiore Sant'Anna, Italy*
Barbara Martini, *CNIT, Italy*
Antonio Manzalini, *Telecom Italia, Italy*

An NFV Approach to Share Home Multimedia Devices

Giuseppe Faraci, Alfio Lombardo, *University of Catania, Italy*

12:30-14:00 Lunch Break

Session 2: Demonstration session

Chair: Michael Seufert, *University of Würzburg, Germany*

14:00-14:45 **Drone Racing in the Fog (H2020 INPUT Project)**

Paolo Lago, Jane Frances Pajo, Frank Loh, Florian Wamser, and Roberto Bruschi

Session 3: Evaluation tools and methodologies

Chair: Claudia Campolo, University Mediterranea of Reggio Calabria, Italy

14:45-16:00 **EdgeNetworkCloudSim: Placement of Service Chains in Edge Clouds Using NetworkCloudSim**

Michael Seufert, Brice Kamneng Kwam, Florian Wamser, Phuoc Tran-Gia, *University of Würzburg, Germany*

Understanding Disruptive Monitoring Capabilities of Programmable Networks

Paul Chaignon, Kahina Lazri, *Orange Labs, France*
Jérôme François, Olivier Festor, *INRIA Nancy Grand Est, France*

A framework to correlate power consumption and resource usage in cloud infrastructures

Divya Tekke Kanapram, *University of Genoa, Italy*
Matteo Repetto, *CNIT, Italy*
Riccardo Rapuzzi, *DITEN, University of Genoa, Italy*
Guerino Lamanna, *Infocom SRL, Italy*