



A Context-Adaptive Content Ecosystem Under Uncertainty

D6.3

Year 3 Project Dissemination Report

Dissemination level:	Public
Contractual date of delivery:	Month 36, December 2016
Actual date of delivery:	31-03-2017
Workpackage:	WP6 – Scientific Impact, Dissemination and Exploitation
Task:	T6.1 (Scientific Impact and Dissemination)
Type:	Report
Workpackage Leader:	AAU
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Approval Status:	
Version:	1.0
Number of pages:	7
Filename:	CONCERT_Deliverable_D63_v10.pdf

Abstract:

The CONCERT project has been extended into the fourth year. Due to this extension, the project added this deliverable D6.3 “Year 3 Project Dissemination Report” and moved the original D6.3 as D6.4 “Final Project Dissemination and Exploitation Report” to the end of the project.

This deliverable gives an overview of dissemination material produced and activities undertaken (exhaustive list of all the papers, presentations, publications and demonstrations published or performed) within the third year of the CONCERT project.

History:

Version	Date	Reason	Revised by
0.1	08-03-2017	Initial text	Hermann Hellwagner
0.2	23-03-2017	Added CHIST-ERA event	Hermann Hellwagner
1.0	31-03-2017	Final version	Hermann Hellwagner

March 2017

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1 Introduction

This deliverable documents the dissemination activities of CONCERT.

During the third year, the CONCERT project and project partners published 21 peer-reviewed publications in top-tier conference proceedings or journals.

Also, the second MuSIC workshop (Multimedia Streaming in Information-/Content-Centric Networks) was held in 2016, and the third MuSIC workshop was approved to take place in conjunction with ICME 2017 in Hong Kong.

Furthermore, the CONCERT project actively participated in the CHIST-ERA 2016 event in Bern, Switzerland, providing a demonstration and a poster there as well as contributing to the plenary presentation of the C3N area.

2 Publications, Press, and Standardisation

2.1 Scientific Publications

The following publications (11 journal articles, 10 conference papers) related to the CONCERT project were produced and published by the project consortium in the third year:

- P.1** Stefano D’Aronco, Laura Toni, and Pascal Frossard, “Price-based Controller for Utility-aware HTTP Adaptive Streaming”, *IEEE Multimedia Magazine*, 2017 (to appear).
- P.2** George Parisis, Vasilis Sourlas, Konstantinos V. Katsaros, Wei Koong Chai, George Pavlou, and Ian Wakeman, “Efficient Content Delivery through Fountain Coding in Opportunistic Information-Centric Networks”, *Elsevier Computer Communications Journal*, vol. 100, pp. 118-128, 1 March 2017.
- P.3** Stefano D’Aronco, Laura Toni, Sergio Mena, Xiaoqing Zhu, and Pascal Frossard, “Improved Utility-based Congestion Control for Low-Delay Communication”, *IEEE/ACM Transactions on Networking*, vol. 25, issue 1, pp. 349-362, Feb. 2017.
- P.4** Wei Koong Chai and George Pavlou, “Path-based Epidemic Spreading in Networks”, *IEEE/ACM Transactions on Networking*, vol. 25, issue 1, pp. 565-578, Feb. 2017.
- P.5** Daniel Posch, Benjamin Rainer, and Hermann Hellwagner, “Towards a Context-Aware Forwarding Plane in Named Data Networking Supporting QoS”, *ACM SIGCOMM Computer Communication Review*, vol. 47, no. 1, pp. 6-14, Jan. 2017.
- P.6** Benjamin Rainer, Stefan Petscharnig, Christian Timmerer, and Hermann Hellwagner, “Statistically Indifferent Quality Variation: An Approach for Reducing Multimedia Distribution Cost for Adaptive Video Streaming Services”, *IEEE Transactions on Multimedia*, DOI: <https://doi.org/10.1109/TMM.2016.2629761>, Nov. 2016 (published online).
- P.7** Daniel Posch, Benjamin Rainer, and Hermann Hellwagner, “SAF: Stochastic Adaptive Forwarding in Named Data Networking”, *IEEE/ACM Transactions on Networking*, DOI: <http://dx.doi.org/10.1109/TNET.2016.2614710>, Oct. 2016 (published online).
- P.8** Benjamin Rainer, Daniel Posch, Andreas Leibetseder, Sebastian Theuermann, and Hermann Hellwagner, “A Low-Cost NDN Testbed on Banana Pi Routers”, *IEEE Communications Magazine*, vol. 54, no. 9, pp. 105-111, Sept. 2016.
- P.9** Benjamin Rainer, Daniel Posch, and Hermann Hellwagner, “Investigating the Performance of Pull-based Dynamic Adaptive Streaming in NDN“, *IEEE Journal on Selected Areas in Communications (J-SAC)*, Special Issue on Video Distribution over Future Internet, vol. 34, no. 8, pp. 2130-2140, Aug. 2016.
- P.10** Binxu Yang, Konstantinos V. Katsaros, Wei Koong Chai, and George Pavlou, “Cost-Efficient Low Latency Communication Infrastructure for Synchrophasor Applications in Smart Grids”, *IEEE Systems Journal*, DOI: <https://doi.org/10.1109/JSYST.2016.2556420>, May 2016 (published online).

- P.11** Laura Toni, Gene Cheung, and Pascal Frossard, “In-Network View Synthesis for Interactive Multiview Video Systems”, *IEEE Transactions on Multimedia*, Special Issue on Cloud-based Video Processing and Content Sharing, vol. 18, no. 5, pp. 852-864, May 2016.
- P.12** Xue Zhang, Laura Toni, Pascal Frossard, Yao Zhao, and Chunyu Lin, “Optimized Receiver Control in Interactive Multi-View Video Streaming Systems”, *Proceedings of the IEEE International Conference on Communications (ICC)*, Paris, France, May 2017 (to appear).
- P.13** Konstantinos Dovelos, Laura Toni, and Pascal Frossard, “Finite Length Performance of Random Slotted ALOHA Strategies”, *Proceedings of the IEEE International Conference on Communications (ICC)*, Paris, France, May 2017 (to appear).
- P.14** Harald Beck, Bruno Bierbaumer, Minh Dao-Tran, Thomas Eiter, Hermann Hellwagner, and Konstantin Schekotihin, “Stream Reasoning-Based Control of Caching Strategies in CCN Routers”, *Proceedings of the IEEE International Conference on Communications (ICC)*, Paris, France, May 2017 (to appear).
- P.15** Stefano D’Aronco, Laura Toni, and Pascal Frossard, “Price-based Controller for Quality-Fair HTTP Adaptive Streaming”, *Proceedings of the IEEE International Symposium on Multimedia (ISM)*, San Jose, CA, USA, Dec. 2016 (Best Paper Award).
- P.16** Chenglin Li, Laura Toni, Pascal Frossard, Hongkai Xiong, and Junni Zou, “Complexity Constrained Representation Selection for Dynamic Adaptive Streaming”, *Proceedings of the IEEE Visual Communications and Image Processing Conference (VCIP)*, Chengdu, China, Nov. 2016 (Top 10% Paper Award).
- P.17** Harald Beck, Bruno Bierbaumer, Minh Dao-Tran, Thomas Eiter, Hermann Hellwagner, and Konstantin Schekotihin, “Rule-based Stream Reasoning for Intelligent Administration of Content-Centric Networks”, *Proceedings of the 15th European Conference on Logics in Artificial Intelligence (JELIA)*, Larnaca, Cyprus, Nov. 2016.
- P.18** Binxu Yang, Wei Koong Chai, George Pavlou, and Konstantinos V. Katsaros, “Seamless Support of Low Latency Mobile Applications with NFV-Enabled Mobile Edge-Cloud”, *Proceedings of the 5th IEEE International Conference on Cloud Networking (CloudNet)*, Pisa, Italy, Oct. 2016.
- P.19** Daniel Posch, Benjamin Rainer, Sebastian Theuermann, Andreas Leibetseder, and Hermann Hellwagner, “Emulating NDN-based Multimedia Delivery”, *Proceedings of the 7th International Conference on Multimedia Systems (MMSys)*, Klagenfurt, Austria, May 2016.
- P.20** Christian Kreuzberger, Benjamin Rainer, Hermann Hellwagner, Laura Toni, and Pascal Frossard, “A Comparative Study of DASH Representation Sets Using Real User Characteristics”, *Proceedings of the 26th International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV)*, Klagenfurt, Austria, May 2016.
- P.21** Wei Koong Chai, Vaios Kyritsis, Konstantinos V. Katsaros, and George Pavlou, “Resilience of Interdependent Communication and Power Distribution Networks against Cascading Failures”, *Proceedings of the IFIP Networking Conference 2016*, Vienna, Austria, May 2016.

3 Events

In the third year of the CONCERT project, the consortium was active in organising and attending events, especially those that match the project's domain and goals. A workshop proposal was submitted and got accepted at the IEEE ICME 2017 conference. Furthermore, the consortium mainly attended top-tier international events directly related to the research conducted during the third year of the project.

3.1 Organised Event

The project consortium submitted a workshop proposal to the IEEE International Conference on Multimedia and Expo (ICME) 2017 in Hong Kong. The workshop entitled **Multimedia Streaming in Information-/Content-Centric Networks (MuSIC)** is to provide researchers in the field of Information-/Content-Centric Networks (ICN/CCN) a platform for presenting novel research with a focus on improving and enabling efficient multimedia streaming in ICN/CCN and to strengthen the communication and interaction between ICN/CCN and multimedia systems researchers. The workshop got accepted, as one of 10 workshops.

3.2 Attended Events

As reported in the second year dissemination report, the second MuSIC workshop, co-organised by the CONCERT consortium, took place in conjunction with the IEEE INFOCOM 2016 conference in San Francisco, Cal., USA.

In addition, project researchers attended the conferences at which their papers and presentations were accepted.

3.3 Participation in CHIST-ERA Event

Several CONCERT partners actively participated in the CHIST-ERA Event in Bern, Switzerland, April 27-29, 2016.

The CONCERT project presented a poster of the research and key results of years 1 and 2, and provided a demonstration of the low-cost NDN testbed developed in the project, including live elements via the Web interface to configure and simulate NDN networks (cf. **P.8**).

Furthermore, CONCERT members very actively contributed to the CHIST-ERA C3N area meeting and eventually presented the C3N area to the CHIST-ERA plenary.