

netCommons
Network Infrastructure as Commons

Technical Management & Progress Report

Month 27

Reporting Period 1/7/2017 – 30/3/2018

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Executive summary

This is the third Progress and Management report, reporting only the technical part of the work, as it is in the middle of the second reporting period when financial data are not available. At the end of the first project period (M18), netCommons has reached all its intermediate goals, but following the comments of reviewers and the discussion at the review meeting a technical amendment has been issued and accepted by the Project Officer (PO) adding a deliverable (D3.6, due at Mo. 31, thus outside the scope of this Technical, Management & Progress Report (TMPR)) and changing the scope of D3.3 [1].

The document is organized as follows: Chapter 1 contains the main body of reporting, with the summary of the technical work carried out in each Task. Specific pointers to the technical deliverables where the objectives have been met and where the results of the project can be found help the reader navigate into the project achievements and seek the project outputs that are of major interest to him. Chapter 2 and Chapter 3 quickly update on the dissemination and data management, while Chapter 4 reports on the inevitable minor deviation of work from the foreseen activity reported in Annex 1 of the Description of Action (DoA), as amended after the first reporting period.

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List of Acronyms

CN	Community Network
DMP	Data Management Plan
DoA	Description of Action
EC	European Commission
ICT	Information and Communication Technologies
OA	Open Access
OD	Open Data
PO	Project Officer
TMPR	Technical, Management & Progress Report
UNESCO	United Nations Educational, Scientific and Cultural Organization

1 Explanation of the work carried out by the beneficiaries and overview of the progress

1.1 Objectives

For the sake of easy reference, we report once more the summary of the objectives from netCommons DoA:

“Community Networks (CNs) are bottom-up initiatives to realize communication networks with a participatory and grassroots organization that are blooming in several European Countries. Community Networks use peer-to-peer technologies to achieve an ambitious societal goal: the realization of a fairer Information and Communication Technologies (ICT) ecosystem.

The first objective of netCommons is to produce high-impact interdisciplinary research on, and together with, Community Networks, in order to resolve some of the problems that CNs face, and foster their growth and their long-term sustainability. We identify three open issues that need to be addressed to help the growth of CNs: I) their governance models, ii) their sustainability, and iii) their technical decentralization.

The second objective of netCommons is to extend the experience and the results obtained in the context of CNs to a broader research area, giving a strong contribution to the development of key themes for Internet Science and CAPS. Thus, the goal is the investigation of social, legal, political, and economic premises are needed to build a more sustainable ICT world, and how grassroots initiatives such as Community Networks can play a role to influence such process.”

The goal of this deliverable is to inform on the work carried out in the nine months after the first reporting period, with particular attention to the means adopted to fulfill the observations and comments of the reviewers and the PO at the review meeting. No financial details and accounting details are due in this report. The full activity report, including financial details of the first half of the project is available in D7.2 [2], the TMPR Technical Management & Progress Report delivered at Mo. 18, while the second complete TMPR is due at the end of the project.

1.2 Explanation of the work carried per WP

1.2.1 WP1

Deliverables foreseen during the reporting period with due month and actual delivery

- D1.4 Report on the Governance Instruments and their Application to CNs (v2) — M24 (December 30, 2017)
- D1.5 Community Networks and Political Advocacy — M24 (19 February, 2018)

The work of WP1 in these 9 months concluded, following the DoA, the analysis and recommendations concerning the governance techniques and methodological instruments adopted by CNs, thus closing also Task 1.2 with D1.4 [3]. Task 1.3 started in M18 at the beginning of this reporting period, with the goal of setting advocacy best practices for CNs activists. The outcome of the Task is D1.5 [4], which was available as draft by the end of the second year of the project, then circulated and published on the web site as draft and finally concluded and delivered in February. Particularly interesting, in the framework of Task 1.3, has been the workshop organized with the United Nations Educational, Scientific and Cultural Organization (UNESCO) working group on the [Internet Universality Indicators](#) (see Fig. 1.1), which also justifies the delayed delivery in order to accommodate also the feedback from this event.



Figure 1.1: A moment of the meeting on January 30, 2018, at the offices of UNESCO in Paris for a discussion on the potential impact of Community Networks for several Internet Universality Indicators.

1.2.2 WP2

Deliverables foreseen during the reporting period with due month and actual delivery

- D2.6 Economic Sustainability of CNs (v2) — M24 (May 10, 2018)
- D2.7 Monitoring CNs Report on Experimentations on CNs — M24 (December 28, 2017)

During these nine months WP2 completed two deliverables. D2.7 [5] concluded Task 2.4, presenting the activity done with some community networks to experiment with the novel management tools developed. Chapter 3 reported on the OpenWisp activity, which is the application of research in innovating the said OpenSource platform, used and appreciated in the ninux community. Of particular interest and importance, for example, is the possibility to analyze topological weaknesses as cut-points (see Fig. 1.2 that require the attention of the management staff and counter-measures taken by the community itself. Moreover, Chapter 2 of the deliverable presents several research results both published and under revision.

D2.6 [6] concluded instead Task 2.3 presenting results on the interaction of CNs development with community currencies and crypto-currencies. The corresponding explosion and global attention on crypto-currencies has also been considered exploring and comparing different solutions and trying to foresee the possible outcome of novel proposals like Ammbr that did not exist at the time of writing the DoA.

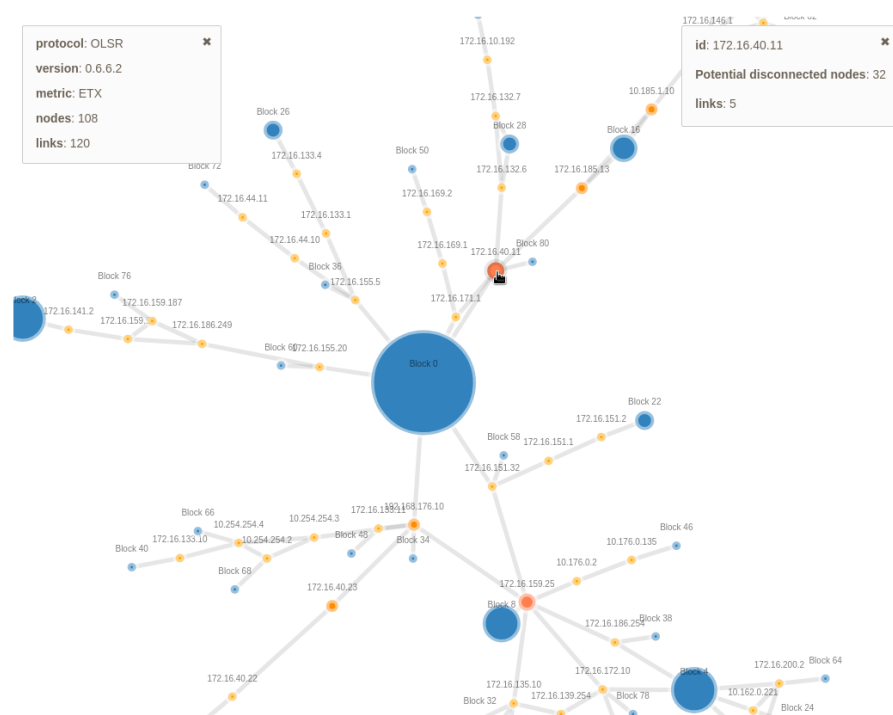


Figure 1.2: Detail of the information displayed by the OpenWisp extension when clicking on a cut-point.

1.2.3 WP3

Deliverables foreseen during the reporting period with due month and actual delivery

- D3.3 Multi-Disciplinary Methodology for Applications Design for CNs, including Design Guidelines and Adoption Facilitation (v2) — M15 (April 23, 2018)
- D3.4 Multi-Disciplinary Methodology for Applications Design for CNs, including Design Guidelines and Adoption Facilitation (v2) — M24 (March, 2018)

WP3 has four different tasks. Task 3.1 is devoted to understanding methodologies of participatory design and adapt them to the environment of CNs. D3.3 [1] presents the final proposal for a participatory design procedure, leaving to a future deliverable, D3.6 introduced with an amendment procedure (see Sec. 1.2.7 and Chapter 4), the task to refine and assess the methodology based on usage feedback from the partners and the CNs.

Tasks 3.2, 3.3 and 3.4 are all involved in the development or adaptation of software applications tailored for CNs use. These three tasks delivers new software jointly. D3.4 [7] reports the development in the second year of the project, highlighting significant steps forward in all three tasks.

1.2.4 WP4

Deliverables foreseen during the reporting period with due month and actual delivery

- D4.2 European Legal Framework for CNs (v2) — M24 (Jan. 4, 2018)

During these 9 month only the conclusion of Task 4.1 with D4.2 [8] was foreseen, while Task 4.3 started collecting the material to build the best practice legal guide due at the end of the project. Besides reporting on the legal situation in Europe and how it hampers the development of CNs, D4.2 reports on several interactions between netCommons researchers and CNs practitioners that helped these latter to better focus their activity and to re-design the legal practices of the respective CNs.

1.2.5 WP5

Deliverables foreseen during the reporting period with due month and actual delivery

- D5.4 Alternative Internet's Political Economy Survey Analysis and Interpretation of Data — M27 (August 13, 2018)

The difficulties in closing the survey data collection in Task 5.4 lead to a delay in Task 5.5 with the consequent delayed delivery of D5.4 [9]. The survey contains many open-answer questions and the analysis of these qualitative answers, which is the goal of Task 5.5, and these have been parsed, considered, and evaluated manually. D5.4 is complemented by [an on-line repository](#) that includes all quantitative questions outcomes, pre-processed for possible use by other researchers. Fig. 1.3 reports an example of these quantitative answers distribution.

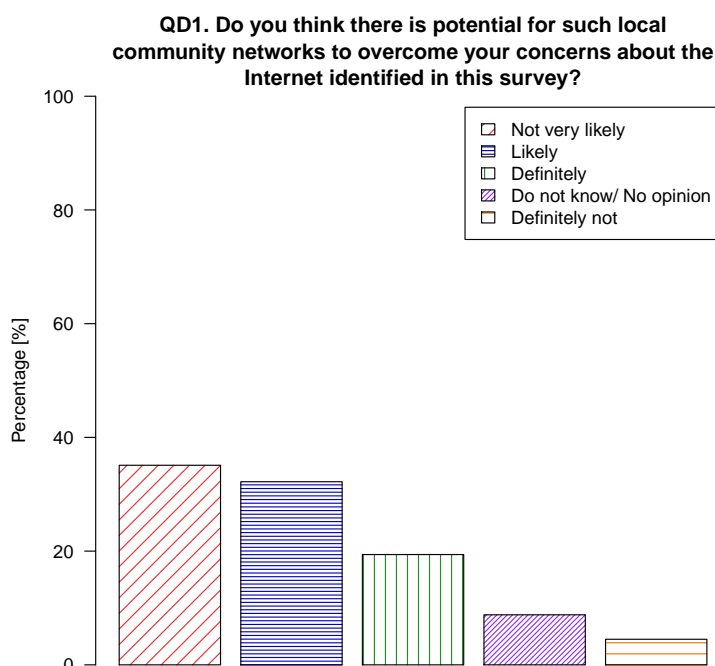


Figure 1.3: Answers to question QD1 of the survey showing that more than 50% of the interviewees consider that CNs can help improving the overall Internet ecosystem, while roughly 35% remains skeptical on their potential.

1.2.6 WP6

Deliverables foreseen during the reporting period with due month and actual delivery

- D6.2 Dissemination Report: Summary of Dissemination Actions and Adoption of NetCommons Solutions During the Second Year — M24 (August 8, 2018)

The three different tasks of WP6, which target the three dissemination levels of netCommons continued regularly during the 9 months covered by this TMPR. The first six months of the period are covered by the report in D6.2 [10], and in the next three months the level of activity remained at the same level. We can mention in the first three months of this TMPR the workshop [What strategy for Alternative Internets?](#) organized in Paris in January and the [UNESCO workshop](#), already mentioned in WP1 (see Fig. 1.1).

Worth mentioning in this trimester are also (among many others), the publication or acceptance of the following papers:

- Panagiota Micholia, Merkouris Karaliopoulos, Iordanis Koutsopoulos, Leandro Navarro, Roger Baig, Dimitris Boucas, Maria Michalis, and Panayotis Antoniadis, "Community networks, sustainability, incentive mechanisms," *IEEE Communications Surveys and Tutorials*, Vol. 20, Issue 4, March 2018.
- Leonardo Maccari, Lorenzo Ghio, Alessio Guerrieri, Alberto Montresor, and Renato Lo Cigno, "On the distributed computation of load centrality and its application to DV Routing," *IEEE International Conference on Computer Communications (INFOCOM)*, April 2018.
- Stefano Crabu, and Paolo Magaouda, "Bottom-up Infrastructures: Aligning Politics and Technology in building a Wireless Community Network", *Computer Supported Cooperative Work (CSCW)*, Springer,

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netCommons has remained in continuous contact with CN members to disseminate the information collected and produced by the project as well as to collect feedback and novel issues and requirements.

1.2.7 WP7

Deliverables foreseen during the reporting period with due month and actual delivery

- D7.3 Data Management Plan (v2) — M24 (June 24, 2018)

After the review meeting the main management have been the drafting and approval of Amendment **No AMD-688768-13** on which we report in Chapter 4, and the preparation of the final version of the Data Management Plan, D7.3 [11].

Furthermore, WP7 continued to developed the web-site, handled all requests and issues about Open Access and Open Data, coordinated the work of different WPs and answered all administrative requests from partners. Obviously, in this TMR UniTN also received and distributed the second advance payment.

1.3 Impact

As already reported in D7.2 [2], netCommons has reached out to all the stakeholders: Community Networks, Researchers, Policy Makers, and the Civil Society at large. netCommons results, innovative views and research has been widely disseminated, all documents produces are public and available on the web-site.

netCommons impact is thus evolving as foreseen in Annex 1, Part B, Section 2, without major deviations or reduction of the impact expected.

2 Update of the plan for exploitation and dissemination of result

No changes in exploitation and dissemination are foreseen at this point of the project.

3 Update of the data management plan

The Data Management Plan (DMP) as described in D7.1 [12] has been revised during these nine months resulting in the updated DMP D7.3 [11]. There are no major changes to report, but only updates on the Open Access (OA) policies adopted by major publishers as well as operations regarding the use of [zenodo](#) for Open Data (OD).

It is worth highlighting the discussion on **Data, Property & Copyright** reported as Sect. 2.1 of D7.3, which can be useful as a reference for other research projects too as it highlights the lack of proper regulatory framework and Copy Right management regarding data, as standard Copy Right regulations refer to intellectual property rights (i.e., covering the realm of human creative processes), while data is instead often related to measures and objective analysis, and not to a creative process.

4 Deviations from Annex 1

The project does not have any significant deviation from the DoA; however, after the review meeting in Sept. 2017, it was decided in agreement with the PO to file an amendment to better reflect in the amended DoA the actual evolution of the work as it has emerged after the first 18 months of work.

Amendment No **AMD-688768-13** was approved and signed by the European Commission (EC) on Dec 19, 2017. The key modification introduced by the amendment is the presence of an additional deliverable: D3.6 “Deployment experiences with a Multi-Disciplinary approach,” with the consequent re-modulation of D3.5 “Multi-Disciplinary Methodology for Applications Design for CNs, including Design Guidelines and Adoption Facilitation (v2)” with a more theoretical perspective, while D3.6 collects the feedback from the application of the Methodology in three different cases.

As this TMPR is not concerned with resource utilization, no other deviation or modification was observed.

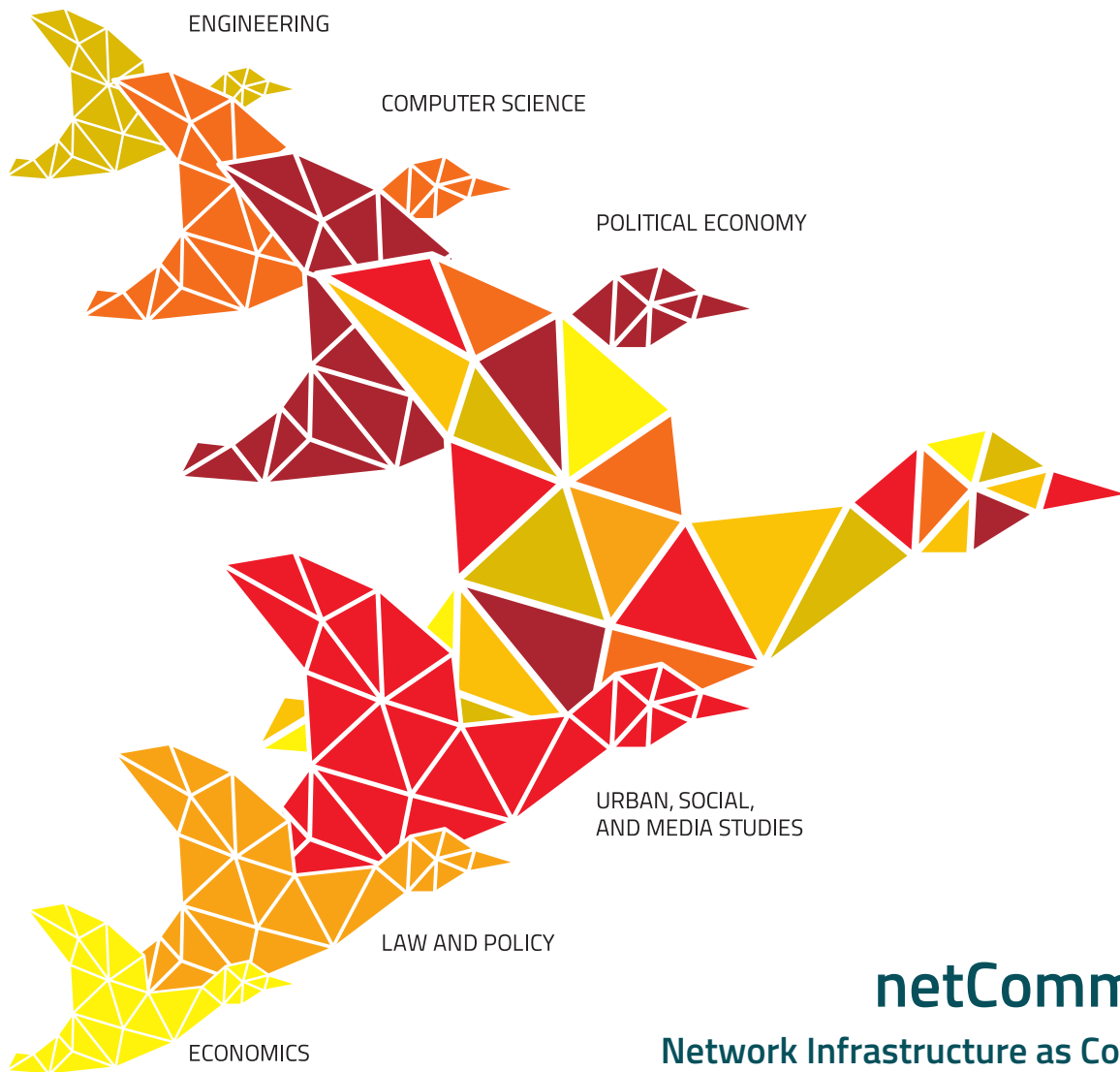
5 Conclusions

At M27, in the middle of the second reporting period, netCommons has reached all its intermediate goals, and the project work and research are going on smoothly, albeit we have to observe delays in the formal upload of deliverables, due mainly to the high attention that netCommons researchers put in producing high quality documents also from a formal point of view (hence with a painful heed to details and writing, an effort that comes after the work is finished and the first final draft is available and normally published on the web site).

This Deliverable summarizes the technical achievements and management effort of the project, with specific links to the technical documents and deliverables where the objectives have been met and can be found.

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