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D5.4: RIFE Standardization Survey

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Abstract	This document identifies the relevant standardization bodies/activities related to the RIFE concept.
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PU	Public	✓
PP	Restricted to other programme participants (including the Commission)	
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¹ R: report, P: prototype, D: demonstrator, O: other

EXECUTIVE SUMMARY

Standardization contributions are an important form of dissemination and exploitation of the RIFE results. Thus, our objective is to monitor and contribute to ongoing works in standardization bodies and ensure that RIFE research activities are aligned with the existing trends.

We have therefore identified relevant standardization activities the project will pursue related to the RIFE concept and they are Standardization activities, Pre-standardization and Standardization approaches as presented in Section 2 of this deliverable.



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1. INTRODUCTION

This deliverable outlines RIFE's main objectives in terms of standardisation activities in the project's second year in the area of contributions and co-operation with various standardization bodies.

2. STANDARDIZATION ACTIVITIES

Specific targeted activities in standardization activities include contributing to (draft) specifications, and taking initiative in designing system and protocol aspects as applicable.

Candidates for our contributions are in the Internet Engineering Task Force (IETF) and Internet Research Task Force (IRTF) in order to position DTN and ICN as an exploitable technology. We plan, for instance, to actively contribute to scenario and research challenge definitions as well as position the RIFE functional components as a possible approach for traversing ICN, DTN and traditional IP deployments.

Different approaches are required to maximize the RIFE influence and they are Pre-standardization and Standardization approach as discussed in the following section.

2.1 Pre-standardization approach

With regards to the standardization of results, the project will mostly adopt an indirect approach. We believe that direct submission of results to standard forums such as the World Wide Web Consortium (W3C) or Internet Engineering Task Force (IETF) will not be fruitful due to the highly radical departure of the project from the current state of affairs.

However, those relevant standardization organizations also maintain research branches, such as the Internet Research Task Force (IRTF) and also in the case of IETF, that are much more open to innovations in communications architecture. The project is therefore aiming to approach such groups and use them as a vehicle in order to eventually approach the more standard venues.

The following groups are priority targets due to their area of interests and expertise:

- IRTF Global Access to the Internet for All (GAIA)
 - Dr. Sathiaseelan of UCAM is the Chair of GAIA
- IRTF Software Defined Networking Research Groups (SDNRG)
- IRTF Information-Centric Networking Research Group (ICNRG)
 - The work of the ICN group only started recently and the partners have been actively involved in discussions and contribution.
- IRTF Delay Tolerant Networking Research Group (DTNRG)



- DTN group is presently considering launching work towards a v2 of the Bundle Protocol Specification, which will allow RIFE key concepts to be incorporated into the core design.
- Professor Ott of Aalto (recently moved to TUM) is the co-chair of DTNRG

RIFE will therefore focus on influencing pre-standardization activities, which is particularly sensible as the technologies RIFE will incorporate have been standardized to a sufficient extent to achieve the necessary baseline interoperability across implementations. This includes the basic packet formats, protocol interactions, and naming conventions. RIFE will then contribute the unique combination of these technologies and supported by its deployment experience, to the best practices as well as provide solutions to missing pieces.

2.2 Standardization approach

Beyond pre-standardization of RIFE forward-looking concepts, we also plan to participate in the IETF working groups of:

- Active Queue Management and Packet Scheduling (AQM) Working Group
 - For the backhaul dissemination strategy and implemented less-than-best-effort services.
- HTTPBIS Working Group
 - For suitable HTTP extensions for HTTP 2.0.
- IETF Security Area Working Groups
 - For the security mechanisms to be developed.

RIFE contributions will therefore influence such standardization working groups, by using its deployment experience, in order to make evolve those classical mechanisms.

3. STANDARDS CONTRIBUTIONS

Title	Date	Reference	Partners
IRTF GAIA draft Alternative Network Deployments, Taxonomy, Characterization, Technologies and Architectures draft-irtf-gaia-alternative-network- deployments-00	6 th March, 2015	draft-irtf-gaia-alternative- network-deployments-00	J. Saldana, Ed. Andres Arcia-Moret, B. Braem, E. Pietrosevoli, Arjuna Sathiaseelan, M. Zennaro and Abdus Salam,