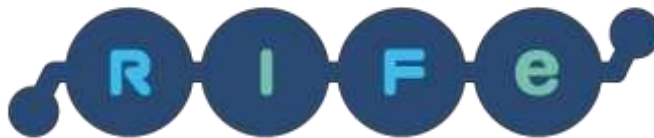




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architectuRe for an Internet For Everybody

D5.7: architectuRe of an Internet For Everybody (RIFE) document

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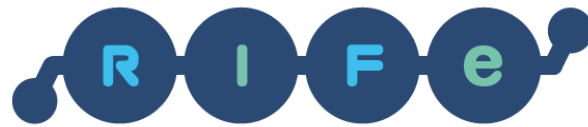
Abstract	This first version of this project summary provides a public description of the project that includes its vision, objectives and technical approach to achieving the objectives.
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Keywords	Future Internet architectures, Information-Centric networks (ICN), Delay-Tolerant Networks (DTN)
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Project co-funded by the European Commission in the H2020 Programme		
Nature of the deliverable		R
Dissemination level		
PU	Public	✓
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to bodies determined by the RIFE project	
CO	Confidential to RIFE project and Commission Services	



architectuRe for an Internet For Everybody

Our objective: providing sustainable and affordable access to the Internet to everybody in particular including those who cannot afford such access under the current economic constraints of Internet service provisioning.

Concept

The vision of RIFE is to address the problem of providing affordable and sustainable access to the Internet by realising an *architecture for an Internet for everybody* that enables access to information and services at economically sustainable price points unmatched by today's technologies, while also catering to challenges, such as intermittent connectivity, posed by the varying environmental challenges that are imposed on those who want to connect.

The RIFE project objectives' aim therefore to provide innovations for an Internet for everybody.

Building on prior academic work, the following major outcomes are expected:

1. the definition of a *unifying architecture* with clear interfaces provided to application developers. The focus will be placed on the convergence between ICN, DTN and caching mechanisms.
2. the development of *novel dissemination strategies* that jointly optimise bandwidth, storage and computation resources available, integrating diverse network environments into the single RIFE architecture, and
3. a set of service and application functions that will enable the full utilisation of the RIFE architecture in real-life settings.

For achieving these objectives, the following steps are being taken:

- a RIFE prototype platform is being implemented. This will then be tested against Key Performance Indicators in both test bed and emulation settings,
- an operational trial within a community network is being set up, that is linked via real-life satellite connectivity, and
- an accurate *evaluation of the commercial viability of the RIFE platform* is being realised to provide the basis for a sustainable value chain, and *establish RIFE as a key driver in the wider community* of practitioners and researchers in this field.



Technical Approach

Six months after the beginning of the RIFE adventure, we consider that the best approach to realise our vision to make the Internet ubiquitous and accessible is a holistic one that couples social and economic incentives with ongoing and envisioned future Internet architectures. Through this coupling, we spur innovation for a wide range of new business models, such as:

- opportunities for non-governmental organisations and local governments (driven by social goals rather than economic) to become virtual network operators,
- new models for revenue creation from currently under-utilised infrastructure, allowing lower-quality time-shifted services, and
- the introduction of micropayments and reverse payment models (for e.g. remote doctors to pay for additional capacity/QoS for video conferencing with patients, etc.).

We will utilise well-researched practices, results, and working platforms in key networking areas, such as DTN and ICN, combined into a novel approach to provide such Internet services at unforeseen price points over a wide range of connectivity options. Our solid technological starting points, will allow for moving our ideas quickly from the lab to the market by deploying initial trials within the lifetime of the project and getting real users to experience the Internet for everybody

The following components are the guarantee of the RIFE success:

- our *unifying technical platform* to enable the services we envision,
- our *business platform* to enable the markets necessary to make these services holistically sustainable, and
- our *deployment platform* to provide a concrete and tangible proof of the readiness of our approach, aiding the engagement with the growing community in this space [GAIA] and interested stakeholders in the Internet value chain.