Call for Papers

1st International Workshop on
the Future Evolution of Internet Protocols
IPFuture 2020
Izmir, Turkey, 02 November 2020
Co-located with CNSM 2020
http://www.cnsm-conf.org/2020/workshop_IPFuture.html

IP - as the backbone of the Internet- has enabled an amazing deployment of platforms and applications. However, the design of IP in the 1970s did not consider many of the requirements of the applications of the 2020s and beyond. No matter how prescient the design of IP was, nothing lasts forever. The search for a future network protocol has produced so far, a new version of IP, IPv6 that is now used by a third of the Internet users. IPv6 is considered incremental, as it does not challenge the key design principles of IPv4.

Researchers have started to look for successors of IP. NSF funded some Future Internet Architecture projects as well as some Clean Slate programs. Similarly, the EU Framework Program 7 and Horizon 2020 hoped to promulgate new network architectures and protocols for the Internet. Non-IP network architectures, such as NDN, have been proposed and enjoy some popularity within industrial and academic research.

Yet, before any replacement of IP is deployed, it will require deployment in operating systems, forwarding and routing elements, end-user clients, etc. This challenge to the status-quo would require the buy-in and motivation of many people: researchers, product developers, business strategists, CEOs. One key question to answer is: "what is the compelling need for a new architecture?", and "What will really happen to the Internet (and the businesses that run over it) if we keep IP as it currently is?"

Identifying simple, intuitive examples that demonstrate the failure of the current design and the need for change, is a requirement before designing a successor to IP. Many new applications may stretch IP beyond its limits. It may be autonomous driving or the IoT; or industrial Internet and machine-to-machine communications; or new applications such as holographic communications or haptic support, etc.

To enact change will be much easier if there is a set of mutually agreed examples describing modes where IP falls short. Absent compelling examples, it is unlikely that any new protocol architecture would catch the fancy of any industry leaders, once they factor in the cost and risk of change.

The goal of the workshop is to identify compelling scenarios were IP is clearly insufficient. We hope that these scenarios could become the examples required to foster change in the industry.

The focus of the workshop is on the problems facing IP in the future, and any presentation in the workshop should focus on a problem/shortcoming before proposing any solution.

Revised and extended versions of Best Papers published in the workshop will be invited for fast-tracked publication in Computer Networks.

Topics of interest include but are not limited to:

- Shortcomings of the IP architecture

- Applications that will require new network services currently not supported by IP
- Network protocols optimizations for Industrial and Tactile networks
- Network security and privacy issues that cannot be fixed with the current network layer
- Innovations in routing technologies and addressing in networks
- Motivations for Future Internet Architecture, including Information-Centric Networks
- Network requirements and challenges for VR/AR and Holographic type communications
- Network requirements and challenges for Tactile networks
- Network requirements and challenges for Industrial Internet and massive M2M communications
- Business models and incentives for Beyond IP network architectures
- Challenges in managing IP networks that can be alleviated with better network support

Paper Submissions:
Authors are invited to submit original unpublished papers not under review elsewhere. Submissions will be subjected to a peer-review process. Regular papers should be submitted in IEEE 2-column format, not exceeding 6 pages. Papers accepted and presented at IPFuture will be published open access on the conference Web site with IFIP copyright, and will be submitted for possible inclusion in IEEE Xplore, ACM and IFIP Digital Libraries.

In addition to regular papers, short papers describing late-breaking advances and work-in-progress reports from ongoing research are also welcomed. These should also be in IEEE 2-column format between 2 to 4 pages in length.

Workshop General Chairs:
Ian Akyildiz, Georgia Tech & Enrico Natalizio, LORIA

Workshop PC Co-Chairs
Hulya Seferoglu, University of Illinois, Chicago & Cedric Westphal, Futurewei, USA

Important Dates:

Paper Submission:	August 03, 2020
Acceptance Notification:	September 10, 2020
Camera Ready Submission:	September 20, 2020
Workshop Date:	November 02, 2020