

# Submission to DINR 2024

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## Talk 1

*Title: 10 Years of Encrypted Stub to Recursive DNS*

*Speaker: Sara Dickinson, Sinodun IT*

*Talk length: 10 mins*

It is almost exactly 10 years since the first Internet Draft proposing encryption of DNS messages was submitted to the DPRIVE working group at IETF. A decade later significant progress has been made but encryption of stub to recursive messages is still not ubiquitous. This talk will attempt to contextualise the developments in terms of the multitude of stakeholders involved in each stage.

This talk will first briefly outline the major milestones to date in terms of protocol standardisation, implementation in open source software and deployment at scale of DoT, DoH and DoQ. The aim is to provide context on why 3 protocols emerged due to competing factors (including the complex interaction of the DNS community, Web browser developers and wider evolution of Internet transports).

It will then highlight the remaining challenges around encrypted DNS becoming the default for stub to recursive and discuss ongoing work in this areas. In particular issues around discovery of resolvers supporting encrypted protocols, which is the topic of much work in the IETF ADD WG, is still very active. Such fundamental changes introduce operating system developers, UI designers and users themselves as key players in the practical deployment of new protocols.