

Modelling and Analysis of the Session Initiation Protocol

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Abstract

Evolution of the Internet and an IP-telephony has been changing the way of communication in our daily life. An example is use of technology Voice over IP (VoIP). Before connection between participants, protocols should establish a session, support and finish it.

The Session Initiation Protocol (SIP) is a control protocol developed by the Internet Engineering Task Force (IETF) for initiating, modifying and terminating multimedia sessions over the Internet. SIP was published as Request for Comments (RFC) 3261 in 2002.

In our work, we create a Coloured Petri Net (CPN) model for SIP transactions with reliable and unreliable transport mediums which is used for verification.

Index Terms: Session Initiation Protocol, Coloured Petri Nets, reliable and unreliable transport mediums.