paper-analysisecho

Carolin Zöbelein*

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DRAFT

Abstract

Abstract TODO.

Keywords: XXX
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TODO: In progress...typping :)

1 Introduction

On 30 May 72, Jon Postel, member of the network working group of *Requests for Comments* (RFC), proposed an *"Echo" process* in RFC 347 [2], for the first time. He wrote:

I suggest that for debugging and measurement purposes those hosts which are willing implement an "Echo" process. This echo process would listen for a request for connection and execute the Initial Connection Protocol (ICP) as specified in NIC 7104 the "Current Network Protocols" notebook. Upon completion of the ICP the echo process would wait for data from the network. When the data is received from the network it is echoed at once, (and the buffer space is re-allocated). By echoed I mean that the data received is sent back over the network, bit for bit with no modification by the echo process. The echo process is terminated by closing the network connections. Note that BBN-TENEX has had such an echo process available for use for a long time.

Since this, the *Echo Protocol* has been established as a well known tool for testing and measurement of round-trip times in IP networks. Mostly handled over port number 7, servers sends back an identical copy of received data. It also found it's way as Wake-on-LAN (WOL) magic packet to hosts on a local network to wake them up remotely.

Although, Echo has found it's way as a standard in daily online network life, it has never been systematically analyzed by mathematical analysis methods. With this paper, we want to make up leeway this. So, we start with a first general definition of Echo Protocol according to [3].

Definition 1 (Echo Protocol)**.** *Given be a data signal d. If a sender S sends d to a receiver R and R sends d back to S without any modification, we call the underlying agreement for this mutual data exchange an* ***Echo Protocol*** *P_{Echo}.*

1.1 Our Results

TODO

*The author believes in the importance of the independence of research and is funded by the public community. If you also believe in this values, you can find ways for supporting the author's work here: `https://research.carolin-zoebelein.de/funding.html`, Email: `contact@carolin-zoebelein.de`, PGP: D4A7 35E8 D47F 801F 2CF6 2BA7 927A FD3C DE47 E13B, `https://research.carolin-zoebelein.de` LaTeXsource availabe at `https://github.com/Samdney/paper-analysisecho`, `id: paper_000X`, 😎

1.2 Organization

TODO

Acknowledgement

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License

References

[1] Jun Cai, Jian-Zhen Luo, and Fangyuan Lei, *Analyzing network protocols of application layer using hidden semi-markov model*, Mathematical Problems in Engineering **2016** (2016).

[2] Network Working Group, Jon Postel, *RFC 347 - Echo Process*, https://tools.ietf.org/html/rfc347, 05 1972, (Accessed on 2020/07/15).

[3] ———, *RFC 862 - Echo Protocol*, https://tools.ietf.org/html/rfc862, 05 1983, (Accessed on 2020/07/15).