Hey network, what are you up to?*

Hey network, the egress in NEWY is close to its maximum capacity. Where is all that traffic coming from?

The traffic mostly enters in PHIL and goes to Youtube.

Understanding how the network behaves can take hours
- Wealth of low-level data from different sources
- Need to summarize this data and find high-level insights
- Networks get more and more complex

Net2Text assists network operators by answering their questions, in English
- It takes on the tedious, time-consuming tasks
- It provides succinct answers to the operator’s questions
- It allows the operator to focus on managing the network

Net2Text creates insightful summaries in four steps: parsing, data retrieval, summarization, translation

Finding a meaningful summary is hard: Net2Text scales using both approximation and sampling

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Net2Text answers within seconds
Performance
- We tested on networks with > 100 routers
- Thanks to sampling, Net2Text answers within a couple of seconds
- Sampling affects the summary quality only at high sampling rates

Usability
- We interviewed multiple network operators
- Virtual assistants add value wherever they speed up daily tasks
- Natural language interface was well-perceived
- Supported questions are relevant

(*) Rüdiger Birkner, Dana Drachsler-Cohen, Laurent Vanbever, Martin Vechev
Net2Text: Query-Guided Summarization of Network Forwarding Behaviors, USENIX NSDI ’18, Renton, WA, USA.