Determining the application-level throughput as megabits per second

Purpose

The purpose of this test is to:

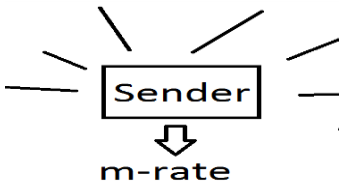
1. Determine the goodput[1] at different multicast data rates.

Method

Test parameters

To fulfill the purpose, we set up a sender as seen in the figure below. The sender transmits with full speed, for a given m-rate, for 1 minute. The sender count the packets send, and the packet will have the size of a Network interface packets – the Network interface MTU is 1500 bytes. Meaning 1500 – 20(IP) – 8(UDP) = 1472 bytes of payload. From this the bits per second can be calculated. The parameters to be varied:

- Multicast data-rate: 12, 18, 24 and 36.



Equipment

	Equipment
1.	1 x RT5370
2.	1 x Raspberry Pi 3 model b

The sender is running on a Raspberry 3 with a Wi-Fi module (1).

Results

The measured goodput can be seen in the table below.

m-rate	Goodput
12 Mbps	10,492 Mbps
18 Mbps	15,243 Mbps
24 Mbps	19,627 Mbps
36 Mbps	27,691 Mbps

[1] goodput is the application-level throughput