

Measurement Results from Wireless Battle Mesh Version 7

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<http://battlemesh.org/BattleMeshV7>



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1 Introduction

WBM...

2 Data and System Repositories

<http://wibed.confine-project.eu>

<https://github.com/battlemesh/wibed> (buildroot)
<https://github.com/battlemesh/wibed-battlemesh-experiment> (package)
<http://wiki.confine-project.eu/wibed:start>
<https://github.com/axn/wbm2pdf> (this stuff, branch wbm7 in future)

Raw measurement data:

http://wibed.confine-project.eu/resultsdire/wbm7-axn-16_2014-05-16_19-28-43 (stationary scenarios)
http://wibed.confine-project.eu/resultsdire/wbm7-axn-17_2014-05-16_20-13-20 (broken crossed streams scenario)
http://wibed.confine-project.eu/resultsdire/wbm7-axn-19_2014-05-16_21-35-33 (mobile scenarios)

3 Testbed Descripiton

3.1 Nodes and Locations

NodeID	Location	exp:axn-16 (stationary)	exp:axn-17 (broken)	exp:axn-19 (mobile)
164a7a	deathroom			
3b3a90	workshopRoom			
3b3d70	????			
3e9db0	deathroom??	9db0->1ab0		9db0->4174
51aac8	halleAnfang			aac8->4174
8a417e	deathroom	417e->4174	417e->1ab0	
c24174	HalleEnde (mobile)		4174->1936	
c2427a	deathroom??			427a->4174
ce3360	EloiTable			
e4b63a	mustiTable			
e60a62	halleMitte			
e60aac	deathroom			
e60ad6	deathroom			
e61936	axelsTable	1936->4174	1936->4174	1936->4174
f41ab0	kloschiOffice??	1ab0->4174	1ab0->417e	1ab0->4174

3.2 Topology

4 Ping Measurements (hops, rtt, loss)

4.1 Stationary Scenarios

4.2 Ping Results Table

The folloing verbatim table lists statistics per experiment (EXP) and group (GRP) as calculated by the lua-based evaluation script based on the raw ping-measurements data and outputted to the file ping.stat. Event based results are given for each received icmp response in ping.data.

4.3 Stationary Nodes Measurements

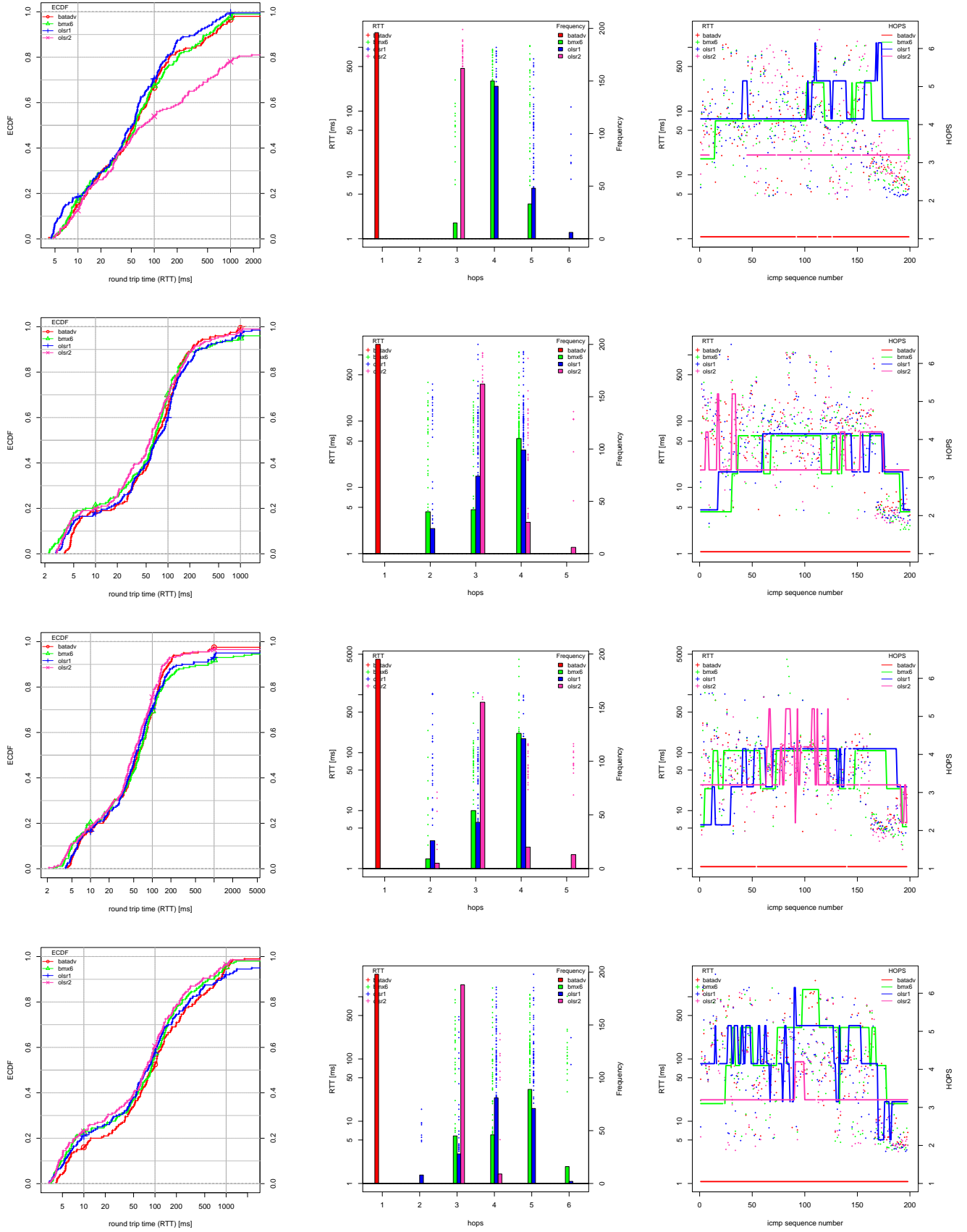


Table 1: End-to-end ping6 performance between two stationary nodes: 9db0-1ab0, 417e-4174, 1936-4174, 1ab0-4174

4.4 Mobile Node Measurements

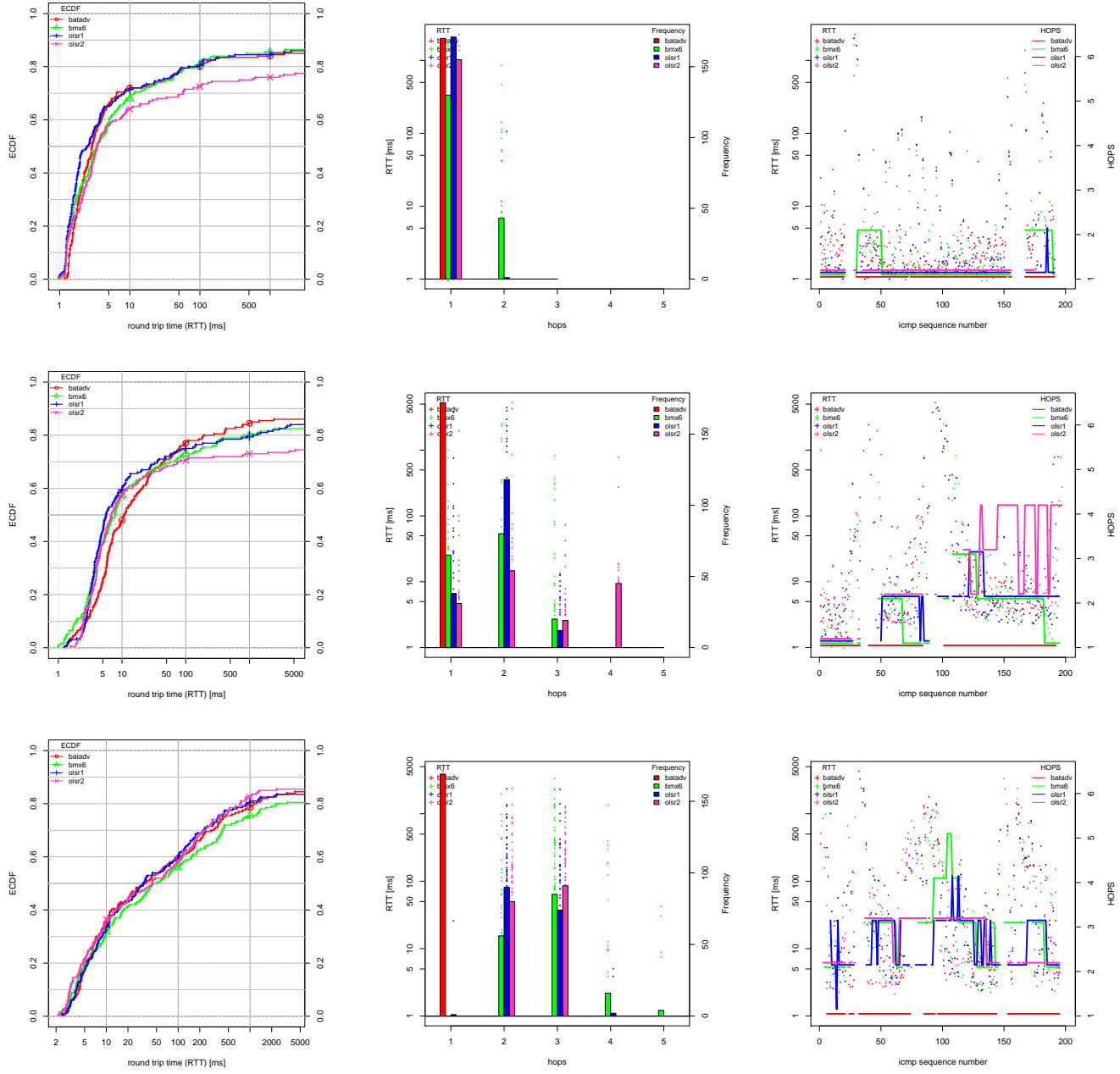


Table 2: End-to-end ping6 performance to mobile node 4174 from aac8, 1936, 1ab0

4.5 Mobile Scenarios

5 TCP Throughput Measurements

6 Recommendations for next battlemesh

- Traceroute and mrt often show high packet for intermediate nodes. This is due to a kind of denial-of-service mechanism enabled by default in Linux kernel. With this mechanism the kernel simply discards frequent icmp responses (eg due to exceeded TTL values). This behavior can be disabled by lowering the default `net.ipv6.icmp.ratelimit=1000` setting, eg via: `sysctl -w net.ipv6.icmp.ratelimit=10`

7 Appendix