

draft-minaburo-lpwan-gap-analysis-02

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-Editors-

Status

- Merger of two drafts
 - draft-minaburo-lpwan-gap-analysis-01
 - LPWAN survey and gap analysis covering several WGs
 - Basis of the merged document
 - draft-gomez-lpwan-ipv6-analysis-00
 - IPv6 support analysis and some solutions
 - Only the analysis part included in the merged document

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Basis:
draft-
minaburo, plus
minor
improvements,
merged text,
etc.

New content

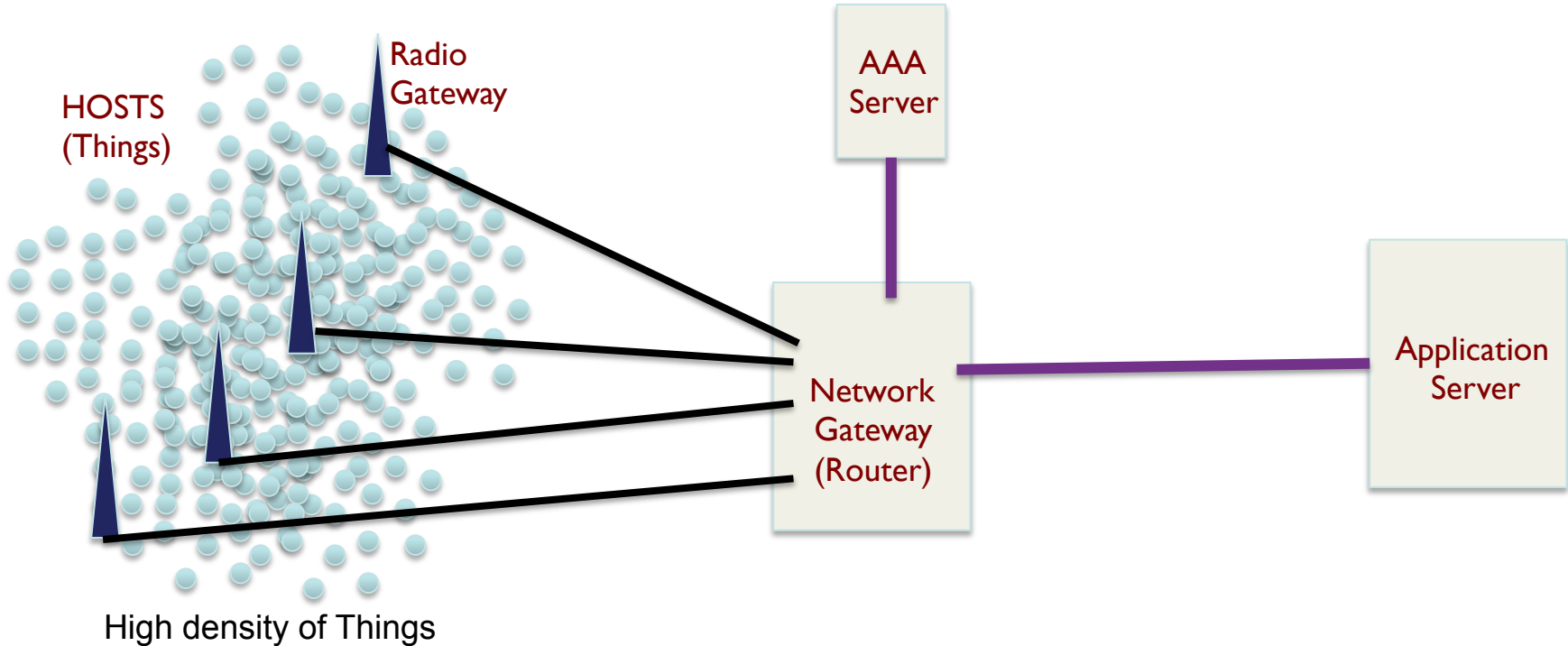
- 2.1. Benchmark change
 - LPWAN measurement scale:
 - Duty cycle regulation brings a reduction of rate to 1 packet per minute or less
 - We need to adapt protocols to LPWAN transmission rate from bit/s to bit/day
 - Adapt timers, delays, buffers, etc.
 - Solutions need to be adapted to this constraint

Benchmark Change

	$N = 500$			$N = 1000$			$N = 5000$			$N = 10000$		
Payload (Bytes)	10	30	50	10	30	50	10	30	50	10	30	50
Max. throughput per node (Packets/hour)	159	94	68	96	57	41	17	10	7	8.5	5.5	3.5
Max. throughput per node (Bytes/hour)	1590	2820	3400	960	1710	2050	170	300	350	85	165	175
λ of the max. throughput (Packets/hour)	874	500	370	650	390	287	135	74	53	65	37	26.5
Prob. of successful transmission (%)	18.19	18.80	18.38	14.77	14.62	14.29	12.59	13.51	13.21	13.08	14.86	13.21

New content

- 2.2. Architecture



New content

- 3.5. RoHC Header Compression
 - A framework with 2 header format packets versions: RoHCv1 with fixed formats and RoHCv2 using a dynamic generator of header formats (Formal Notation)
 - These protocols are not adapted for different reasons:
 - Header Size (not in average but in reality)
 - Not able for lower energy
 - Not able for the transmission rates
 - Managed by a SN
 - Not CoAP compression
 - End-nodes need to have good memory
 - If used need to be modified, to be redefine from RoHC framework, and adapted for CoAP and LPWAN

Thank you

- Questions?