Route Flap Dampening made useful for BGP

draft-ymbk-rfd-usable-00

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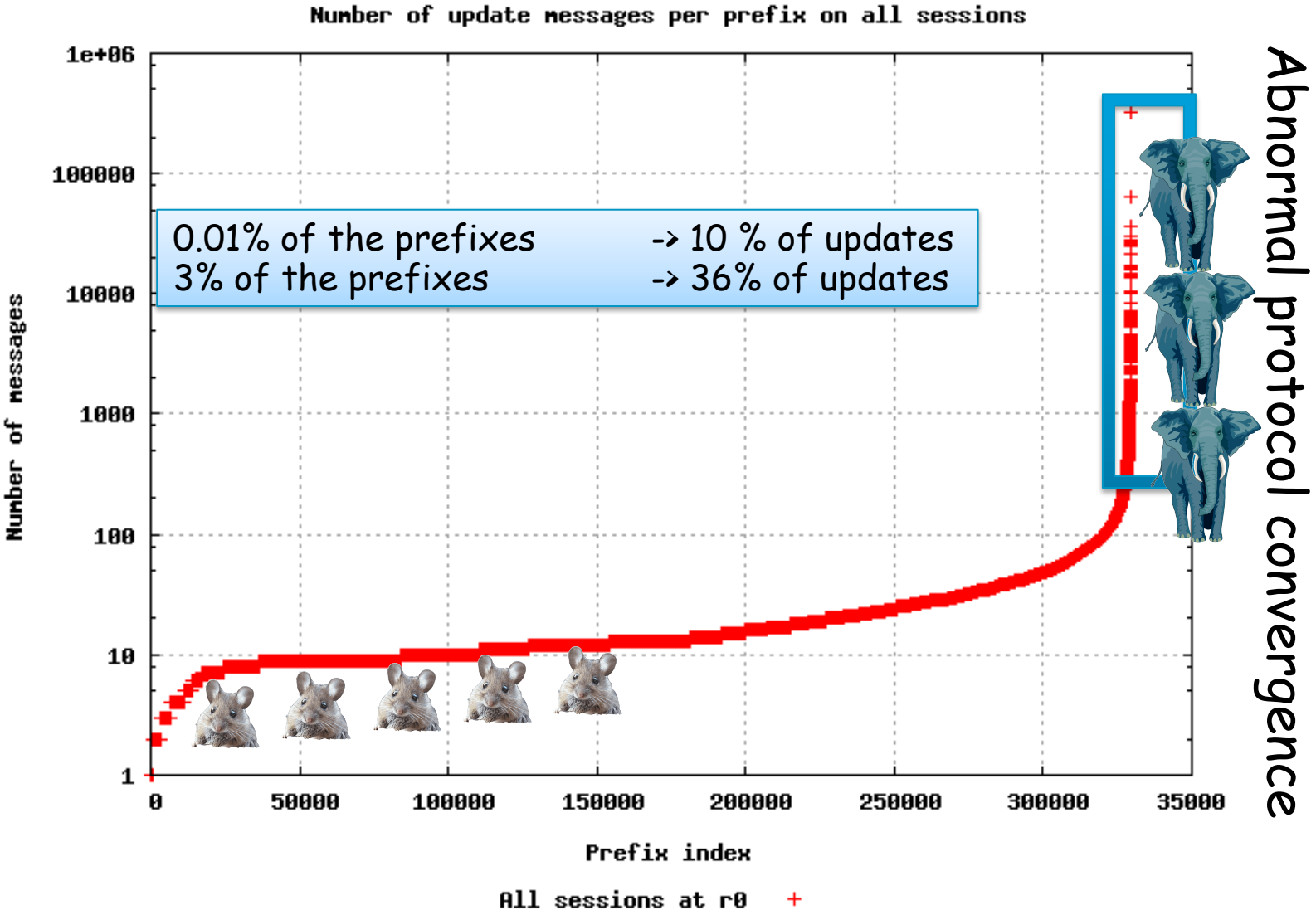
Motivation

- RFD has been turned off due to serious problem of excessive dampening
- MRAI timers practically turned off due to FC requirements
- No way to protect networks against badly behaving prefixes
- Is there a minimal change that can make RFD effective enough to be deployed?

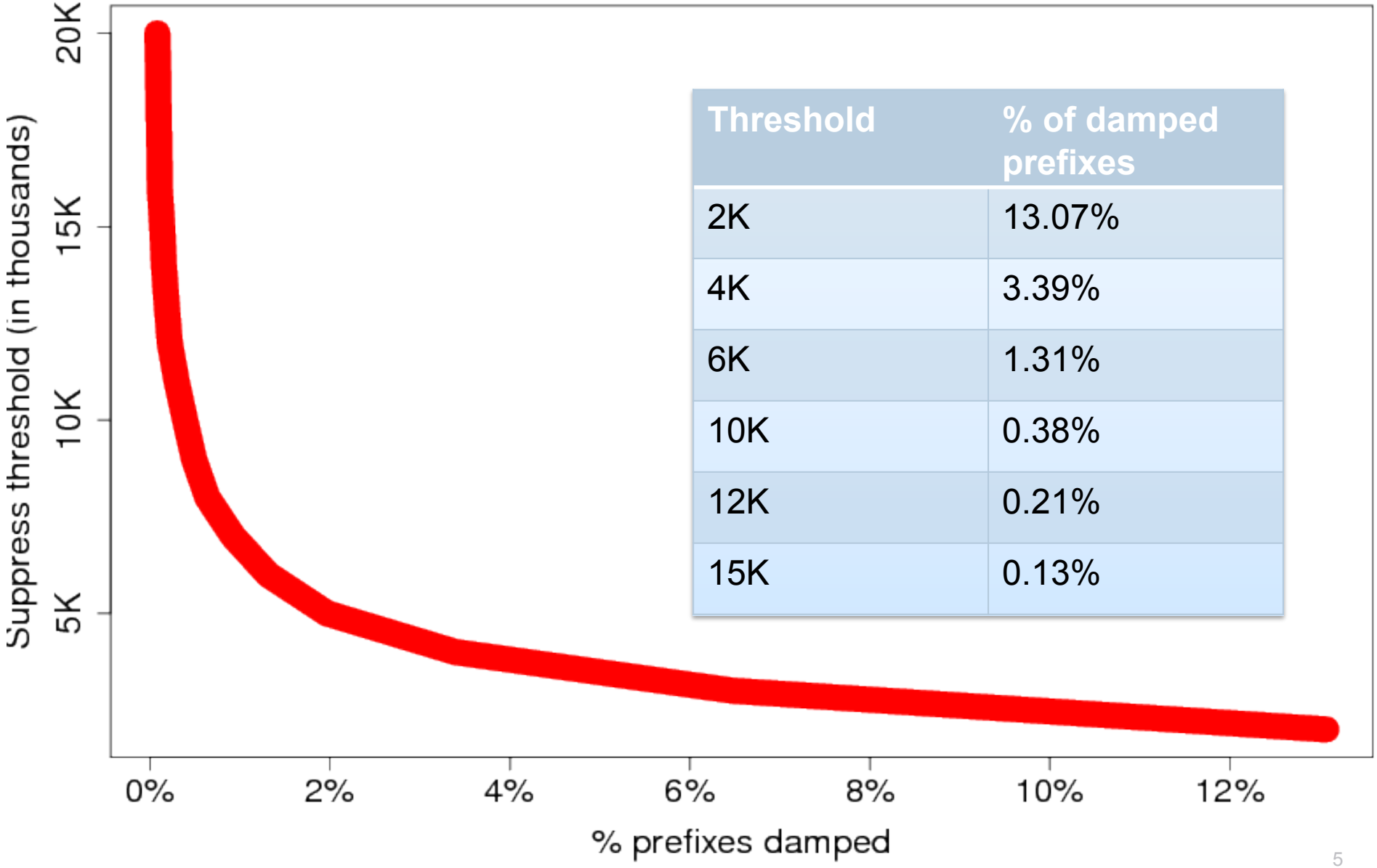
Mice and Elephants



Making RFD Usable

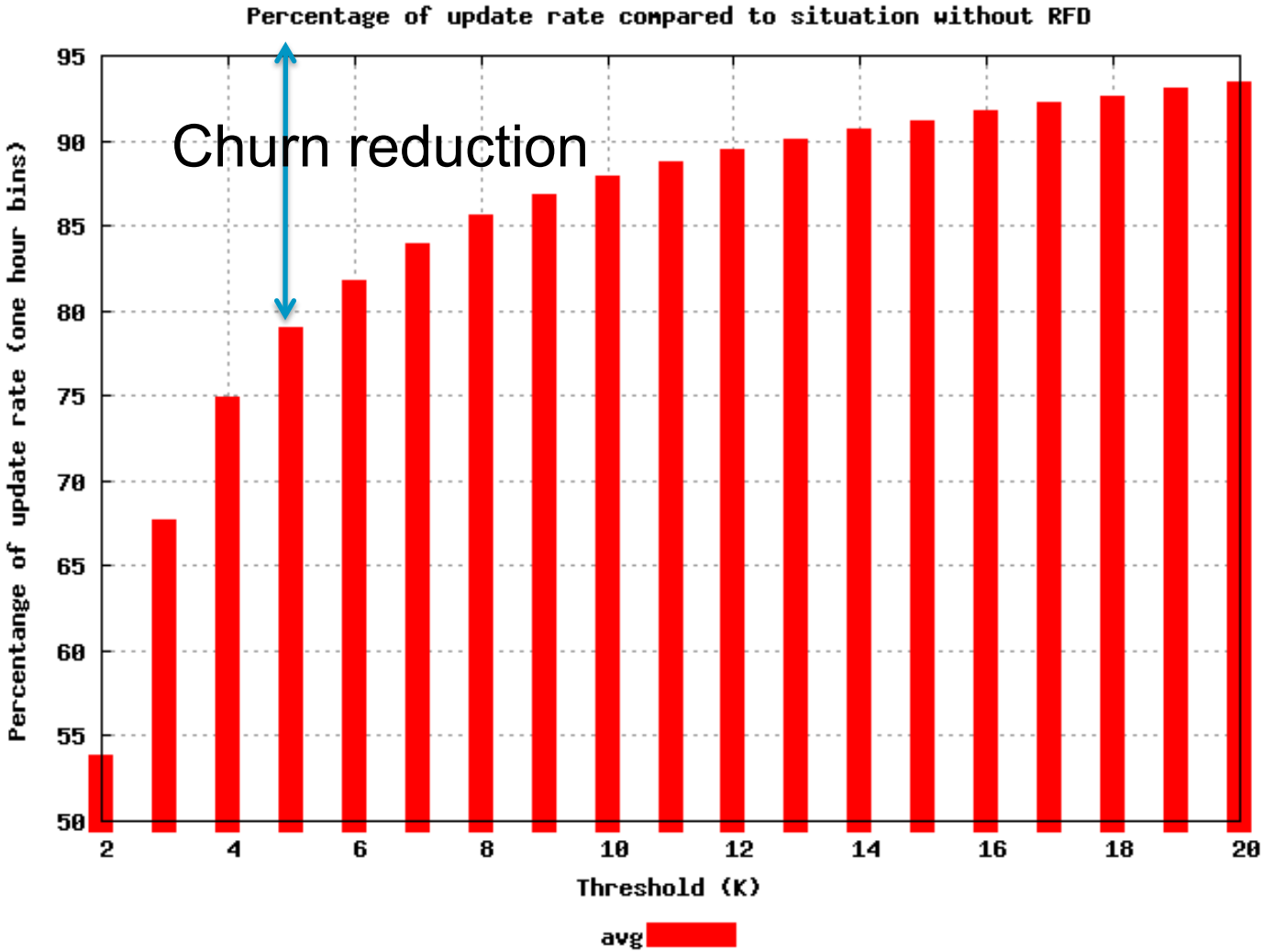
- Problem: Current RFD parameters kills both mice (prefixes that don't flap often) as well as elephants (small range of prefixes that flap very often)
- Possible Solution: Higher Suppress Threshold
  - Trivial to implement
  - Saves mice
  - Reduces churn compared to RFD disabled

Effect of Suppress Threshold



Threshold	% of damped prefixes
2K	13.07%
4K	3.39%
6K	1.31%
10K	0.38%
12K	0.21%
15K	0.13%

Impact on Churn



Update rate is reduced by more than 20 % with [4K-5K], compared to no suppress threshold

Summary

- Increasing suppress threshold does prevent well behaved prefixes (mice) from getting damped aggressively
- Prefixes flapping more often (elephants) do get damped
- We propose the following
  - Modify the suppress threshold to no less than 6000
  - Modify the maximum threshold to 50K
- Should help in RFD becoming more effective

Questions?