

# Route flap dam

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RIPE/Rodos

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# Route Flap Damping Made Useful

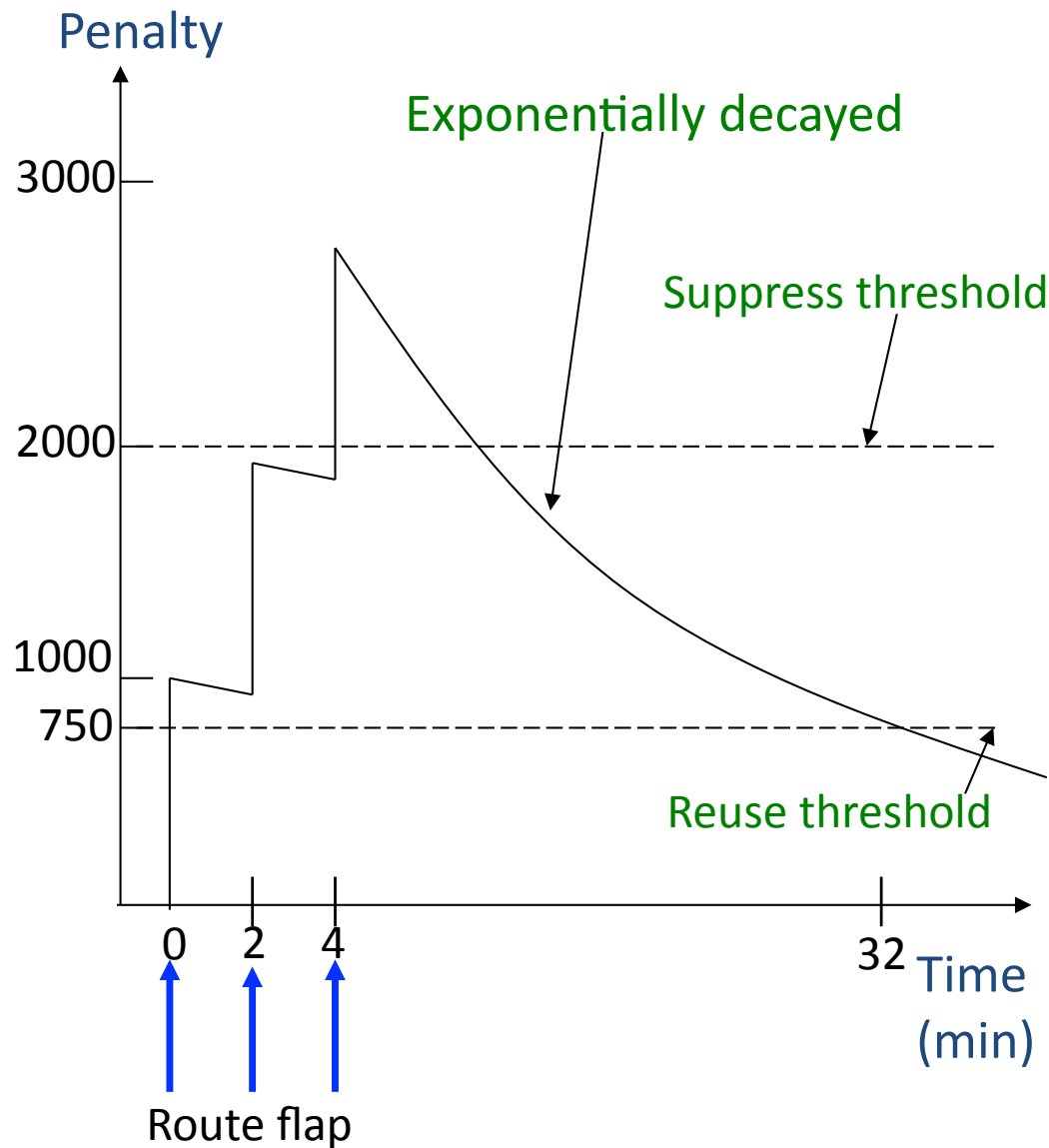
Presenter: Cristel Pelsser

Joint work with:

Randy Bush, Olaf Maennel, Pradosh  
Mohapatra, Keyur Patel

Cisco NAG, Oct. 2010

# Route Flap Damping



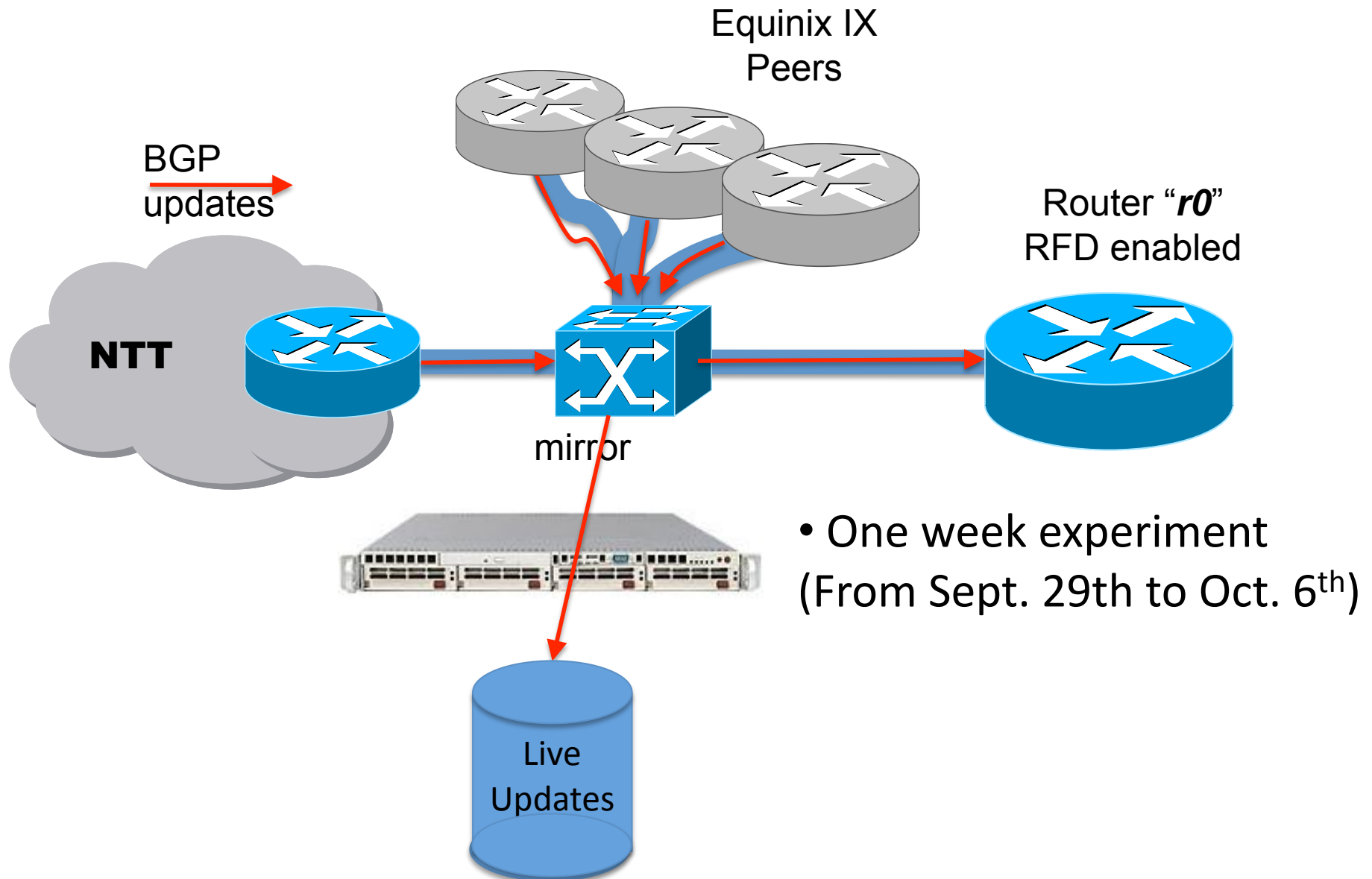
Parameter	Cisco
Withdrawal penalty	1000
Re-advertisement penalty	0
Attributes change penalty	500
Suppress threshold	2000
Half-life (min)	15
Reuse threshold	750
Max suppress time (min)	60

Ref: R. Bush, T. Griffin, Z. M. Mao,  
Route flap damping: harmful?, RIPE  
43, 2002

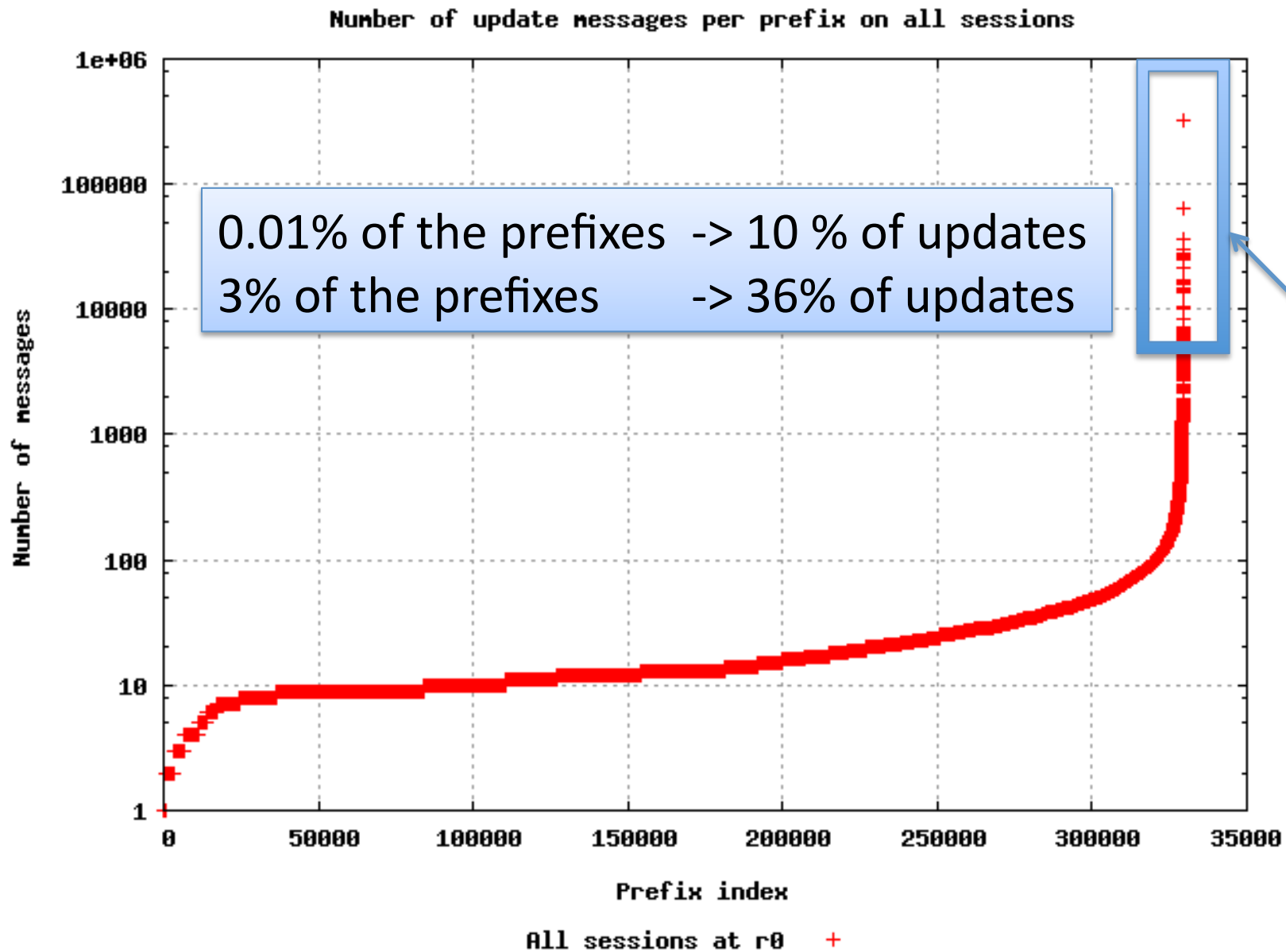
# Problem statement

- Small number of BGP routes flap heavily
  - Elephants and Mice
- Problem: Today we kill mice and elephants
- Solution: Higher suppress threshold
  - Save mice
  - Churn reduction compared to RFD turned off
  - Easy to implement

# Experimental setup



# Mice and elephants



# Today's defaults kill mice (and elephants)

- Peer: 212.47.190.1, AS=9177 from RIPE
- In response to WD-beacon at 18:00, Aug 10<sup>th</sup>.
- Using Cisco setting + RIPE229 recommendation

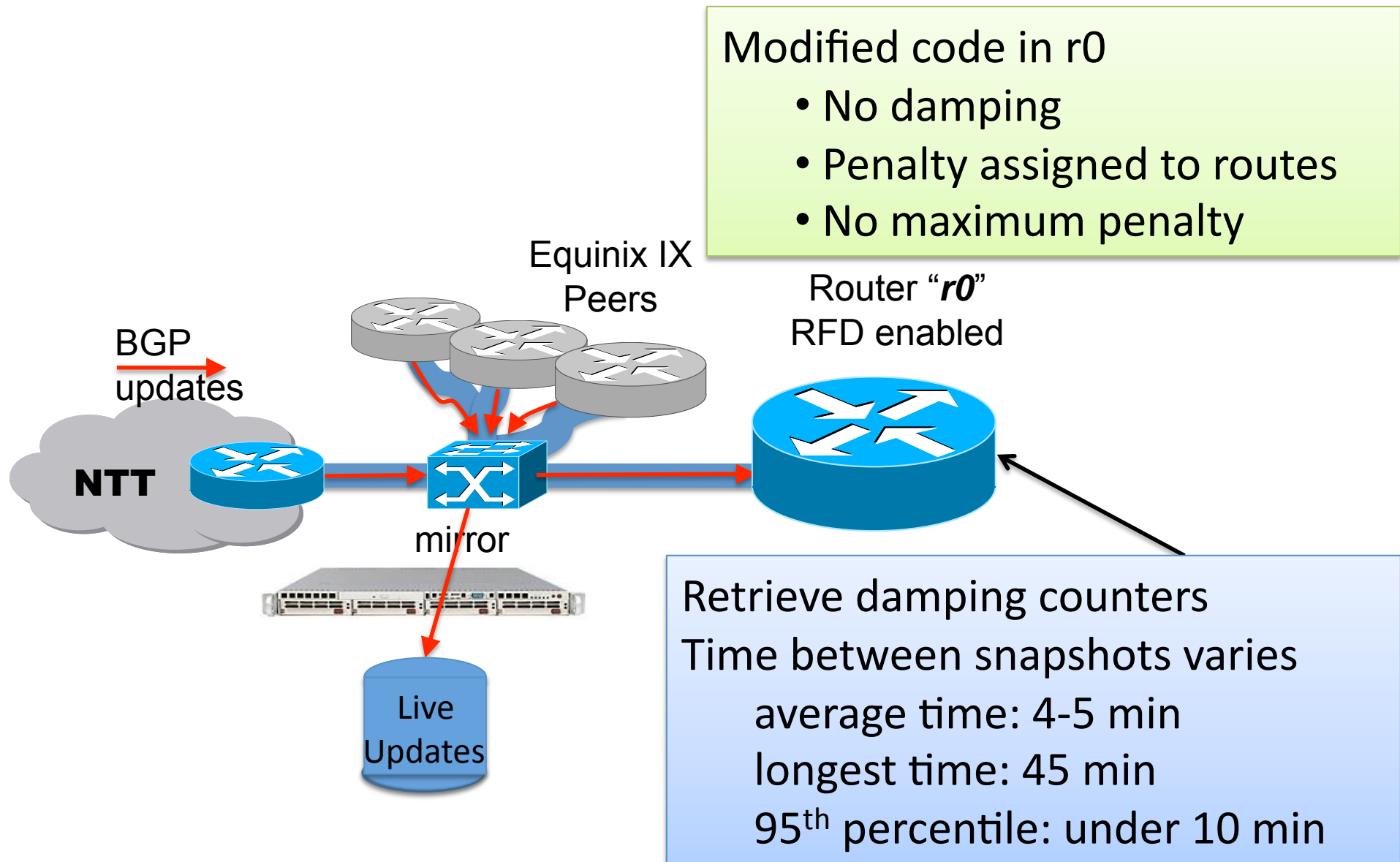
Time 8/10	A/W	ASPath	Penalty
18:00:15	A	9177 3320 1 2914 3130 3927	500
18:00:41	A	9177 6730 5400 2914 3130 3927	990
18:01:41	A	9177 3320 2914 3130 3927	1445
18:03:06	A	9177 3320 1239 2914 3130 3927	1853
18:03:35	W		2812
18:04:03	A	9177 6730 5400 2914 3130 3927	2752
18:04:31	W		3694

Ref: R. Bush, T. Griffin, Z. M. Mao, Route flap damping: harmful?, RIPE 43, 2002

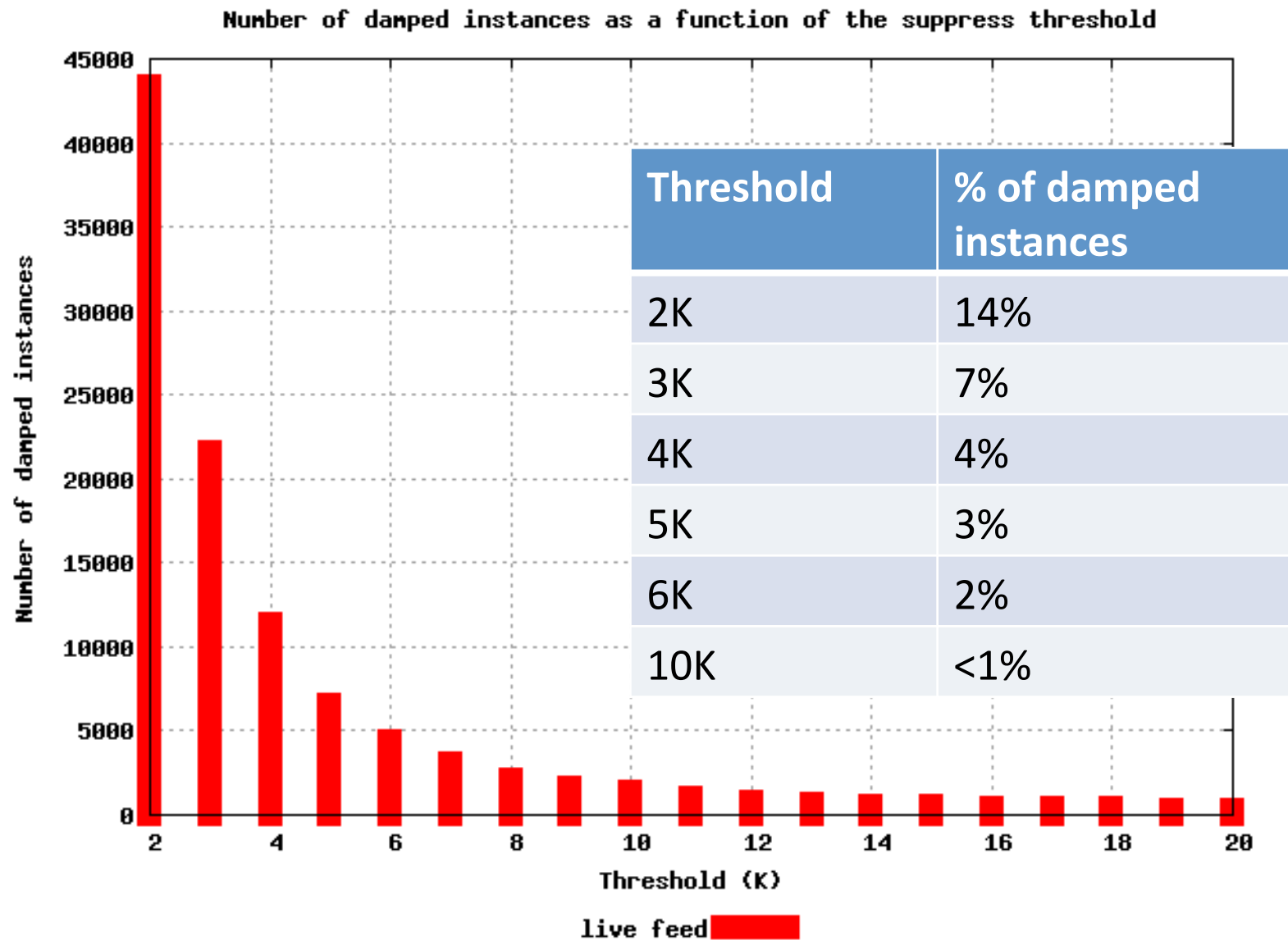
How about changing the  
suppress threshold?



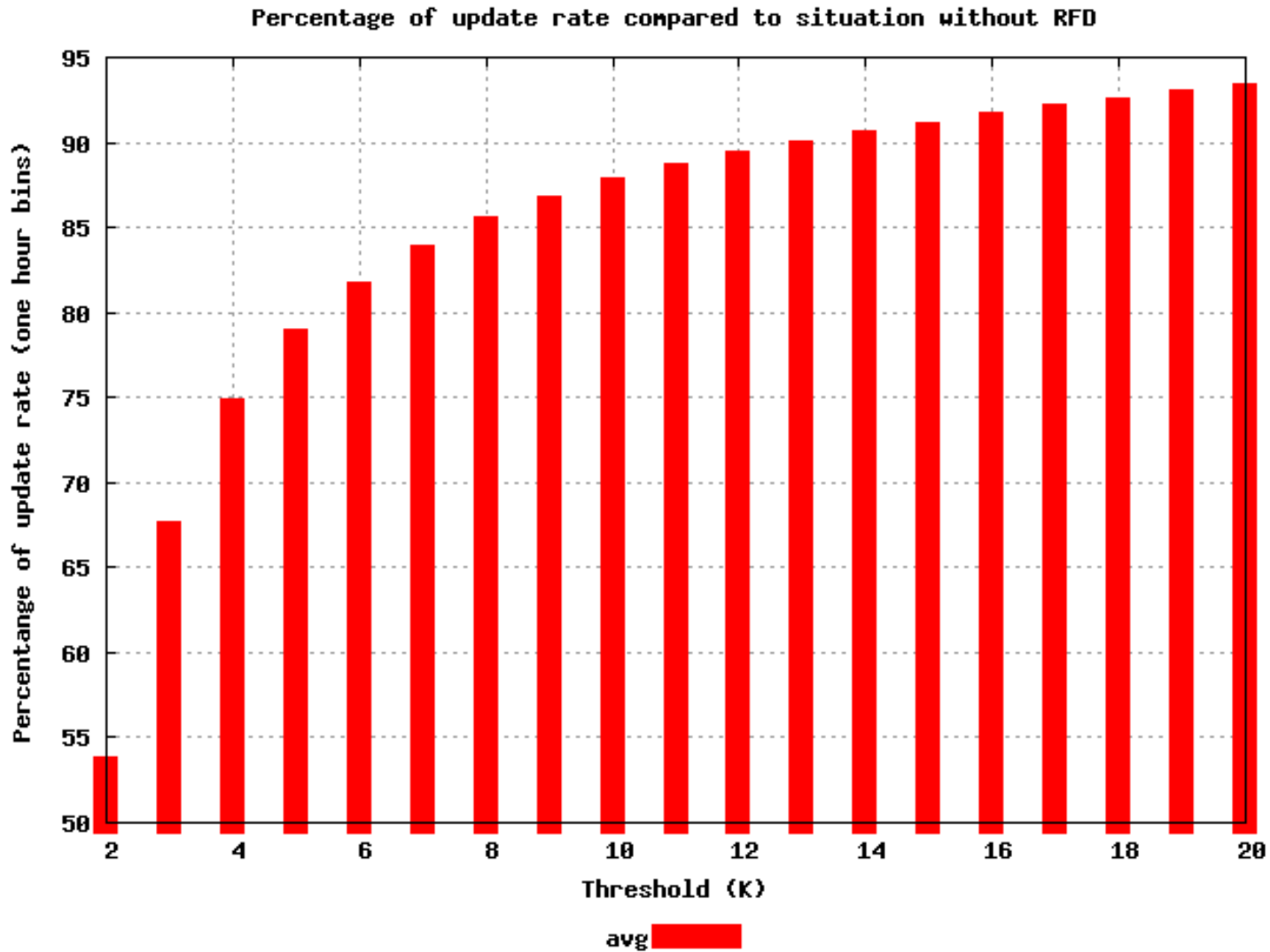
# Experimental setup



# With 4K and more, we kill many less mice



# Update rate (estimation)



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

# Summary

- Current RFD settings are too aggressive
- As a consequence RFD is often turned off
- We propose to raise the suppress threshold
  - Churn is reduced compared to without RFD
  - Mice's convergence is not affected as with current's default
  - Very simple modification to router implementations