

# Migrating to IPv6: A Game Theoretic Perspective

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# The IPv4 address space will run out...

... in 2012 based on current estimations

Source:<http://www.potaroo.net/tools/ipv4/index.html>

# Why has the migration to IPv6 not happened yet?

10+ years since the development of IPv6  
Improved services

Still IPv4 is dominant

	BGP entries	AS numbers
IPv4	321686	34236
IPv6	2887	2118

# My research focus is modelling the situation

Methods of Game Theory  
Methods of Evolutionary Dynamics

# Model

Revenues of ASes  
Expenditures of ASes

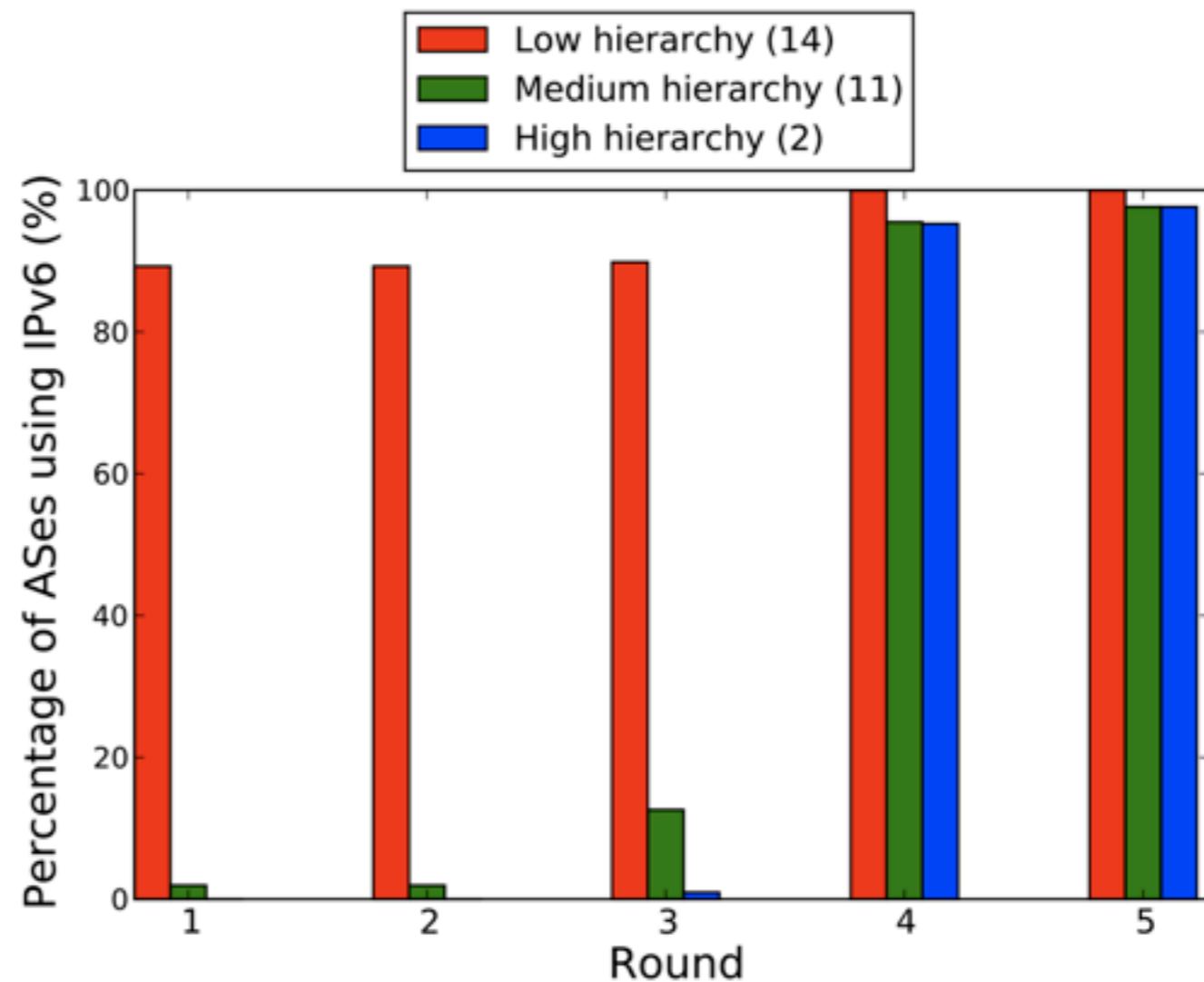
The impact of connectivity is included

# Results based on GT

Analitical result:

all-IPv6 network is Nash equilibrium in several cases

Simulation result:



# Evolutionary model

ASes are members of population

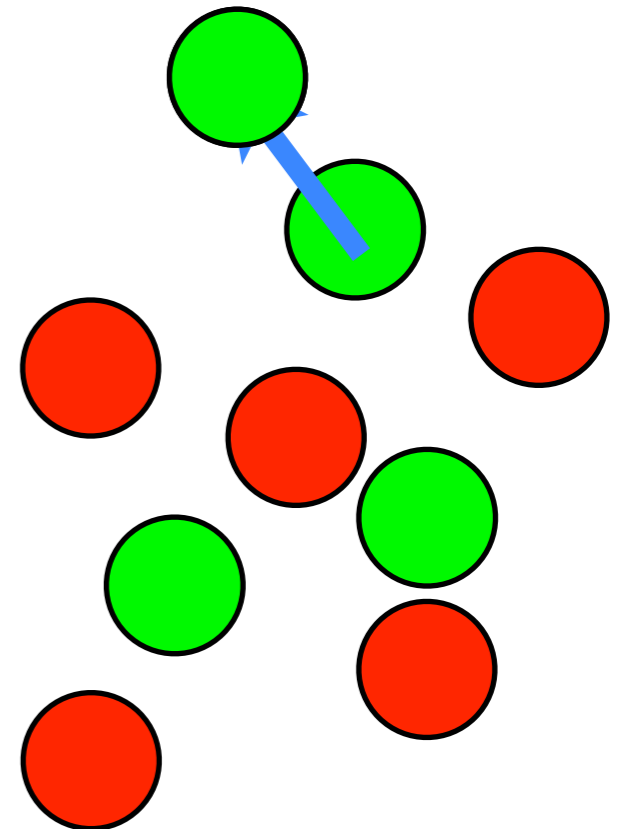
Genes: IPv4, IPv6

Impact of the population

Stochastic model

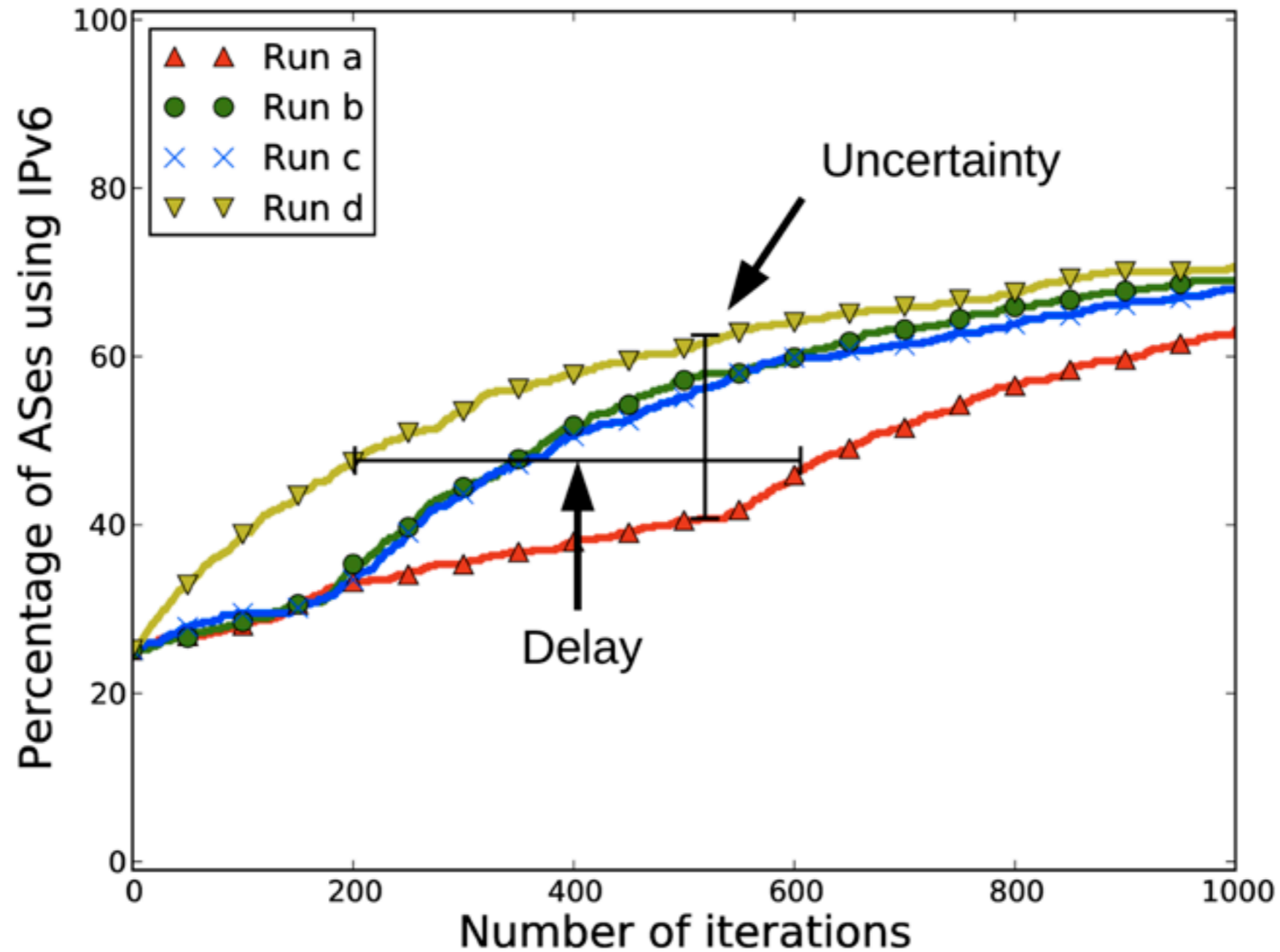
 IPv4

 IPv6

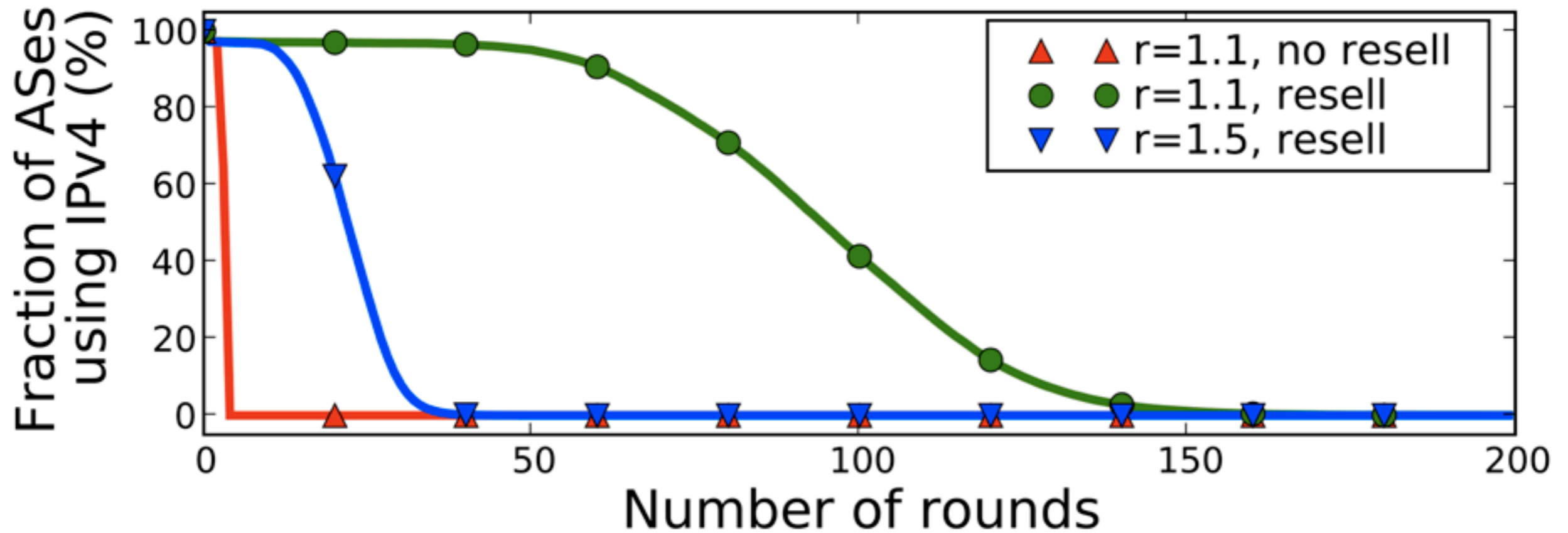




# Stochastic model



# Impact of address resell



**Our paper is submitted to  
LCN 2010**

**Thank you for your  
attention!**

[http://netecon\\_group.tmit.bme.hu](http://netecon_group.tmit.bme.hu)