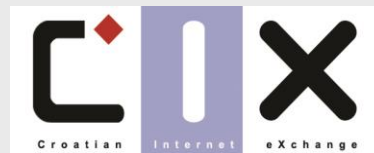


# Croatian Internet eXchange CIX

## Menog 7

Istanbul, 21. – 29. October 2010

## Starting an IXP



Mario Klobučar, Assistant Director  
University Computing Centre - SRCE

# Agenda

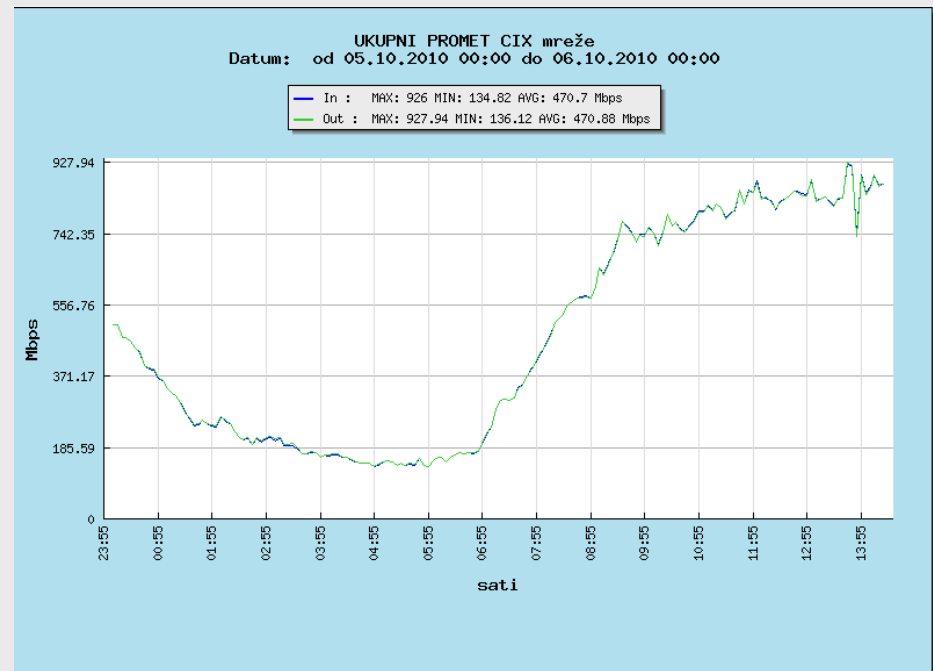
- ❖ CIX fundamentals
- ❖ CIX in numbers
- ❖ Establishment of CIX
- ❖ CIX developments (members, peak traffic, peerings)
- ❖ Problems and difficulties in CIX establishments ?
- ❖ Solutions
- ❖ Questions

# CIX fundamentals

- ❖ Croatian Internet eXchange ([www.cix.hr](http://www.cix.hr))
- ❖ Croatian national centre for exchange Internet traffic
- ❖ Hosted and operated by University Computing Centre (Srce)
- ❖ Neutral and not-for-profit
- ❖ Available to all ISPs in Republic of Croatia, equally for commercial and non-commercial or private networks
- ❖ The purpose of CIX is a direct interconnecting of ISPs in order to reduce unnecessary traffic via third networks

# CIX in numbers

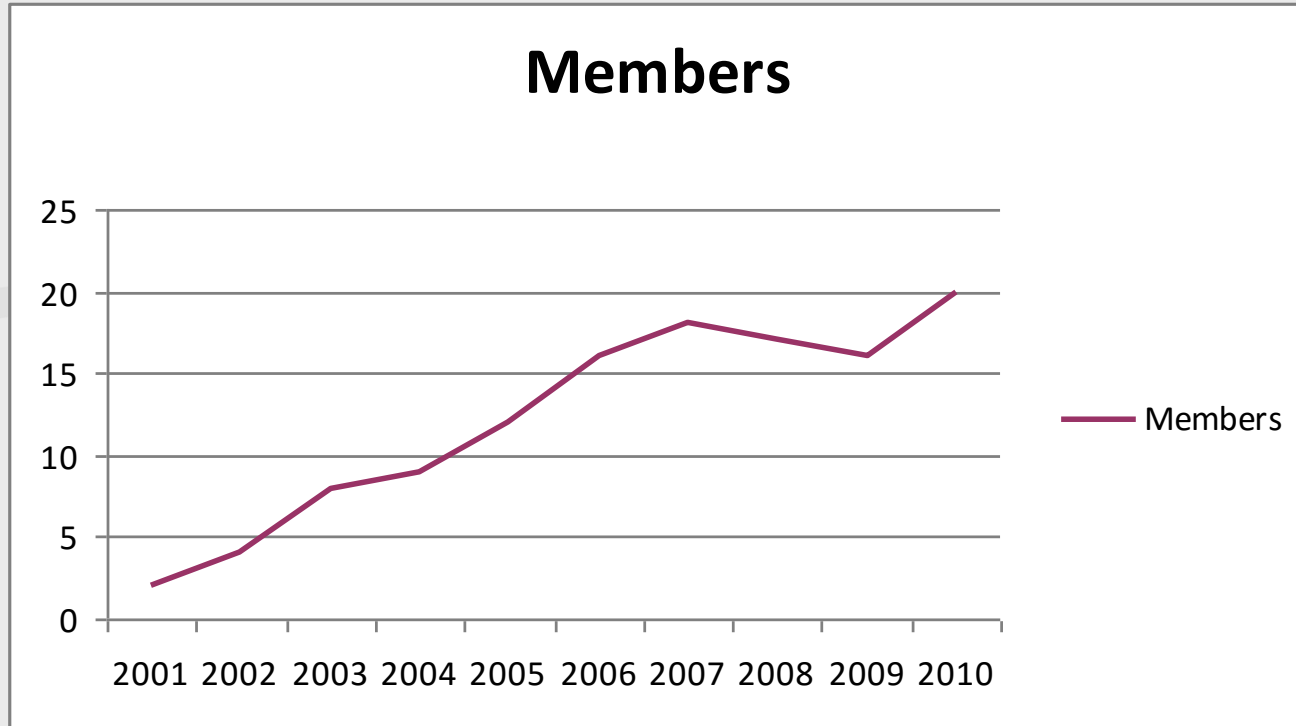
- ❖ September 2010
- ❖ 20 members
- ❖ 200 TB of delivered traffic
- ❖ 1 Gbps peak traffic



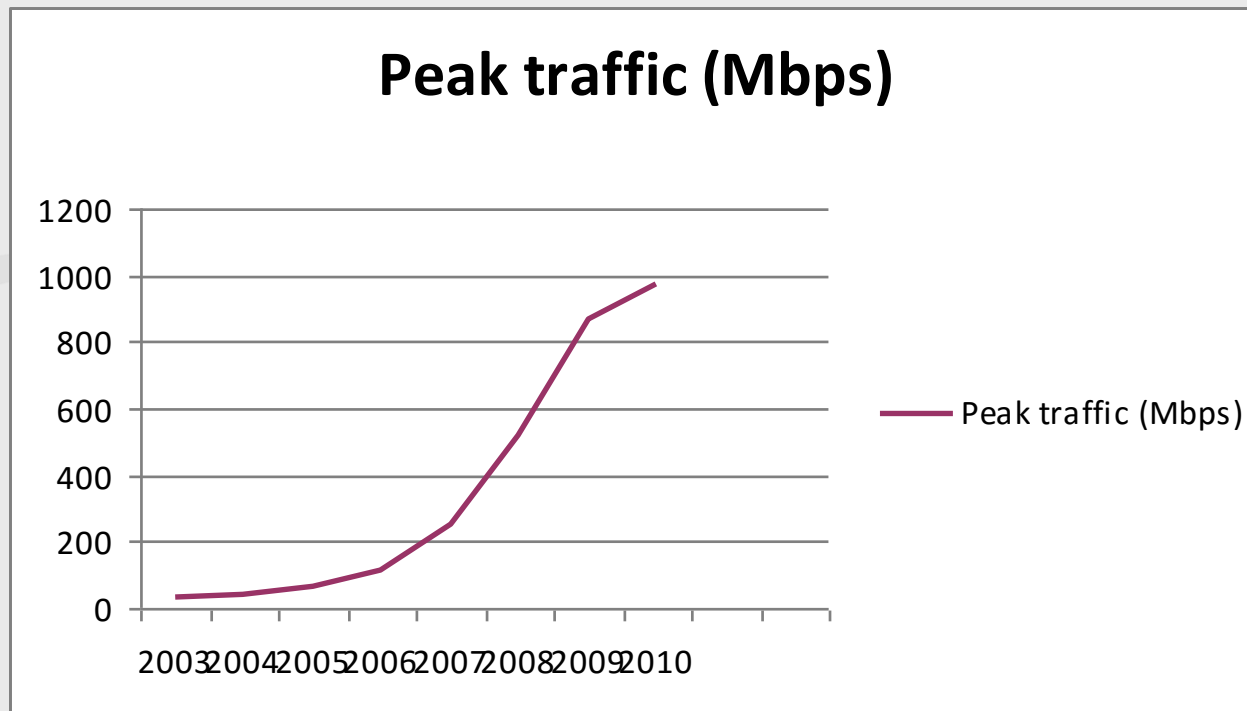
# Establishment of CIX

- ❖ Established 8 of september 2000. => 10 years of CIX
- ❖ In an academic environment
- ❖ Started under the CARNet (Croatian NREN) umbrella
- ❖ First operational peering in 2001.
- ❖ Changes in governance and organisational structure in 2005.
  - ◆ CIX Council
  - ◆ CIX Policy
  - ◆ Financed by memebers

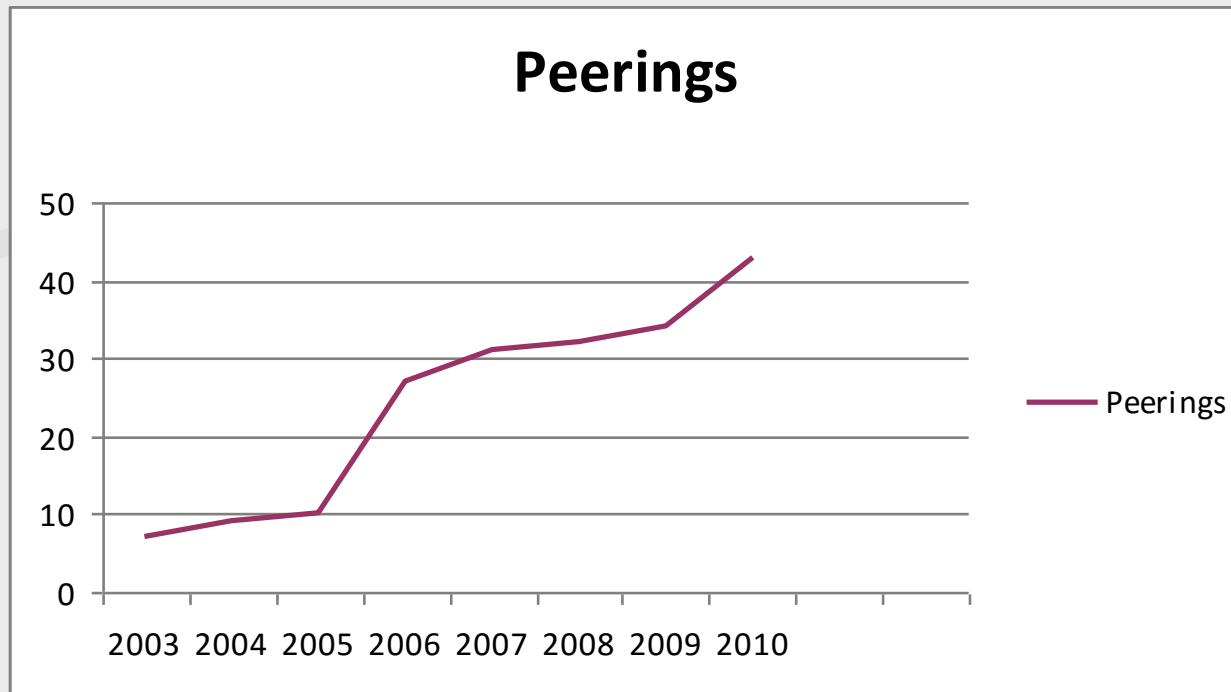
# CIX development (members)



# CIX development (peak traffic)



# CIX development (peerings)





# Problems and difficulties in CIX establishments?

- ❖ Croatia is a small market (4.500.000 residents), with one ISP holding >80% of market (former Croatian Telecom, not a member of CIX)
- ❖ Technical education of CIX members (and future CIX members)
- ❖ Struggling to establish more peering
- ❖ Transformation from “free of charge” to “not-for-profit” for CIX members
- ❖ Lack of interest by international players (Tier 1 providers, content providers) to become CIX members

# Solutions

- ❖ More effort in education and the establishment of cooperation between existing CIX members (more peerings)
- ❖ Constant search of potential new members within the Croatia
- ❖ Trying to bring more international players :
  - ◆ VeriSign February 2010
  - ◆ Cogent Communications May 2010 (just PoP not member)
  - ◆ ??



# Thank You!

Mario.Klobucar@srce.hr

CIX Contacts:  
e-mail: info@cix.hr  
<http://www.cix.hr/>