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**Analysing Barriers and Incentives for Network and Information Security in  
the Internal Market for e-Communication  
Comments of the DE-CIX (German Internet Exchange)**

Dear Mr. Pirotti,  
dear Sir or Madam,

the DE-CIX (German Internet Exchange) would like to take the opportunity to  
comment on the Report "Security Economics and the Internal Market" and its  
recommendations.

This comments primarily focuses on the statements and recommendations made  
towards Internet Exchange Points (IXPs), though we would like to promote this  
observation in general to other Internet-infrastructure related matters.

Basically we believe, that the market-driven and self-regulated approach the  
Internet Community takes, shows how efficient and rock-solid an infrastructure  
can be built up.

Regarding the Infrastructure of the Internet, organisations like ICANN and RIPE  
(for Europe) are already strongly committed to scalability, diversity and  
robustness. Furthermore IXPs share information and best practices through  
Euro-IX and are committed to continuously improve quality and resilience of the  
European Internet Exchanges. History and current state of the Internet in Europe  
explicitly prove that: The Internet is the flexible network of options, whereas e.g.  
classical Telephony Networks (which are in need to be regulated and designed  
"top-down") must be considered as strict and inflexible. In result we believe there  
is no indication to take measures for the Internet which were aimed and been  
designed from the ground up for networks being organised top-down and

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according to this completely different. Furthermore the Internet Community has established an effective communication regime between its members to face emerging challenges.

The Interconnection Regime of the Internet is market-driven and thus fully flexible, allowing Internet Service Providers (ISPs) to choose the partners which they connect to and to negotiate individual interconnection types (Peering and/or Private Interconnects) at any possible place. Thus the Internet as a whole achieves a high level of resilience accompanied by diversity and perfectly well growth rates in the backbone and at the access level. By allowing ISPs to interconnect in a manner it is best suitable for them regarding prices and technical needs, market decisions lead to best solutions as regards the whole Internet.

Internet Exchange Points play a significant role in optimizing and adding further diversity and scalability to the Internet. As the Organisation for Economic Co-operation and Development (OECD) has already stated, there are many positive effects for ISPs to establish at least one IXP in a country, since any IXP must be considered as efficient marketplace for ISPs to interconnect, offering technical optimization and lowering significantly the need to rely on external transit.

Furthermore, as experience has shown in the past an IXP only becomes relevant if it is supported by its customers, since each customer has the option to switch its interconnection points to other places and other ISPs at any time. Thus IXPs have to provide its customers with state-of-the-art and redundant technical equipment at a fair pricing level to be successful.

Considering all these points it is fairly wrong to consider the growth of some IXPs as an effect towards monopolization. In contrary, the growth of IXPs in a diverse IXP and ISP landscape (as in Europe today) must be welcomed as measure to enforce scalability and especially diversity in the Internet business. There aren't even negative side-effects in the co-existence of smaller and bigger IXPs, nor is there any cannibalizing competition. As a matter of fact, it has been the case in the past and today, that ISPs basically follow diversity and always ongoing strategies to realize its (multi-homed) connections to the whole Internet. IXPs therefore cannot be considered as possible "single points of failure", since the Internet infrastructure is much more than the sum of its IXPs or one single IXP. The design paradigm of the whole Internet, being redundant and resilient, is implicitly taken to the IXPs and enhanced by professional management to enforce network redundancy.

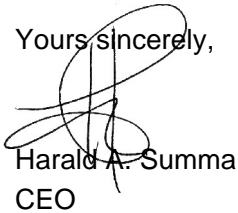
In result, taking regulative measures toward IXPs would define a disastrous strategy towards the self-regulated, community driven and successful Internet, not to mention that public authorities should enhance working markets by

supporting deregulation. Nevertheless, it has to be born in mind that related to the need of technical observation National Regulatory Authorities already have measures in place which are effective and take local peculiarities in consideration.

That said, we would like to point out that neither an increase of regulatory obligations nor regulatory intervention is required. We therefore recommend that the present and intended obligations should be reviewed to prevent undue burdens to European IXPs and promote their competitive ability in an international environment.

We look forward to continuing our excellent relationship with ENISA and we would welcome the opportunity to discuss these comments with you in more detail.

Yours sincerely,



Harald A. Summa  
CEO