

MeraLabs is developing an innovative name lookup system

MeraLabs company researchers are developing an architecture for a peer-to-peer name resolution system for networked devices in global IP-networks. The CTO of MeraLabs, Vladimir Krylov, commented on that: *“Lately there have been many suggestions to rethink and reinvent the architecture of the existing global IP-networks, including the ways the information is discovered in the network and, specifically, the way the network devices names are being resolved. The Google company has created an alternative name lookup service (Google Public DNS) and has recently proposed to introduce an extension to the DNS protocol in an attempt to boost the system’s performance. There are more radical proposals – to switch from the hierarchical name system to a peer-to-peer one. Such solution is appealing to many for different reasons: both technical and political. One can find proposals to create a peer-to-peer network on several open-source communities’ web-sites, for example, Advogato. The most radical projects go further and change the very principles of computer network organization. Among such projects I could mention Netsukuku, an experimental project that proposes users to organize a global peer-to-peer network themselves, without the mediation of ISPs”.*

In 2010 MeraLabs company published the results of its research work in the Russian Association for Networks and Services magazine. Vladimir Krylov has participated in the meeting of the 17th Study Group of the International Telecommunication Union in Geneva and proposed to create a work item on the development of a global IP-network name resolution system on the basis of a peer-to-peer self organizing network. A special correspondence group has been created to study this proposal in detail.

On the same year, MeraLabs has performed tests of the name resolution service model built on the basis of Metrized Small World architecture which was also developed by MeraLabs.

The lead developer of the project, Yuri Pankratov, said: *“At present, we are researching the possibility of forming peer-to-peer data storage network out of conventional DNS servers. The main advantage of a peer-to-peer system is that it doesn’t have a single point of failure. In the traditional DNS system the servers of the root and top-level domains bear a colossal responsibility for the system’s operability. This amount of responsibility is disproportional to the number of these servers compared to the total number of DNS servers. Switching to a peer-to-peer architecture would allow evening out the responsibility among the system’s servers. This provides both the increased system robustness and more liberal system management”.* *“Our strategic plans”- he continued – “involve the creation of a brand new architecture for IP-networks. The architecture would allow users to store and publish data about their networked devices themselves. The name resolution process in such networks would become an integral part of network traffic routing”.*