



AT&T Comments on Root Scaling Study Team Report November 29, 2009

AT&T Inc., on behalf of its affiliated companies, (“AT&T”) appreciates the opportunity to provide comments on ICANN’s Root Scaling Report entitled “Scaling the Root: Report on the impact on the DNS Root System by increasing the Size and Volatility of the Root Zone”, which was released on September 7, 2009 (“Root Scaling Report”).

The Root Scaling Report, as designed, focuses on issues and areas of concern related to the direct impact of root scaling on the root servers and root zone operations. However, it also offers conclusions and recommendations related to the broader impact of root scaling on the infrastructure of the Domain Name System (“DNS”) and the potential impact of introducing new gTLDs with other simultaneous changes to the system that are underway, such as DNSSEC, IPV6 and Internationalized Domain Names (“IDNs”). AT&T applauds the Root Scaling Report for both clearly assessing the direct impact of root scaling on root zone operations and identifying the need to study the broader implications of root scaling and the impact of making simultaneous changes to the DNS. ICANN should thoroughly address these issues in follow-up studies prior to moving forward with the large-scale introduction of new gTLDs. AT&T also supports the creation of a long-term technical roadmap to facilitate ICANN’s management and coordination of major DNS changes.

AT&T will be directly impacted by any root scaling issues that affect the infrastructure of the DNS. It is one of the largest Internet backbone providers, with a global network that extends to dozens of countries. AT&T also is a large ISP and broadband service provider for millions of consumer, business and government end-user customers. And, as with most businesses of all sizes, it is heavily dependent on the Internet in conducting our daily business operations. Thus, AT&T has a significant stake in ensuring the continued security and stability of the DNS.

The Root Scaling Report places proper emphasis on the importance of a cautious, measured and responsible approach to any change in the size and volatility of the root zone. This reflects the fact that the “root” itself is a vital and shared resource that serves all Internet users. While the scope of the root scaling study’s terms of reference was limited to considering direct impacts and risks on root zone operations, the Root Scaling Study Terms of Reference dated May 5, 2009 acknowledged that “other worthy study efforts may include how browser software must be modified to enable DNSSEC, how Whois must be modified to account for IDN data and the economic impact of implementing these changes beyond the impact to the organizations involved in the management of the root zone operations.” Moreover, the Root Scaling Report itself raises the concern that root scaling may pose problems on the publication side,



particularly in geographic areas that lack high-bandwidth Internet connections and other computing infrastructure. These are important issues, but they are just some examples of the types of “downstream” operational impacts that root scaling could have on the overall infrastructure of the DNS.

AT&T urges ICANN to immediately initiate a follow-up study that addresses the specific issues raised in the Root Scaling Study, as well as the potential impact of root scaling on other parts of the DNS infrastructure, including Internet backbone, ISP and browser operations. This analysis can be initiated quickly by tasking the original study team to conduct discussions with affected providers and identify any issues and concerns. A particular area of focus should be on geographic areas with less robust bandwidth and computing infrastructure. The distributed nature of root services and the introduction of “IP any cast” unquestionably have helped to expand the availability of the Internet in less developed parts of the world. But it also creates a special obligation on ICANN’s part to ensure that infrastructure considerations are fully addressed before moving forward with fundamental changes to the root. Accordingly, ICANN should conduct a follow-up study that considers the broader impact of proposed root scaling on the infrastructure of the DNS prior to moving forward with the large-scale introduction of new gTLDs.

In addition, the Root Scaling Report concludes that the risks of introducing order of magnitude increases to the root zone cannot be managed with current arrangements. And even with “aggressive re-planning”, the system is not capable of managing the simultaneous introduction of large numbers of new gTLDs together with DNSSEC, the transition to IPV6 and the introduction of IDNs over the next 12-24 months. As the Root Scaling Report acknowledges, the ability of the Internet ecosystem to absorb simultaneous changes is dependent upon many factors, including the availability of network capacity, hardware and software, and trained personnel. An important consideration is that human factors must be an integrated part of the equation of introducing the types of major changes that are planned. Further, the introduction of these changes will have to be absorbed by many types of providers who are responsible for the underlying infrastructure of the DNS. Just as there are challenges and risks associated with the ability of root zone operators to implement simultaneous changes, AT&T and other infrastructure providers (e.g., backbone operators, ISPs, web hosting companies) will have to be able to manage the simultaneous changes as well.

ICANN should heed the concerns raised in the Root Scaling Report and undertake a comprehensive analysis of the technical and operational inter-dependencies involved in implementing all of the planned DNS changes. The implications of proceeding with these simultaneous changes and the magnitude of the risks involved simply have not been fully considered. ICANN should immediately initiate a comprehensive study of the simultaneous DNS changes that are planned, with input from affected providers on technical and operational issues. Ultimately, this process should produce a long-term technical roadmap that allows ICANN to better manage and coordinate the introduction of major DNS changes.



AT&T looks forward to working with ICANN and other infrastructure providers to address the important issues that are raised in the Root Scaling Report. ICANN exists in a unique environment – its decisions and responsibilities impact a much broader set of network and service providers than just those parties who contract with ICANN and directly manage critical DNS resources. Therefore, ICANN has a responsibility to thoroughly consider the implications of root zone scaling, not only for root zone operations, but also on the downstream entities and infrastructure providers that are affected by major DNS changes. As reflected in ICANN’s mission and reaffirmed in the Affirmation of Commitment, ICANN must prioritize the security, stability and resiliency of the DNS.