ITU's Perspective on Internet Resource Management

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Distinguished Delegates

It is an honour to be invited to be assist in this opening session of this conference. I would like to particularly thank our host KRNIC and the Korea Institute of Communication Sciences as well as the sponsors of this event, the Korean Ministry of Information and Communication, the URI Standardization Forum, the Korea ENUM Council, and Verisign.

It is wonderful to be in the presence of so many technical experts who have come here to Seoul to share their unique knowledge, experience and vision on next generation network identifiers. It is especially appropriate to have this meeting in the Republic of Korea, the country with the highest level of broadband penetration in the world and an undisputed leader in IT infrastructure and manufacturing capabilities. By all indications, Korea has every intention to maintain its leadership through its recently announced ambitious Broadband convergence Network (BcN) project that will support ubiquitous broadband multimedia services any place, any time.

One year ago, at Telecom Asia in Hong Kong, the ITU issued a report showing that the Asia-Pacific region has now become the world's most dynamic and largest telecom market — leading in advanced technologies such as broadband access and mobile data.

This region now also has the largest percentage of Internet and mobile users suggesting that the global telecommunications epicentre has permanently shifted from North America and Western Europe to the Asia-Pacific region. The entire world is watching Korea and other leading Asian economies to understand how the networks of tomorrow will look from both a technology and policy perspective.

As a way of introduction, I will take this opportunity to say a few words about the organization I represent - the International Telecommunication Union. The ITU is an international organization where governments and the private sector coordination global telecom networks and services. Founded in 1865, it is the oldest specialized agency of the UN system with 189 Member States and over 700 private sector members. Its overall mandate is to maintain and extend international cooperation in telecommunications, which includes technical and policy assistance to developing countries, as well as to promote at the international level, the adoption of a broader approach to issues of telecommunications in the global information economy and society. Our core mission statement is "helping the world to communicate".

The ITU and Korea have always shared an excellent working relationship on information and communication technology issues but these have been even more enhanced during the last two years. In May 2002, we jointly hosted a workshop here in Seoul on network security. In August 2003, the Director of the ITU Telecommunication Standardization Sector visited the President of KRNIC promising closer cooperation. And in March 2004, the Korean government and the ITU are jointly organizing a conference on the future mobile information society and broadband mobile communications.

I have been asked to give a talk on ITU's perspectives on Internet resource management. This is a very interesting, politically sensitive, and topical subject, particularly with the imminent first phase of the **World Summit on the Information Society (WSIS)**, which will take place in Geneva, Switzerland next week. The anticipated outcome of the high-level Summit is the development of a shared vision by world leaders of a global information society and a specific Action Plan, which will start to be put into place before the second phase of the Summit to be held in Tunisia in 2005.

Faced with convergence between telecommunications, broadcasting, multimedia and information and communication technologies, government policy makers and regulators

are faced with new and evolving challenges at both national and international levels. A number of important ICT policy issues highlighted in the WSIS process, including privacy, security, SPAM, free/open source software, management of Internet resources and interconnection, suggest that the strengthening of national ICT policy making processes as well as finding new methods for international cooperation and harmonization are paramount.

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One example of the policy challenges that convergence can bring is one of the key topics of today's workshop: ENUM. ENUM takes numbers from the international public telecommunication numbering plan (ITU-T Recommendation E.164) and incorporates them into the Internet domain name system (DNS) for the purpose of identifying and finding network resources; this includes the possibility of assignment of E.164 resources to IP-based terminal devices. The development of a stable international framework for ENUM deployment will require the assignment of authority over elements of the E.164 number space when mapped into the DNS, as well as the assignment of ongoing management to one or more responsible authorities in each ITU Member State. The fundamental premise of ITU's activities is based on an explicit assumption that the existing role and sovereignty of Member States with respect to the allocation and management of their country code numbering resources, including the potential provisioning of those resources in the DNS, will be respected.

As I mentioned, the topic of Internet governance, which, depending on your perspective, either encompasses or equates with the topic of Internet resources management, has emerged as one of the topics that has been extensively debated by governments and others in the run up to the Summit. It would not be appropriate to go into details on the negotiations but needless to say, our world is often full of divergent opinions and different, even conflicting, world visions in this area. The bringing together of a shared vision of Internet governance has not been an easy task but I will attempt to neutrally summarize where the discussions are today with the caveat that everything may change further to negotiations between governments with the input of other parties that are underway as we speak in Geneva. For the very latest information on the results of these negotiations, I would refer you to the WSIS web site at www.itu.int/wsis/.

As a general premise, there is broad agreement that the Internet has evolved into a global facility available to the public and its governance should constitute a core issue of the Information Society agenda. There is agreement that the international management of the Internet should be multilateral, transparent and democratic, with the full involvement of governments, the private sector, civil society and international organizations. There is also agreement that there should ensure an equitable distribution of resources, facilitate access for all and ensure a stable and secure functioning of the Internet, taking into account multilingualism.

There is also general agreement that the management of the Internet encompasses both technical and public policy issues. In particular, there is recognition that the private sector has played and should continue to play an important role in the Internet in both technical and economic fields.

At the same time, paralleling long-standing traditions in multilateral telecommunications policy, there is recognition that policy authority for Internet-related domestic public policy issues is the sovereign right of States. There is also recognition that States have rights and responsibilities for international Internet-related public policy issues and that these issues should be coordinated through appropriate and relevant intergovernmental and international organizations. As part of the current draft declaration proposed by the Swiss government's negotiation team, there is a proposal that an intergovernmental reflection process should be initiated within the UN framework as part of the WSIS process.

What does this specifically imply? According to the proposed WSIS draft Action Plan from the Swiss government's negotiation team, the proposal is to establish a WSIS working group on Internet governance, in an open and inclusive process involving relevant intergovernmental and international organizations and forums, the private sector and civil society to investigate which will make proposals for action on the governance of Internet by 2005. The proposed tasks of this working group would include to:

- develop a working definition of Internet governance;
- identify the public policy issues that are relevant to Internet governance;
- develop a common understanding for respective spheres of responsibility among governments, existing intergovernmental and international

organisations and other forums, based on an analysis of their capacity to deal effectively with those management and legal responsibilities for Internet-related public policy issues;

- prepare a report on the results of this activity to be presented for consideration and appropriate action for the second phase of WSIS in Tunis in 2005.

To summarize the current state of negotiations, there is a general recognition that there are a number of issues which need to be further explored and that they could not be resolved at this first phase of the Summit so further reflection is needed.

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Perhaps I could now move onto other topics and give to you a personal perspective on some important considerations that perhaps you should think about in your consideration of issues related to next generation Internet identifiers. These are based on my experiences in listening to the debates about Internet resource management over the last ten years and trying to understand why there remain so many divergences of opinions.

A famous Englishman, the composer Sir Thomas Beecham, once said, "the English don't much care for music, but, they like the noise it makes". I would draw a parallel and venture that the ordinary citizen of any country would say that they are not much interested in science but they like the good benefits science brings. Another Englishman, the poet W.H. Auden said "the true men of action, in our time, those who transform the world, are not the politicians and statesmen, but scientists."

Taken together, I believe these statements imply that there is a special responsibility that you carry to consider very carefully not only your work in the technical context and the scientific benefits it brings but also increasingly about the ramifications of your technical solutions.

Let me give an example. Many of you are aware of or involved in work related to what has come to be called ubiquitous networking or pervasive networks. The application of radio frequency identification (RFID) technologies and their integration with information and communication technologies is well-underway and has dramatically accelerated in the last few years with rapid reductions in microchip size and cost. This portents the possibility

of a new totally new class of computing and communications which has already been recognized in the national IT strategies of Japan and Korea; two clear conceptual leaders in this field.

This development, along with rapid advances in antennae technologies, will enable tiny microchips to be implanted in physical objects and from these perceive conditions in the real world which includes the ability to detect a diverse range of real world information such as, *inter alia*, the identity of a person, the current location, temperature and humidity levels, when a product was made and by whom it was made. Some people suggest that we are creating a new environment which might be called the "Internet of things." While much activity, particularly in Europe and the United States, has concentrated on RFID technologies in the context of product management or a replacement for Universal Product Codes, the Asian vision is very much broader than this. When somebody asks me for an example of what this future ubiquitous environment might look like, I suggest they see the recent Steven Spielberg film "Minority Report" (albeit that may be a somewhat negative example).

I was particularly struck by a recent presentation at ITU TELECOM World 2003 on ubiquitous networking last October by Professor Ken Sakamura of Tokyo University, who is also founder of the Ubiquitous ID Center. Professor Sakamura is widely considered by many to be the "godfather" of the concepts behind ubiquitous networking. He warned that while he was delighted to see the tremendous interest in the technology, there were significant dangers that must also be considered. He cited the examples of companies with plans to insert RFID tags into millions of products that they distribute and manage. He warned that it was extremely important to consider the social aspects of such mass application of this new technology. He is, of course, right. At a subsequent workshop on RFID privacy issues at MIT, a large number of civic organizations have jointly stated their very deep concerns about the rapid application of RFID chip technology to consumer products, which they see as a potential invasion of privacy.

Professor Sakamura warned that the field of ubiquitous computing is too vast and potentially too pervasive to simply sit back and deal with problems when they arise. He argued that security and privacy are issues that must be addressed from the outset. He noted that there is an issue of what sort of frequencies to use for the radio waves emitted by the microchips, as each country has its own rules and regulations concerning radio

waves – a problem that has already arisen with the choice of frequencies in current initiatives focused on product management. Professor Sakamura also noted that in contrast with the Internet that applies uniform standards throughout the world, national customs and cultural traditions, local characteristics and legislation already in place in each country come rapidly into play when physical objects and people are involved. Because it is such an important new technology, he said that it must be developed very carefully and any wrong turns avoided or the situation would quickly get out of control. As one example, he noted the ability of computers to detect real world "conditions" opens up the possibility of the illegal use of information and that abuse will invariably happen such as the tracking of individuals.

I think we must pay special heed to Professor Sakamura's warnings as the implications are perhaps even wider then he argues, particularly for consumer products in developing countries. Let me explain why. Recently I read an essay by Deborah Hurley called *Pole Star: Human Rights in the Information Society,* which is a contribution to the upcoming World Summit on the Information Society from the International Centre for Human Rights and Democratic Development. I should mention Ms. Hurley has impeccable credentials. She was one of the principal architects of the 1980 *OECD Guidelines for the Protection of Privacy and Transborder Flows of Personal Data*. She was also for a number of years the Director of the Harvard Information Infrastructure Project. She also chaired our joint Korea and ITU meeting on information security that we held here last year.

Ms. Hurley's essay reviews some of the specific challenges and opportunities for human rights posed by the Information Society - privacy, security, freedom of expression, freedom of movement and association, as well as access to technology and information, intellectual property rights and the right to education. However, there was one particular passage in her essay that struck my attention:

"For the bulk of the population of the planet, billions of people, their first exposure to the ubiquitous information environment will not be like the developed country experience of the late twentieth century. It will not be through a personal computer, sitting on a desk, that an individual interacts with on a discrete basis for several hours a day at work or school. … Instead of the box on the desk, most people in developing countries will reach for a cheap hand-held device. At command, torrents of information will surge from the device."

Just as mobile telephony has proved a dramatic success in providing access to basic voice services in developing economies, it is easy to also accept her vision of a new generation of small handheld devices providing crucial access to ICTs. And therefore, I think it is especially incumbent upon you, the architects of these new technologies, the architects of future identifiers, and the major producers of IT materials, to very carefully consider solutions that do not force uniform standards throughout the world or central points of control that may be leveraged in the future in unforeseen ways.

The entire world is watching Korea and other leading Asian economies to understand how the networks of tomorrow will look from both a technology and policy perspective. Asia, with its rich national customs and respect for cultural traditions, with its early recognition for the need to consider the broader ramifications of ubiquitous networks, has an opportunity to show great leadership in this area.

Thank you.