



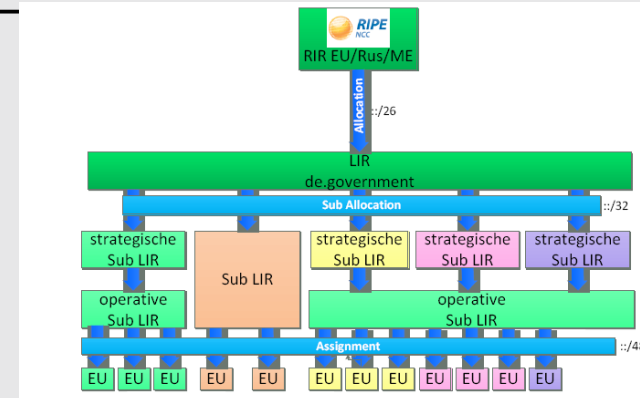
# horses for courses- like IPv6 profiles for german administration

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**Bundesministerium des Innern**



# What did we do ...

- Federal Ministry of the Interior and Federal Office of Administration took over the role „de.government“
- And the coordination of IPv6 working group –
- Colleagues from federation, states and
- Municipalities-bundles know-how from all
- user levels
- Decisions for the organization, address-
- management and recommendations for
- Technical implementation
- /32 blocks are self administrated SUB LIR
- Sub LIRs are for instance data centers, states, public network providers,...





# We know, we have to learn

## RIPE NCC LIR Training

RIPE Database Administration <[ripe-dbm@ripe.net](mailto:ripe-dbm@ripe.net)>

The update causing these changes had the following IP address:

- From-Host: 77.87.228.66
- Date/Time: Thu Apr 14 15:11:51 2011

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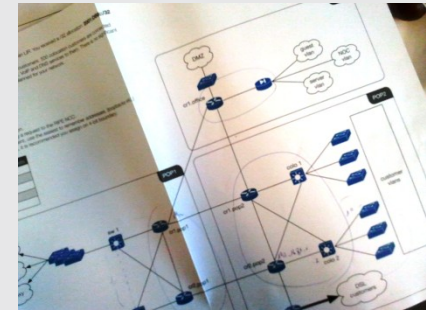
CREATION REQUESTED FOR:

inet6num: 2a02:102c::/48  
netname: DE-GOVERNMNET  
descr: **John Rambo Netz**  
country: de  
admin-c: JR1-TEST  
tech-c: JR1-TEST  
status: ASSIGNED  
mnt-by: Bayern-MNT  
changed: [John.Rambo@funfun.com](mailto:John.Rambo@funfun.com)  
source: TEST



# Reference Handbook

- Address concept - templates
- Roles
- Organisation
- Processes
- Technic recommendations
- Security
- Policies
- Checklists
- etc

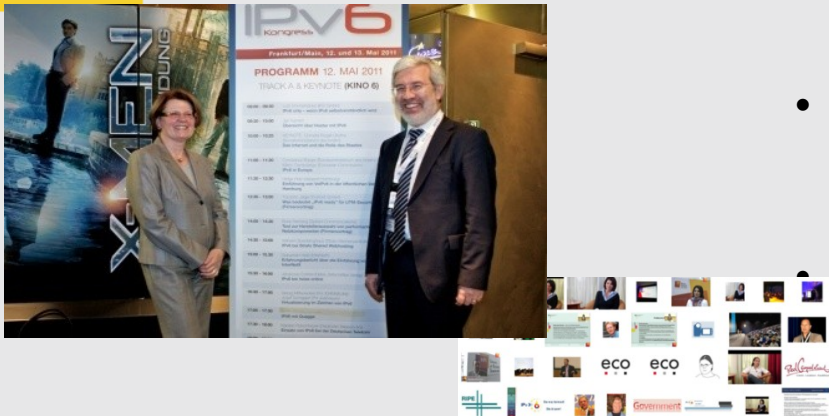


- RIPE-Policy compliant IPv6 address concepts from federal states
- Faster development of address plans



# Telling about our needs Because v6 is not v6

- Specify the demands of public administrations with respect to v6 (eg. IPv6 profiles)
  - Discuss technical policies (routing, security, etc.) with the community considering the special needs of public infrastructures
  - Explain the government strategies to manufactures so that they can anticipate future developments.
- EU COM





# Research and Development Project for German public administration

IPv6 profiles for ICT equipment are necessary

- IPv6 Profile comparison – RIPE501, NIST, IPv6Ready...
- Not limited to hardware but considers also Software
- IPv6 requirement specifications / purchasing guideline (we would propose to extend it for Europe later)
- Transparent for Industries /Users
- Influence to public IT infrastructure framework

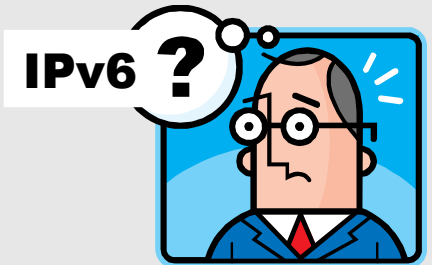




# Project Overview

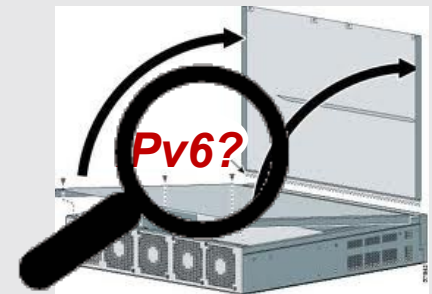
## IPv6 profiles and migration guide for government

- Supports transition to IPv4/IPv6-Dual-Stack
- Blueprint migration plan and implementation guide
- Supporting calls for tender: Hardware / software / services



## Definition of justified IPv6 Profiles

1. Definition of operational environments (End-to-End)
2. Definition of profiles for network components
3. Analysis of software components



**New: Structured grouping of IPv6 standards according to functionality**

[www.bmi.bund.de](http://www.bmi.bund.de)

Kategorie	Merkmal, Funktion	RFC	Ripe-501	NIST	ipv6ready	RFC4294 - IPv6 Node	US DoD v4.0	German public administration
Anforderungen								
ICMPv6	IPv6 Basisspezifikation	RFC2460	verpflichtend	verpflichtend	Core	verpflichtend		verpflichtend
	ICMPv6	RFC4443	verpflichtend	verpflichtend	Core	verpflichtend (obsolete RFC2463)		verpflichtend
	Revised ICMPv6	RFC5095	optional	verpflichtend	Core			verpflichtend
	Extended ICMP for multi-part messages	RFC4884	optional	verpflichtend				?
	Neighbour Discovery	RFC4861	verpflichtend	verpflichtend (+RFC4862)	Core	empfohlen (eher verpflichtend)		verpflichtend
Transfer	Secure Neighbor Discovery (SEND)	RFC3971	optional	c(verpflichtend)				?
	Cryptographically Generated Addresses	RFC3972	optional	c(verpflichtend)				
	Path MTU Discovery	RFC1981	verpflichtend	verpflichtend	Core			verpflichtend
	Packetization Layer Path MTU Discovery	RFC4821	optional			empfohlen		?
	IPv6 Jumbograms	RFC2675		optional		Jumbograms optional		





# Application for a Pilot from EU COM

“ICT Programm for Innovative government and public services“  
Objective 4.3: Piloting IPv6 upgrade for eGovernment services in Europe




- Complementary experiments
- Participation of different MS
- Start from a baseline project
- Exploit synergies between experiments
- Strong focus on dissemination





# GEN6 Governments *EN*abled with IPv6

## National Pilots

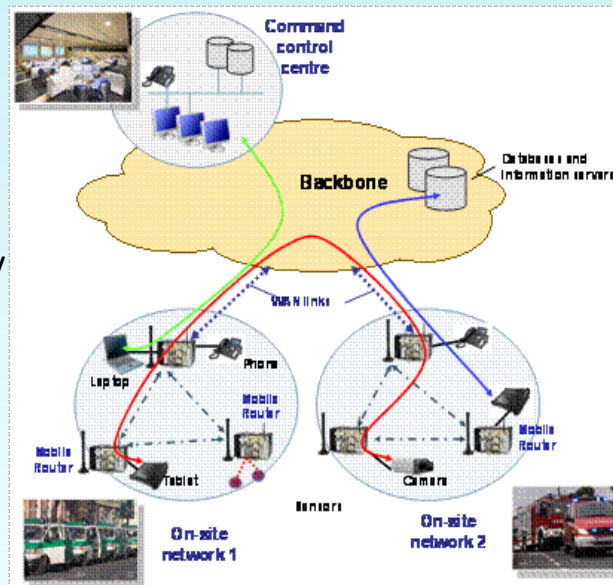
	Czech Republic: Access to the government central access point by IPv6
	Germany: Transition of data center services for public administrations
	Greece: IPv6 school network with focus on end user devices
	Luxembourg: IPv6 government cloud and Public Safety
	Netherlands: Enabling local government front and back office over IPv6
	Turkey: Government portal services over IPv6
	Spain: Preparing the government core network for IPv6
	Slovenia: A IPv6 ready emergency response environment

Definition of an European strategy and recommendation for a transition from IPv4 to IPv6 by a Dual Stack implementation  
– based on best practice, guidelines and methodologies  
– backed up by real national and cross border transition cases.

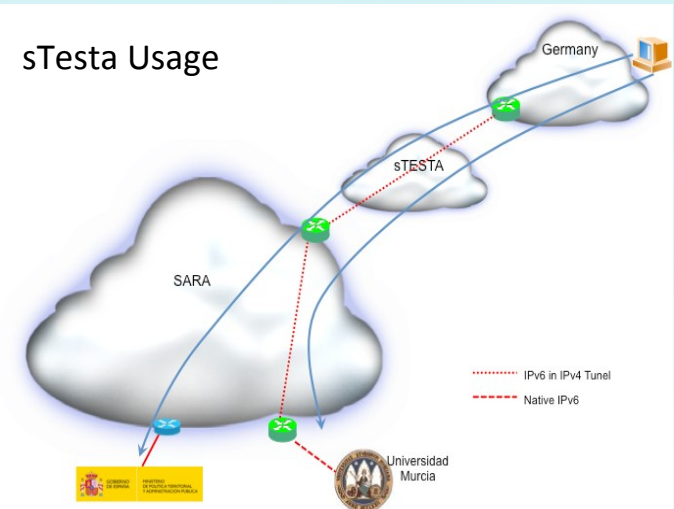


## Cross Border Pilots

Public Safety

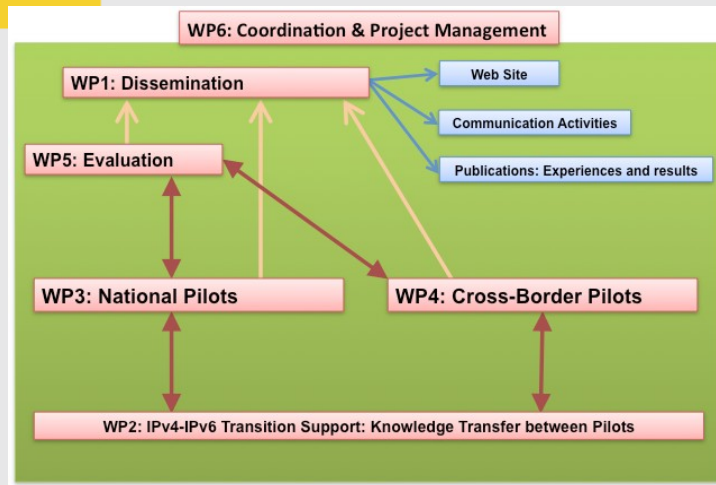


sTesta Usage

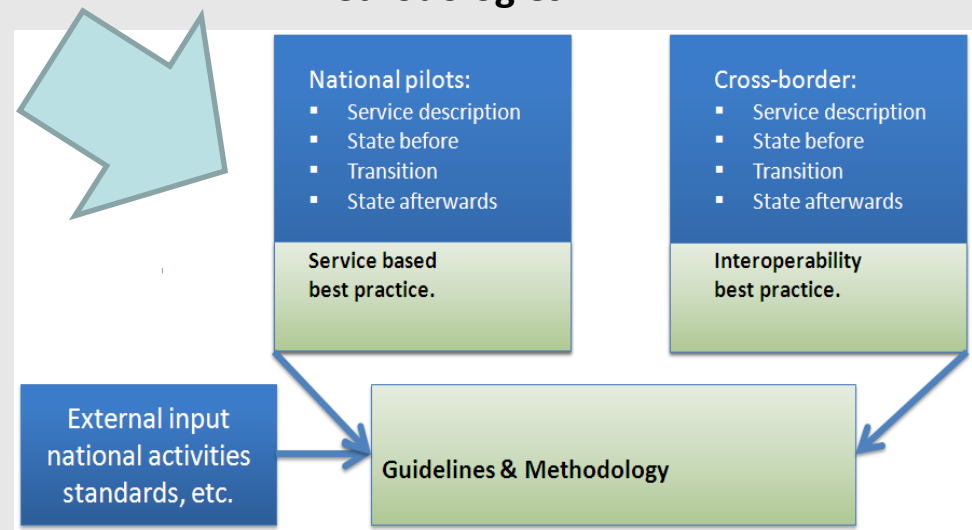




## From Working Structures to Results



"Showcases to derive best practices, guidelines, methodologies"





# Thank you for your attention!

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**GOVERNMENTS WORKING TOWARD IPV6**

Governments around the world support and promote the adoption of IPv6. Through partnerships with the private and civil sectors, governments are helping to ensure their citizens have access to all of the Internet's benefits. Today, that means access via IPv6. Examples include:



**NORTH AMERICA**

**United States of America:** The U.S. government has established an IPv6 task force which has identified several key dates and activities for the deployment of IPv6. In December 2009 the U.S. Federal Acquisition Regulation was amended to require use of the USGv6 Profile and USGv6 Testing Program to define and verify IPv6 requirements in all new IT acquisitions, and outward facing servers and services to operationally use native IPv6 by the end of 2012.

**SOUTH AMERICA**

**Brazil:** The Brazil National Internet Registry, NIC BR, began making IPv6 allocations in 2003. NIC BR and the Brazilian Internet Steering Committee, CCG BR, led a national project to promote IPv6 deployment, working closely with operators on a capacity building program based on online tutorials and face-to-face workshops. Since the project was launched in 2008, the number of Autonomous System Numbers in Brazil with IPv6 allocations has increased almost 15 times.

**AFRICA**

**Algeria:** The Algerian government has set up a local IPv6 task force with significant government involvement to increase local awareness and encourage network operators to implement IPv6.

**Egypt:** The Ministry of ICT and the national regulator set up a task force to conduct research on IPv6 for commonly used applications, such as VoIP and telemedicine, as part of the Egyptian IPv6 task force efforts in the country.

**Kenya:** The Ministry of Information and Communication Technology in Kenya formed a national IPv6 Task Force involving the government, academic and civil society in addition to the NREN to identify suitable transition mechanisms and to promote Kenya as a solutions provider for IPv6 services.

**Mauritius:** The Mauritian regulator and out a public consultation paper involving mainly around the IPv6 status and readiness in Mauritius. Based on the feedback, the Ministry of Communications has formulated its recommendations on the way forward to get Mauritius IPv6 ready.

**Nigeria:** The Nigerian government created a special committee (FCC and NCC) to increase IPv6 awareness and study policy that can bootstrap the process.

**South Africa:** The Department of Communications in South Africa has also launched a call for a formation of a national IPv6 task force.

**EUROPE**

**European Union:** In 2010, the European Commission laid out the Digital Agenda for Europe, which prioritizes the deployment of IPv6 throughout the European Union and globally. The EC has organized several multi-stakeholder events to examine the issues surrounding IPv6 deployment, including a two-day conference in December 2010, IPv6: The Way Forward and an IPv6 Workshop in June 2011, bringing together government representatives, members of the technical and business communities.

**Germany:** The German Government's plans for a federal IPv6 network connecting all German municipalities are already serving as a model for other government network strategies.

**MIDDLE EAST**

**Lebanon:** Lebanese networks are among the first in the Middle East able to connect and peer at the Beirut Internet Exchange (BeIX) over IPv6.

**Ukraine:** The Ukrainian government has established a national task force that focuses on training and preparing the technical community for IPv6.

**ASIA/PACIFIC**

**Australia:** The Australian Government Information Management Office's strategy to deploy IPv6 across all its departmental networks, to be completed in 2012, has been hailed as a model by other governments around the world.

**China:** The China Next Generation Internet project has been promoting IPv6 since 2003, focusing first on academic networks then expanding to industry networks in 2009. China showcased its progress at the 2008 summer Olympic Games in Beijing. The project has linked development of the largest IPv6 network in the world, used by about one million students.

**India:** The Indian government released a roadmap stating that all federal and state government ministries and departments and public sector companies will deploy IPv6 by March 2012.

**Japan:** The Japanese task force on IPv6 Address Ecosystem presents each key sector of industry with a clear path for IPv6 implementation. Constant feedback by these actions is published for continuous consultation.

**Malaysia:** Government initiatives will