IPv6 – More than numbers

A paradigm shift in the internet

Tahar Schaa
on behalf of Constanze Bürger (German Federal Ministry of Interior)

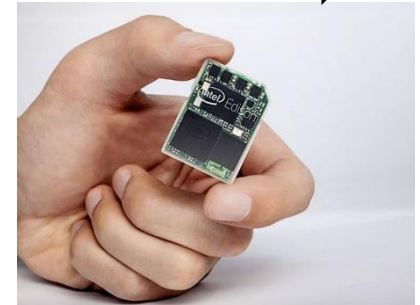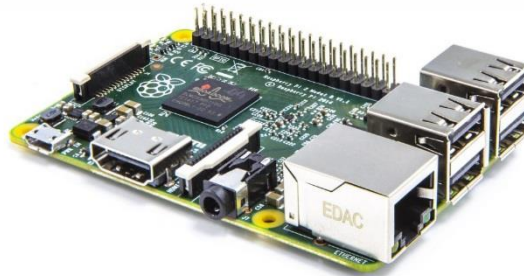**IPv6 Business
Conference**

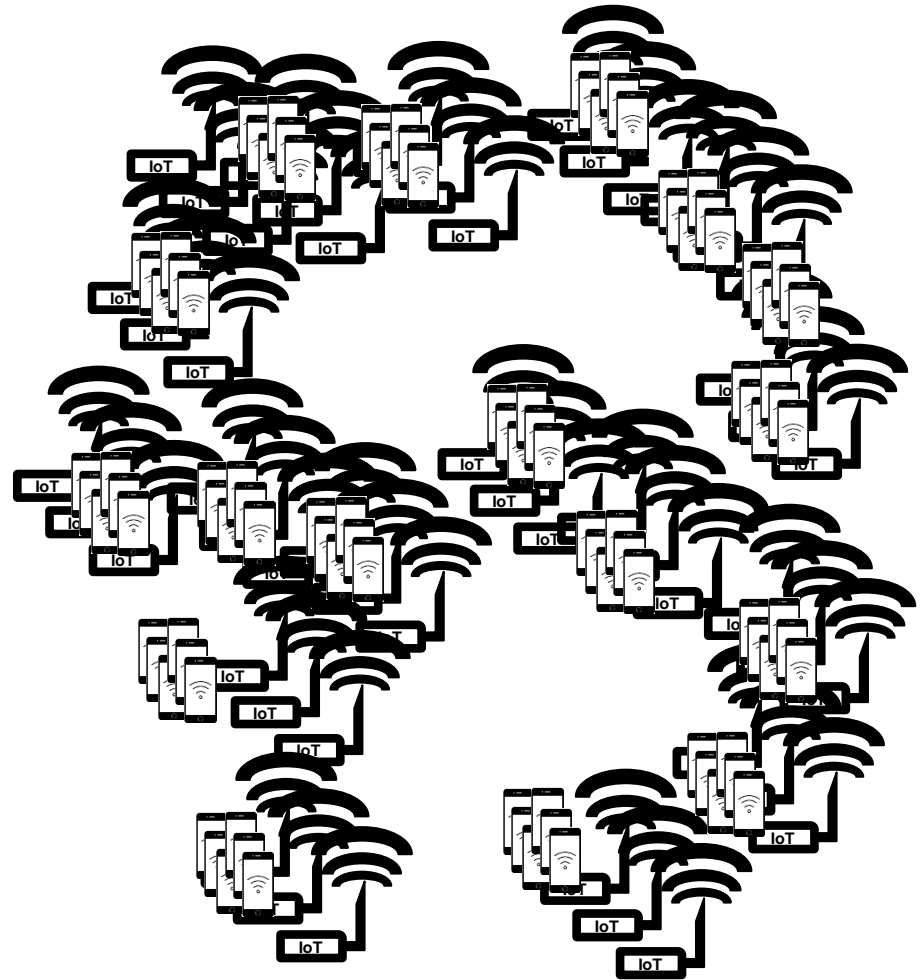Organized by
SWISS
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COUNCIL

2016
June, 16

The world changes

Time - smaller and more devices – used in more areas

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IT device penetration

Today's Electricity
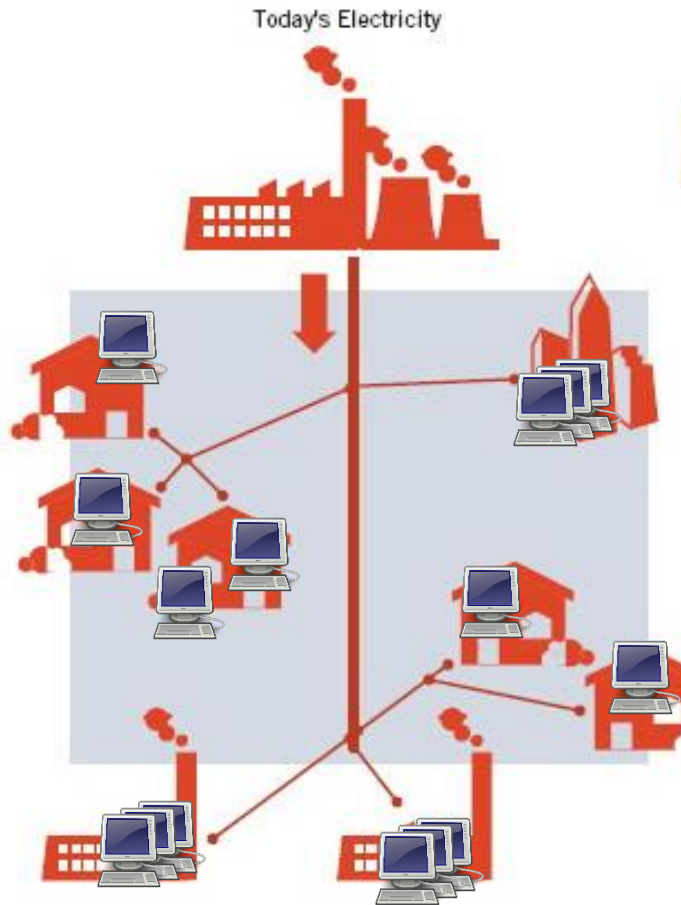
Raising relevance and impact –
IT dominates almost everything

economy **production**

private life

health

govern ment

amazon

tinder™
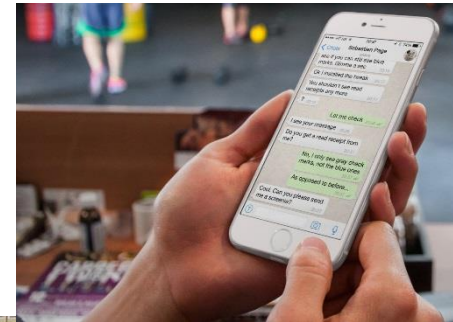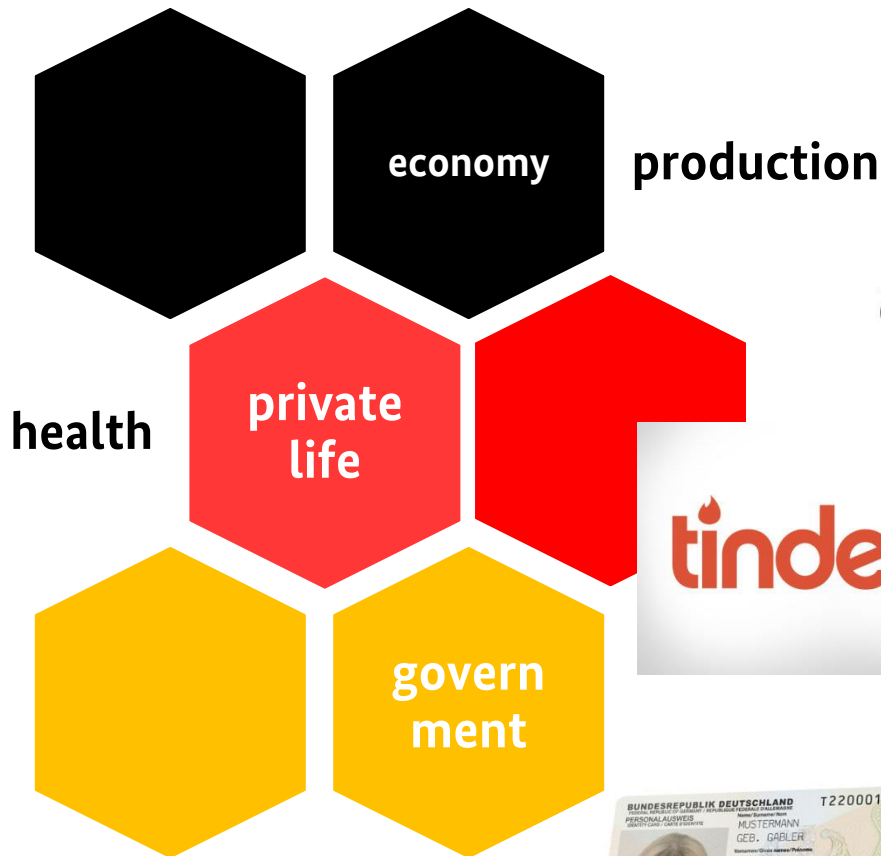
View from above: We're in the middle of a change

World of distributed systems

- IoT / Building control
- Machine control
- Energy supply – Smart Grids
- Smart cars

IT service chains becoming longer

- Valid for enterprises and public administrations
- Less infrastructure is operated / owned by orgs themselves

Where to get so many addresses? How to stay Boss about our IT?

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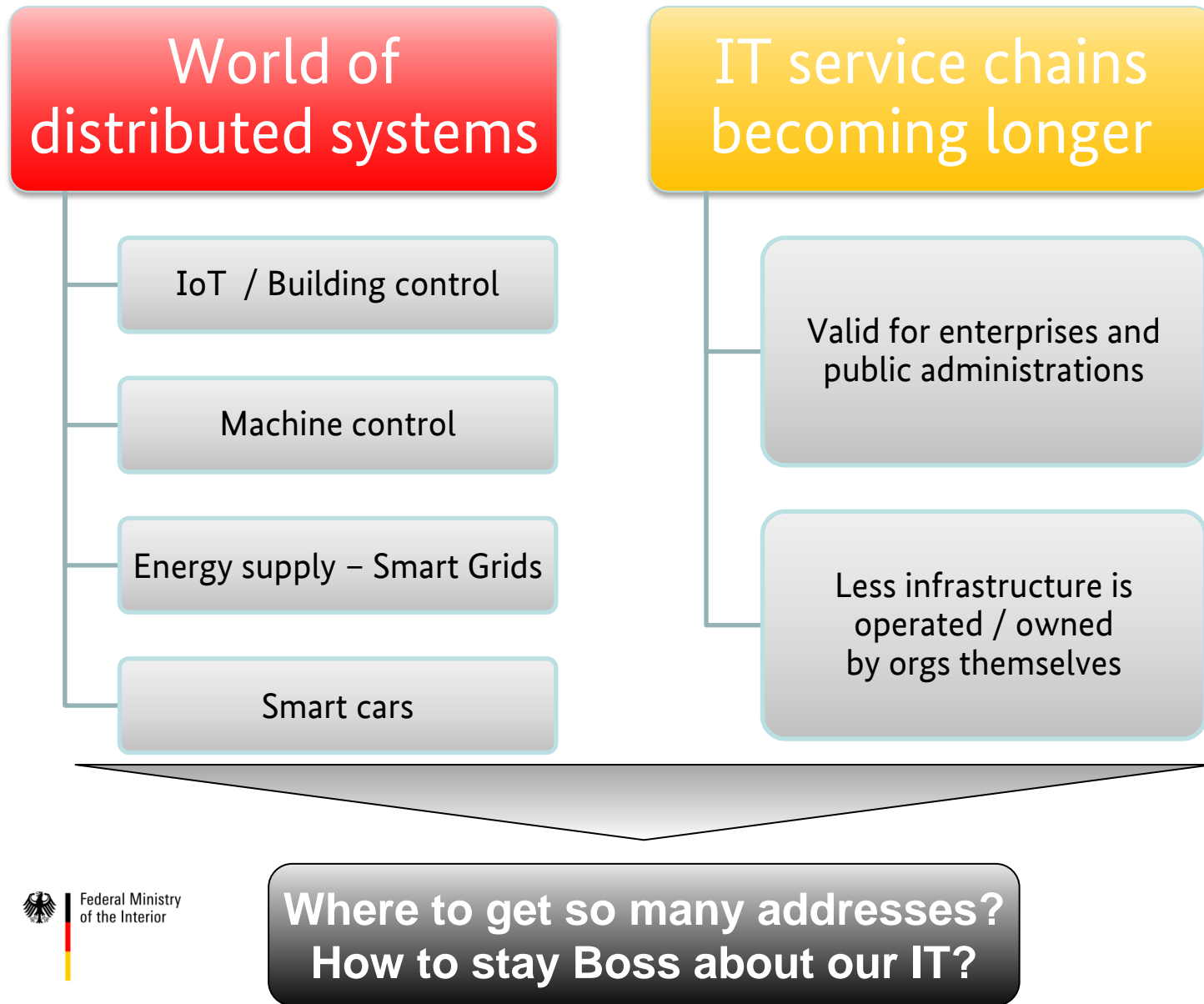
How to stay in control –
a question of IT sovereignty

Numbers
- IP addresses
- AS Numbers

Own and manage yourself

Names
- TLDs

Keys
- crypto keys
- SSL certificates

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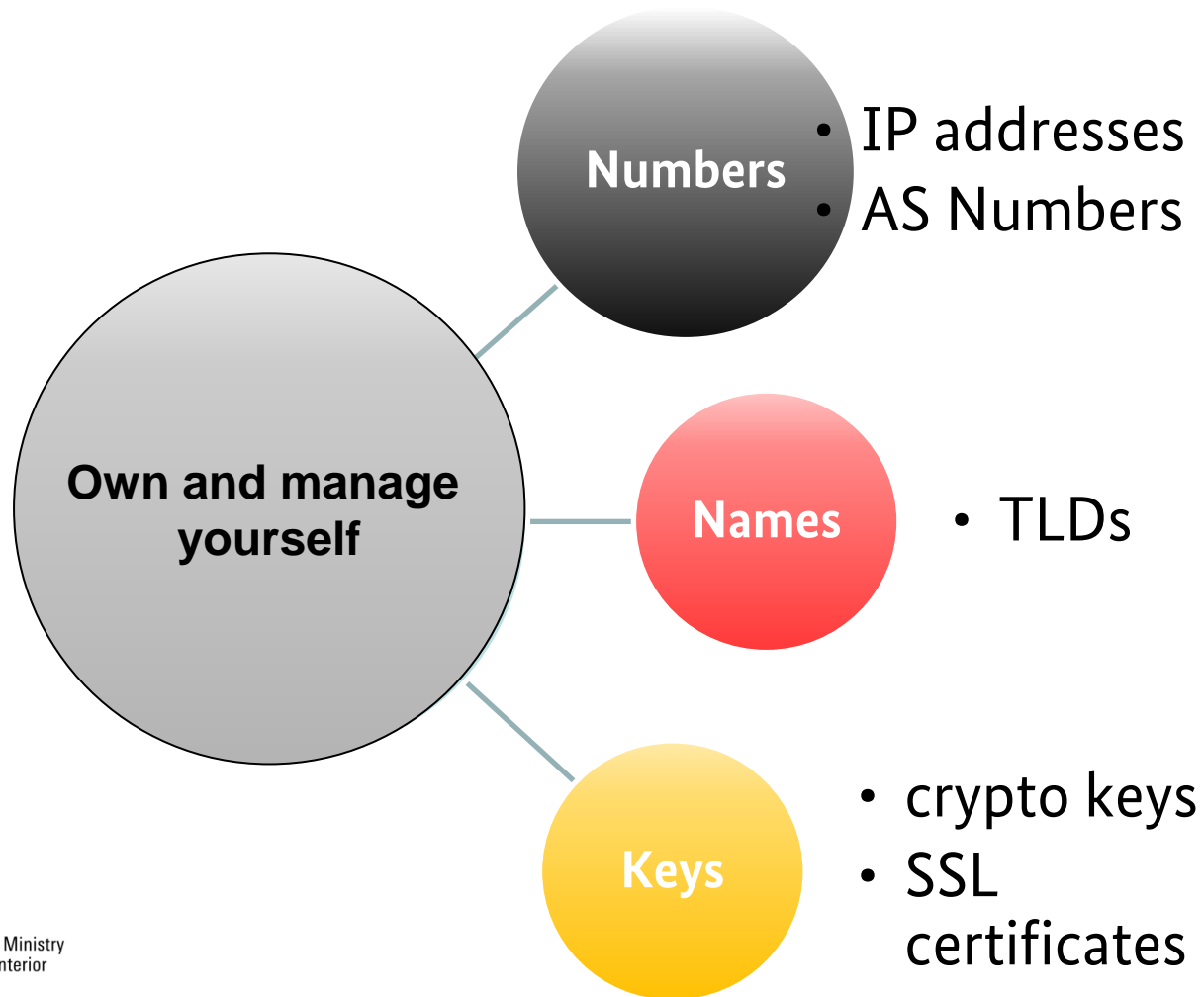
Paradigm shift with IPv6
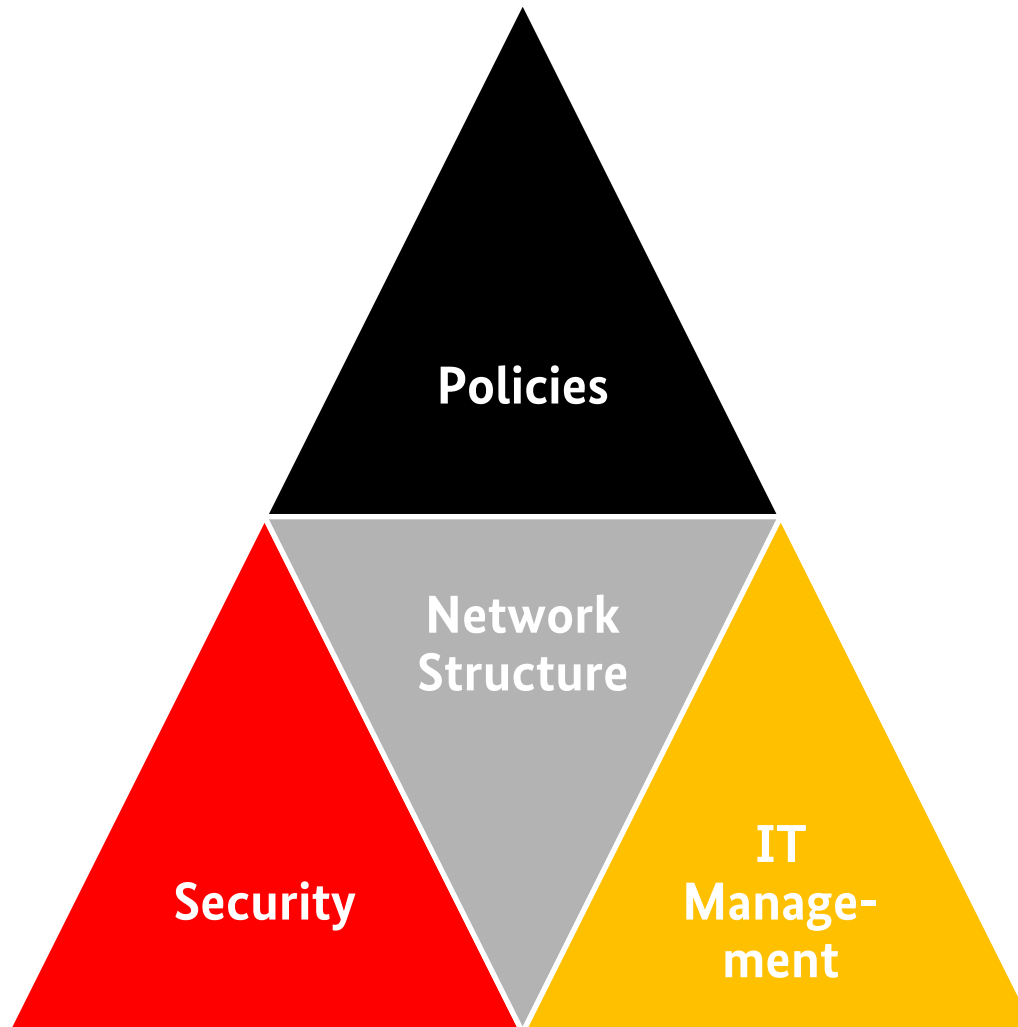
IPv6 Addresses in focus

- IPv6 provides enough address space for the growing number of distributed systems

- IPv6 provides again enough address space to always use globally unique addresses for all systems in every subnet

- Strategic goal of public administrations and enterprises is to become independent from ISPs regarding „official" IP addresses

What we see:

Public administrations and enterprises founding LIRs and becoming Members of one or more RIRs like RIPE NCC

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IPv6/v4 Addresses – a critical resource

- prevent hijacking
- stay independent from service providers
- ensure availability
- self defined routing paths

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IPv6 Addresses – Who makes the policies

Internet Numbering Policies are still not considering the needs of the New types of members – but only ISPs!

IPv6 addresses are essential!

Rules to get them are important

Who makes the rules and how?

RIR communities getting important!

RIR policy development process

- RIRs are using multistakeholder processes
- each stakeholder is an equal part of the internet community
- Even governments have follow the multistakeholder policy negotiation process

- We learned a lot from the community, setting up our LIR
- We brought up a new user-perspective

IPv6 Addresses – German public administration takes its responsibility for its address space
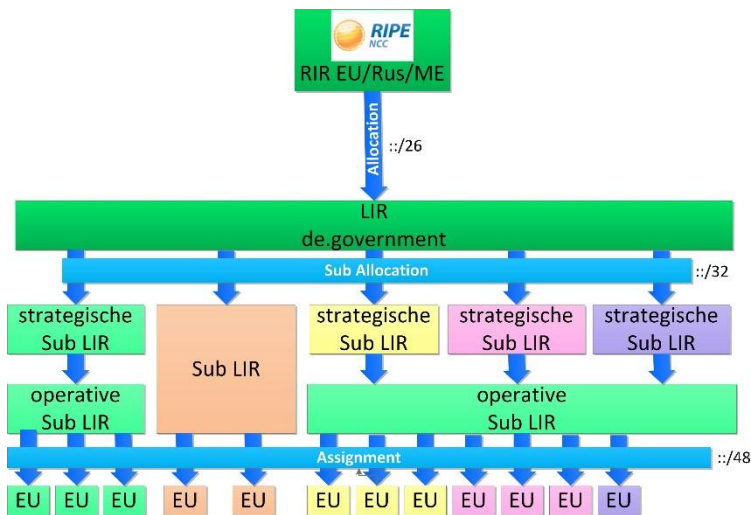
Set up organisation and IPv6 space

IPv6 resaerch & develpment
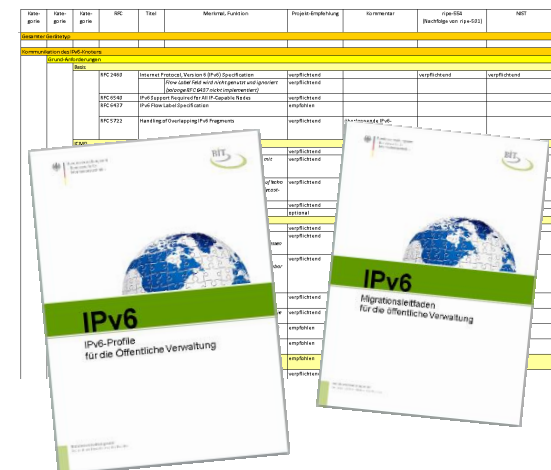
Engage in the RIR community

First outcome –a RIPE policy change! LACNIC is taking it!

Policy change
from **ripe-641** "RIPE NCC IPv6 Address Allocation and Assignment"
to ripe-655 takes new needs into account

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Outlook

While IPv6 is introduced the Internet is changing. A Paradigm Shift takes place due to new types of stakeholder taking the responsibility for their own address space. Let's have a look which challenges and chances we'll see in the Internet development process in the future for all users.

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Thank you!

on behalf of

Tahar Schaa
Management Consultant

Cassini Consulting GmbH
Bennigsen-Platz 1, 40474 Düsseldorf

+49 (0) 151 11 44 38 75
tahar.schaa@cassini.de

Constanze Bürger

Ministry of the Interior
Department Federal IT Infrastructures
and IT Security Management

Constanze.buerger@bmi.bund.de