IPv6 Transitions Mechanisms LAB

LAB Addressing

IPv6 Prefix	Usage	IPv4 Prefix	Usage
2001:1470:8000:e600::/60	Loopbacks	153.5.254.0/27	Loopback
2001:1470:8000:e610::/60	Links	153.5.254.32/27	Links
2001:1470:8000:e620::/60	*free*	153.5.254.64/27	*free*
2001:1470:8000:e630::/60	*free*	153.5.254.96/27	Servers
2001:1470:8000:e640::/60	Access	153.5.254.128/27	Org. 1
2001:1470:8000:e650::/60	*free*	153.5.254.160/27	Org. 1
2001:1470:8000:e660::/60	*free*	153.5.254.192/27	Org. 3
2001:1470:8000:e670::/60	Servers	153.5.254.225/27	Org. 3
2001:1470:8000:e680::/60	Org. 1		
2001:1470:8000:e690::/60	Org. 3		
2001:1470:8000:e6a0::/60	*free*		
2001:1470:8000:e6b0::/60	*free*		
2001:1470:8000:e6c0::/60	*free*		
2001:1470:8000:e6d0::/60	*free*		
2001:1470:8000:e6e0::/60	*free*		
2001:1470:8000:e6f0::/60	Customer Tunnels		

Backbone

link1 **bb_router1** [Vlan250] **bb_router2** [Fa0/0]
153.5.254.32 153.5.254.33
2001:1470:8000:e610::1 2001:1470:8000:e610::2
link2 **bb_router2** [Vlan350] **bb_router3** [Vlan350]
153.5.254.34 153.5.254.35
2001:1470:8000:e611::1 2001:1470:8000:e611::2
link3 **bb_router1** [Fa0/1] **bb_router3** [Fa0/0]
153.5.254.36 153.5.254.37
2001:1470:8000:e612::1 2001:1470:8000:e612::2
link4 **bb_router1** [Vlan290] **WAN router**
153.5.254.38 153.5.254.39
2001:1470:8000:e613::1 2001:1470:8000:e613::2
link5 **bb_router2** [Vlan590] **WAN router**
153.5.254.40 153.5.254.41
2001:1470:8000:e614::1 2001:1470:8000:e614::2

All links are /31 for IPv4 and /64 for IPv6.

Servers

servers	**bb_router1** [Vlan66]	**Vlan66**
	153.5.254.97	153.5.254.96/27
	2001:1470:8000:e670::	2001:1470:8000:e670::/64

Usage	IPv4 address	IPv6 address	Comment
DNS	153.5.254.98	2001:1470:8000:e670::10	Authoritative DNS for LAB lab64.ipv6.si

Backbone router loopbacks

router1 153.5.254.1 2001:1470:8000:e600::1
router2 153.5.254.2 2001:1470:8000:e600::2
router3 153.5.254.3 2001:1470:8000:e600::3

Access

acc_link1	**bb_router1** [Fa0/0]	**org_router1** [Fa0/0]
	153.5.254.42	153.5.254.43
	2001:1470:8000:e640::1	2001:1470:8000:e640::2
acc_link2	**bb_router2** [Vlan560]	**org_router2** [Fa0/0]
	2001:1470:8000:e641::1	2001:1470:8000:e641::2
acc_link3	**bb_router3** [Fa0/1]	**org_router3** [Fa0/0]
	153.5.254.46	153.5.254.47
acc_link4	**bb_router3** [Vlan351]	**acc_router1** [acc_link4]
	153.5.254.49	153.5.254.50

All IPv4 links are /31, except for acc_link4, which is /30. All IPv6 links are /64.

Organisations (customers)

	IPv4 subnet	IPv6 subnet	Router	IPv4 at router
Org. 1	153.5.254.128/26	2001:1470:8000:E680::/64	bb_router1	153.5.254.129
Org. 2	-	2001:1470:8000:E690::/64	bb_router2	
Org. 3	153.5.254.192/26	-	bb_router3	153.5.254.193
IT staff	192.168.64.0/24	2001:1470:8000:e6f1::/64	mikrotik_ito	192.168.64.1
Computer room	10.0.0.0/24	2001:1470:9905:fec4::/64	mikrotik_ru	10.0.0.1

mikrotik_ru 6rd :

PoP endpoint (v4)	Endpoint at Org. 3 (v4)	IPv6 subnet
153.5.253.6	153.5.254.196	2001:1470:**9905:fec4**::/64

mikrotik_ito 6in4 (proto-41) tunnel:

PoP endpoint (v4)	Endpoint at Org. 3 (v4)	PoP endpoint (v6)	Endpoint at Org. 3 (v6)	IPv6 subnet
153.5.253.6	153.5.254.200	2001:1470:8000:e6f0::1	2001:1470:8000:e6f0::2	2001:1470:8000:e6f1::/64

NAT64 translator

Usage	IPv4 address	IPv6 address	Comment
NAT64 translator	153.5.253.2	2001:1470:8000:e500::2	*DNS64 resolver and NAT64 translator*

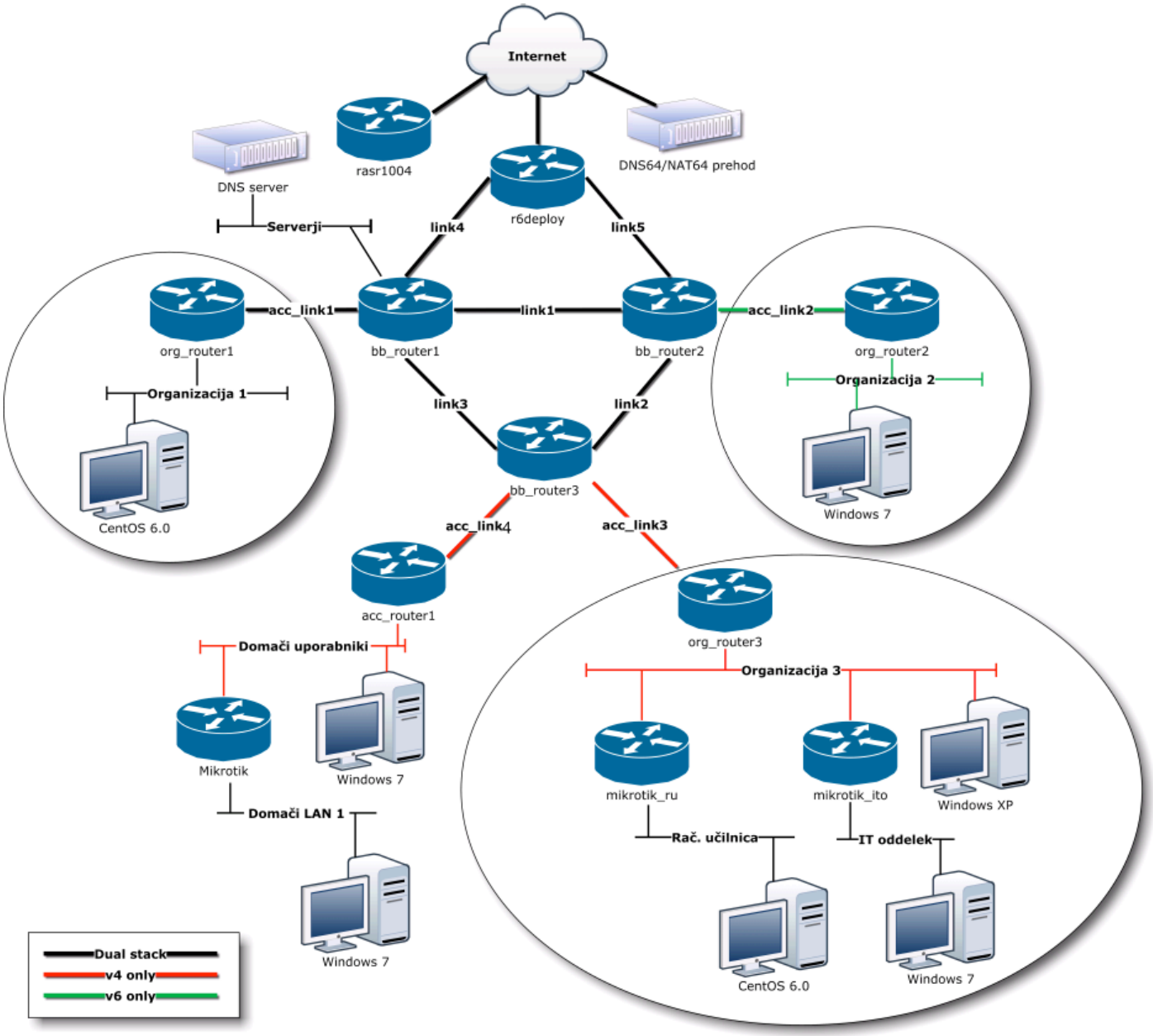
NAT64 prefix: **2001:1470:8000:624::/96**

IPv4 address for NAT: **153.5.253.64**.

Secrets

<removed – will tell you at the LAB>

You have full privileges - please, be machine friendly :-)


Internet
rasr1004
DNS64/NAT64 prehod
DNS server
r6deploy
Serverji
link4
link5
org_router1
acc_link1
bb_router1
link1
bb_router2
acc_link2
org_router2
Organizacija 1
Organizacija 2
link3
link2
bb_router3
CentOS 6.0
Windows 7
acc_link4
acc_link3
acc_router1
org_router3
Domači uporabniki
Organizacija 3
Mikrotik
Windows 7
mikrotik_ru
mikrotik_ito
Windows XP
Domači LAN 1
Rač. učilnica
IT oddelek
Windows 7
CentOS 6.0
Windows 7
Dual stack
v4 only
v6 only