ANEXOS

A. Archivo VNUML del Escenario Virtual DNSNAT64

```xml
<? xml version="1.0" encoding="UTF-8"?>
<! DOCTYPE vnuml SYSTEM "/usr/share/xml/vnuml/vnuml.dtd">
<! -- version 1.3-0 -->
<vnuml>
 <global>
  <version>1.8</version>
  <simulation_name>dnsnat64</simulation_name>
  <automac/>
  <vm_mgmt type="none" />
  <vm_defaults exec_mode="mconsole">
    <filesystem type="cow">/usr/share/vnuml/filesystems/debian6.fs</filesystem>
    <kernel>/usr/share/vnuml/kernels/linux-3.3.8</kernel>
    <console id="0">pts</console>
  </vm_defaults>
 </global>
<! -- networks -->
 <net name="Net0" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net0.ctl" />
 <net name="Net1" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net1.ctl" />
 <net name="Net2" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net2.ctl" />
 <net name="Net3" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net3.ctl" />
<!-- router, serves example.org, dns64 and nat64 -->
<vm name="r64">
        <console id="1">pts</console>
        <if id="0" net="Net3"></if>
        <if id="1" net="Net1"></if>
        <if id="2" net="Net2"></if>
        <filetree root="/usr/local/etc" seq="start" > files/dnsnat64/r64/tayga </filetree>
        <filetree root="/etc/bind/" seq="start">./files/dnsnat64/r64/bind</filetree>
        <exec seq="start" type="verbatim">sysctl -w net.ipv6.conf.all.forwarding=1</exec>
        <exec seq="start" type="verbatim">sysctl -w net.ipv4.conf.all.forwarding=1</exec>
        <exec seq="start" type="verbatim">ip a a 192.0.2.64/24 dev eth0</exec>
        <exec seq="start" type="verbatim">ip -6 a a 2001:db8:cafe:a::64/64 dev eth1</exec>
        <exec seq="start" type="verbatim">ip -6 a a 2001:db8:cafe:b::64/64 dev eth2</exec>
        <exec seq="start" type="verbatim">/etc/init.d/bind9 restart</exec>
        <exec seq="start" type="verbatim">echo -e "search example.org\nnameserver 127.0.0.1\n" >
        /etc/resolv.conf</exec>
        <exec seq="start" type="verbatim">mkdir -p /var/db/tayga </exec>
        <exec seq="start" type="verbatim">tayga --mktun </exec>
        <exec seq="start" type="verbatim">ip link set nat64 up </exec>
        <exec seq="start" type="verbatim">ip route add 203.0.113.0/24 via 192.0.2.4 </exec>
        <exec seq="start" type="verbatim">ip route add 198.51.100.0/24 dev nat64 </exec>
        <exec seq="start" type="verbatim">ip -6 route add 2001:db8:cafe:ffff::/96 dev nat64 </exec>
        <exec seq="start" type="verbatim">tayga </exec>
</vm>
<!-- IPv4 router, root DNS and serves example.com -->
<vm name="r4">
        <console id="1">pts</console>
        <if id="0" net="Net0"></if>
        <if id="1" net="Net3"></if>
        <filetree root="/etc/bind/" seq="start">./files/dnsnat64/r4/bind</filetree>
        <exec seq="start" type="verbatim">sysctl -w net.ipv4.conf.all.forwarding=1</exec>
        <exec seq="start" type="verbatim">ip a a 203.0.113.4/24 dev eth0</exec>
        <exec seq="start" type="verbatim">ip a a 192.0.2.4/24 dev eth1</exec>
```

```
                    <exec seq="start" type="verbatim">ip route add 198.51.100.0/24 via 192.0.2.64 </exec>
                    <exec seq="start" type="verbatim">/etc/init.d/bind9 restart</exec>
                    <exec seq="start" type="verbatim">echo -e "search example.com\nnameserver 127.0.0.1\n" >
                    /etc/resolv.conf</exec>
</vm>
<!-- IPv6 hosts -->
<vm name="ha1">
                    <if id="0" net="Net1"></if>
                    <exec seq="start" type="verbatim">ip -6 a a 2001:db8:cafe:a::a1/64 dev eth0</exec>
                    <exec seq="start" type="verbatim">ip -6 route add default via 2001:db8:cafe:a::64 </exec>
                    <exec seq="start" type="verbatim">echo -e "search example.org\nnameserver
                    2001:db8:cafe:a::64\n" > /etc/resolv.conf</exec>
                    </vm>
                    <vm name="hb1">
                    <if id="0" net="Net2"></if>
                    <exec seq="start" type="verbatim">ip -6 a a 2001:db8:cafe:b::b1/64 dev eth0</exec>
                    <exec seq="start" type="verbatim">ip -6 route add default via 2001:db8:cafe:b::64 </exec>
                    <exec seq="start" type="verbatim">echo -e "search example.org\nnameserver
                    2001:db8:cafe:a::64\n" > /etc/resolv.conf</exec>
</vm>
<vm name="sb2">
                    <if id="0" net="Net2"></if>
                    <exec seq="start" type="verbatim">ip -6 a a 2001:db8:cafe:b::b2/64 dev eth0</exec>
                    <exec seq="start" type="verbatim">ip -6 route add default via 2001:db8:cafe:b::64 </exec>
                    <exec seq="start" type="verbatim">echo -e "search example.org\nnameserver
                    2001:db8:cafe:a::64\n" > /etc/resolv.conf</exec>
</vm>
<!-- IPv4 hosts -->
<vm name="h41">
                    <if id="0" net="Net0"></if>
                    <exec seq="start" type="verbatim">ip a a 203.0.113.41/24 dev eth0</exec>
                    <exec seq="start" type="verbatim">ip route add default via 203.0.113.4 </exec>
                    <exec seq="start" type="verbatim">echo -e "search example.com\nnameserver 203.0.113.4\n" >
                    /etc/resolv.conf</exec>
</vm>
<vm name="s42">
                    <if id="0" net="Net0"></if>
                    <exec seq="start" type="verbatim">ip a a 203.0.113.42/24 dev eth0</exec>
                    <exec seq="start" type="verbatim">ip route add default via 203.0.113.4 </exec>
                    <exec seq="start" type="verbatim">echo -e "search example.com\nnameserver 203.0.113.4\n" >
                    /etc/resolv.conf</exec>
</vm>
</vnuml>
```

B. Archivo VNUML del Escenario Virtual 6to4

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE vnuml SYSTEM "/usr/share/xml/vnuml/vnuml.dtd">
<!-- version 1.3-0 -->
<vnuml>
 <global>
 <version>1.8</version>
 <simulation_name>6to4</simulation_name>
 <automac/>
 <vm_mgmt type="none" />
 <vm_defaults exec_mode="mconsole">
 <filesystem type="cow">/usr/share/vnuml/filesystems/debian6.fs</filesystem>
 <kernel>/usr/share/vnuml/kernels/linux-3.3.8</kernel>
 <console id="0">pts</console>
 </vm_defaults>
 </global>
<!-- networks -->
 <net name="Net0" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net0.ctl" />
 <net name="Net1" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net1.ctl" />
 <net name="Net2" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net2.ctl" />
 <net name="Net3" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net3.ctl" />
 <net name="Net4" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net4.ctl" />
 <net name="Net5" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net5.ctl" />
 <net name="Net6" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net6.ctl" />
 <net name="Net7" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net7.ctl" />
<!--IPv4 Public network -->
<!--IPv4 router -->
<vm name="r41">
        <console id="1">pts</console>
        <if id="0" net="Net1"></if>
        <if id="1" net="Net0"></if>
        <if id="2" net="Net4"></if>
        <if id="3" net="Net5"></if>
        <exec seq="start" type="verbatim">sysctl -w net.ipv4.conf.all.forwarding=1</exec>
        <exec seq="start" type="verbatim">ip a a 203.0.113.1/24 dev eth0</exec>
        <exec seq="start" type="verbatim">ip a a 192.0.2.1/24 dev eth1</exec>
        <exec seq="start" type="verbatim">ip a a 10.0.0.1/24 dev eth2</exec>
        <exec seq="start" type="verbatim">ip a a 10.0.1.1/24 dev eth3</exec>
        <exec seq="start" type="verbatim">ip route a 192.88.99.0/24 via 10.0.0.4 dev eth2 metric
        1</exec>
        <exec seq="start" type="verbatim">ip route a 192.88.99.0/24 via 10.0.1.5 dev eth3 metric
        2</exec>
</vm>
<!-- IPv6 6to4 network 1 -->
<!-- 6to4 Gateway -->
<vm name="ga2">
        <console id="1">pts</console>
        <if id="0" net="Net0"></if>
        <if id="1" net="Net2"></if>
        <filetree root="/etc" seq="start" > files/6to4/ga2/radvd </filetree>
        <exec seq="start" type="verbatim">sysctl -w net.ipv4.conf.all.forwarding=1</exec>
        <exec seq="start" type="verbatim">sysctl -w net.ipv6.conf.all.forwarding=1</exec>
        <exec seq="start" type="verbatim">ip -6 a a 2002:c000:0202:cafe::a2/64 dev eth1</exec>
        <exec seq="start" type="verbatim">ip a a 192.0.2.2/24 dev eth0</exec>
        <exec seq="start" type="verbatim">ip route add default via 192.0.2.1</exec>
        <exec seq="start" type="verbatim">ip tunnel add 6to4 mode sit remote any local
        192.0.2.2</exec>
        <exec seq="start" type="verbatim">ip -6 a a 2002:c000:0202:cafe::/16 dev 6to4</exec>
        <exec seq="start" type="verbatim">ip link set 6to4 up</exec>
        <exec seq="start" type="verbatim">service radvd start </exec>
        <exec seq="start" type="verbatim">ip -6 route add default via ::192.88.99.1 dev 6to4 metric
```

```xml
<!-- IPv6 6to4 network 2 -->
<!-- 6to4 Gateway -->
<vm name="ga3">
        <console id="1">pts</console>
        <if id="0" net="Net1"></if>
        <if id="1" net="Net3"></if>
        <exec seq="start" type="verbatim">sysctl -w net.ipv4.conf.all.forwarding=1</exec>
        <exec seq="start" type="verbatim">sysctl -w net.ipv6.conf.all.forwarding=1</exec>
        <exec seq="start" type="verbatim">ip -6 a a 2002:cb00:7103:beef::a3/64 dev eth1</exec>
        <exec seq="start" type="verbatim">ip a a 203.0.113.3/24 dev eth0</exec>
        <exec seq="start" type="verbatim">ip route add default via 203.0.113.1</exec>
        <exec seq="start" type="verbatim">ip tunnel add 6to4 mode sit remote any local
        203.0.113.3</exec>
        <exec seq="start" type="verbatim">ip -6 a a 2002:cb00:7103:beef::/16 dev 6to4</exec>
        <exec seq="start" type="verbatim">ip link set 6to4 up</exec>
        <exec seq="start" type="verbatim">ip -6 route add default via ::192.88.99.1 dev 6to4 metric
        1</exec>
</vm>
<!-- IPv6 host -->
<vm name="hb1">
        <if id="0" net="Net3"></if>
        <exec seq="start" type="verbatim">ip -6 a a 2002:cb00:7103:beef::b1/64 dev eth0</exec>
        <exec seq="start" type="verbatim">ip -6 route add default via 2002:cb00:7103:beef::a3</exec>
</vm>
<!-- IPv6 Public Network -->
<!-- 6to4 Relay 1 -->
<vm name="re4">
        <console id="1">pts</console>
        <if id="0" net="Net6"></if>
        <if id="1" net="Net4"></if>
        <exec seq="start" type="verbatim">sysctl -w net.ipv4.conf.all.forwarding=1</exec>
        <exec seq="start" type="verbatim">sysctl -w net.ipv6.conf.all.forwarding=1</exec>
        <exec seq="start" type="verbatim">ip a a 10.0.0.4/24 dev eth1</exec>
        <exec seq="start" type="verbatim">ip route add default via 10.0.0.1</exec>
        <exec seq="start" type="verbatim">ifconfig eth1:1 192.88.99.1/24</exec>
        <exec seq="start" type="verbatim">ip tunnel add 6to4 mode sit ttl 100 remote any local
        192.88.99.1</exec>
        <exec seq="start" type="verbatim">ip link set dev 6to4 up</exec>
        <exec seq="start" type="verbatim">ip -6 a a 2002:c058:6301::/16 dev 6to4</exec>
        <exec seq="start" type="verbatim">ip -6 route add 2002::/16 dev 6to4</exec>
        <exec seq="start" type="verbatim">ip -6 route add default via fe80::fcfd:ff:fe00:800 dev
        eth0</exec>
</vm>
<!-- 6to4 Relay 2  -->
<vm name="re5">
        <console id="1">pts</console>
        <if id="0" net="Net6"></if>
        <if id="1" net="Net5"></if>
        <exec seq="start" type="verbatim">sysctl -w net.ipv4.conf.all.forwarding=1</exec>
        <exec seq="start" type="verbatim">sysctl -w net.ipv6.conf.all.forwarding=1</exec>
        <exec seq="start" type="verbatim">ip a a 10.0.1.5/24 dev eth1</exec>
        <exec seq="start" type="verbatim">ip route add default via 10.0.1.1</exec>
        <exec seq="start" type="verbatim">ifconfig eth1:1 192.88.99.1/24</exec>
        <exec seq="start" type="verbatim">ip tunnel add 6to4 mode sit ttl 100 remote any local
        192.88.99.1</exec>
        <exec seq="start" type="verbatim">ip link set dev 6to4 up</exec>
        <exec seq="start" type="verbatim">ip -6 a a 2002:c058:6301::/16 dev 6to4</exec>
        <exec seq="start" type="verbatim">ip -6 route add 2002::/16 dev 6to4</exec>
        <exec seq="start" type="verbatim">ip -6 route add default via fe80::fcfd:ff:fe00:800 dev
        eth0</exec>
</vm>
```

```xml
<!-- IPv6 Router  -->
<vm name="r61">
        <console id="1">pts</console>
        <if id="0" net="Net6"></if>
        <if id="1" net="Net7"></if>
        <exec seq="start" type="verbatim">sysctl -w net.ipv6.conf.all.forwarding=1</exec>
        <exec seq="start" type="verbatim">ip -6 a a 2001:db8:babe::61/64 dev eth1</exec>
        <exec seq="start" type="verbatim">ip -6 route add 2002::/16 via fe80::fcfd:ff:fe00:600 dev eth0
        metric 2</exec>
        <exec seq="start" type="verbatim">ip -6 route add 2002::/16 via fe80::fcfd:ff:fe00:700 dev eth0
        metric 1</exec>
</vm>
<!-- IPv6 host -->
<vm name="hc1">
        <if id="0" net="Net7"></if>
        <exec seq="start" type="verbatim">ip -6 a a 2001:db8:babe::c1/64 dev eth0</exec>
        <exec seq="start" type="verbatim">ip -6 route add default via 2001:db8:babe::61</exec>
</vm>
</vnuml>
```

C. Archivo VNUML del Escenario Virtual 6RD

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE vnuml SYSTEM "/usr/share/xml/vnuml/vnuml.dtd">
<!-- version 1.3-0 -->
<vnuml>
 <global>
 <version>1.8</version>
 <simulation_name>6rd</simulation_name>
 <automac/>
 <vm_mgmt type="none" />
 <vm_defaults exec_mode="mconsole">
 <filesystem type="cow">/usr/share/vnuml/filesystems/debian6.fs</filesystem>
 <kernel>/usr/share/vnuml/kernels/linux-3.3.8</kernel>
 <console id="0">pts</console>
 </vm_defaults>
 </global>
<!-- networks -->
 <net name="Net0" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net0.ctl" />
 <net name="Net1" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net1.ctl" />
 <net name="Net2" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net2.ctl" />
 <net name="Net3" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net3.ctl" />
 <net name="Net4" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net4.ctl" />
 <net name="Net5" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net5.ctl" />
 <net name="Net6" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net6.ctl" />
 <net name="Net7" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net7.ctl" />
 <net name="Net8" mode="uml_switch" hub="yes" sock="/var/run/vnuml/Net8.ctl" />
<!--IPv4 Public network -->
<!--IPv4 router & DHCP server -->
<vm name="r41">
          <console id="1">pts</console>
          <if id="0" net="Net1"></if>
          <if id="1" net="Net0"></if>
          <if id="2" net="Net4"></if>
          <if id="3" net="Net5"></if>
          <exec seq="start" type="verbatim">sysctl -w net.ipv4.conf.all.forwarding=1</exec>
          <filetree root="/etc/default/" seq="start" > files/6rd/r41/isc_dhcp </filetree>
          <filetree root="/etc/dhcp" seq="start" > files/6rd/r41/dhcp_server </filetree>
          <exec seq="start" type="verbatim">ip a 147.83.1.1/24 dev eth0</exec>
          <exec seq="start" type="verbatim">ip a a 147.83.0.1/24 dev eth1</exec>
          <exec seq="start" type="verbatim">ip a a 10.0.0.1/24 dev eth2</exec>
          <exec seq="start" type="verbatim">ip a a 10.0.1.1/24 dev eth3</exec>
          <exec seq="start" type="verbatim">ip route a 147.83.100.0/24 via 10.0.0.4 dev eth2 metric
          1</exec>
          <exec seq="start" type="verbatim">ip route a 147.83.100.0/24 via 10.0.1.5 dev eth3 metric
          2</exec>
</vm>
<!-- IPv6 6rd network 1 -->
<!-- 6rd Gateway -->
          <vm name="ga2">
          <console id="1">pts</console>
          <if id="0" net="Net0"></if>
          <if id="1" net="Net2"></if>
          <filetree root="/etc" seq="start" > files/6rd/ga2/radvd </filetree>
          <filetree root="/etc/network" seq="start" > files/6rd/ga2/network </filetree>
          <exec seq="start" type="verbatim">sysctl -w net.ipv4.conf.all.forwarding=1</exec>
          <exec seq="start" type="verbatim">sysctl -w net.ipv6.conf.all.forwarding=1</exec>
          <exec seq="start" type="verbatim">ip route add default via 147.83.0.1</exec>
          <exec seq="start" type="verbatim">ip tunnel add 6rd mode sit local 147.83.0.2 ttl 64</exec>
          <exec seq="start" type="verbatim">ip tunnel 6rd dev 6rd 6rd-prefix 2001:40b0::/32 6rd-
          relay_prefix 147.83.0.0/16</exec>
```

```xml
            <exec seq="start" type="verbatim">ip -6 a a 2001:40b0:0002::1/32 dev 6rd</exec>
            <exec seq="start" type="verbatim">ip link set 6rd up</exec>
            <exec seq="start" type="verbatim">ip -6 a a 2001:40b0:0002::a2/64 dev eth1</exec>
            <exec seq="start" type="verbatim">service radvd start </exec>
            <exec seq="start" type="verbatim">ip -6 route add default via ::147.83.100.45 dev 6rd metric
            1</exec>
</vm>
<!-- IPv6 host -->
<vm name="ha1">
            <if id="0" net="Net2"></if>
            <!-- radvd client -->
</vm>
<!-- IPv6 6rd network 2, 2 ipv6 subnets -->
<!-- 6rd Gateway -->
<vm name="ga3">
            <console id="1">pts</console>
            <if id="0" net="Net1"></if>
            <if id="1" net="Net3"></if>
            <if id="2" net="Net8"></if>
            <exec seq="start" type="verbatim">sysctl -w net.ipv4.conf.all.forwarding=1</exec>
            <exec seq="start" type="verbatim">sysctl -w net.ipv6.conf.all.forwarding=1</exec>
            <exec seq="start" type="verbatim">ip a a 147.83.1.3/24 dev eth0</exec>
            <exec seq="start" type="verbatim">ip route add default via 147.83.1.1</exec>
            <exec seq="start" type="verbatim">ip tunnel add 6rd mode sit local 147.83.1.3 ttl 64</exec>
            <exec seq="start" type="verbatim">ip tunnel 6rd dev 6rd 6rd-prefix 2001:40b0::/32 6rd-
            relay_prefix 147.83.0.0/16</exec>
            <exec seq="start" type="verbatim">ip -6 a a 2001:40b0:0103::1/32 dev 6rd</exec>
            <exec seq="start" type="verbatim">ip link set 6rd up</exec>
            <exec seq="start" type="verbatim">ip -6 a a 2001:40b0:0103:1::a3/64 dev eth1</exec>
            <exec seq="start" type="verbatim">ip -6 a a 2001:40b0:0103:2::a3/64 dev eth2</exec>
            <exec seq="start" type="verbatim">ip -6 route add default via ::147.83.100.45 dev 6rd metric
            1</exec>
</vm>
<!-- IPv6 host 1-->
<vm name="hb1">
            <if id="0" net="Net3"></if>
            <exec seq="start" type="verbatim">ip -6 a a 2001:40b0:0103:1::b1/64 dev eth0</exec>
            <exec seq="start" type="verbatim">ip -6 route add default via 2001:40b0:0103:1::a3</exec>
</vm>
<!-- IPv6 host 2 -->
<vm name="hd1">
            <if id="0" net="Net8"></if>
            <exec seq="start" type="verbatim">ip -6 a a 2001:40b0:0103:2::d1/64 dev eth0</exec>
            <exec seq="start" type="verbatim">ip -6 route add default via 2001:40b0:0103:2::a3</exec>
</vm>
<!-- IPv6 Public Network -->
<!-- 6rd Relay 1 -->
<vm name="re4">
            <console id="1">pts</console>
            <if id="0" net="Net6"></if>
            <if id="1" net="Net4"></if>
            <exec seq="start" type="verbatim">sysctl -w net.ipv4.conf.all.forwarding=1</exec>
            <exec seq="start" type="verbatim">sysctl -w net.ipv6.conf.all.forwarding=1</exec>
            <exec seq="start" type="verbatim">ip a a 10.0.0.4/24 dev eth1</exec>
            <exec seq="start" type="verbatim">ip route add default via 10.0.0.1</exec>
            <exec seq="start" type="verbatim">ifconfig eth1:1 147.83.100.45/24</exec>
            <exec seq="start" type="verbatim">ip tunnel add 6rd mode sit ttl 100 local 147.83.100.45</exec>
            <exec seq="start" type="verbatim">ip tunnel 6rd dev 6rd 6rd-prefix 2001:40b0::/32 6rd-
            relay_prefix 147.83.0.0/16</exec>
```

```xml
            <exec seq="start" type="verbatim">ip -6 a a 2001:40b0:642d::1/32 dev 6rd</exec>
            <exec seq="start" type="verbatim">ip link set dev 6rd up</exec>
            <exec seq="start" type="verbatim">ip -6 route add 2001:40b0::/32 dev 6rd</exec>
            <exec seq="start" type="verbatim">ip -6 route add default via fe80::fcfd:ff:fe00:900 dev
            eth0</exec>
</vm>
<!-- 6rd Relay 2 -->
<vm name="re5">
            <console id="1">pts</console>
            <if id="0" net="Net6"></if>
            <if id="1" net="Net5"></if>
            <exec seq="start" type="verbatim">sysctl -w net.ipv4.conf.all.forwarding=1</exec>
            <exec seq="start" type="verbatim">sysctl -w net.ipv6.conf.all.forwarding=1</exec>
            <exec seq="start" type="verbatim">ip a a 10.0.1.5/24 dev eth1</exec>
            <exec seq="start" type="verbatim">ip route add default via 10.0.1.1</exec>
            <exec seq="start" type="verbatim">ifconfig eth1:1 147.83.100.45/24</exec>
            <exec seq="start" type="verbatim">ip tunnel add 6rd mode sit ttl 100 local 147.83.100.45</exec>
            <exec seq="start" type="verbatim">ip tunnel 6rd dev 6rd 6rd-prefix 2001:40b0::/32 6rd-
            relay_prefix 147.83.0.0/16</exec>
            <exec seq="start" type="verbatim">ip -6 a a 2001:40b0:9353:642d::/32 dev 6rd</exec>
            <exec seq="start" type="verbatim">ip link set dev 6rd up</exec>
            <exec seq="start" type="verbatim">ip -6 route add 2001:40b0::/32 dev 6rd</exec>
            <exec seq="start" type="verbatim">ip -6 route add default via fe80::fcfd:ff:fe00:900 dev
            eth0</exec>
</vm>
<!-- IPv6 Router  -->
<vm name="r61">
            <console id="1">pts</console>
            <if id="0" net="Net6"></if>
            <if id="1" net="Net7"></if>
            <exec seq="start" type="verbatim">sysctl -w net.ipv6.conf.all.forwarding=1</exec>
            <exec seq="start" type="verbatim">ip -6 a a 2001:db8:babe::61/64 dev eth1</exec>
            <exec seq="start" type="verbatim">ip -6 route add 2001:40b0::/32 via fe80::fcfd:ff:fe00:600 dev
            eth0 metric 2</exec>
            <exec seq="start" type="verbatim">ip -6 route add 2001:40b0::/32 via fe80::fcfd:ff:fe00:700 dev
            eth0 metric 1</exec>
</vm>
<!-- IPv6 host -->
            <vm name="hc1">
            <if id="0" net="Net7"></if>
            <exec seq="start" type="verbatim">ip -6 a a 2001:db8:babe::c1/64 dev eth0</exec>
            <exec seq="start" type="verbatim">ip -6 route add default via 2001:db8:babe::61</exec>
</vm>
</vnuml>
```