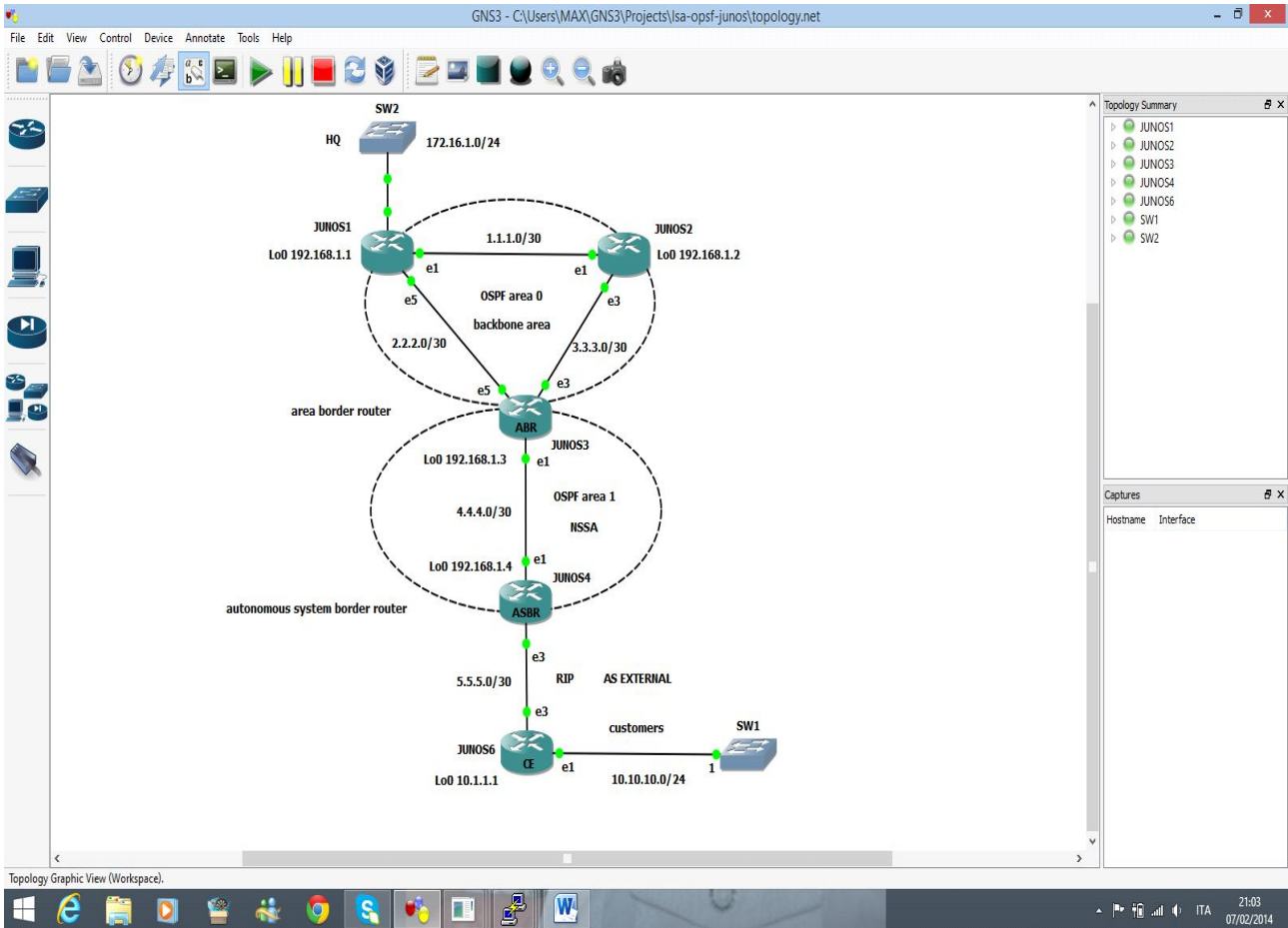


Configurazione area **NSSA OSPF** con router Juniper

L'architettura di riferimento è la seguente:



Premesso:

JUNOS4 ha ruolo di ASBR e collega il router CE via RIP; una policy option è configurata per redistribuire RIP in OSPF.

JUNOS3 ha ruolo di ABR con doppio LSDB per area più OSPF SCOPE EXTERNAL ROUTE; inietta la default route e sopprime la summarizzazione all'interno dell'area NSSA; specifica la metrica type dell'external route e floods type 7 LSA sempre all'interno dell'area NSSA.

JUNOS1 e JUNOS2 sono router di backbone area 0 e ricevono l'EXTERNAL ROUTE redistribuito in LSA type 5 external dall'ABR.

OUTPUT LSDB:

from ASBR:

root@JUNOS4> show ospf database

OSPF database, Area 0.0.0.1

Type	ID	Adv Rtr	Seq	Age	Opt	Cksum	Len
Router	192.168.1.3	192.168.1.3	0x80000004	116	0x20	0x9628	48
Router	*192.168.1.4	192.168.1.4	0x80000008	254	0x20	0xd30	60
NSSA	0.0.0.0	192.168.1.3	0x80000003	1078	0x20	0x3efa	36
NSSA	*10.1.1.1	192.168.1.4	0x80000001	1431	0x28	0x4579	36
NSSA	*10.10.10.0	192.168.1.4	0x80000001	1431	0x28	0x7f2e	36

from ABR

root@JUNOS3> show ospf database

OSPF database, Area 0.0.0.0

Type	ID	Adv Rtr	Seq	Age	Opt	Cksum	Len
Router	192.168.1.1	192.168.1.1	0x8000000d	978	0x22	0xd617	96
Router	192.168.1.2	192.168.1.2	0x80000007	905	0x22	0xc5f3	84
Router	*192.168.1.3	192.168.1.3	0x80000008	1252	0x22	0xb2f9	84
Summary	*4.4.4.0	192.168.1.3	0x80000006	460	0x22	0xc1fe	28
Summary	*192.168.1.4	192.168.1.3	0x80000002	338	0x22	0x87d7	28
ASBRSum	*192.168.1.4	192.168.1.3	0x80000002	338	0x22	0x79e4	28

OSPF database, Area 0.0.0.1

Type	ID	Adv Rtr	Seq	Age	Opt	Cksum	Len
Router	*192.168.1.3	192.168.1.3	0x80000004	118	0x20	0x9628	48
Router	192.168.1.4	192.168.1.4	0x80000008	219	0x20	0xd30	60
NSSA	*0.0.0.0	192.168.1.3	0x80000003	808	0x20	0x3efa	36
NSSA	10.1.1.1	192.168.1.4	0x80000001	1062	0x28	0x4579	36
NSSA	10.10.10.0	192.168.1.4	0x80000001	1062	0x28	0x7f2e	36

OSPF AS SCOPE link state database

Type	ID	Adv Rtr	Seq	Age	Opt	Cksum	Len
Extern	*10.1.1.1	192.168.1.3	0x80000001	1061	0x22	0xc106	36
Extern	*10.10.10.0	192.168.1.3	0x80000001	1061	0x22	0xfbba	36

segue ./.

from Router backbone area 0

root@JUNOS1> show ospf database

```

OSPF database, Area 0.0.0.0
Type  ID            Adv Rtr          Seq      Age Opt Cksum Len
Router *192.168.1.1    192.168.1.1    0x8000000c 2876 0x22 0xd816 96
Router 192.168.1.2    192.168.1.2    0x80000006 3299 0x22 0xc7f2 84
Router 192.168.1.3    192.168.1.3    0x80000008 560 0x22 0xb2f9 84
Summary 4.4.4.0        192.168.1.3    0x80000005 1888 0x22 0xc3fd 28
Summary 192.168.1.4  192.168.1.3    0x80000001 1887 0x22 0x89d6 28
ASBRSum 192.168.1.4  192.168.1.3    0x80000001 1887 0x22 0x7be3 28
    
```

```

OSPF AS SCOPE link state database
Type  ID            Adv Rtr          Seq      Age Opt Cksum Len
Extern 10.1.1.1      192.168.1.3    0x80000001 87 0x22 0xc106 36
Extern 10.10.10.0    192.168.1.3    0x80000001 87 0x22 0xfbba 36
    
```


CONFIGURAZIONE GUIDE:

ASBR

```

root@JUNOS4> show configuration
## Last commit: 2014-02-07 18:25:39 UTC by root
version 10.1R1.8;
system {
  host-name JUNOS4;
  root-authentication {
    encrypted-password "$1$sMIW7dkF$5UBT53.rFo6Qb.U7jixp//"; ## SECRET-DATA
  }
}
interfaces {
  em1 {
    unit 0 {
      description "P2P to R3-ABR";
      family inet {
        address 4.4.4.1/30;
      }
    }
  }
  em3 {
    unit 0 {
    
```

```

        description "to CE";
        family inet {
            address 5.5.5.1/30;
        }
    }
}
lo0 {
    unit 0 {
        description RID;
        family inet {
            address 192.168.1.4/32;
        }
    }
}
}
protocols {
    ospf {
        export EXP-RIP-OSPF;
        area 0.0.0.1 {
            nssa;
            interface em1.0 {
                interface-type p2p;
            }
            interface lo0.0;
        }
    }
    rip {
        group CE {
            neighbor em3.0;
        }
    }
}
policy-options {
    policy-statement EXP-RIP-OSPF {
        from protocol rip;
        then accept;
    }
}

```

segue ./.

ABR

```

root@JUNOS3> show configuration
## Last commit: 2014-02-07 17:44:46 UTC by root
version 10.1R1.8;
system {
  host-name JUNOS3;
  root-authentication {
    encrypted-password "$1$9ecjfb1M$VlvkKNPOUbd/rQS4gptXu1"; ## SECRET-DATA
  }
}
interfaces {
  em1 {
    unit 0 {
      description "P2P to R4";
      family inet {
        address 4.4.4.2/30;
      }
    }
  }
  em3 {
    unit 0 {
      description "P2P to R2";
      family inet {
        address 3.3.3.2/30;
      }
    }
  }
  em5 {
    unit 0 {
      description "P2P to R1";
      family inet {
        address 2.2.2.2/30;
      }
    }
  }
  lo0 {
    unit 0 {
      description RID;
      family inet {
        address 192.168.1.3/32;
      }
    }
  }
}
protocols {
  ospf {
    area 0.0.0.0 {
      interface em3.0 {
        interface-type p2p;
      }
      interface em5.0 {
        interface-type p2p;
      }
      interface lo0.0;
    }
  }
  area 0.0.0.1 {
    nssa {
      default-lsa {
        default-metric 10;
        metric-type 2;
        type-7;
      }
      no-summaries;
    }
  }
  interface em1.0 {
    interface-type p2p;
  }
}

```

ROUTER DI BACKBONE AREA 0

```

root@JUNOS1> show configuration
## Last commit: 2014-02-07 18:20:37 UTC by root
version 10.1R1.8;
system {
  host-name JUNOS1;
  root-authentication {
    encrypted-password "$1$bIMmtVsL$u5xT1yJ7E0vk8teaWL62j0"; ## SECRET-DATA
  }
}
interfaces {
  em0 {
    unit 0 {
      description "LAN HQ";
      family inet {
        address 172.16.1.1/24;
      }
    }
  }
  em1 {
    unit 0 {
      description "P2P to R2";
      family inet {
        address 1.1.1.1/30;
      }
    }
  }
  em5 {
    unit 0 {
      description "P2P to R3";
      family inet {
        address 2.2.2.1/30;
      }
    }
  }
  lo0 {
    unit 0 {
      description RID;
      family inet {
        address 192.168.1.1/32;
      }
    }
  }
}
protocols {
  ospf {
    area 0.0.0.0 {
      interface em1.0 {
        interface-type p2p;
      }
      interface lo0.0;
      interface em5.0 {
        interface-type p2p;
      }
      interface em0.0;
    }
  }
}

```