

# MSE-sofwarerelease 7.2 HA configureren en implementeren

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## Inleiding

Cisco Mobility Services Engine (MSE) softwarerelease 7.2 voegt ondersteuning voor hoge beschikbaarheid (HA) toe aan fysieke en virtuele apparaten. Dit document biedt configuratie- en implementatierichtlijnen, evenals tips voor het opsporen en verhelpen van problemen voor degenen die de MSE Hoge beschikbaarheid toevoegen en contextbewuste services en/of adaptieve IPS aan een Cisco Unified WLAN uitvoeren. Het doel van dit document is de richtsnoeren voor MSE High Availability uit te leggen en HA-implementatiescenario's voor MSE te verstrekken.

**Opmerking:** Dit document bevat geen configuratiegegevens voor de MSE en de bijbehorende onderdelen die niet geschikt zijn voor MSE HA. Deze informatie wordt verstrekt in andere documenten en er worden verwijzingen verstrekt. Zie het gedeelte [Verwante informatie](#) voor een lijst met documenten over de configuratie en het ontwerp van de Context Aware Mobility Services. De adaptieve WIPS-configuratie wordt ook niet in dit document besproken.

## Voorwaarden

### Vereisten

Er zijn geen specifieke vereisten van toepassing op dit document.

### Gebruikte componenten

Dit document is niet beperkt tot specifieke software- en hardware-versies.

### Conventies

Raadpleeg [Cisco Technical Tips Conventions \(Conventies voor technische tips van Cisco\)](#) voor meer informatie over documentconventies.

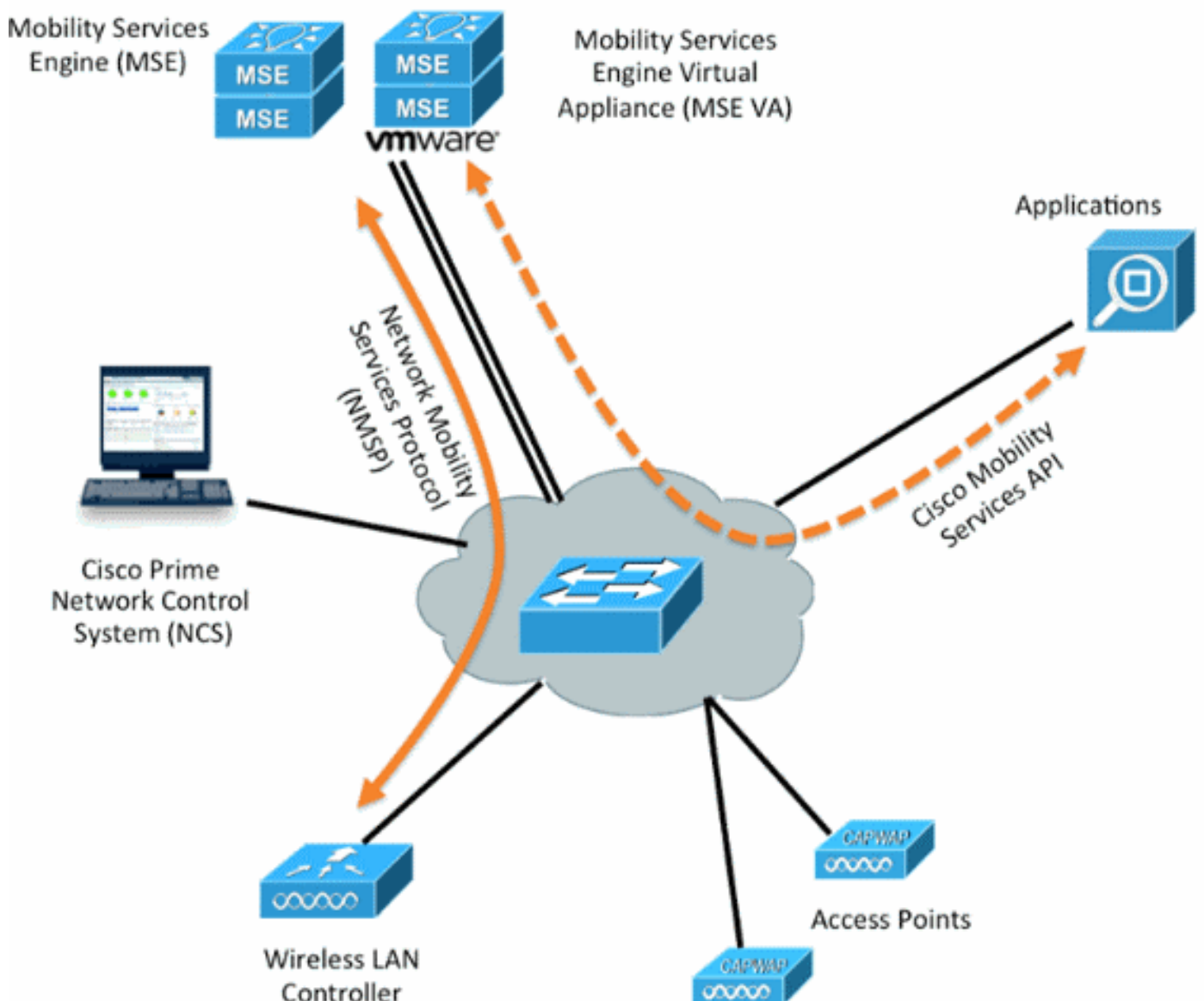
## Achtergrondinformatie

MSE is een platform dat in staat is om meerdere verwante diensten te exploiteren. Deze diensten bieden diensten van hoog niveau. Daarom is het van cruciaal belang dat de HA het hoogste vertrouwen in de dienstverlening behoudt.

Met HA-enabled wordt elke actieve MSE ondersteund door een andere inactieve instantie. MSE HA introduceert de gezondheidsmonitor waarin het de instelling van hoge beschikbaarheid vormt, beheert en controleert. Tussen de primaire en de secundaire MSE wordt een hartslag behouden. De gezondheidsmonitor is verantwoordelijk voor het instellen van databases, bestandsrepletatie en het controleren van de toepassing. Wanneer de primaire MSE faalt en het secundaire gebied overneemt, wordt het virtuele adres van de primaire MSE op transparante wijze geschakeld.

Deze installatie (zie [afbeelding 1](#)) demonstreert een typische Cisco WLAN-implementatie die Cisco Mobility Services Engine (MSE) omvat die is ingeschakeld voor hoge beschikbaarheid. HA-ondersteuning is beschikbaar op MSE-3310, MSE-3350/3355 en Virtual-applicatie op ESXi.

Afbeelding 1. MSE implementeren in hoge beschikbaarheid



# Richtsnoeren en beperkingen

Hier is informatie over de MSE HA architectuur:

- MSE virtuele applicatie ondersteunt slechts 1:1 HA.
- Eén secundaire MSE kan maximaal twee primaire MSE's ondersteunen. Zie de HA-koppelingsmatrix (figuren 2 en 3).
- HA ondersteunt Network Connected and Direct Connected.
- Alleen MSE Layer 2 redundantie wordt ondersteund. Zowel de gezondheidsmonitor IP als virtuele IP moet op dezelfde mate als binnen en toegankelijk zijn via het Network Control System (NCS). Layer 3 redundantie wordt niet ondersteund.
- IP-gezondheidszorg en virtuele IP moeten anders zijn.
- U kunt gebruikmaken van handmatige of automatische failover.
- U kunt gebruikmaken van handmatig of automatisch falen.
- Zowel de primaire als de secundaire MSE moeten op dezelfde softwareversie staan.
- Elke actieve primaire MSE wordt ondersteund door een andere inactieve instantie. De secundaire MSE wordt alleen actief nadat de overvalprocedure is gestart.
- De failover-procedure kan handmatig of automatisch worden uitgevoerd.
- Er is één software- en databases-instantie voor elke geregistreerde primaire MSE.

Afbeelding 2. MSE HA-ondersteuningsmatrixprinter

Primary Server Type	Secondary Server Type					
	3310	3350	3355	VA-Low	VA-Standard	VA-High
3310	Y	Y	Y	N	N	N
3350	N	Y	Y	N	N	N
3355	N	Y	Y	N	N	N
VA-Low	N	N	N	Y	Y	Y
VA-Standard	N	N	N	N	Y	Y
VA-High	N	N	N	N	N	Y

Afbeelding 3. MSE HA N:1 paringsmatrix

Secondary Server	Primary Server
3310	N:1 not supported
3350	Two 3310 servers are supported
3355	Two 3310 servers are supported
3355	Two 3350 servers are supported
3355	One 3310 and one 3350 are supported

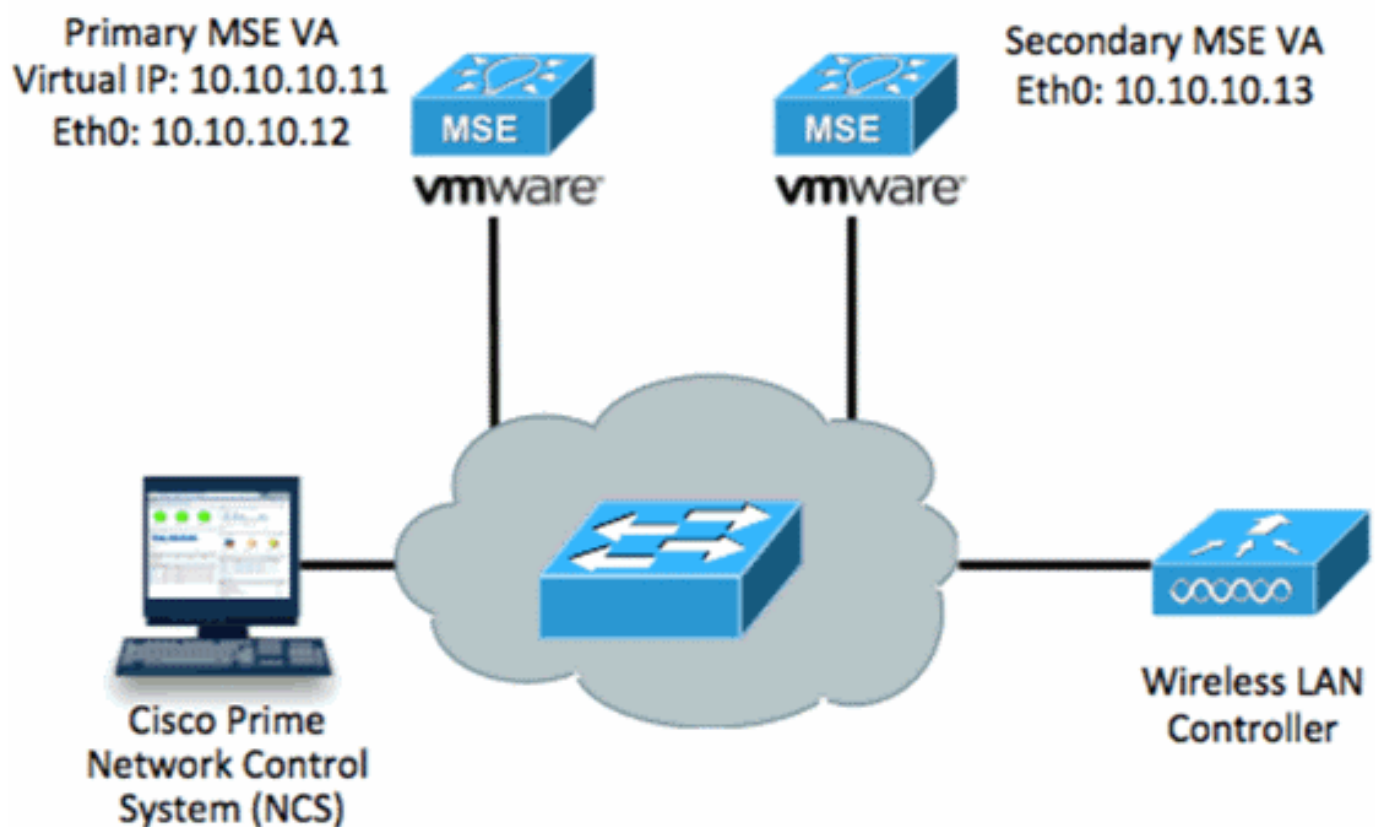
# HA-configuratiescherm voor MSE virtuele applicatie (Network Connected)

Dit voorbeeld toont de HA-configuratie voor de virtuele applicatie MSE (VA) (zie [afbeelding 4](#)). Voor dit scenario worden deze instellingen ingesteld:

- Primaire MSE VA: Virtual IP - [10.10.10.11] Interface voor gezondheidsmonitor (Eth0) - [10.10.10.12]
- Secundaire MSE VA: Virtuele IP - [geen] Interface voor gezondheidsmonitor (Eth0) - [10.10.10.13]

**Opmerking:** Er is een activeringslicentie (L-SE-7.0-K9) vereist per VA. Dit is vereist voor de HA-configuratie van de VA.

Afbeelding 4. MSE virtuele applicatie in HA



Raadpleeg de [documentatie bij Cisco MSE Virtual Appliance](#) voor meer informatie.

Hier volgen de algemene stappen:

1. Voltooi de VA-installatie voor MSE en controleer of aan alle netwerkinstellingen is voldaan.

```
to complete.
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

Preparing SILENT Mode Installation...

=====
Cisco Mobility Services Engine      (created with InstallAnywhere by Macrovision)
=====

Command.run(): process completed before monitors could start.

=====
Installing...
-----

[=====|=====|=====|=====]
[-----|-----|-----|-----]
```

2. Start de setup-wizard als eerste inloggen.

```
Cisco Mobility Service Engine

mse login: root
Password:
Last login: Mon Feb 13 17:31:37 on tty1

Enter whether you would like to set up the initial
parameters manually or via the setup wizard.

Setup parameters via Setup Wizard (yes/no) [yes]: _
```

3. Voer de gewenste items in (naam van de host, domein, enzovoort). Typ JA in de stap om hoge beschikbaarheid te configureren.



```

Current hostname=[mse]
Configure hostname? (Y)es/(S)kip/(U)se default [Yes]:

The host name should be a unique name that can identify
the device on the network. The hostname should start with
a letter, end with a letter or number, and contain only
letters, numbers, and dashes.

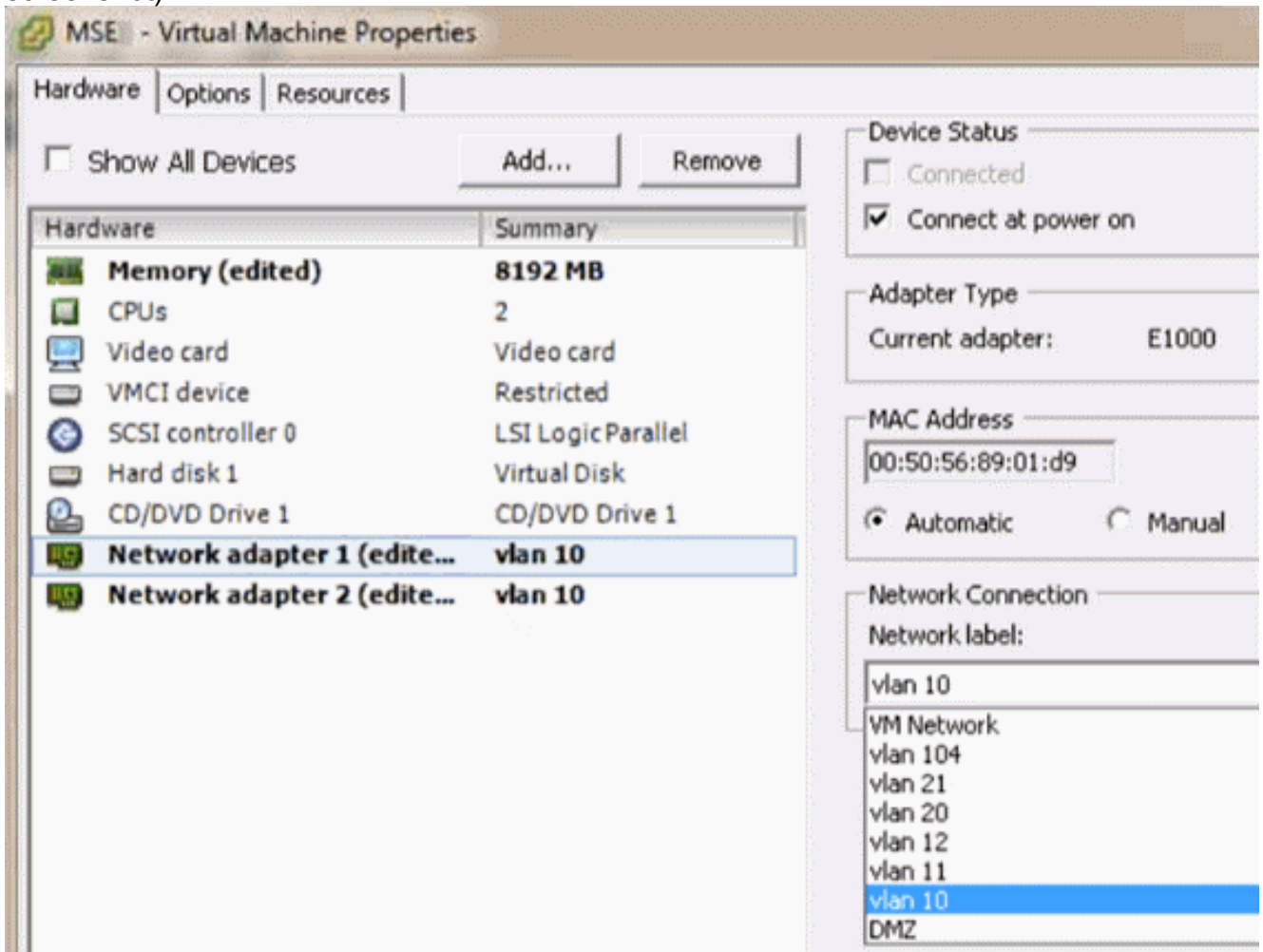
Enter a host name [mse]: mse1

Current domain=[]
Configure domain name? (Y)es/(S)kip/(U)se default [Yes]: s

Current role=[Primary]
Configure High Availability? (Y)es/(S)kip/(U)se default [Yes]:

```

4. Voer het volgende in: Selecteer Rol - [1 voor Primair]. Interface voor gezondheidsmonitoring - [eth0]\*\* Netwerkinstellingen aan netwerkadapter 1 (zie voorbeeld screenshot)



```

Enter a host name [mse1]: mse1

Current domain=[]
Configure domain name? (Y)es/(S)kip/(U)se default [Yes]: s

Current role=[Primary]
Configure High Availability? (Y)es/(S)kip/(U)se default [Yes]:

High availability role for this MSE (Primary/Secondary)

Select role [1 for Primary, 2 for Secondary] [1]:

Health monitor interface holds physical IP address of this MSE server.
This IP address is used by Secondary, Primary MSE servers and WCS to communicate
among themselves

Select Health Monitor Interface [eth0/eth1] [eth0]: _

```

5. Selecteer direct connect interface -  
[geen].

```

Health monitor interface holds physical IP address of this MSE server.
This IP address is used by Secondary, Primary MSE servers and WCS to communicate
among themselves

Select Health Monitor Interface [eth0/eth1] [eth0]:

-----

Direct connect configuration facilitates use of a direct cable connection between
the primary and secondary MSE servers.
This can help reduce latencies in heartbeat response times, data replication and
failure detection times.
Please choose a network interface that you wish to use for direct connect. You should
choose appropriately configure the respective interfaces.
\"none\" implies you do not wish to use direct connect configuration.

-----

Select direct connect interface [eth0/eth1/none] [none]: _

```

6. Voer het volgende in: Virtueel IP-adres - [10.10.11] Netwerkmasker - [255.255.255.0] Start MSE in herstelmodus - [Nee]

```

Select direct connect interface [eth0/eth1/none] [none]:

Enter a Virtual IP address for first this primary MSE server

Enter Virtual IP address [1.1.1.1]: 10.10.10.11

Enter the network mask for IP address 10.10.10.11.

Enter network mask [1.1.1.1]: 255.255.255.0

Choose to start the server in recovery mode.
You should choose yes only if this primary was paired earlier and you have now lost
the configuration from this box.
And, now you want to restore the configuration from Secondary via NCS
Do you wish to start this MSE in HA recovery mode?: (yes/no): no_

```

7. Voer het volgende in: ooth0 - [Yes] configureren Voer het Eth0 IP-adres in -  
[10.10.12] Netwerkmasker - [255.255.255.0] Standaard gateway -  
[10.10.10.1]

```

Current IP address=[1.1.1.10]
Current eth0 netmask=[255.255.255.0]
Current gateway address=[1.1.1.1]
Configure eth0 interface parameters? (Y)es/(S)kip/(U)se default [Yes]

Enter an IP address for first ethernet interface of this machine.
Enter eth0 IP address [1.1.1.10]: 10.10.10.12

Enter the network mask for IP address 10.10.10.12.
Enter network mask [255.255.255.0]:

Enter an default gateway address for this machine.
Note that the default gateway must be reachable from
the first ethernet interface.
Enter default gateway address [1.1.1.1]: 10.10.10.1

```

8. De tweede Ethernet interface (Eth1) wordt niet gebruikt.eth1 interface configureren - [overslaan]

```

The second ethernet interface is currently disabled for this machine.
Configure eth1 interface parameters? (Y)es/(S)kip/(U)se default [Yes]: s

```

9. Ga door de installatiewizard.Het is van cruciaal belang om de NTP-server in te schakelen om de klok te synchroniseren.De voorkeurstermijnen zijn UTC.

```

Domain Name Service (DNS) Setup
DNS is currently enabled.
No DNS servers currently defined
Configure DNS related parameters? (Y)es/(S)kip/(U)se default [Yes]: s

Current timezone=[America/New_York]
Configure timezone? (Y)es/(S)kip/(U)se default [Yes]:

Enter the current date and time.

Please identify a location so that time zone rules can be set correctly.
Please select a continent or ocean.
 1) Africa
 2) Americas
 3) Antarctica
 4) Arctic Ocean
 5) Asia
 6) Atlantic Ocean
 7) Australia
 8) Europe
 9) Indian Ocean
10) Pacific Ocean
11) UTC - I want to use Coordinated Universal Time.
12) Return to previous setup step (^).
#? 11

```



```

Network Time Protocol (NTP) Setup.

If you choose to enable NTP, the system time will be
configured from NTP servers that you select.  Otherwise,
you will be prompted to enter the current date and time.

NTP is currently disabled.
Configure NTP related parameters? (Y)es/(S)kip/(U)se default [Yes]:

Enter whether or not you would like to set up the
Network Time Protocol (NTP) for this machine.

If you choose to enable NTP, the system time will be
configured from NTP servers that you select.  Otherwise,
you will be prompted to enter the current date and time.

Enable NTP (yes/no) [no]: yes
Enter NTP server name or address: ntp.network.local

```

Dit vat de primaire instellingen van MSE virtuele applicatie samen:

```

-----BEGIN-----
Role=1, Health Monitor Interface=eth0, Direct connect interface=none
Virtual IP Address=10.10.10.11, Virtual IP Netmask=255.255.255.0
Eth0 IP address=10.10.10.12, Eth0 network mask=255.0.0.0
Default Gateway=10.10.10.1
-----END-----

```

10. Voer [YES] in om te bevestigen dat alle setup-informatie juist is.

```

Please verify the following setup information.

-----BEGIN-----

Host name=mse1
      Role=1, Health Monitor Interface=eth0, Direct connect interface=none
      Virtual IP Address=10.10.10.11, Virtual IP Netmask=255.255.255.0
Eth0 IP address=10.10.10.12, Eth0 network mask=255.255.255.0
Default gateway=10.10.10.1
Time zone=UTC
Enable NTP=yes, NTP servers=10.10.10.10

-----END-----

You may enter "yes" to proceed with configuration, "no" to make
more changes, or "^" to go back to the previous step.

Configuration Changed
Is the above information correct (yes, no, or ^): yes

```

11. Herstart wordt aanbevolen na het

```

[root@mse1 ~]# reboot
Stopping MSE Platform

```

instellen.

12. Na een herstart kunt u de MSE-services starten met de `/etc/init.d/mse-d-start` of de service startopdrachten.

```

[root@mse1 ~]# getserverinfo
Health Monitor is not running
[root@mse1 ~]# /etc/init.d/mse start
Starting MSE Platform

ip_tables: (C) 2000-2006 Netfilter Core Team
Netfilter messages via NETLINK v0.30.
ip_conntrack version 2.4 (8192 buckets, 65536 max) - 304 bytes per conntrack
Starting Health Monitor, Waiting to check the status.
Starting Health Monitor, Waiting to check the status.
Health Monitor successfully started
Starting Admin process...
Started Admin process.
Starting database .....
Database started successfully. Starting framework and services .....
Framework and services successfully started

[root@mse1 ~]#

```

13. Nadat alle services zijn gestart, bevestigt u dat de MSE-services correct werken met de opdracht `getserverinfo`. De operationele status moet omhoog tonen.

```

Active Wired Clients: 0
Active Elements(Wireless Clients, Rogue APs, Rogue Clients, Interferers, Wired C
lients, Tags) Limit: 100
Active Sessions: 0
Wireless Clients Not Tracked due to the limiting: 0
Tags Not Tracked due to the limiting: 0
Rogue APs Not Tracked due to the limiting: 0
Rogue Clients Not Tracked due to the limiting: 0
Interferers Not Tracked due to the limiting: 0
Wired Clients Not Tracked due to the limiting: 0
Total Elements(Wireless Clients, Rogue APs, Rogue Clients, Interferers, Wired Cl
ients) Not Tracked due to the limiting: 0

-----
Context Aware Sub Services
-----

Subservice Name: Aeroscout Tag Engine
Admin Status: Disabled
Operation Status: Down

Subservice Name: Cisco Tag Engine
Admin Status: Enabled
Operation Status: Up
[root@mse1 ~]#

```

Deze stappen maken deel uit van de instellingen voor de secundaire MSE V.S.:

1. Nadat u het programma hebt geïnstalleerd, start de inlogwizard Instellen. Voer het volgende in: Hoge beschikbaarheid instellen - [Ja] Selecteer rol - [2] die wijst op secundair Health Monitor Interface - [eth0] hetzelfde als Primaire

```

Current hostname=[mse]
Configure hostname? (Y)es/(S)kip/(U)se default [Yes]: yes

The host name should be a unique name that can identify
the device on the network. The hostname should start with
a letter, end with a letter or number, and contain only
letters, numbers, and dashes.

Enter a host name [mse]: mse2

Current domain=[]
Configure domain name? (Y)es/(S)kip/(U)se default [Yes]: s

Current role=[Primary]
Configure High Availability? (Y)es/(S)kip/(U)se default [Yes]:

High availability role for this MSE (Primary/Secondary)

Select role [1 for Primary, 2 for Secondary] [1]: 2

Health monitor interface holds physical IP address of this MSE server.
This IP address is used by Secondary, Primary MSE servers and WCS to communicate
among themselves

Select Health Monitor Interface [eth0/eth1] [eth0]:

```

2. Voer het volgende in: Directe verbinding - [geen] IP-adres eth0 - [10.10.13] Netwerkmasker - [255.255.255.0] Standaard gateway - [10.10.10.1]

```

-----
Select direct connect interface [eth0/eth1/none] [none]:

Current IP address=[1.1.1.10]
Current eth0 netmask=[255.255.255.0]
Current gateway address=[1.1.1.1]
Configure eth0 interface parameters? (Y)es/(S)kip/(U)se default [Yes]:

Enter an IP address for first ethernet interface of this machine.

Enter eth0 IP address [1.1.1.10]: 10.10.10.13

Enter the network mask for IP address 10.10.10.13.

Enter network mask [255.255.255.0]:

Enter an default gateway address for this machine.

Note that the default gateway must be reachable from
the first ethernet interface.

Enter default gateway address [1.1.1.1]: 10.10.10.1_

```

3. eth1 interface configureren - [Naar]

```
Configure eth0 interface parameters? (Y)es/(S)kip/(U)se default [Yes]:
Enter an IP address for first ethernet interface of this machine.
Enter eth0 IP address [1.1.1.10]: 10.10.10.13
Enter the network mask for IP address 10.10.10.13.
Enter network mask [255.255.255.0]:
Enter an default gateway address for this machine.
Note that the default gateway must be reachable from
the first ethernet interface.
Enter default gateway address [1.1.1.1]: 10.10.10.1
The second ethernet interface is currently disabled for this machine.
Configure eth1 interface parameters? (Y)es/(S)kip/(U)se default [Yes]: s
```

#### 4. Tijdzone instellen - [UTC]

```
Current timezone=[America/New_York]
Configure timezone? (Y)es/(S)kip/(U)se default [Yes]:
Enter the current date and time.
Please identify a location so that time zone rules can be set correctly.
Please select a continent or ocean.
 1) Africa
 2) Americas
 3) Antarctica
 4) Arctic Ocean
 5) Asia
 6) Atlantic Ocean
 7) Australia
 8) Europe
 9) Indian Ocean
10) Pacific Ocean
11) UTC - I want to use Coordinated Universal Time.
12) Return to previous setup step (^).
#? 11_
```

#### 5. NTP-server inschakelen.

```

Network Time Protocol (NTP) Setup.

If you choose to enable NTP, the system time will be
configured from NTP servers that you select.  Otherwise,
you will be prompted to enter the current date and time.

NTP is currently disabled.
Configure NTP related parameters? (Y)es/(S)kip/(U)se default [Yes]:

Enter whether or not you would like to set up the
Network Time Protocol (NTP) for this machine.

If you choose to enable NTP, the system time will be
configured from NTP servers that you select.  Otherwise,
you will be prompted to enter the current date and time.

Enable NTP (yes/no) [no]: yes
Enter NTP server name or address: ntp.network.local

```

6. Voltooi de resterende stappen van de installatiewizard en bevestig de setup-informatie om de configuratie op te slaan.

```

Please verify the following setup information.

-----BEGIN-----

  Host name=mse2
        Role=2, Health Monitor Interface=eth0, Direct connect interface=none

  Eth0 IP address=10.10.10.13, Eth0 network mask=255.255.255.0
  Default gateway=10.10.10.1
  Time zone=UTC
  Enable NTP=yes, NTP servers=10.10.10.10

-----END-----

You may enter "yes" to proceed with configuration, "no" to make
more changes, or "^" to go back to the previous step.

Configuration Changed
Is the above information correct (yes, no, or ^): yes_

```

7. Herstart en start de services hetzelfde als de voorgaande stappen voor de primaire MSE.

```

[root@mse2 ~]# /etc/init.d/msed start
Starting MSE Platform

ip_tables: (C) 2000-2006 Netfilter Core Team
Netfilter messages via NETLINK v0.30.
ip_conntrack version 2.4 (8192 buckets, 65536 max) - 384 bytes per conntrack
Starting Health Monitor, Waiting to check the status.
Starting Health Monitor, Waiting to check the status.
Health Monitor successfully started
Starting Admin process...
Started Admin process.
Starting database .....
Database started successfully. Starting framework and services .....
Framework and services successfully started

[root@mse2 ~]# _

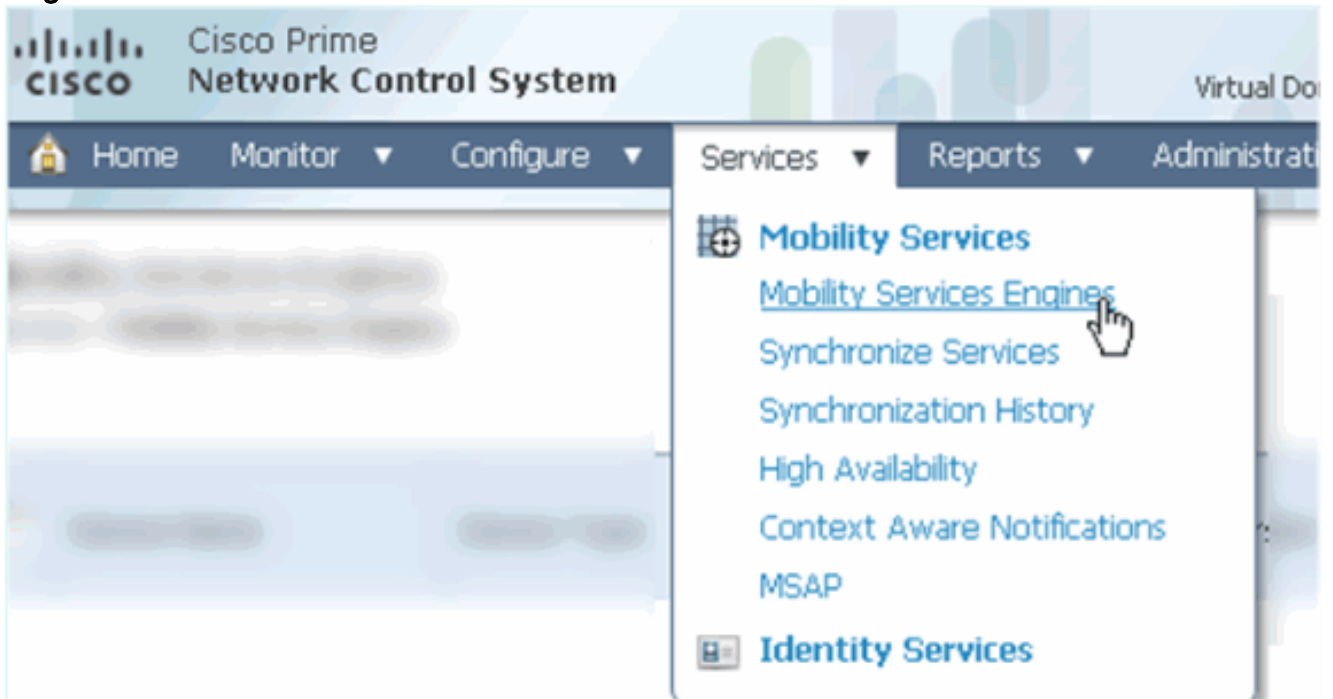
```

De volgende stappen tonen hoe u de Primaire en Secundaire MSE VA aan het NCS kunt toevoegen. Voer het normale proces uit om een MSE aan de NCS toe te voegen. Zie de

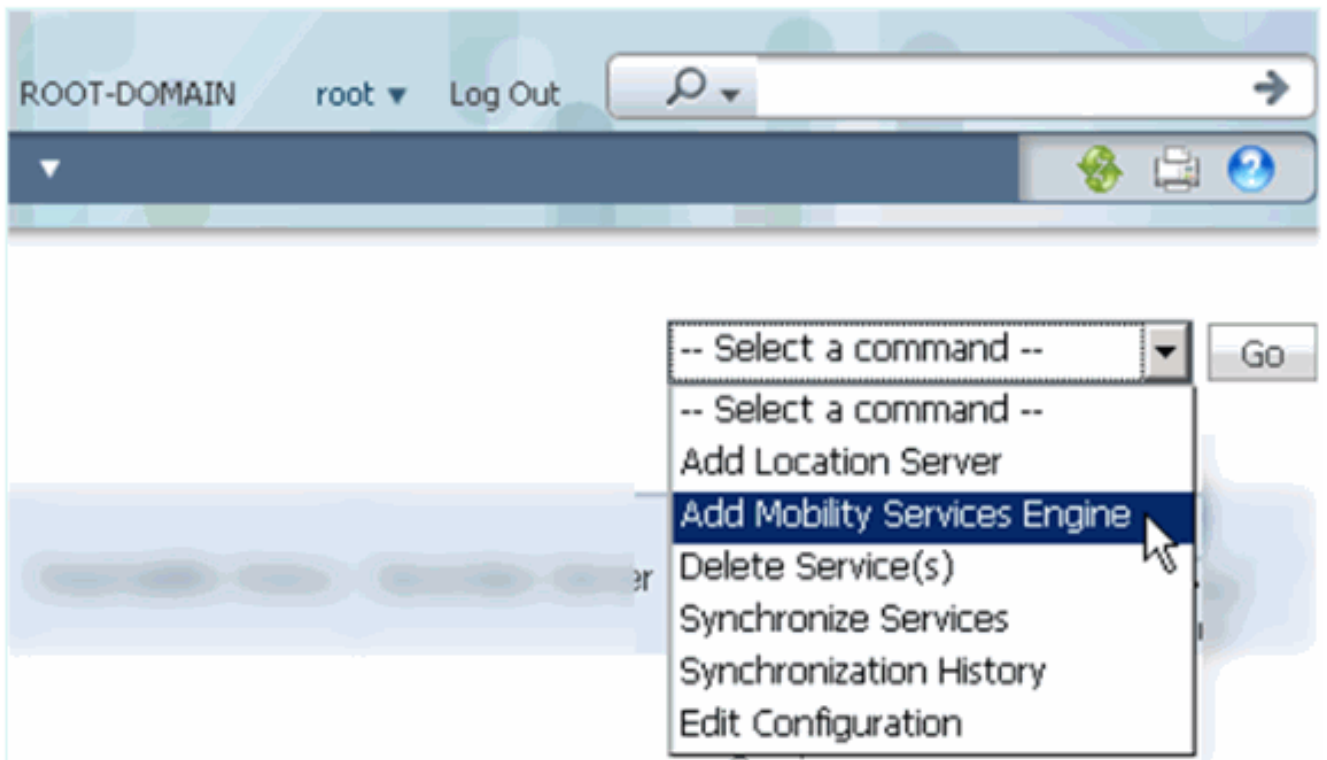


configuratiegids voor hulp.

1. Ga vanuit het NCS naar **Systems > Mobility Services** en kies **Mobility Services Engine**.



2. Kies in het keuzevenster de optie **Mobility Services Engine toevoegen**. Klik vervolgens op **Ga**.



3. Volg de wizard NCS configuratie voor MSE. In het scenario van dit document zijn de waarden: Voer een apparaatnaam in - bijvoorbeeld. [MESE1]IP-adres - [10.10.10.12}Gebruikersnaam en wachtwoord (per eerste instelling)Klik op **Volgende**.

Cisco Prime Network Control System

### Add MSE Configuration

- Licensing
- Select Service
- Tracking
- Assign Maps

### Add Mobility Services Engine

Device Name: mse1

IP Address: 10.10.10.12

Contact Name:

Username: admin

Password:

HTTP:  Enable

Delete synchronized service assignments  (Network designs, controllers, wired switches)

**!** Selecting **Delete synchronized service assignments** permanently removes all service assignments. Existing location history data is retained, however you must use manual service assignments to

4. Voeg alle beschikbare licenties toe en klik op **Volgende**.

Cisco Prime Network Control System

### MSE License Summary

**!** Permanent licenses include installed license counts and in-built license counts.

MSE Name (UDI)	Service	Platform Limit	Type	Installed Limit
<b>mse1 Activated ( AIR-MSE-VA-K9:V01:mse1_d5972642-5696-11e1-bd0c</b>				
	CAS	2000	CAS Elements	100
			wIPS Monitor Mode APs	10
	wIPS	2000	wIPS Local Mode APs	10
	MSAP	2000	Service Advertisement Clicks	1000

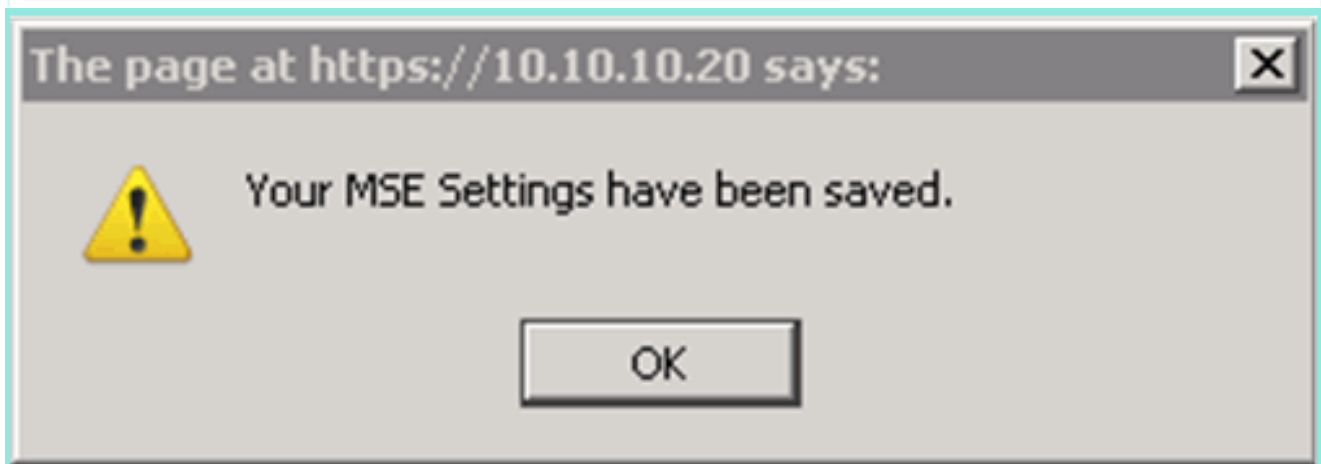
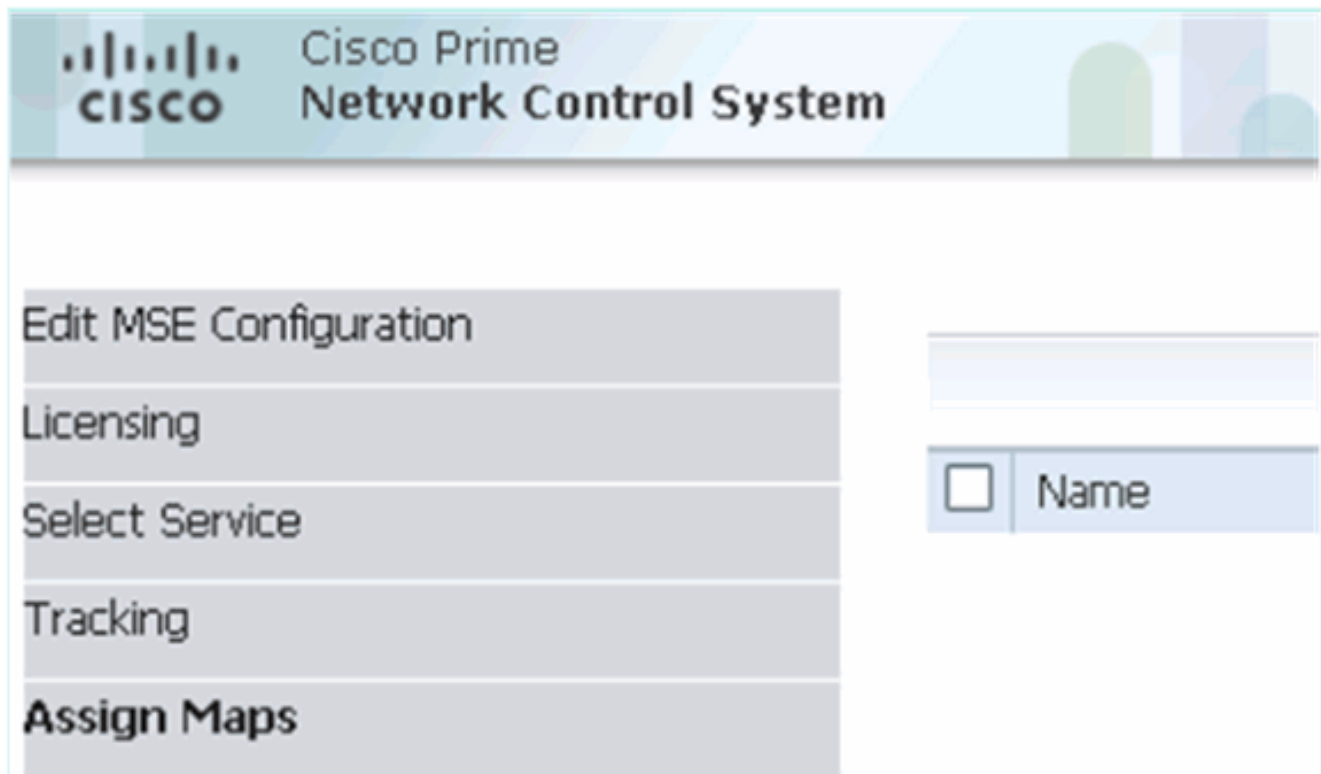
5. Selecteer MSE-services en klik vervolgens op **Volgende**.



6. Schakel parameters in en klik op **Volgende**.



7. Het is optioneel om kaarten toe te wijzen en MSE-diensten te synchroniseren. Klik op **Gereed** om het toevoegen van de MSE aan de NCS te voltooien.



Uit het volgende screenshot blijkt dat de primaire MSE VA is toegevoegd. Voltooi nu deze stappen om de secundaire MSE VA toe te voegen:

1. Pak de kolom Secundaire server en klik op de link om deze te configureren.



2. Voeg de secundaire MSE VA toe met behulp van de configuratie in dit scenario: Naam secundaire apparaat - [mse2] Secundair IP-adres - [10.10.10.13] Secundair wachtwoord\* - [standaard] of setup-script] Overslagtype\* - [Automatisch of handmatig] Back-umotype\* Long Failover Wacht\*Klik op **Opslaan**. \*Klik op het informatiepictogram of raadpleeg indien nodig de MSE-

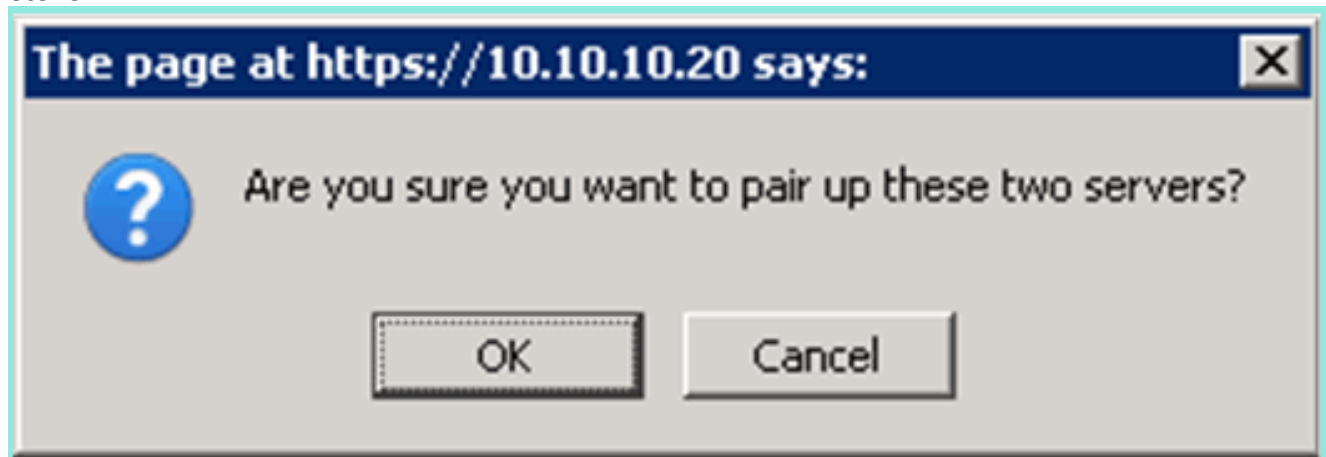
documentatie.

**HA Configuration : mse1**  
Services > Mobility Services Engines > System > Services High Availability > **Configure High Availability Parameters**

Configure High Availability Parameters

Primary Health Monitor IP	10.10.10.12
Secondary Device Name	<input type="text" value="mse2"/>
Secondary IP Address	<input type="text" value="10.10.10.13"/>
Secondary Password ⓘ	<input type="password" value="•••••"/>
Failover Type ⓘ	<input type="text" value="Automatic"/>
Failback Type ⓘ	<input type="text" value="Manual"/>
Long Failover Wait ⓘ	<input type="text" value="10"/> seconds

3. Klik op **OK** wanneer de NCS wordt gevraagd de twee SE's samen te stellen.

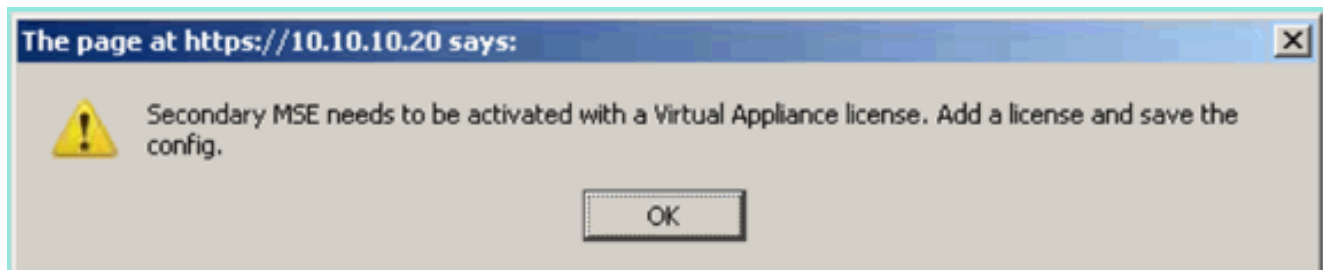


NCS duurt een paar seconden om de configuratie te maken.



Het NCS wordt gevraagd als de secundaire MSE VA een activeringslicentie (L-MSE-7.0-K9) vereist.





4. Klik op **OK** en vul het licentibestand in om het tweede bestand te activeren.

A screenshot of a web-based configuration page titled "HA Configuration : mse1". The breadcrumb navigation path is "Services > Mobility Services Engines > System > Services High Availability > Configure High Availability Parameters". The page has a section header "Configuration" with an orange underline. Below this, there are several configuration items:

- Primary Health Monitor IP: 10.10.10.12
- Secondary Device Name: mse2
- Secondary IP Address: 10.10.10.13
- Secondary Password: A text input field containing five black dots.
- Secondary Platform UDI: AIR-MSE-VA-K9:V01:mse2\_666f2046-5699-11e1-b1b1-0050566
- Secondary Activation Status: Not Activated
- Activate Secondary with License: A text input field followed by a "Browse..." button.
- Failover Type: A dropdown menu with "Automatic" selected.
- Failback Type: A dropdown menu with "Manual" selected.
- Long Failover Wait: A text input field with "10" followed by the word "seconds".

At the bottom left of the configuration area are two buttons: "Save" and "Delete".

5. Klik nadat de secundaire MSE VA is geactiveerd op **Save** om de configuratie te voltooien.

## HA Configuration : mse1

Services > Mobility Services Engines > System > Services High Availability > Configure High Availability Parameters

### Configuration

Primary Health Monitor IP	10.10.10.12
Secondary Device Name	mse2
Secondary IP Address	10.10.10.13
Secondary Password ⓘ	•••••
Secondary Platform UDI	AIR-MSE-VA-K9:V01:mse2_666f2046-5699-11e1-b1b1-005
Secondary Activation Status	Activated
Delete Secondary Activation license ⓘ	<input type="checkbox"/>
Failover Type ⓘ	Automatic ▾
Fallback Type ⓘ	Manual ▾
Long Failover Wait ⓘ	10 seconds

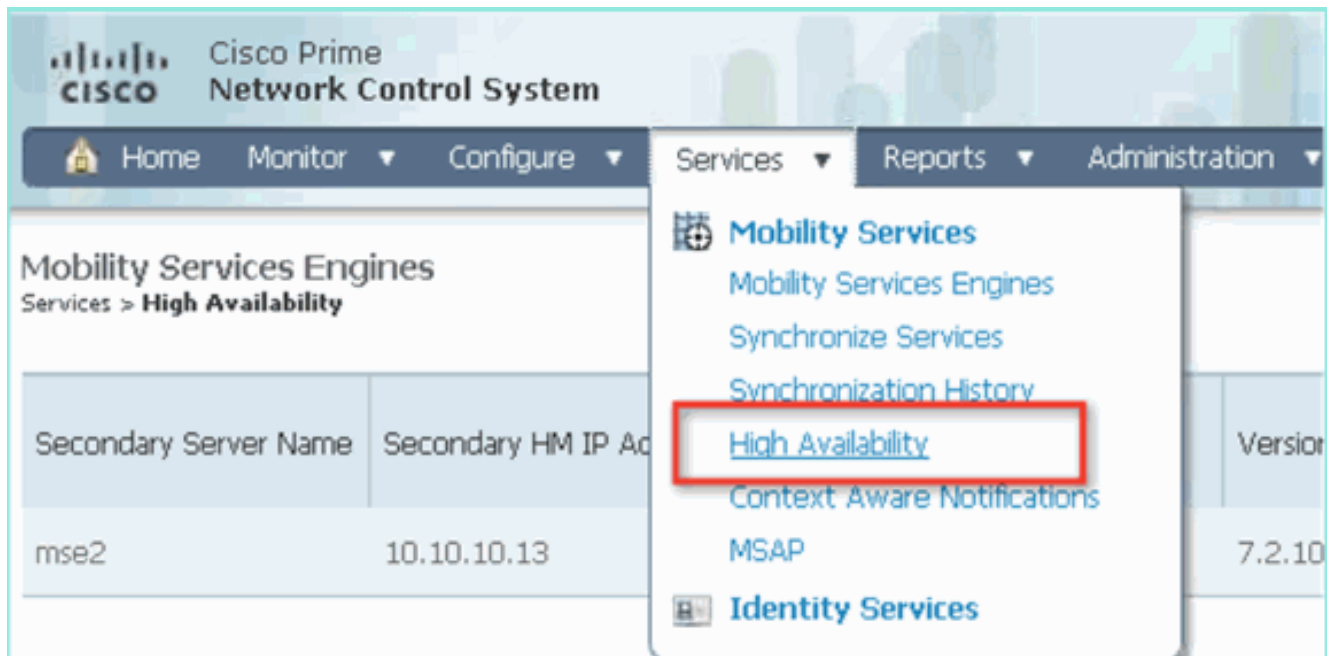
6. Navigeer naar **NCS > Mobility Services > Mobility Services Engine**. NCS geeft dit scherm weer waar de secundaire MSE in de kolom voor de secundaire server verschijnt:

Mobility Services Engines  
Service > Mobility Services Engines

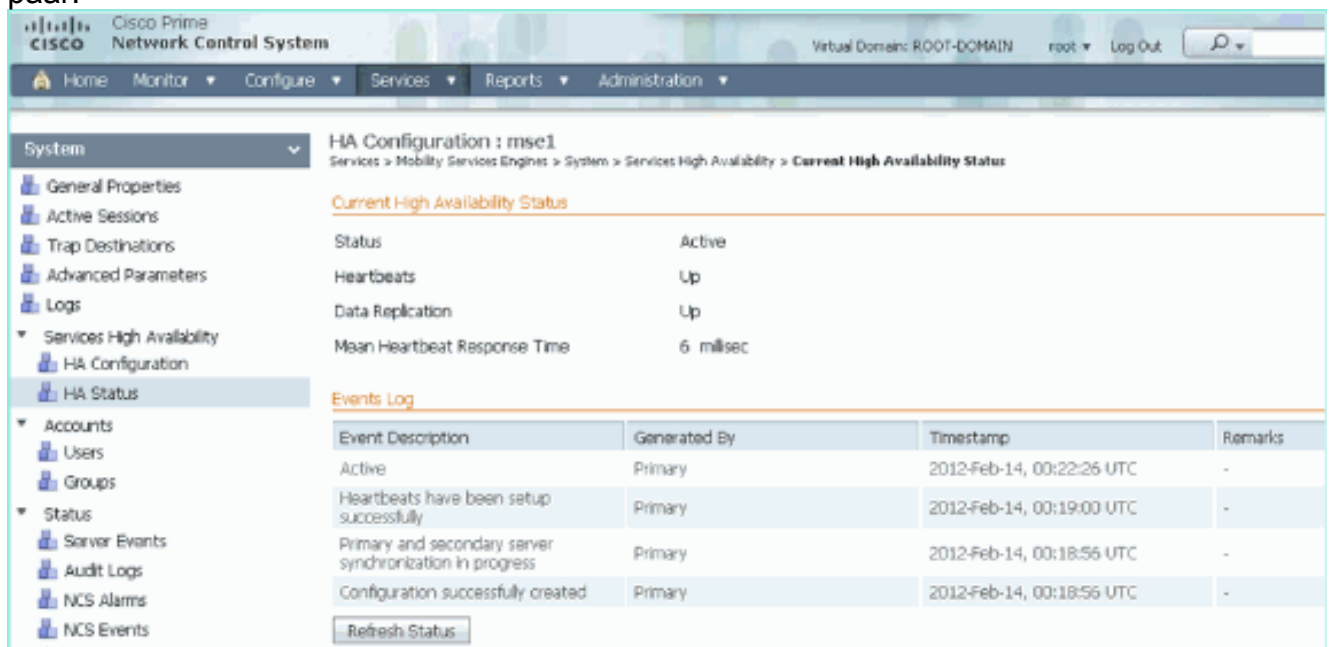
-- Select a command --

Device Name	Device Type	IP Address	Version	Reachability Status	Secondary Server	Mobility Service		
						Name	Admin Status	Service Status
<input type="checkbox"/> mse1	Cisco Mobility Services Engine - Virtual Appliance	10.10.10.11	7.2.103.0	Reachable	mse2	Context Aware Service	Enabled	Up
						WIPS Service	Disabled	Down
						MSAP Service	Disabled	Down

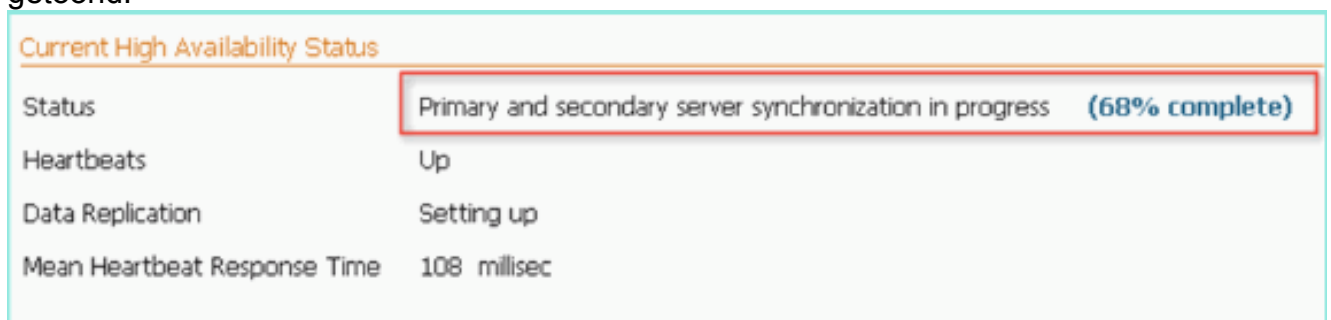
7. Om de hoge beschikbaarheid te bekijken, navigeer naar **NCS > Services > Hoge beschikbaarheid**.



In de HA status, kunt u de huidige status en gebeurtenissen zien door het MSE paar.



Het kan een paar minuten duren voordat de eerste synchronisatie-opties en gegevensreplacatie zijn ingesteld. Het NCS geeft de progressie %-indicatie tot het HA-paar volledig actief is zoals hierboven wordt getoond.



Een nieuwe opdracht die met MSE-software release 7.2 met betrekking tot HA is ingevoerd, is **gethainfo**. Deze uitvoer toont het primaire en het secundaire beeld:

```
[root@mse1 ~]#gethainfo
```

```
Health Monitor is running. Retrieving HA related information
```

```
-----  
Base high availability configuration for this server  
-----
```

```
Server role: Primary  
Health Monitor IP Address: 10.10.10.12  
Virtual IP Address: 10.10.10.11  
Version: 7.2.103.0  
UDI: AIR-MSE-VA-K9:V01:mse1  
Number of paired peers: 1
```

```
-----  
Peer configuration#: 1  
-----
```

```
Health Monitor IP Address 10.10.10.13  
Virtual IP Address: 10.10.10.11  
Version: 7.2.103.0  
UDI: AIR-MSE-VA-K9:V01:mse2_666f2046-5699-11e1-b1b1-0050568901d9  
Failover type: Manual  
Failback type: Manual  
Failover wait time (seconds): 10  
Instance database name: mseos3s  
Instance database port: 1624  
Dataguard configuration name: dg_mse3  
Primary database alias: mseop3s  
Direct connect used: No  
Heartbeat status: Up  
Current state: PRIMARY_ACTIVE
```

```
[root@mse2 ~]#gethainfo
```

```
Health Monitor is running. Retrieving HA related information
```

```
-----  
Base high availability configuration for this server  
-----
```

```
Server role: Secondary  
Health Monitor IP Address: 10.10.10.13  
Virtual IP Address: Not Applicable for a secondary  
Version: 7.2.103.0  
UDI: AIR-MSE-VA-K9:V01:mse2  
Number of paired peers: 1
```

```
-----  
Peer configuration#: 1  
-----
```

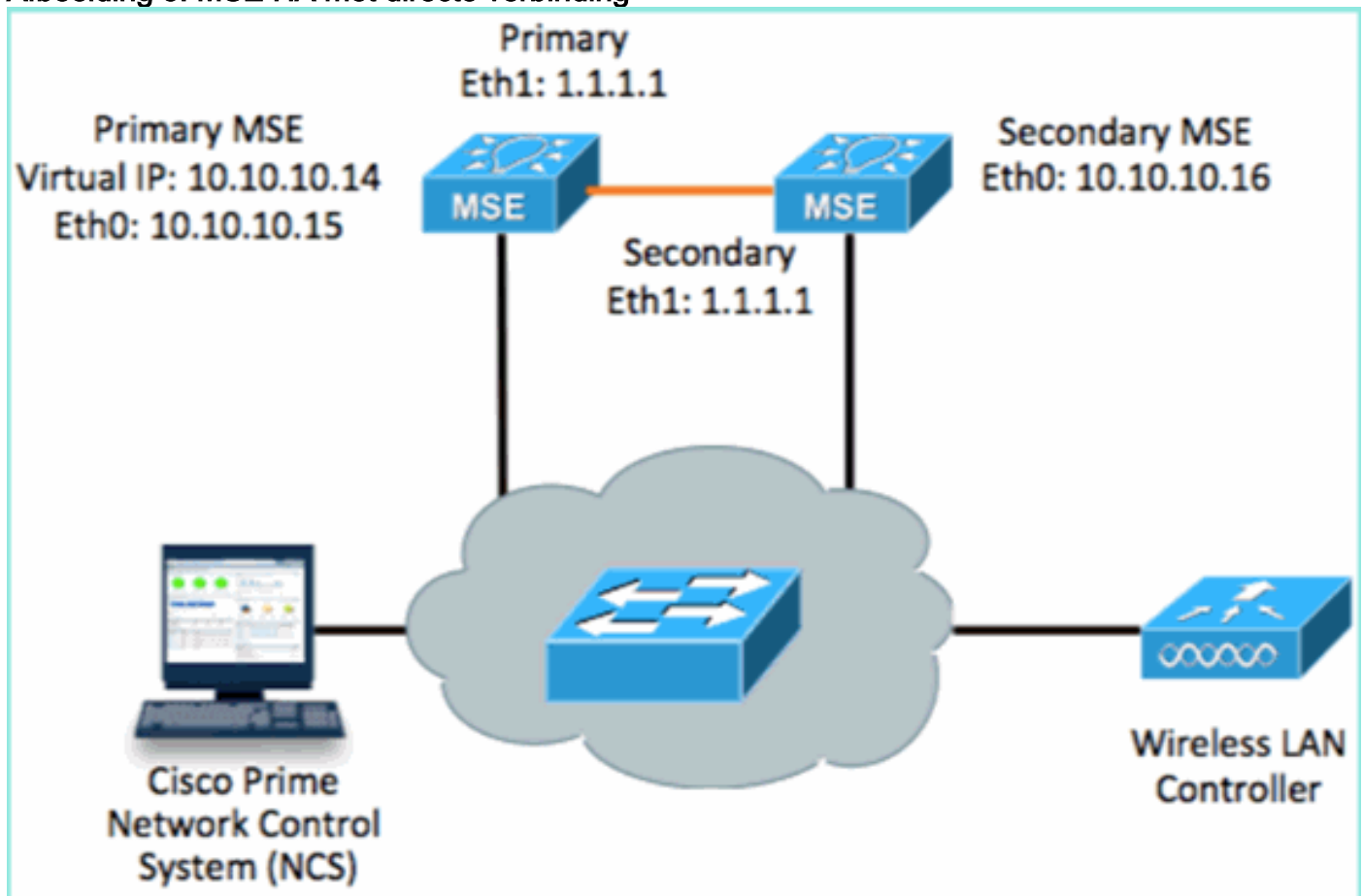
```
Health Monitor IP Address 10.10.10.12  
Virtual IP Address: 10.10.10.11  
Version: 7.2.103.0  
UDI: AIR-MSE-VA-K9:V01:mse1_d5972642-5696-11e1-bd0c-0050568901d6  
Failover type: Manual  
Failback type: Manual  
Failover wait time (seconds): 10  
Instance database name: mseos3  
Instance database port: 1524  
Dataguard configuration name: dg_mse3
```

Primary database alias: mseop3s  
Direct connect used: No  
Heartbeat status: Up  
Current state: SECONDARY\_ACTIVE

## HA-configuratie met Direct Connected

Network Connected MSE HA gebruikt het netwerk, terwijl de Direct Connect-configuratie het gebruik van een directe kabelverbinding tussen de primaire en secundaire MSE-servers vergemakkelijkt. Dit kan helpen om latentie in responsietijden, gegevensrePLICatie en tijden voor mislukkingdetectie te verminderen. Voor dit scenario sluit een primaire fysieke MSE aan op een secundaire MSE op interface eth1, zoals gezien in figuur 5. Merk op dat Eth1 wordt gebruikt voor de directe verbinding. Er is een IP-adres voor elke interface vereist.

Afbeelding 5: MSE HA met directe verbinding



### 1. Stel de primaire MSE in. Overzicht van de configuratie uit setup-script:

```
-----BEGIN-----  
Host name=mse3355-1  
Role=1 [Primary]  
Health Monitor Interface=eth0  
Direct connect interface=eth1  
Virtual IP Address=10.10.10.14  
Virtual IP Netmask=255.255.255.0  
Eth1 IP address=1.1.1.1  
Eth1 network mask=255.0.0.0  
Default Gateway =10.10.10.1  
-----END-----
```

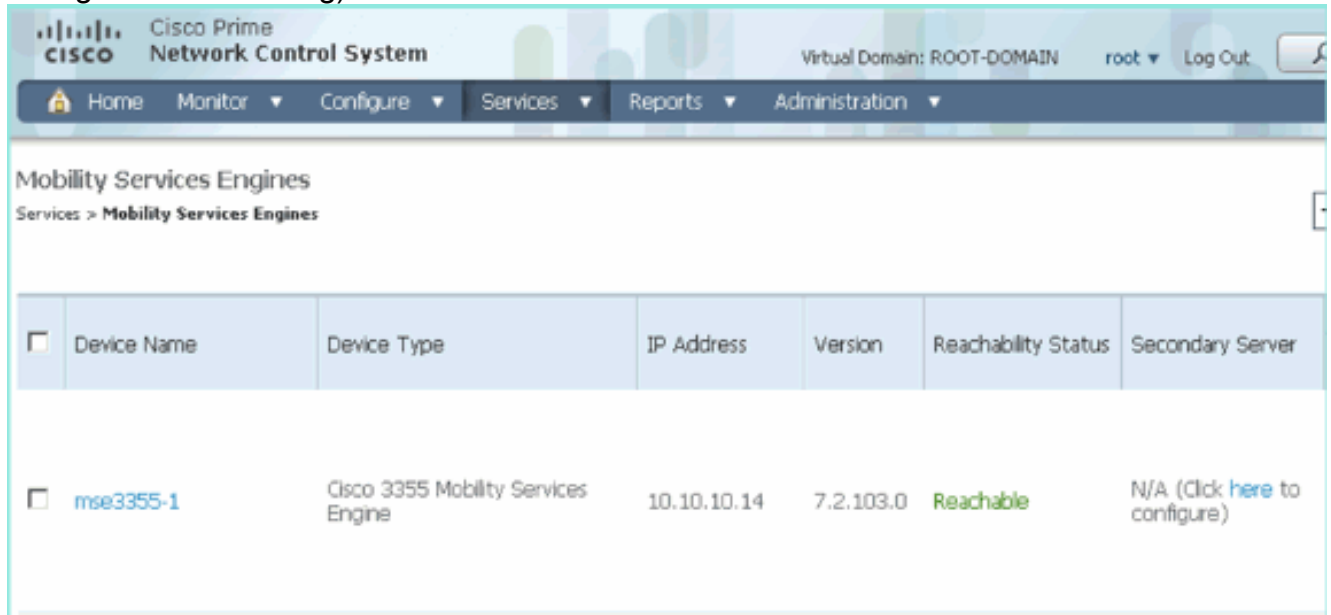
### 2. Stel de secundaire MSE in. Overzicht van de configuratie uit setup-script:

```
-----BEGIN-----  
Host name=mse3355-2  
Role=2 [Secondary]
```



```
Health Monitor Interface=eth0
Direct connect interface=eth1
Eth0 IP Address 10.10.10.16
Eth0 network mask=255.255.255.0
Default Gateway=10.10.10.1
Eth1 IP address=1.1.1.2,
Eth1 network mask=255.0.0.0
-----END-----
```

3. Voeg de Primaire MSE toe aan de NCS (zie vorige voorbeelden, of raadpleeg de configuratiehandleiding).



The screenshot shows the Cisco Prime Network Control System interface. The top navigation bar includes 'Home', 'Monitor', 'Configure', 'Services', 'Reports', and 'Administration'. The main content area is titled 'Mobility Services Engines' and contains a table with the following data:

<input type="checkbox"/>	Device Name	Device Type	IP Address	Version	Reachability Status	Secondary Server
<input type="checkbox"/>	mse3355-1	Cisco 3355 Mobility Services Engine	10.10.10.14	7.2.103.0	Reachable	N/A (Click <a href="#">here</a> to configure)

4. Stel de secundaire MSE in vanaf NCS > configureer de secundaire server. Voer een naam van het secundaire apparaat in - [mse3355-2] Secundair IP-adres - [10.10.10.16] Voltooi de resterende parameters en klik op **Opslaan**.

Cisco Prime Network Control System Virtual Domain: ROOT-

Home Monitor Configure Services Reports Administration

System

- General Properties
- Active Sessions
- Trap Destinations
- Advanced Parameters
- Logs
- Services High Availability
  - HA Configuration
  - HA Status
- Accounts
  - Users
  - Groups
- Status
  - Server Events
  - Audit Logs

HA Configuration : mse3355-1  
Services > Mobility Services Engines > System > Services High Availability

Configure High Availability Parameters

Primary Health Monitor IP 10.10.10.15

Secondary Device Name mse3355-2

Secondary IP Address 10.10.10.16

Secondary Password

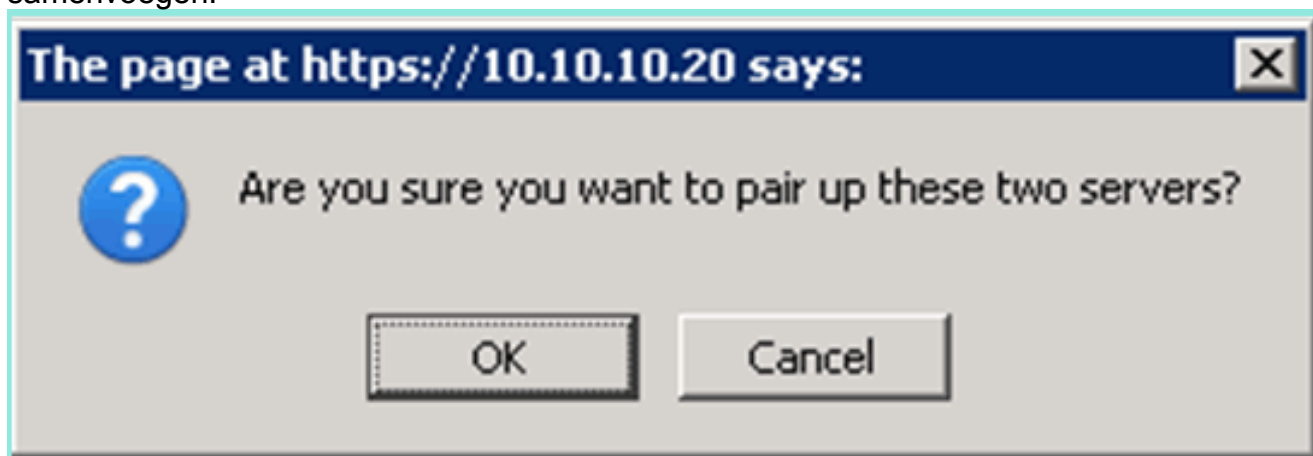
Failover Type Manual

Failback Type Manual

Long Failover Wait 10 seconds

Save

5. Klik op **OK** om te bevestigen dat u de twee SE's wilt samenvoegen.



NCS neemt een moment in beslag om de configuratie van de secundaire server toe te voegen.



6. Breng na voltooiing wijzigingen aan in de HA-parameters. Klik op **Opslaan**.

## HA Configuration : mse3355-1

Services > Mobility Services Engines > System > Services High Availability > **Configure High Availability Parameters**

### Configuration

Primary Health Monitor IP 10.10.10.15

Secondary Device Name mse3355-2

Secondary IP Address 10.10.10.16

Secondary Password

Secondary Platform UDI AIR-MSE-3355-K9:V01:KQ:.....

Failover Type

Failback Type

Long Failover Wait  seconds

7. Bekijk de HA status voor real-time vooruitgang van het nieuwe MSE HA paar.

Virtual Domain: ROOT-DOMAIN root Log Out

Home Monitor Configure Services Reports Administration

System HA Configuration : mse3355-1  
 Services > Mobility Services Engines > System > Services High Availability > **Current High Availability Status**

**Current High Availability Status**

Status Primary and secondary server synchronization in progress (66% complete)

Heartbeats Up

Data Replication Setting up

Mean Heartbeat Response Time 8 millicsec

**Events Log**

Event Description	Generated By	Timestamp	Remarks
Configuration updated	Primary	2012-Feb-15, 20:10:56 UTC	Failover mode set to AUTOMATIC.
Heartbeats have been setup successfully	Primary	2012-Feb-15, 20:10:11 UTC	-
Primary and secondary server synchronization in progress	Primary	2012-Feb-15, 20:10:09 UTC	-
Configuration successfully created	Primary	2012-Feb-15, 20:10:09 UTC	-

8. Van NCS > Services > Mobility Services > Mobility Services Engine, bevestig dat de MSE (direct Connect) HA aan de NCS wordt toegevoegd.

Cisco Prime Network Control System						
						Virtual Domain: ROOT-DOMAIN
						root Log Out
Change Password						
Home Monitor Configure Services Reports Administration						
Mobility Services Engines						
Services > Mobility Services Engines						
<input type="checkbox"/>	Device Name	Device Type	IP Address	Version	Reachability Status	Secondary Server
<input type="checkbox"/>	mse3355-1	Cisco 3355 Mobility Services Engine	10.10.10.14	7.2.103.0	Reachable	mse3355-2

9. Vanaf de console kan bevestiging ook met de opdracht **gethainfo** worden gezien. Dit is de primaire en secundaire uitvoer:

```
[root@mse3355-1 ~]#gethainfo
```

```
Health Monitor is running. Retrieving HA related information
```

```
-----  
Base high availability configuration for this server  
-----
```

```
Server role: Primary  
Health Monitor IP Address: 10.10.10.15  
Virtual IP Address: 10.10.10.14  
Version: 7.2.103.0  
UDI: AIR-MSE-3355-K9:V01:KQ37xx  
Number of paired peers: 1
```

```
-----  
Peer configuration#: 1  
-----
```

```
Health Monitor IP Address 10.10.10.16  
Virtual IP Address: 10.10.10.14  
Version: 7.2.103.0  
UDI: AIR-MSE-3355-K9:V01:KQ45xx  
Failover type: Automatic  
Failback type: Manual  
Failover wait time (seconds): 10  
Instance database name: mseos3s  
Instance database port: 1624  
Dataguard configuration name: dg_mse3  
Primary database alias: mseop3s  
Direct connect used: Yes  
Heartbeat status: Up  
Current state: PRIMARY_ACTIVE
```

```
[root@mse3355-2 ~]#gethainfo
```

```
Health Monitor is running. Retrieving HA related information
```

```
-----  
Base high availability configuration for this server  
-----
```

```
Server role: Secondary
```

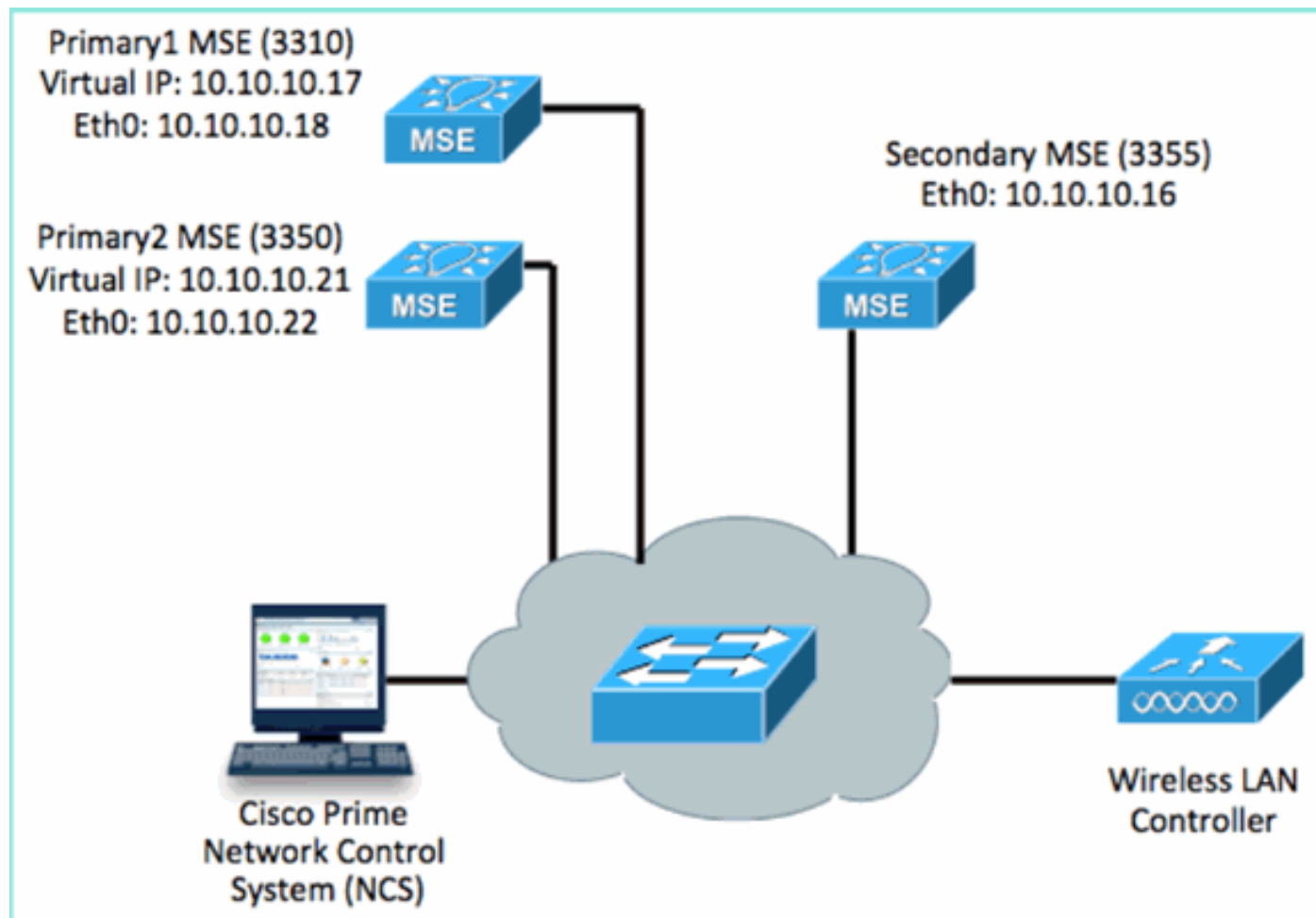
Health Monitor IP Address: 10.10.10.16  
Virtual IP Address: Not Applicable for a secondary  
Version: 7.2.103.0  
UDI: AIR-MSE-3355-K9:V01:KQ45xx  
Number of paired peers: 1

-----  
Peer configuration#: 1  
-----

Health Monitor IP Address 10.10.10.15  
Virtual IP Address: 10.10.10.14  
Version: 7.2.103.0  
UDI: AIR-MSE-3355-K9:V01:KQ37xx  
Failover type: Automatic  
Failback type: Manual  
Failover wait time (seconds): 10  
Instance database name: mseos3  
Instance database port: 1524  
Dataguard configuration name: dg\_mse3  
Primary database alias: mseop3s  
Direct connect used: Yes  
Heartbeat status: Up  
Current state: SECONDARY\_ACTIVE

## HA-configuratiescherm voor MSE fysieke applicatie

Op basis van de bedradingsmatrix is het maximum in de HA-configuratie 2:1. Dit is gereserveerd voor MSE-3355, die in secundaire modus een MSE-3310 en MSE-3350 kan ondersteunen. Direct Connect is in dit scenario niet van toepassing.



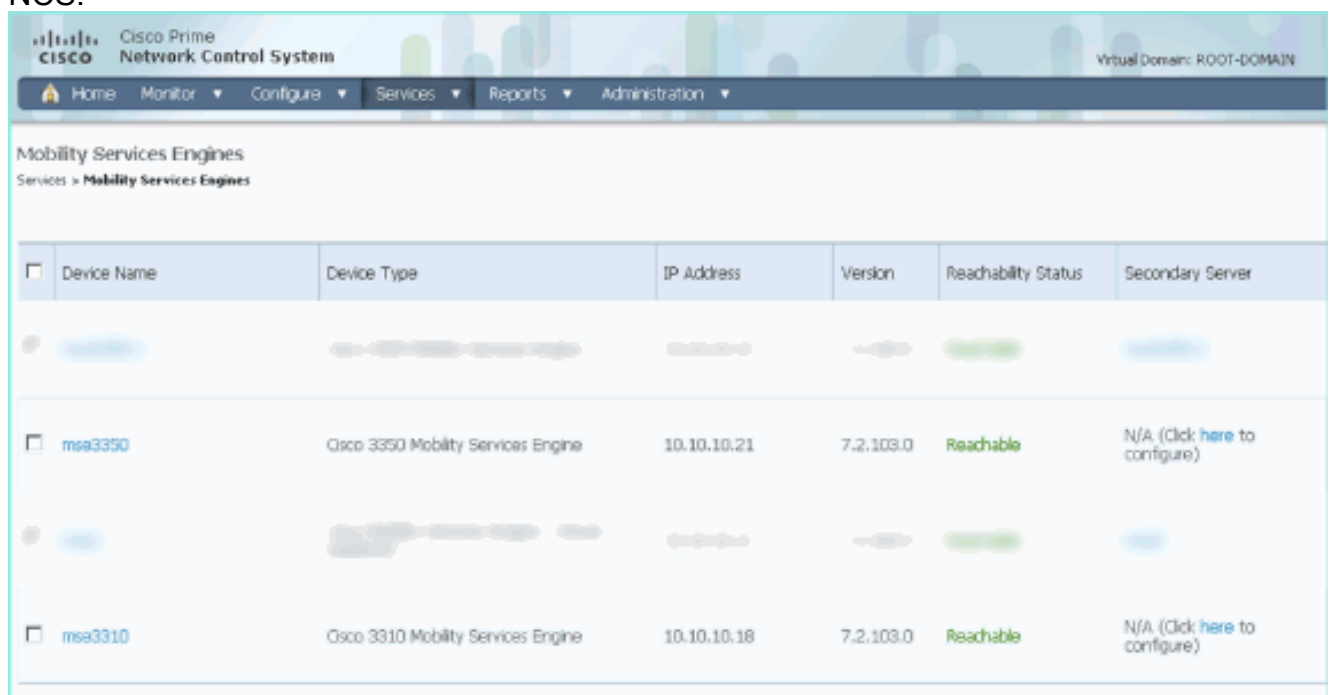
## 1. Configureer elk van deze MSE's om het 2:1 HA-scenario aan te tonen:

MSE-3310 (Primary1)  
Server role: Primary  
Health Monitor IP Address (Eth0): 10.10.10.17  
Virtual IP Address: 10.10.10.18  
Eth1 - Not Applicable

MSE-3350 (Primary2)  
Server role: Primary  
Health Monitor IP Address: 10.10.10.22  
Virtual IP Address: 10.10.10.21  
Eth1 - Not Applicable

MSE-3355 (Secondary)  
Server role: Secondary  
Health Monitor IP Address: 10.10.10.16  
Virtual IP Address: Not Applicable for a secondary

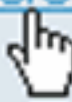
## 2. Nadat alle MSE's zijn geconfigureerd, voegt u Primair1 en Primair2 toe aan de NCS.



<input type="checkbox"/>	Device Name	Device Type	IP Address	Version	Reachability Status	Secondary Server
<input type="checkbox"/>	mse3310	Cisco 3310 Mobility Services Engine	10.10.10.18	7.2.103.0	Reachable	N/A (Click here to configure)
<input type="checkbox"/>	mse3350	Cisco 3350 Mobility Services Engine	10.10.10.21	7.2.103.0	Reachable	N/A (Click here to configure)
<input type="checkbox"/>	mse3355	Cisco 3355 Mobility Services Engine	10.10.10.16	7.2.103.0	Reachable	N/A (Click here to configure)

## 3. Klik op om de secundaire server te configureren (zoals in eerdere voorbeelden). Begin met een van de primaire mijlpalen.




Reachability Status	Secondary Server
Reachable	N/A (Click <a href="#">here</a> to configure)
Reachable	N/A (Click <a href="#">here</a> to configure) 

4. Voer de parameters voor de secundaire MSE in: Naam secundaire apparaat: bijvoorbeeld [mse-3355-2] Secundair IP-adres - [10.10.10.16] Voltooi de resterende parameters. Klik op **Opslaan**.

**HA Configuration : mse3350**  
 Services > Mobility Services Engines > System > Services High Availability > **Configure High Availability Parameters**

**Configuration**

Primary Health Monitor IP	10.10.10.22
Secondary Device Name	mse3355-2
Secondary IP Address	10.10.10.16
Secondary Password ⓘ	<input type="password" value="•••••"/>
Secondary Platform UDI	AIR-MSE-3355-K9:V01:KQ4 
Failover Type ⓘ	<input type="text" value="Manual"/>
Failback Type ⓘ	<input type="text" value="Manual"/>
Long Failover Wait ⓘ	<input type="text" value="10"/> seconds

5. Wacht een ogenblik om de eerste secundaire ingang te configureren.

Please Wait. High Availability configuration is being created at the Primary and Secondary servers. This will take a few seconds...



6. Bevestig dat de secundaire server is toegevoegd voor de eerste primaire MSE.

Mobility Services Engines  
Services > Mobility Services Engines

<input type="checkbox"/>	Device Name	Device Type	IP Address	Version	Reachability Status	Secondary Server
<input type="checkbox"/>	mse3350	Cisco 3350 Mobility Services Engine	10.10.10.21	7.2.103.0	Reachable	mse3355-2

7. Herhaal stap 3 tot en met 6 voor de tweede Primaire MSE.

Mobility Services Engines  
Services > Mobility Services Engines

<input type="checkbox"/>	Device Name	Device Type	IP Address	Version	Reachability Status	Secondary Server
<input type="checkbox"/>	mse3350	Cisco 3350 Mobility Services Engine	10.10.10.21	7.2.103.0	Reachable	mse3355-2
<input type="checkbox"/>	mse3310	Cisco 3310 Mobility Services Engine	10.10.10.18	7.2.103.0	Reachable	N/A (Click <a href="#">here</a> to configure)

8. Voltooi met HA-parameters voor de tweede primaire MSE.

## HA Configuration : mse3310

Services > Mobility Services Engines > System > Services High Availability > **Configure High Availability Parameters**

### Configure High Availability Parameters

Primary Health Monitor IP	10.10.10.17
Secondary Device Name	<input type="text" value="mse3355-2"/>
Secondary IP Address	<input type="text" value="10.10.10.16"/>
Secondary Password ⓘ	<input type="password" value="•••••"/>
Failover Type ⓘ	<input type="text" value="Manual"/>
Failback Type ⓘ	<input type="text" value="Manual"/>
Long Failover Wait ⓘ	<input type="text" value="10"/> seconds

9. De instellingen opslaan.

## HA Configuration : mse3310

Services > Mobility Services Engines > System > Services High Availability > **Configure High Availability Parameters**

### Configuration

Primary Health Monitor IP	10.10.10.17
Secondary Device Name	mse3355-2
Secondary IP Address	10.10.10.16
Secondary Password ⓘ	<input type="password" value="•••••"/>
Secondary Platform UDI	AIR-MSE-3355-K9:V01:KQ- <input type="text" value=""/>
Failover Type ⓘ	<input type="text" value="Manual"/>
Failback Type ⓘ	<input type="text" value="Manual"/>
Long Failover Wait ⓘ	<input type="text" value="10"/> seconds

10. Controleer de status op voortgang voor elk van de primaire mijlpalen.

HA Configuration : mse3310  
 Services > Mobility Services Engines > System > Services High Availability > Current High Availability Status

**Current High Availability Status**

Status: Primary and secondary server synchronization in progress (60% complete)

Heartbeats: Up

Data Replication: Setting up

Mean Heartbeat Response Time: 8 millicec

**Events Log**

Event Description	Generated By	Timestamp
Heartbeats have been setup successfully	Primary	2012-Feb-17, 20:54:36 UTC
Primary and secondary server synchronization in progress	Primary	2012-Feb-17, 20:54:32 UTC
Configuration successfully created	Primary	2012-Feb-17, 20:54:32 UTC

Refresh Status

11. Bevestig dat zowel Primair1 als Primair2 MSEs zijn ingesteld met een Secundaire MSE.

Mobility Services Engines  
 Services > Mobility Services Engines

Device Name	Device Type	IP Address	Version	Reachability Status	Secondary Server
mse3350	Cisco 3350 Mobility Services Engine	10.10.10.21	7.2.103.0	Reachable	mse3355-2
mse3310	Cisco 3310 Mobility Services Engine	10.10.10.18	7.2.103.0	Reachable	mse3355-2

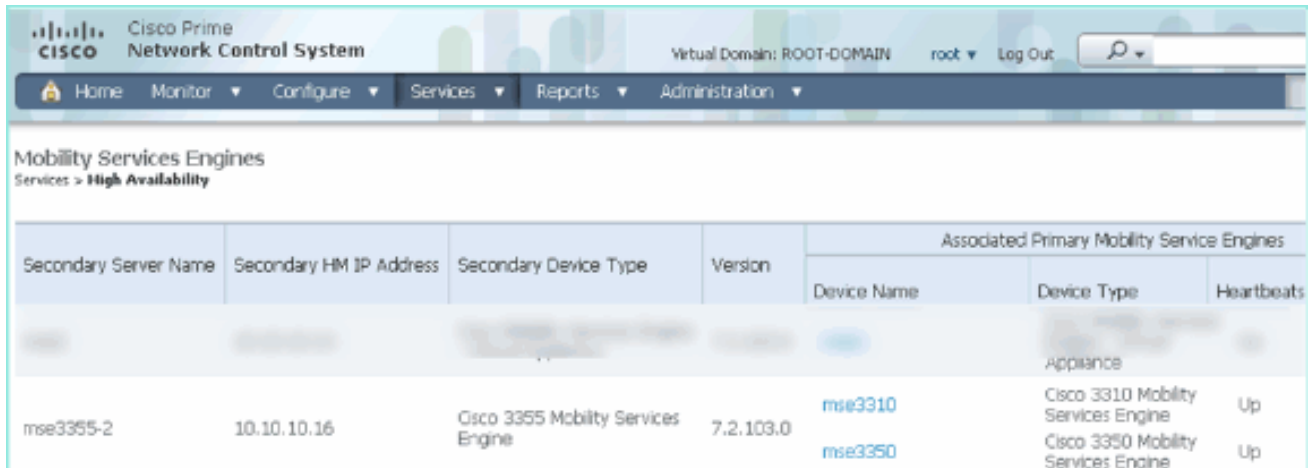
12. Kies vanuit NCS > Services > Mobility Services voor hoge beschikbaarheid.

Cisco Prime Network Control System

Home Monitor Configure Services Reports Administration

- Mobility Services
  - Mobility Services Engines
  - Synchronize Services
  - Synchronization History
  - High Availability
  - Context Aware Notifications
  - MSAP
- Identity Services

Merk op dat 2:1 bevestigd is voor MSE-3355 als secundair voor MSE-3310 en MSE-3350.



The screenshot shows the Cisco Prime Network Control System interface. The top navigation bar includes Home, Monitor, Configure, Services, Reports, and Administration. The main content area is titled 'Mobility Services Engines' with a sub-header 'Services > High Availability'. Below this is a table with columns for Secondary Server Name, Secondary HM IP Address, Secondary Device Type, Version, and Associated Primary Mobility Service Engines (Device Name, Device Type, Heartbeats). The table lists three secondary servers: mse3355-2, mse3350, and mse3310. mse3355-2 is associated with mse3310 and mse3350. mse3350 is associated with mse3310. mse3310 is associated with mse3350.

Secondary Server Name	Secondary HM IP Address	Secondary Device Type	Version	Associated Primary Mobility Service Engines		
				Device Name	Device Type	Heartbeats
mse3355-2	10.10.10.16	Cisco 3355 Mobility Services Engine	7.2.103.0	mse3310	Cisco 3310 Mobility Services Engine	Up
				mse3350	Cisco 3350 Mobility Services Engine	Up

Hier is een voorbeelduitvoer van de HA-instelling vanuit de console van alle drie MSE's wanneer de **gethainfo**-opdracht wordt gebruikt:

```
[root@mse3355-2 ~]#gethainfo
```

```
Health Monitor is running. Retrieving HA related information
```

```
-----  
Base high availability configuration for this server  
-----
```

```
Server role: Secondary  
Health Monitor IP Address: 10.10.10.16  
Virtual IP Address: Not Applicable for a secondary  
Version: 7.2.103.0  
UDI: AIR-MSE-3355-K9:V01:KQ45xx  
Number of paired peers: 2
```

```
-----  
Peer configuration#: 1  
-----
```

```
Health Monitor IP Address 10.10.10.22  
Virtual IP Address: 10.10.10.21  
Version: 7.2.103.0  
UDI: AIR-MSE-3350-K9:V01:MXQ839xx  
Failover type: Manual  
Failback type: Manual  
Failover wait time (seconds): 10  
Instance database name: mseos3  
Instance database port: 1524  
Dataguard configuration name: dg_mse3  
Primary database alias: mseop3s  
Direct connect used: No  
Heartbeat status: Up  
Current state: SECONDARY_ACTIVE
```

```
-----  
Peer configuration#: 2  
-----
```

```
Health Monitor IP Address 10.10.10.17  
Virtual IP Address: 10.10.10.18  
Version: 7.2.103.0  
UDI: AIR-MSE-3310-K9:V01:FTX140xx
```

Failover type: Manual  
 Failback type: Manual  
 Failover wait time (seconds): 10  
 Instance database name: mseos4  
 Instance database port: 1525  
 Dataguard configuration name: dg\_mse4  
 Primary database alias: mseop4s  
 Direct connect used: No  
 Heartbeat status: Up  
 Current state: SECONDARY\_ACTIVE

Definitieve validatie voor HA in het NCS toont de status als volledig actief voor zowel de MSE-3310 als MSE-3350.

The image displays two screenshots of the Cisco Prime Network Control System (NCS) interface, showing the High Availability (HA) configuration and status for two different Mobility Services Engines (MSEs): mse3310 and mse3350.

**Top Screenshot: HA Configuration : mse3310**

Navigation: Services > Mobility Services Engines > System > Services High Availability > Current High Availability Status

**Current High Availability Status**

Status	Active
Heartbeats	Up
Data Replication	Up
Mean Heartbeat Response Time	5 millicsec

**Events Log**

Event Description	Generated By
Active	Primary
Heartbeats have been setup successfully	Primary
Primary and secondary server synchronization in progress	Primary
Configuration successfully created	Primary

**Bottom Screenshot: HA Configuration : mse3350**

Navigation: Services > Mobility Services Engines > System > Services High Availability > Current High Availability Status

**Current High Availability Status**

Status	Active
Heartbeats	Up
Data Replication	Up
Mean Heartbeat Response Time	4 millicsec

**Events Log**

Event Description	Generated By
Active	Primary
Heartbeats have been setup successfully	Primary
Primary and secondary server synchronization in progress	Primary
Configuration successfully created	Primary



# Basisprobleemoplossing van MSE HA

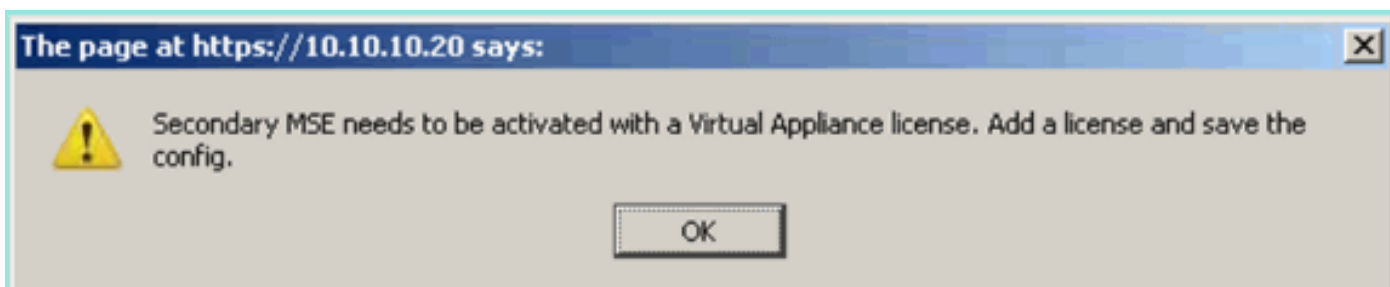
Bij het toevoegen van de secundaire MSE kunt u een melding als deze zien:



Mogelijk was er een probleem tijdens het setup-script.

- Start de opdracht **getserverinfo** om te controleren of er juiste netwerkinstellingen zijn.
- Het is ook mogelijk dat de diensten nog niet van start zijn gegaan. Start de `/init.d/mseed start` opdracht.
- Start het setup-script indien nodig opnieuw (`/mse/setup/setup.sh`) en bewaar het op het einde.

Voor de virtuele applicatie voor MSE is ook een activeringslicentie (L-MSE-7.0-K9) vereist. Anders wordt de NCS gevraagd bij het toevoegen van de secundaire MSE VA. Verkrijg en voeg de activeringslicentie voor MSE VA toe.



Als u op de MSE overstapt, zorg er dan voor dat de diensten volledig worden stopgezet. Stop daarom de services met de opdracht `/init.d/gememoreerde stop` en voer het setup-script opnieuw uit (`/mse/setup/setup.sh`).

```
Applying High Availability configuration
*** User has switched roles for this MSE. MSE must be stopped before switching r
oles.
*** Please stop MSE and then re-run setup.sh.
ERROR: One or more of the requested configurations was not applied.
Role=2, Health Monitor Interface=eth0, Direct connect interface=none
Success
[root@mse2 setup]#
```

Gebruik de opdracht **gethainfo** om *informatie over hoge beschikbaarheid* op de MSE te verkrijgen. Dit biedt nuttige informatie in het oplossen van problemen of het controleren van de HA status en veranderingen.

```
[root@mse3355-2 ~]#gethainfo
```

```
Health Monitor is running. Retrieving HA related information
```

```
-----  
Base high availability configuration for this server  
-----
```

```
Server role: Secondary  
Health Monitor IP Address: 10.10.10.16  
Virtual IP Address: Not Applicable for a secondary  
Version: 7.2.103.0  
UDI: AIR-MSE-3355-K9:V01:KQ45xx  
Number of paired peers: 2
```

```
-----  
Peer configuration#: 1  
-----
```

```
Health Monitor IP Address 10.10.10.22  
Virtual IP Address: 10.10.10.21  
Version: 7.2.103.0  
UDI: AIR-MSE-3350-K9:V01:MXQ839xx  
Failover type: Manual  
Failback type: Manual  
Failover wait time (seconds): 10  
Instance database name: mseos3  
Instance database port: 1524  
Dataguard configuration name: dg_mse3  
Primary database alias: mseop3s  
Direct connect used: No  
Heartbeat status: Up  
Current state: SECONDARY_ACTIVE
```

```
-----  
Peer configuration#: 2  
-----
```

```
Health Monitor IP Address 10.10.10.17  
Virtual IP Address: 10.10.10.18  
Version: 7.2.103.0  
UDI: AIR-MSE-3310-K9:V01:FTX140xx  
Failover type: Manual  
Failback type: Manual  
Failover wait time (seconds): 10  
Instance database name: mseos4  
Instance database port: 1525  
Dataguard configuration name: dg_mse4  
Primary database alias: mseop4s  
Direct connect used: No  
Heartbeat status: Up  
Current state: SECONDARY_ACTIVE
```

Daarnaast is de NCS High Availability View een goed beheergereedschap om zichtbaarheid te krijgen in de HA-instelling voor MSE.

Cisco Prime Network Control System

Virtual Domain: ROOT-DOMAIN root Log Out

Home Monitor Configure Services Reports Administration

System

HA Configuration : mse3310  
 Services > Mobility Services Engines > System > Services High Availability > Current High Availability Status

Current High Availability Status

Status Primary and secondary server synchronization in progress (60% complete)

Heartbeats Up

Data Replication Setting up

Mean Heartbeat Response Time 8 msec

Events Log

Event Description	Generated By	Timestamp
Heartbeats have been setup successfully	Primary	2012-Feb-17, 20:54:36 UTC
Primary and secondary server synchronization in progress	Primary	2012-Feb-17, 20:54:32 UTC
Configuration successfully created	Primary	2012-Feb-17, 20:54:32 UTC

Refresh Status

## Gerelateerde informatie

- [MSE Configuration Guide \(virtuele en fysieke applicatie\)](#)
- [MSE-configuratie met hoge beschikbaarheid](#)
- [Bestellen](#)
- [Technische ondersteuning en documentatie – Cisco Systems](#)