

# Configurar e implantar o software MSE versão 7.2 HA

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## Introduction

Cisco Mobility Services Engine (MSE) Software Release 7.2) fornece suporte adicional de alta disponibilidade (HA) a dispositivos físicos e virtuais. Este documento fornece diretrizes de configuração e implantação, bem como dicas de solução de problemas para aqueles que adicionam a Alta Disponibilidade MSE e executam o Context Aware Services e/ou o Adaptive wIPS em uma Cisco Unified WLAN. A finalidade deste documento é explicar as diretrizes para alta disponibilidade do MSE e fornecer cenários de implantação de HA para o MSE.

**Observação:** este documento não fornece detalhes de configuração para o MSE e componentes associados que não pertencem ao MSE HA. Essas informações são fornecidas em outros documentos e são fornecidas referências. Consulte a seção [Informações Relacionadas](#) para obter uma lista de documentos sobre a configuração e o projeto dos Serviços de Mobilidade com Reconhecimento de Contexto. A configuração wIPS adaptável também não é abordada neste documento.

## Prerequisites

### Requirements

Não existem requisitos específicos para este documento.

### Componentes Utilizados

Este documento não se restringe a versões de software e hardware específicas.

### Conventions

Consulte as [Convenções de Dicas Técnicas da Cisco para obter mais informações sobre convenções de documentos.](#)

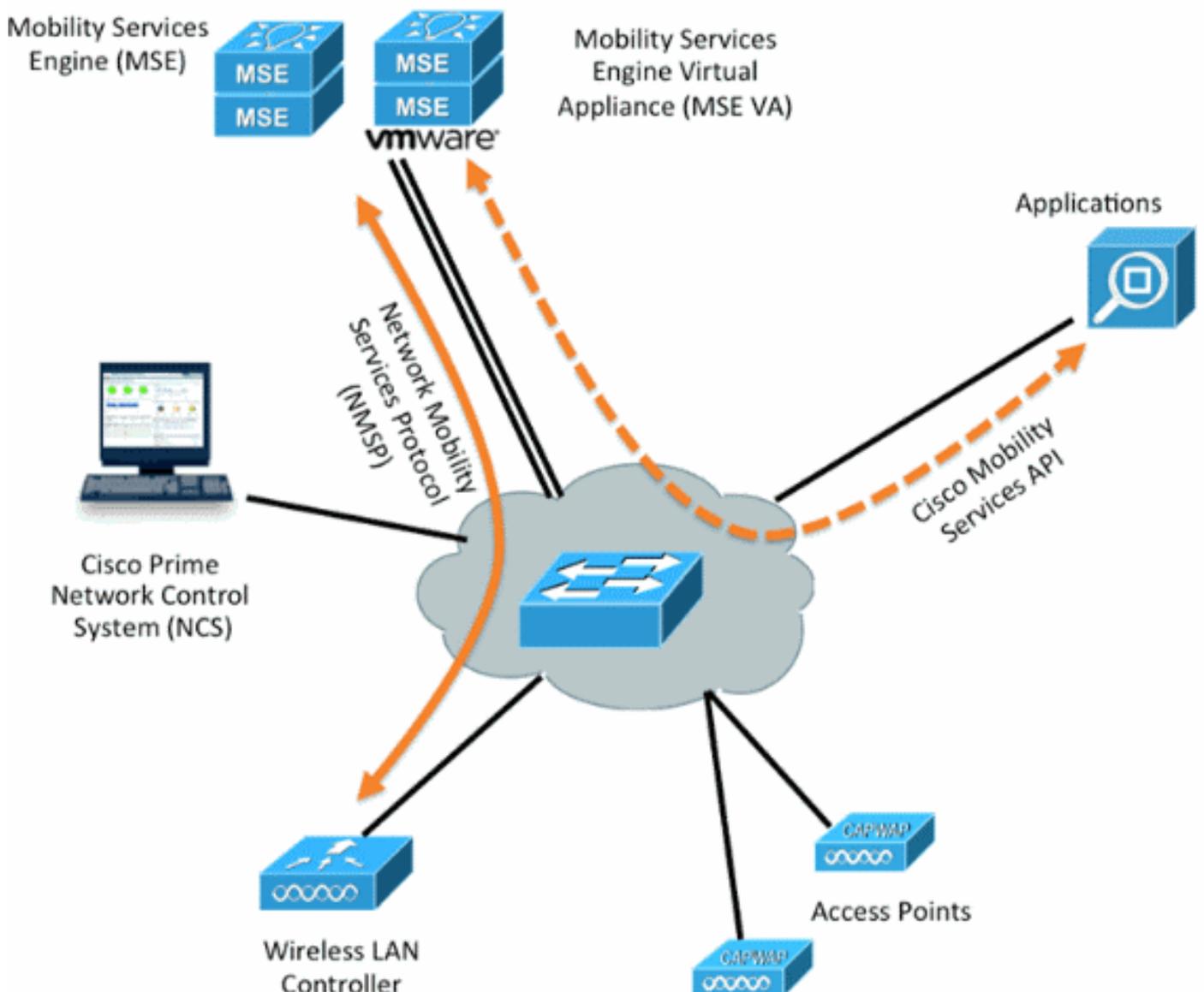
## Informações de Apoio

O MSE é uma plataforma capaz de executar vários serviços relacionados. Esses serviços fornecem funcionalidade de serviço de alto nível. Portanto, considerar o HA é fundamental para manter a mais alta confiança no serviço.

Com o HA habilitado, é feito o backup de cada MSE ativo por outra instância inativa. O MSE HA apresenta o monitor de integridade no qual ele configura, gerencia e monitora a configuração de alta disponibilidade. Um heartbeat é mantido entre o MSE principal e o MSE secundário. O monitor de integridade é responsável por configurar o banco de dados, a replicação de arquivos e o monitoramento do aplicativo. Quando o MSE principal falha e o secundário assume, o endereço virtual do MSE principal é comutado de forma transparente.

Essa configuração (veja a [figura 1](#)) demonstra uma implantação típica de WLAN da Cisco que inclui o Cisco Mobility Services Engine (MSE) habilitado para alta disponibilidade. O suporte HA está disponível no MSE-3310, MSE-3350/3355 e Virtual Appliance no ESXi.

Figura 1. Implantação do MSE em alta disponibilidade



## Diretrizes e limitações

Aqui estão informações sobre a arquitetura do MSE HA:

- O MSE Virtual Appliance oferece suporte somente a HA 1:1.
- Um MSE secundário pode suportar até dois MSEs principais. Veja a matriz de emparelhamento HA (figuras 2 e 3).
- O HA suporta conexão de rede e conexão direta.
- Somente a redundância de Camada 2 do MSE é suportada. O IP do monitor de integridade e o IP virtual devem estar na mesma sub-rede e acessíveis pelo Network Control System (NCS). A redundância da camada 3 não é suportada.
- O IP do monitor de integridade e o IP virtual devem ser diferentes.
- Você pode usar failover manual ou automático.
- Você pode usar failback manual ou automático.
- O MSE primário e secundário devem estar na mesma versão de software.
- Cada MSE principal ativo é copiado para backup por outra instância inativa. O MSE secundário torna-se ativo somente depois que o procedimento de failover é iniciado.
- O procedimento de failover pode ser manual ou automático.
- Há uma instância de software e banco de dados para cada MSE principal registrado.

Figura 2. Matriz de pares de suporte de HA MSE

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

Figura 3. Matriz de emparelhamento MSE HA N:1

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

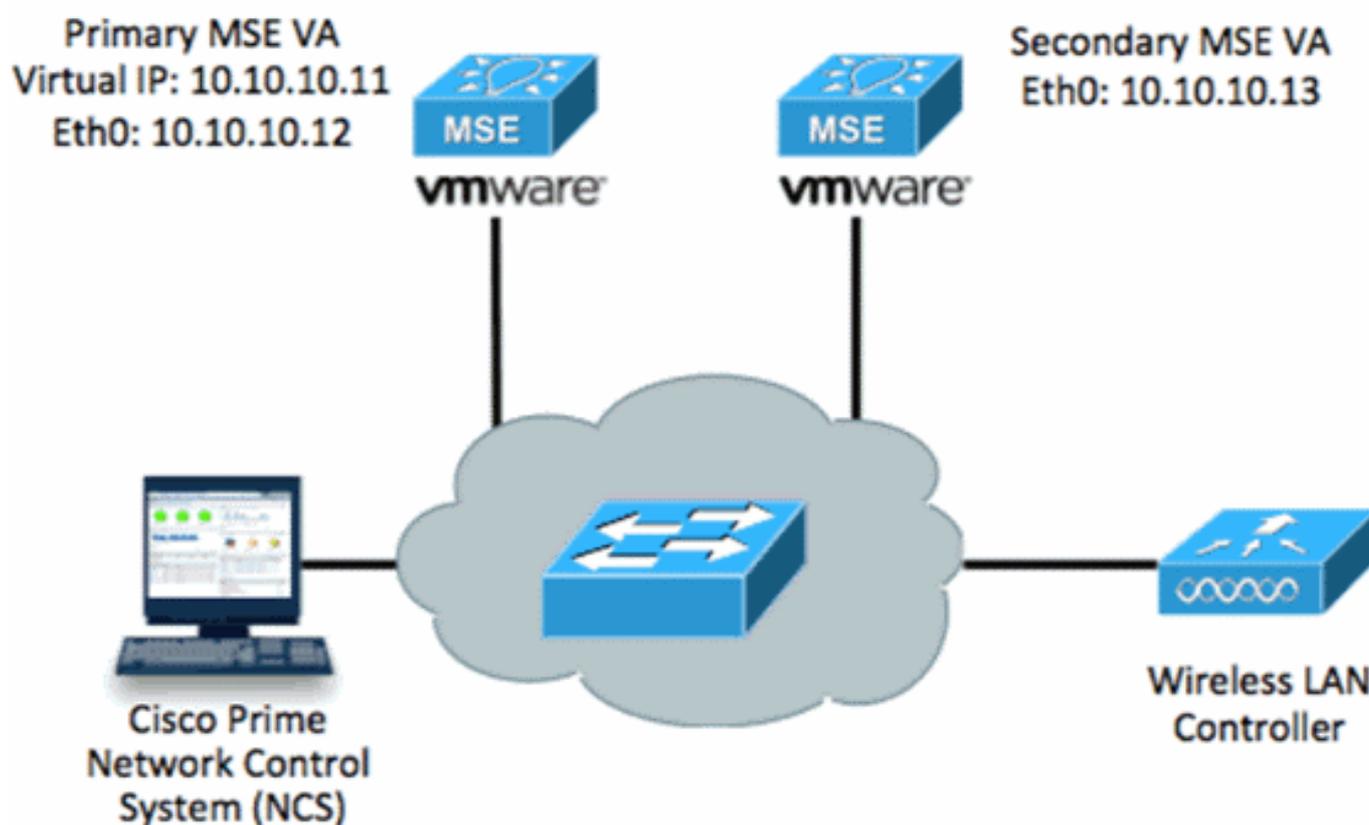
## Cenário de configuração de HA para MSE Virtual Appliance (conexão de rede)

Este exemplo mostra a configuração de HA para o MSE Virtual Appliance (VA) (consulte a [figura 4](#)). Para esse cenário, essas configurações são definidas:

- VA MSE principal: IP virtual - [10.10.10.11] Interface do monitor de integridade (Eth0) - [10.10.10.12]
- VA MSE secundária: IP virtual - [Nenhum] Interface do monitor de integridade (Eth0) - [10.10.10.13]

**Observação:** uma licença de ativação (L-MSE-7.0-K9) é necessária por VA. Isso é necessário para a configuração de HA do VA.

Figura 4. MSE Virtual Appliance em HA



Consulte a [documentação da Cisco sobre o MSE Virtual Appliance](#) para obter mais informações.

Aqui estão as etapas gerais:

1. Conclua a instalação do VA para MSE e verifique se todas as configurações de rede foram atendidas.

```
MSE1 on kft-fx
File View VM
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. Inicie o Assistente para configuração no primeiro login.

```
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. Insira as entradas necessárias (nome do host, domínio etc.). Digite YES na etapa para configurar a alta disponibilidade.

```

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.

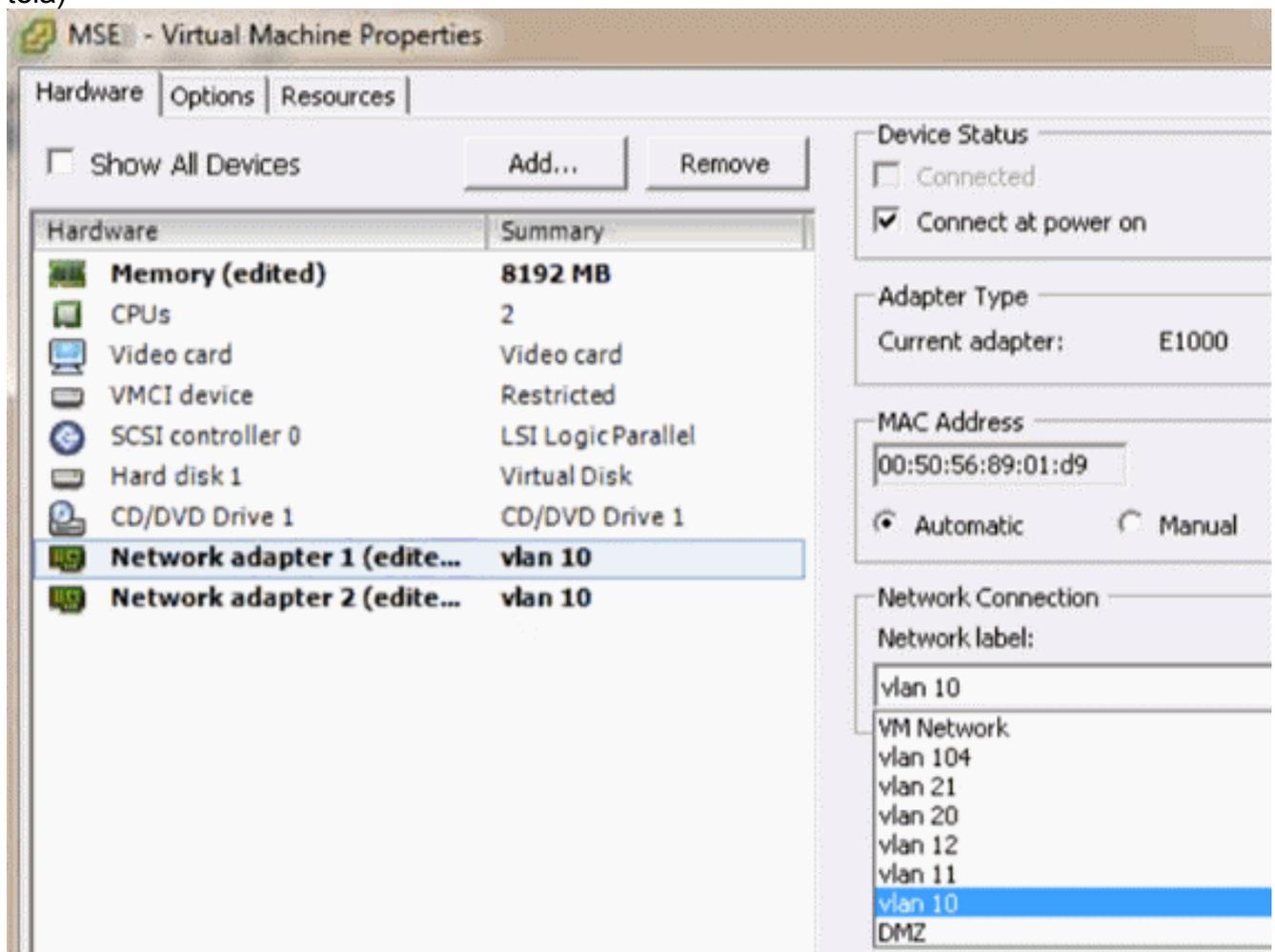
Enter a host name [mse]: mse1

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. Insira o seguinte:Selecione Função - [1 para Principal].Interface do monitor de integridade - [eth0]\*\* Configurações de rede mapeadas para o Adaptador de rede 1 (consulte o exemplo de captura de tela)



```

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. Selecione interface de conexão direta -  
[none].

```

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. Insira o seguinte:Endereço IP virtual - [10.10.10.11]Máscara de rede - [255.255.255.0]Iniciar MSE no modo de recuperação - [Não]

```

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. Insira o seguinte:Configurar Eth0 - [Yes]Insira o endereço IP Eth0- [10.10.10.12]Máscara de rede - [255.255.255.0]Gateway padrão - [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. A segunda interface Ethernet (Eth1) não é usada. Configurar a interface eth1 - [ignorar]

```

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

```

9. Continue no Assistente para configuração. É crítico habilitar o servidor NTP para sincronizar o relógio. O fuso horário preferencial é 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

```

Isso resume a configuração principal do MSE Virtual Appliance:

```

-----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. Digite [YES] para confirmar se todas as informações de configuração estão corretas.

```

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. Uma reinicialização é recomendada após a

```

[root@mse1 ~]# reboot
Stopping MSE Platform

```

configuração.

12. Após uma reinicialização, inicie os serviços MSE com os comandos `/etc/init.d/msed start` ou `service msed start`.

```

[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. Depois que todos os serviços tiverem iniciado, confirme se os serviços MSE estão funcionando corretamente com o comando `getserverinfo`. O status da operação deve ser **Ativo**.

```

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 ~]#

```

Estas etapas fazem parte da configuração do MSE VA secundário:

1. Após a nova instalação, o login inicial inicia o Assistente para configuração. Insira o seguinte: Configurar alta disponibilidade - [Sim] Selecionar função - [2] que indica Secundário Health Monitor Interface - [eth0] igual ao Primary

```

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. Insira o seguinte: Conexão direta - [Nenhum] Endereço IP eth0 - [10.10.10.13] Máscara de rede - [255.255.255.0] Gateway padrão - [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. Configurar a interface eth1 - [Skip]

```
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. Defina o fuso horário -  
[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. Ative o servidor  
NTP.

```

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. Conclua as etapas restantes do Assistente para configuração e confirme as informações de configuração para salvar a configuração.

```

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. Reinicie e inicie os serviços da mesma forma que as etapas anteriores para o MSE principal.

```

[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

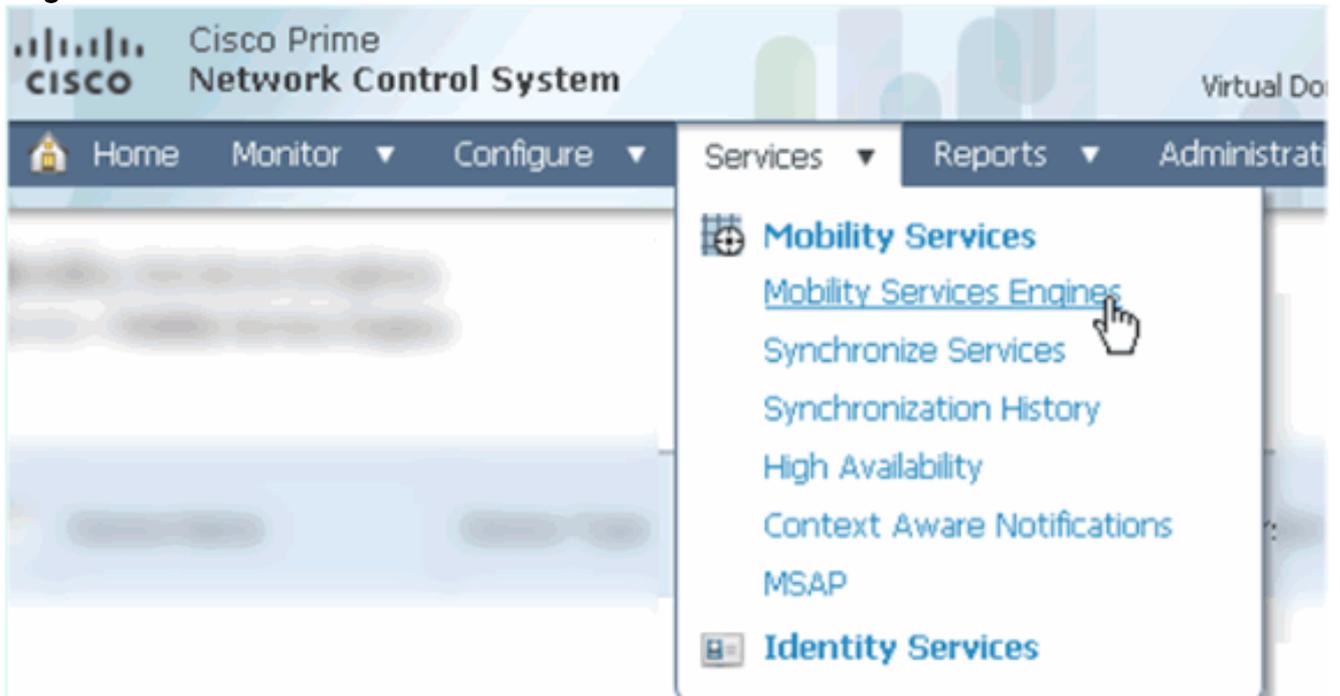
[root@mse2 ~]# _

```

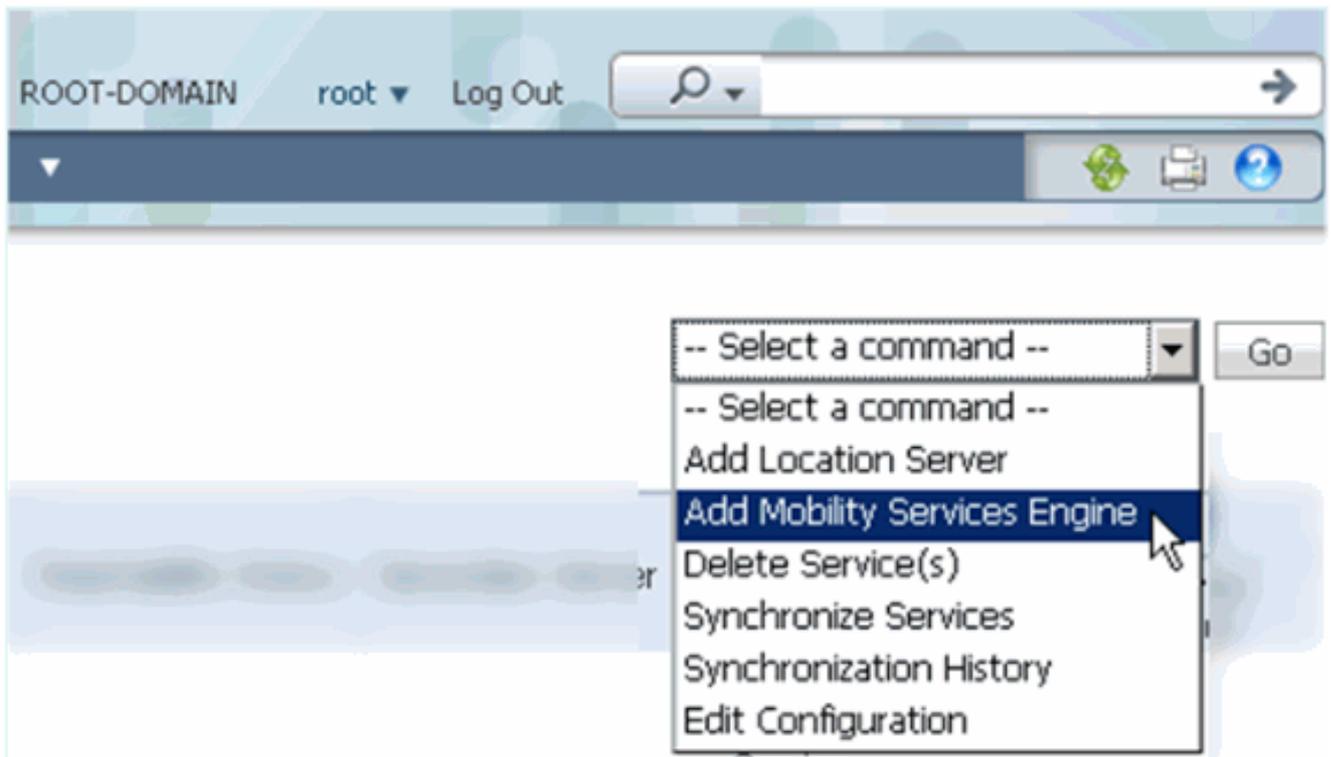
As próximas etapas mostram como adicionar o MSE VA primário e secundário ao NCS. Execute o processo normal de adicionar um MSE ao NCS. Consulte o guia de configuração para obter

ajuda.

1. No NCS, vá para **Systems > Mobility Services** e escolha **Mobility Services Engines**.



2. Na lista suspensa, escolha **Add Mobility Services Engine**. depois, clique em Ir.



3. Siga o assistente de configuração do NCS para MSE. No cenário deste documento, os valores são: Insira o nome do dispositivo - por exemplo [MSE1] Endereço IP - [10.10.10.12} Nome de usuário e senha (por configuração inicial) Clique em Next.

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)

**i** 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. Adicione todas as licenças disponíveis e clique em **Avançar**.

Cisco Prime Network Control System

### MSE License Summary

**i** 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

Add License Remove License

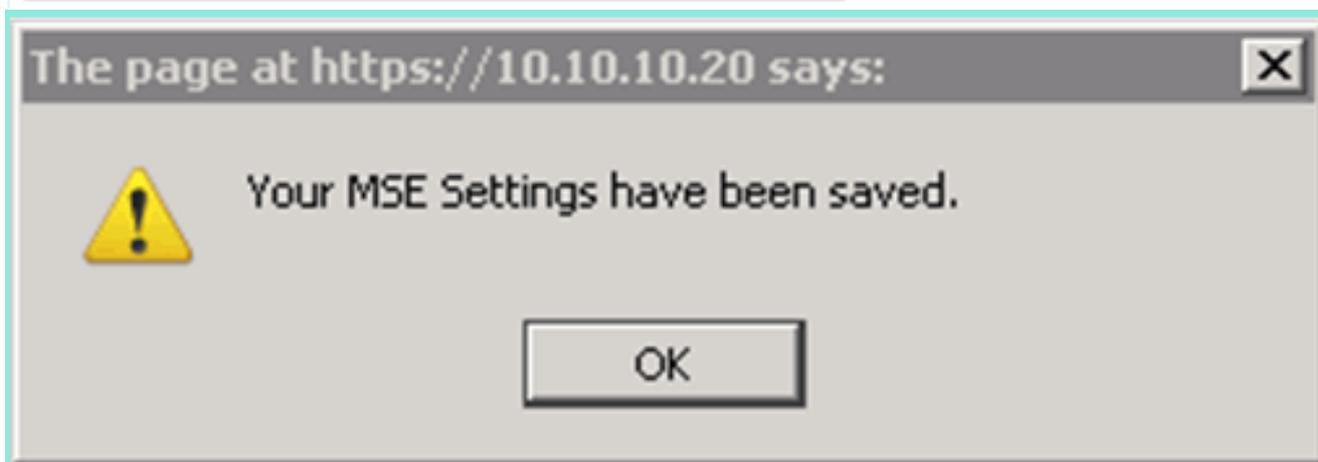
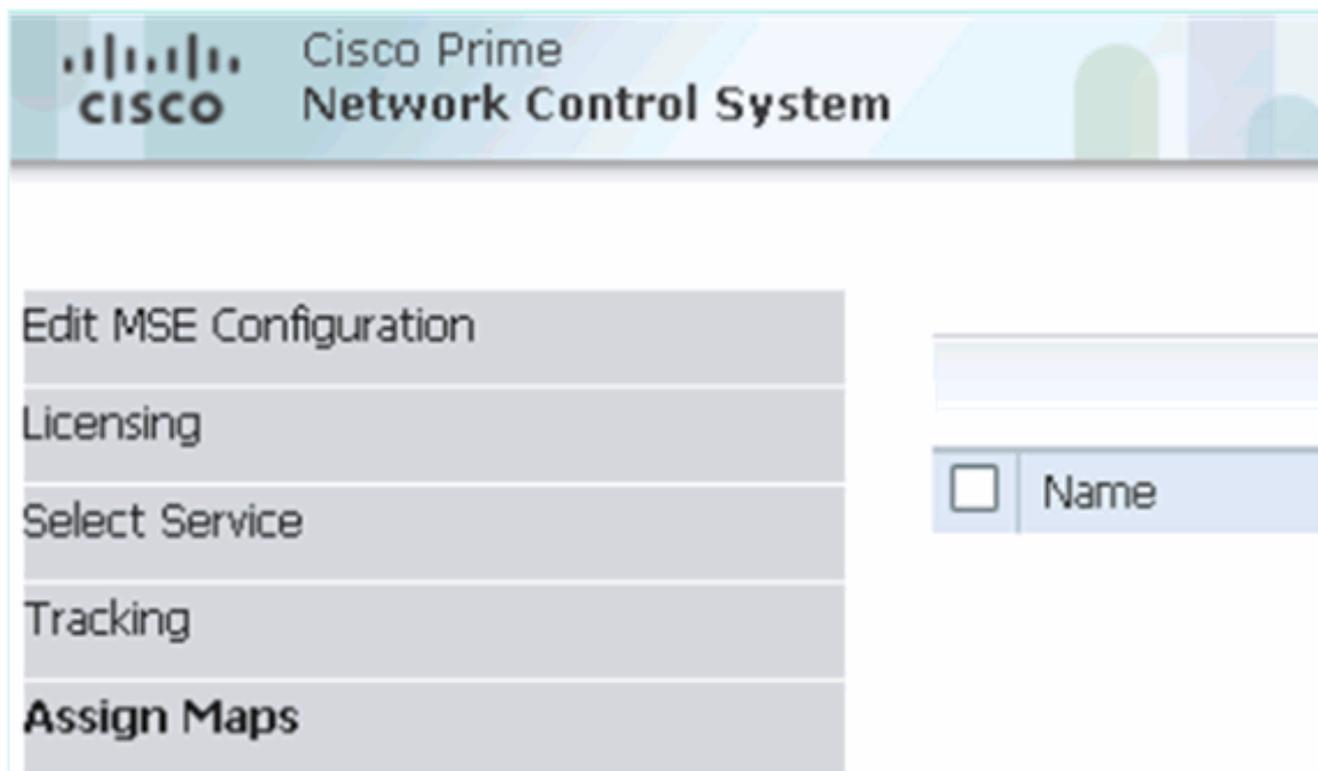
5. Selecione MSE services (Serviços MSE) e clique em **Next (Avançar)**.



6. Ative os parâmetros de rastreamento e clique em **Avançar**.



7. É opcional atribuir mapas e sincronizar serviços MSE. Clique em **Concluído** para concluir a adição do MSE ao NCS.



A próxima captura de tela mostra que o MSE VA primário foi adicionado. Agora, conclua estes passos para adicionar o MSE VA secundário:

1. Localize a coluna Servidor secundário e clique no link para configurar.



2. Adicione o MSE VA secundário usando a configuração neste cenário: Nome do dispositivo secundário - [mse2] Endereço IP secundário - [10.10.10.13] Senha secundária\* - [padrão ou do script de configuração] Tipo de failover\* - [Automático ou Manual] Tipo de retorno\* Longa espera de failover\* Clique **Save**.\* Clique no ícone de informações ou consulte a documentação do MSE, se

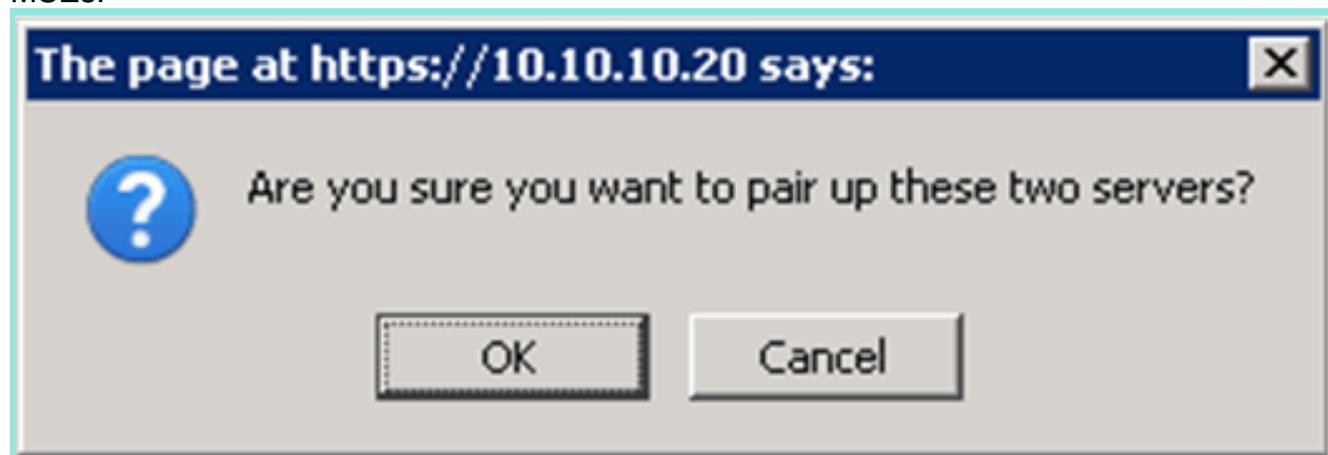
necessário.

**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

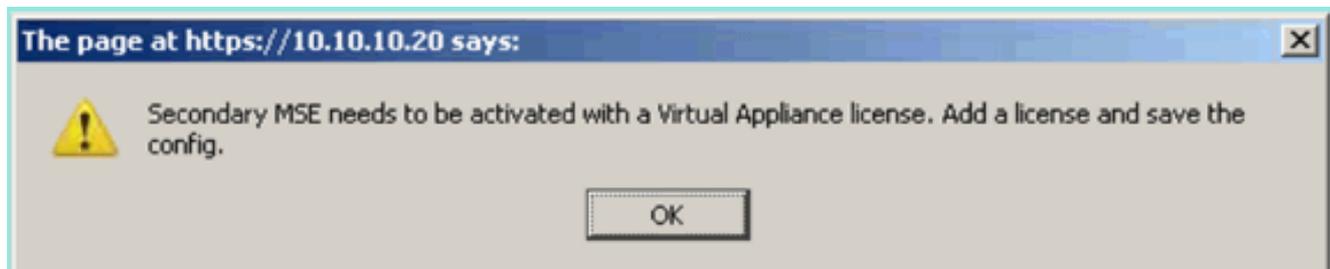
3. Clique em **OK** quando o NCS solicitar o emparelhamento dos dois MSEs.



O NCS leva alguns segundos para criar a configuração.



O NCS perguntará se o MSE VA secundário requer uma licença de ativação (L-MSE-7.0-K9).



4. Clique em **OK** e localize o arquivo de licença para ativar o Secundário.

The image shows a web-based configuration interface for High Availability (HA) parameters. The title is "HA Configuration : mse1". Below the title is a breadcrumb trail: "Services > Mobility Services Engines > System > Services High Availability > Configure High Availability Parameters". The main section is titled "Configuration" and contains several rows of configuration items. Each row has a label on the left and a value or control on the right. The items are: "Primary Health Monitor IP" with value "10.10.10.12"; "Secondary Device Name" with value "mse2"; "Secondary IP Address" with value "10.10.10.13"; "Secondary Password" with a masked input field containing five dots; "Secondary Platform UDI" with value "AIR-MSE-VA-K9:V01:mse2\_666f2046-5699-11e1-b1b1-0050566"; "Secondary Activation Status" with value "Not Activated"; "Activate Secondary with License" with an empty text input field and a "Browse..." button; "Failover Type" with a dropdown menu showing "Automatic"; "Failback Type" with a dropdown menu showing "Manual"; and "Long Failover Wait" with an input field containing "10" and the text "seconds". At the bottom left, there are two buttons: "Save" and "Delete".

5. Depois que o VVA MSE secundário tiver sido ativado, clique em **Salvar** para concluir a configuração.

## 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

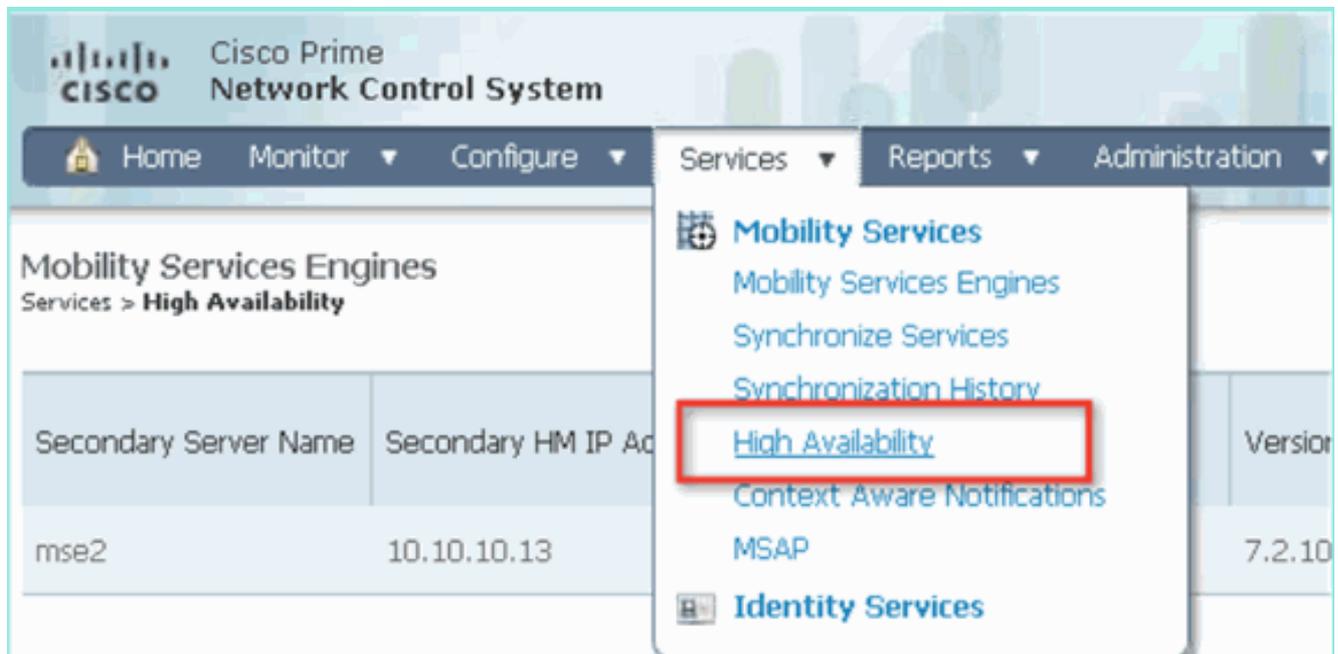
6. Navegue até NCS > Serviços de mobilidade > Mobility Services Engine. O NCS exibe essa tela onde o MSE secundário aparece na coluna para o servidor secundário:

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

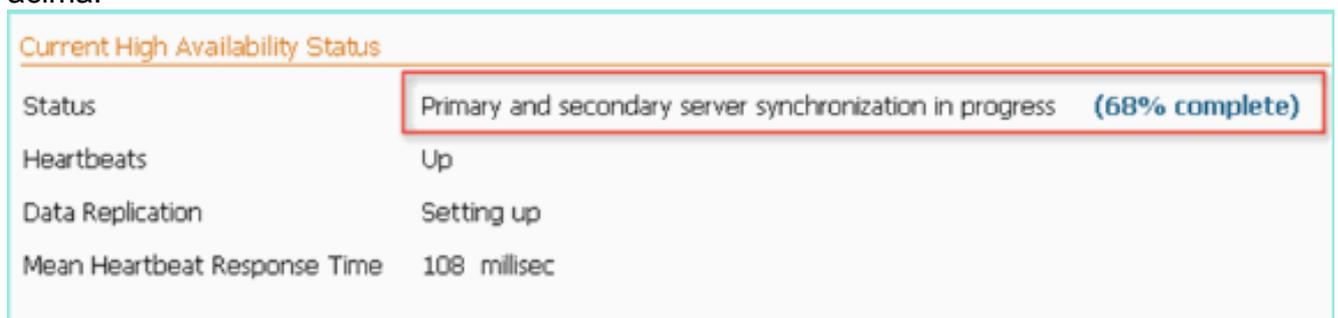
7. Para visualizar o status de Alta disponibilidade, navegue para NCS > Serviços > Alta disponibilidade.



No status de HA, você pode ver o status atual e os eventos pelo par de MSE.



Pode levar alguns minutos para que a sincronização inicial e a replicação de dados sejam configuradas. O NCS fornece a indicação % de progresso até que o par HA esteja totalmente ativo, como mostrado acima.



Um novo comando introduzido com o software MSE versão 7.2 relativo ao HA é **gethainfo**. Esta saída mostra o Primário e o Secundário:

```
[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  
-----
```

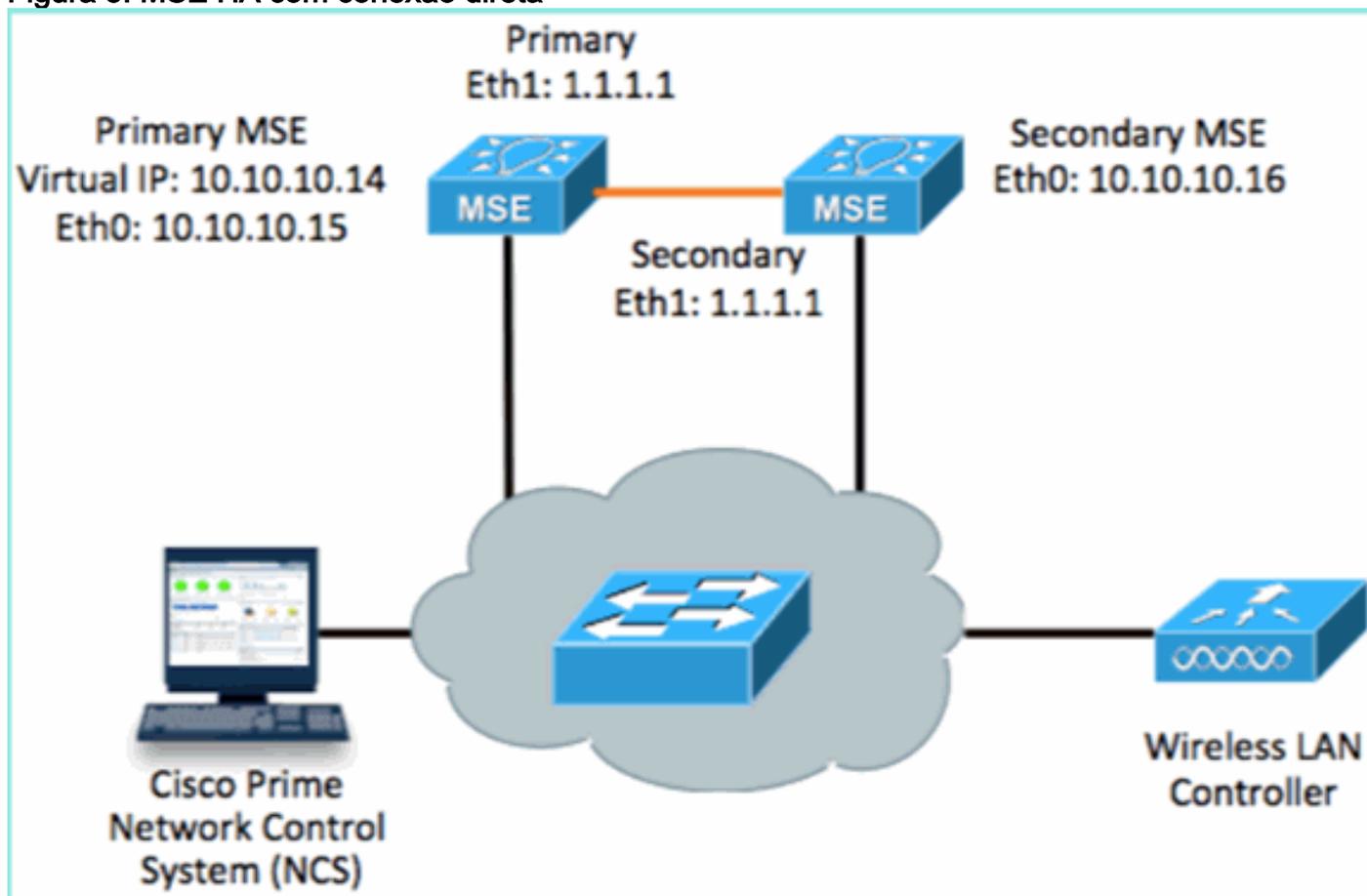
```
Health Monitor IP Address 10.10.10.12  
Virtual IP Address: 10.10.10.11  
Version: 7.2.103.0  
UDI: AIR-MSE-VA-K9:V01:mse1_d5972642-5696-11e1-bd0c-0050568901d6  
Failover type: Manual  
Failback type: Manual  
Failover wait time (seconds): 10  
Instance database name: mseos3  
Instance database port: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

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

## Configuração de HA com conexão direta

O MSE HA conectado à rede usa a rede, enquanto a configuração do Direct Connect facilita o uso de uma conexão de cabo direta entre os servidores MSE primário e secundário. Isso pode ajudar a reduzir as latências nos tempos de resposta de pulsação, replicação de dados e tempo de detecção de falhas. Para esse cenário, um MSE físico primário se conecta a um MSE secundário na interface eth1, como visto na figura 5. Observe que Eth1 é usado para a conexão direta. É necessário um endereço IP para cada interface.

Figura 5: MSE HA com conexão direta



### 1. Configure o MSE principal. Resumo da configuração do script de configuração:

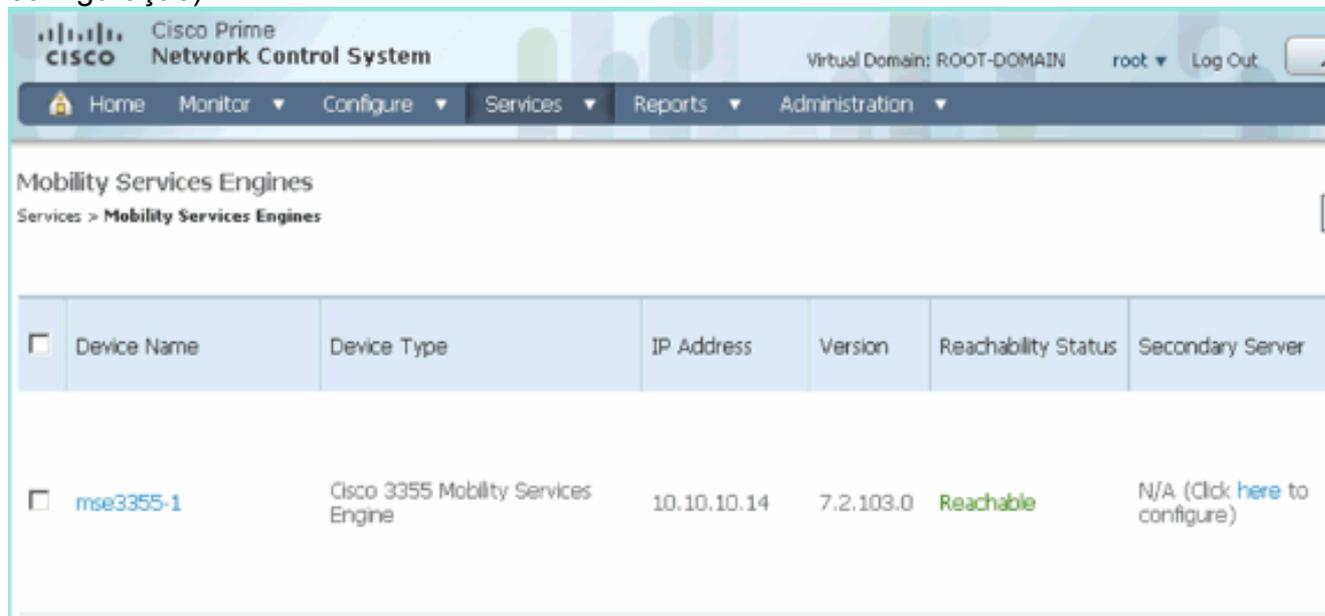
```
-----BEGIN-----  
Host name=mse3355-1  
Role=1 [Primary]  
Health Monitor Interface=eth0  
Direct connect interface=eth1  
Virtual IP Address=10.10.10.14  
Virtual IP Netmask=255.255.255.0  
Eth1 IP address=1.1.1.1  
Eth1 network mask=255.0.0.0  
Default Gateway =10.10.10.1  
-----END-----
```

### 2. Configure o MSE secundário. Resumo da configuração do script de configuração:

```
-----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. Adicione o MSE primário ao NCS (consulte exemplos anteriores ou consulte o guia de configuração).



<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. Configure o MSE secundário do NCS > configure o servidor secundário. Insira o nome do dispositivo secundário - [mse3355-2] Endereço IP secundário - [10.10.10.16] Preencha os parâmetros restantes e clique em **Salvar**.

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

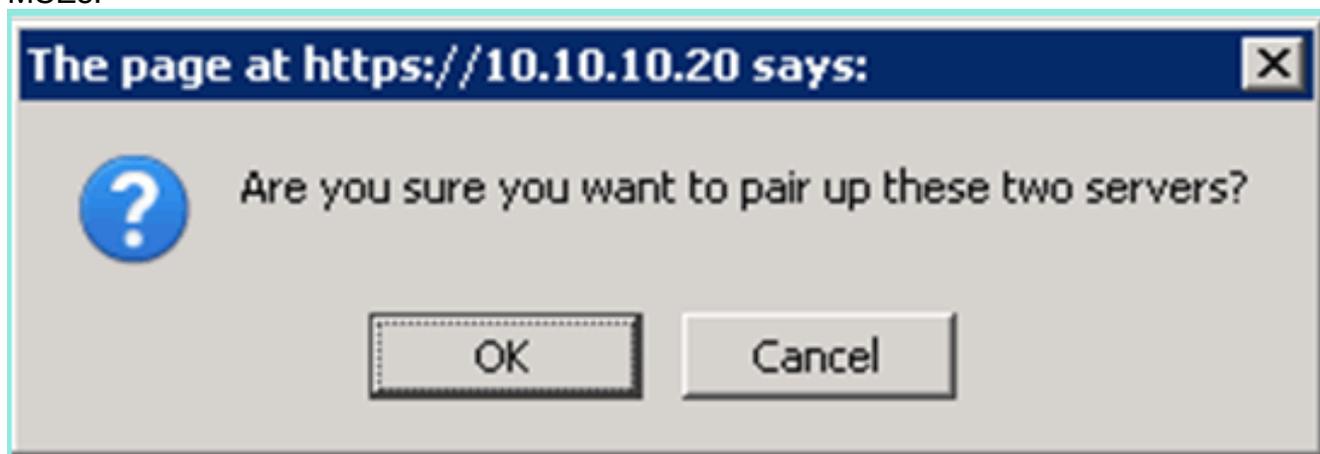
### HA Configuration : mse3355-1

Services > Mobility Services Engines > System > Services High Availability

#### Configure High Availability Parameters

Primary Health Monitor IP	10.10.10.15
Secondary Device Name	<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

5. Clique em **OK** para confirmar o emparelhamento dos dois MSEs.



O NCS leva alguns minutos para adicionar a configuração do servidor secundário.



6. Quando concluído, faça as alterações nos parâmetros HA. Click **Save**.

## 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. Veja o status de HA para o progresso em tempo real do novo par de HA do MSE.

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 msec

**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. Em NCS > Serviços > Serviços de mobilidade > Mobility Services Engines, confirme se o HA do MSE (conexão direta) foi adicionado ao NCS.

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 displays 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	mse3355-2

9. No console, a confirmação também pode ser vista com o comando **gethainfo**. Aqui estão a saída primária e secundária:

```
[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
```

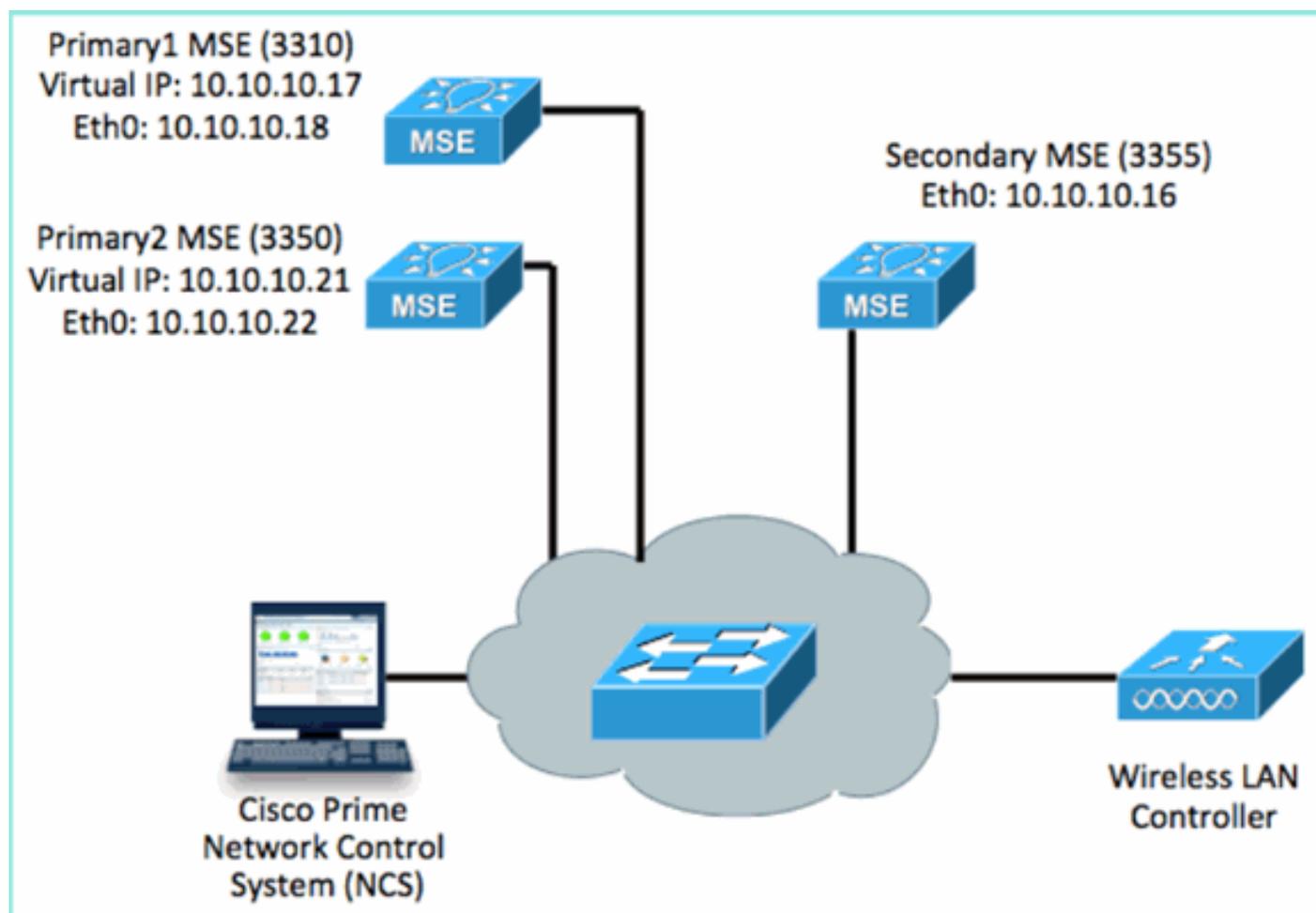
```
Health Monitor IP Address: 10.10.10.16
Virtual IP Address: Not Applicable for a secondary
Version: 7.2.103.0
UDI: AIR-MSE-3355-K9:V01:KQ45xx
Number of paired peers: 1
```

```
-----
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
```

## Cenário de configuração de HA para MSE Physical Appliance

Com base na matriz de emparelhamento, o máximo na configuração de HA é 2:1. Isso é reservado para o MSE-3355, que no modo secundário pode suportar um MSE-3310 e MSE-3350. A conexão direta não é aplicável neste cenário.



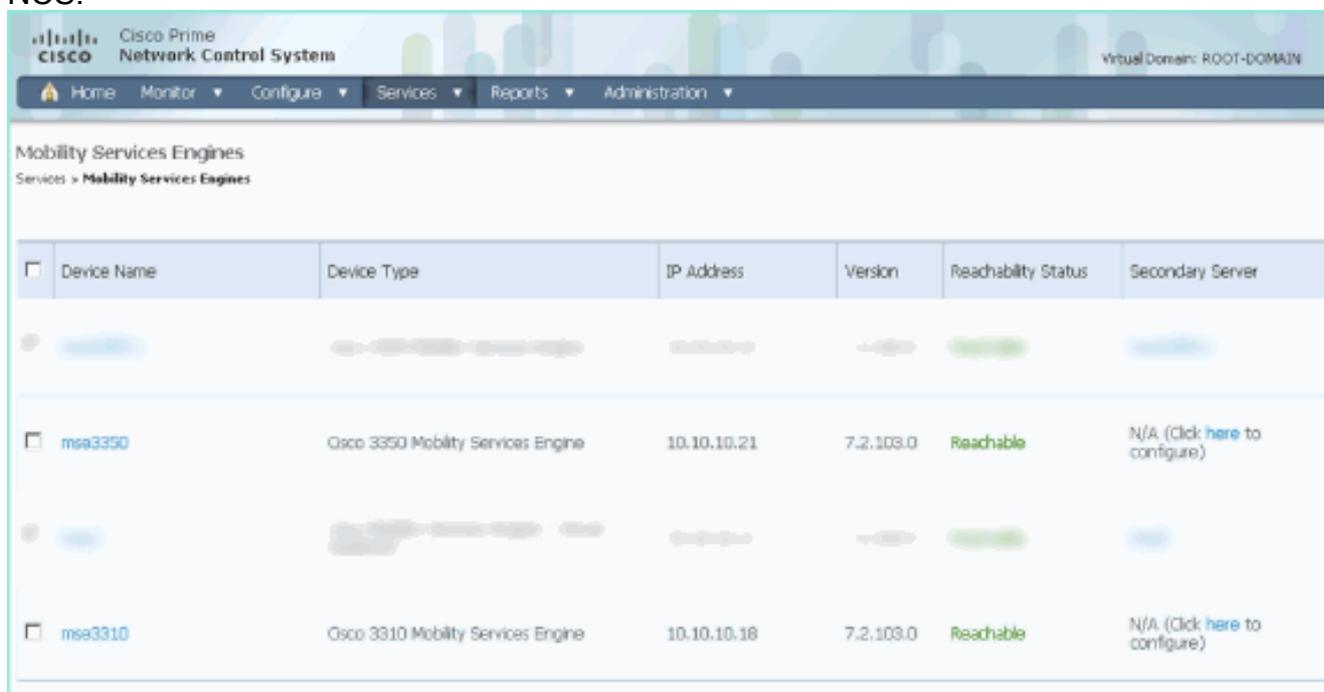
## 1. Configure cada um desses MSEs para demonstrar o cenário HA 2:1:

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. Depois que todos os MSEs estiverem configurados, adicione Primary1 e Primary2 ao 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 <a href="#">here</a> to configure)
<input type="checkbox"/>	mse3350	Cisco 3350 Mobility Services Engine	10.10.10.21	7.2.103.0	Reachable	N/A (Click <a href="#">here</a> to configure)
<input type="checkbox"/>	mse3355	Cisco 3355 Mobility Services Engine	10.10.10.16	7.2.103.0	Reachable	N/A (Click <a href="#">here</a> to configure)

## 3. Clique para configurar o servidor secundário (como mostrado nos exemplos anteriores). Comece com um dos MSEs primários.

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. Insira os parâmetros para o MSE secundário: Nome do dispositivo secundário: por exemplo, [mse-3355-2] Endereço IP secundário - [10.10.10.16] Preencha os parâmetros restantes. Click **Save**.

**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. Aguarde um breve momento para que a primeira entrada secundária seja configurada.

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



6. Confirme se o servidor secundário foi adicionado ao primeiro MSE primário.

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. Repita as etapas 3 a 6 para o segundo MSE primário.

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. Finalize com parâmetros HA para o segundo MSE primário.

### 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. Salve as configurações.

### 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-██████████
Failover Type ⓘ	<input type="text" value="Manual"/> ▼
Failback Type ⓘ	<input type="text" value="Manual"/> ▼
Long Failover Wait ⓘ	<input type="text" value="10"/> seconds

10. Verifique o status do progresso de cada um dos MSEs primários.

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

11. Confirme se os MSEs Primário1 e Primário2 estão configurados com um MSE Secundário.

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	10.10.10.10	7.2.103.0	Reachable	mse3355-2

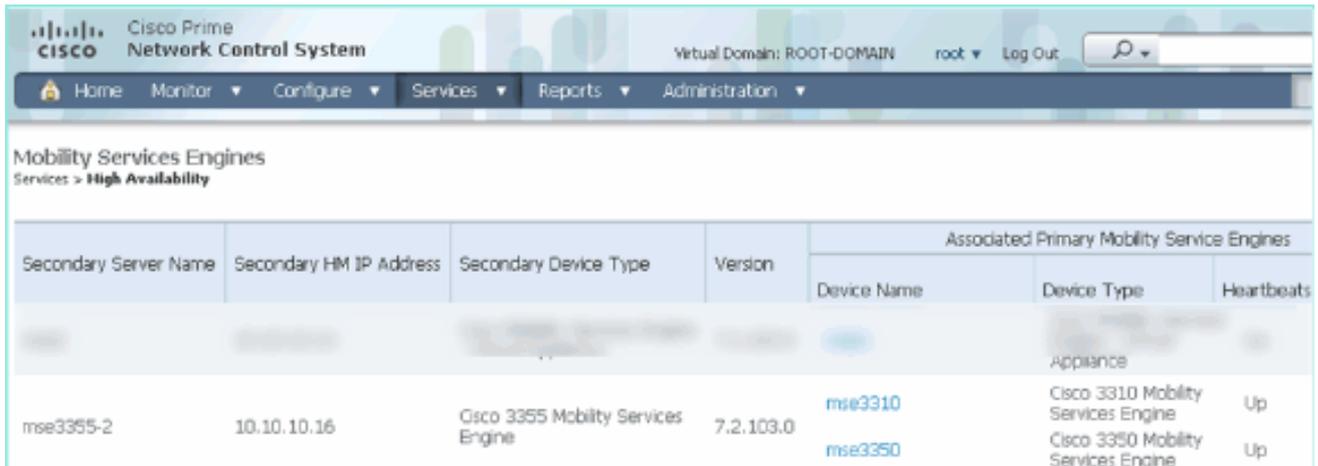
12. Em NCS > Serviços > Serviços de mobilidade, escolha **Alta disponibilidade**.

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

Observe que 2:1 é confirmado para MSE-3355 como secundário para MSE-3310 e 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 two secondary servers: mse3355-2 and mse3350-2. mse3355-2 is associated with mse3310 and mse3350, both of which are Cisco 3310 and 3350 Mobility Services Engines respectively, and both are 'Up'.

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

Aqui está um exemplo de saída da configuração de HA do console de todos os três MSEs quando o comando **gethainfo** é usado:

```
[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

A validação final para HA no NCS mostra o status como totalmente Ativo para MSE-3310 e 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 for mse3310**

The interface shows the "HA Configuration : mse3310" page. The left sidebar lists various system settings, with "HA Status" selected. The main content area displays the "Current High Availability Status" and an "Events Log".

Parameter	Status
Status	Active
Heartbeats	Up
Data Replication	Up
Mean Heartbeat Response Time	5 msec

**Events Log for mse3310:**

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 for mse3350**

The interface shows the "HA Configuration : mse3350" page. The left sidebar lists various system settings, with "HA Status" selected. The main content area displays the "Current High Availability Status" and an "Events Log".

Parameter	Status
Status	Active
Heartbeats	Up
Data Replication	Up
Mean Heartbeat Response Time	4 msec

**Events Log for mse3350:**

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

## Troubleshooting Básico de MSE HA

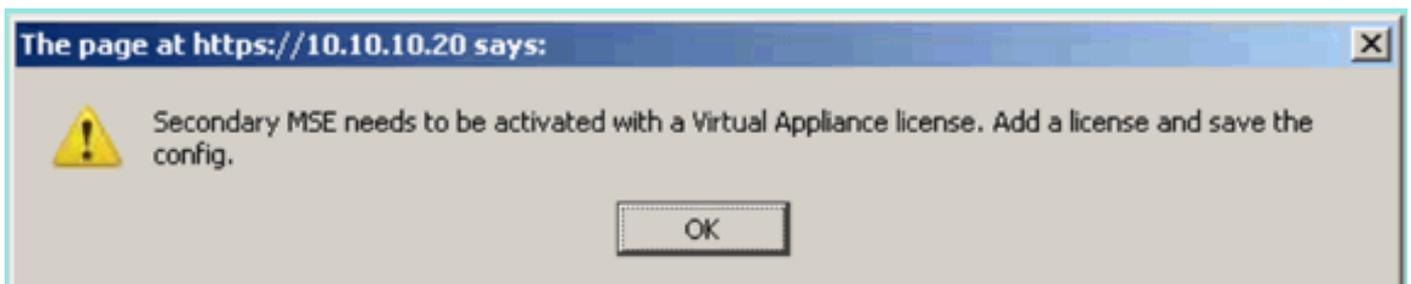
Ao adicionar o MSE secundário, você pode ver um prompt como este:



É possível que tenha havido um problema durante o script de configuração.

- Execute o comando **getserverinfo** para verificar as configurações de rede adequadas.
- Também é possível que os serviços não tenham começado. Execute o comando **/init.d/mseed start**.
- Execute o script de configuração novamente, se necessário (**/mse/setup/setup.sh**) e salve no final.

O Virtual Appliance para MSE também exige uma licença de ativação (L-MSE-7.0-K9). Caso contrário, o NCS avisa ao adicionar o VA MSE secundário. Obtenha e adicione a licença de ativação para o MSE VA.



Se estiver alternando a função de HA no MSE, certifique-se de que os serviços estejam totalmente parados. Portanto, pare os serviços com o comando **/init.d/mseed stop** e execute o script de configuração novamente (**/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]#
```

Use o comando **gethainfo** para *Obter Informações de Alta Disponibilidade* no MSE. Isso fornece informações úteis na solução de problemas ou no monitoramento do status e das alterações do HA.

```
[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
-----
```

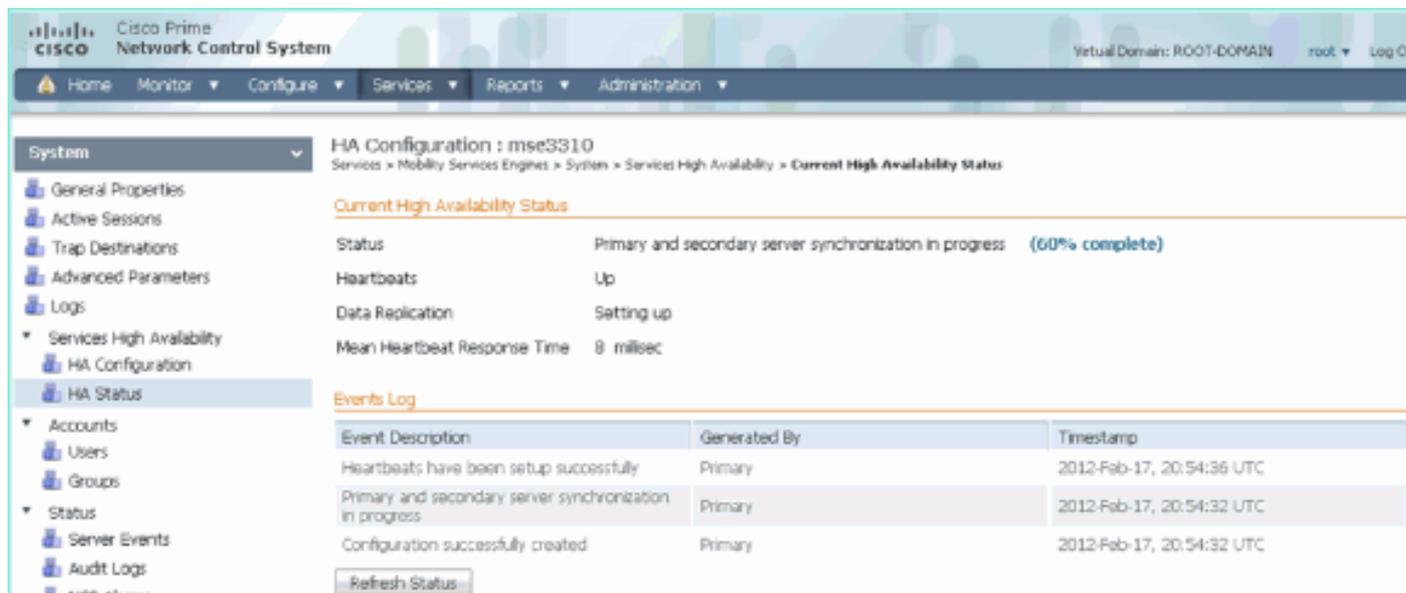
```
Health Monitor IP Address 10.10.10.22
Virtual IP Address: 10.10.10.21
Version: 7.2.103.0
UDI: AIR-MSE-3350-K9:V01:MXQ839xx
Failover type: Manual
Failback type: Manual
Failover wait time (seconds): 10
Instance database name: mseos3
Instance database port: 1524
Dataguard configuration name: dg_mse3
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

Além disso, o NCS High Availability View é uma excelente ferramenta de gerenciamento para obter visibilidade da configuração do HA para o MSE.



The screenshot shows the Cisco Prime Network Control System (NCS) interface. The top navigation bar includes 'Home', 'Monitor', 'Configure', 'Services', 'Reports', and 'Administration'. The left sidebar contains a 'System' menu with options like 'General Properties', 'Active Sessions', 'Trap Destinations', 'Advanced Parameters', 'Logs', 'Services High Availability', 'Accounts', 'Users', 'Groups', 'Status', 'Server Events', and 'Audit Logs'. The main content area is titled 'HA Configuration : mse3310' and shows the 'Current High Availability Status' for 'mse3310'. The status is 'Primary and secondary server synchronization in progress (60% complete)'. Other details include 'Heartbeats: Up', 'Data Replication: Setting up', and 'Mean Heartbeat Response Time: 8 msec'. Below this is an 'Events Log' table with columns for 'Event Description', 'Generated By', and 'Timestamp'.

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

## Informações Relacionadas

- [Guia de configuração do MSE \(Virtual and Physical Appliance\)](#)
- [Configuração de alta disponibilidade do MSE](#)
- [Pedido](#)
- [Suporte Técnico e Documentação - Cisco Systems](#)