

# Performance Management 2.x Disaster/Recovery procedure

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## Step One – Install PM components in secondary environment

### *Vertica*

Install Vertica on the secondary environment to mimic the primary environment's Vertica installation:

- Have the same number of nodes the source cluster.
- Have a database with the same name as the source database.
- Have the same node names as the source cluster. The nodes names listed in the [NODES](#) system tables on both clusters must match.
- Be accessible from the source(Primary) cluster. You may need to add the hostnames of the target cluster to the hosts file of the source cluster. See [Configure Hostname Resolution](#) in the Installation Guide for more information.
- Have the same [database administrator](#) account, and all nodes must allow a database administrator of the source cluster to login through SSH without a password.
  - To set this up run the following command:  
ssh-copy-id -i dradmin@<target>
  - This needs to be run against all target nodes

Note: Having passwordless access *within* the cluster is not the same as having passwordless access *between* clusters. The SSH ID of the administrator account on the source cluster is likely not the same as the SSH ID of the administrator account on the target cluster. You need to configure each host in the target cluster to accept the SSH authentication of the source cluster. See [Configuring Backup Hosts](#) for more information.

### *Data Aggregator*

Install DA and point it to the secondary Vertica cluster.

### *Data Collector(s)*

When installing DC(s) in secondary env., make sure you use the primary DC's DCM-ID.

Follow these steps:

1. Get DCMID of primary DC(s)  
Go to [http://DA\\_HOST:8581/rest/dcms](http://DA_HOST:8581/rest/dcms)  
Note down all <DcmID> values.

Example:

```
▼<DataCollectionMgrInfoList>
  ▼<DataCollectionMgrInfo version="1.0.0">
    <ID>394</ID>
    <CollectorState>RUNNING</CollectorState>
    <IPAddress>10.130.232.24</IPAddress>
    ▼<DcmID>
      ratki01-U121951:285892fb-a3fc-4a95-92cf-4c9f7dbac1fc
    </DcmID>
    <TenantName>Default Tenant</TenantName>
    <IPAddressType>4</IPAddressType>
    <HostName>ratki01-U121951</HostName>
    ▶<ProtocolCollectorStateGroupList>...</ProtocolCollectorStateGroupList>
    <RelatedDeviceItem>398</RelatedDeviceItem>
    <Enabled>>true</Enabled>
    ▶<IsAlso>...</IsAlso>
    ▶<NormalizedDCMHealthInfo version="1.0.0">...</NormalizedDCMHealthInfo>
    ▶<Versions version="1.0.0">...</Versions>
    ▶<Item version="1.0.0">...</Item>
    ▶<IPDomainMember version="1.0.0">...</IPDomainMember>
  </DataCollectionMgrInfo>
</DataCollectionMgrInfoList>
```

2. On Secondary (DR site) DCs export the DCMID:
  - export DCM\_ID=data collector id  
Example: export DCM\_ID=ratki01-U121951:285892fb-a3fc-4a95-92cf-4c9f7dbac1fc
3. From the same session, install the Data Collector by running the install.bin binary.  
Perform these steps for each Data Collector in the secondary environment.
4. After installation is complete, stop the Data Collector service.
  - /etc/init.d/dcmd stop

### *CA Performance Center*

- Install CA Performance as performed on the primary environment.
- Do not configure LDAP integration or HTTPS on secondary environment.

## Step Two – Export data and configuration from primary environment Import data and configuration into secondary environment

### Vertica

Configuring the Target Cluster (From Vertica doc).

Configure the target to allow the source database (Primary) to connect to it and restore the database. The target cluster must:

- Have the same number of nodes the source cluster.
- Have a database with the same name as the source database. The target database can be completely empty.
- Have the same node names as the source cluster. The nodes names listed in the [NODES](#) system tables on both clusters must match.
- Be accessible from the source cluster. You may need to add the hostnames of the target cluster to the hosts file of the source cluster. See [Configure Hostname Resolution](#) in the Installation Guide for more information.
- Have the same [database administrator](#) account, and all nodes must allow a database administrator of the source cluster to login through SSH without a password.
  - To set this up run the following command:  
ssh-copy-id -i dradmin@<target>  
(make sure you have su to dradmin and then run this command).
  - This needs to be run against all target nodes

Note: Having passwordless access *within* the cluster is not the same as having passwordless access *between* clusters. The SSH ID of the administrator account on the source cluster is likely not the same as the SSH ID of the administrator account on the target cluster. You need to configure each host in the target cluster to accept the SSH authentication of the source cluster. See [Configuring Backup Hosts](#) for more information.

- Have adequate disk space for the `vbr.py --task copycluster` command to complete.

## On Primary Vertica Cluster

1. Create ini file for vbr.py script to look something similar:

```
[Misc]
snapshotName = <SNAPSHOT NAME>
tempDir = <TEMP DIR>
restorePointLimit = 5
verticaConfig = False
retryCount = 5
retryDelay = 1
[Database]
dbName = <DATABASE NAME>
dbUser = <DB USER – eg: dradmin>
dbPassword = <DB PASSWORD>
dbPromptForPassword = False
[Transmission]
encrypt = False
checksum = False
port_rsync = 50000
bwlimit = 0
hardLinkLocal = False
[Mapping0]
dbNode = v_vertdb_node0001
backupHost = <SECONDARY VERTICA CLUSTER NODE 1 IP>
; backupDir not used for cluster copy
; backupDir = /home/dbadmin/backups
[Mapping1]
dbNode = v_vertdb_node0002
backupHost = <SECONDARY VERTICA CLUSTER NODE 2 IP>
; backupDir = /home/dbadmin/backups
[Mapping2]
dbNode = v_vertdb_node0003
backupHost = <SECONDARY VERTICA CLUSTER NODE 3 IP>
; backupDir = /home/dbadmin/backups
```

```
[root@ratki01-U121946 ~]# cd /opt/vertica/bin/
[root@ratki01-U121946 bin]# su dradmin
[dradmin@ratki01-U121946 bin]$ ls
adminTools          help                vertica
adminTools          lchk.sh            verticaInstall.py
bootstrap-catalog  manageTupleMover  vertica-udx-C++
check-auth-config   netverify          vertica-udx-C++.map
clustercopy.ini     passwd.py          vertica-udx-zygote
d237f83d0a61c3594829a574c63530b.dat  psql              vertica-udx-zygote.map
DBname.py          rsync              vsql
DBname.pyc         TXI1lcheck.py    vstack
diagnostics        validators.sh
dialog             vbr.py
```

```
[dradmin@ratki01-U121946 bin]$ pwd
/opt/vertica/bin
[dradmin@ratki01-U121946 bin]$ █
```



2. Enter into the vsql prompt.

```
[root@ratki01-U121952 ~]# su dradmin
[dradmin@ratki01-U121952 root]$ /opt/vertica/bin/vsql
Password:
Welcome to vsql, the Vertica Analytic Database interactive terminal.

Type: \h or \? for help with vsql commands
      \g or terminate with semicolon to execute query
      \q to quit

dradmin=>
```

3. Update the following row in the item table on the secondary vertica cluster to reflect the secondary DA IP.

Table: item  
WF - DR - Secondary - Vertica/vertdb/dauser/TABLE/item

item_id	item_type_qname_id	tenant_item_id	item_name	item_display_name
4	4	282	(null) (null)	(null)
5	5	282	(null) Global Retention Definition	(null)
6	6	282	(null) Data Loader Statistics Configuration Options	(null)
7	7	282	DataAggregator: 10.130.233.41	DataAggregator: 10.130.233.41
8	8	282	(null) Rollup Configuration Options	(null)

Table: item  
WF - DR - Secondary - Vertica/vertdb/dauser/TABLE/item

item_id	item_type_qname_id	tenant_item_id	item_name	item_display_name
4	4	282	(null) (null)	(null)
5	5	282	(null) Global Retention Definition	(null)
6	6	282	(null) Data Loader Statistics Configuration Options	(null)
7	7	282	DataAggregator: 10.130.233.194	DataAggregator: 10.130.233.194
8	8	282	(null) Rollup Configuration Options	(null)

Here are SQL queries to run to identify this entry and update it:

- `select * from <dbUser>.item where item_name like 'DataAggregator%';`  
Note down the item\_id for this entry.
- `update <dbUser>.item SET item_name='DataAggregator:<Secondary_DA>',  
item_display_name='DataAggregator:<Secondary_DA>' where  
item_id=<item_id_from_select>;`

- Update all the entries in the item table on the secondary vertica cluster that contain DC hostname(s) to reflect the secondary DC hostname(s).

Example:

The image shows two screenshots of a database interface for a table named 'Table: item'. The top screenshot shows the table data with columns: item\_id, item\_type\_qname\_id, tenant\_item\_id, item\_name, and item\_display\_name. Rows 393-399 are visible. Row 394 has item\_name 'ratki01-U121951 - DCM0' and item\_display\_name '(null)'. Row 398 has item\_name 'ratki01-U121951.ca.com' and item\_display\_name 'ratki01-U121951.ca.com'. The bottom screenshot shows the same table after an update. Row 394 now has item\_name 'ratki01-U12222 - DCM0' and item\_display\_name '(null)'. Row 398 now has item\_name 'ratki01-U12222.ca.com' and item\_display\_name 'ratki01-U12222.ca.com'. Blue arrows indicate the mapping from the old values to the new ones.

Here are SQL commands to run to identify these entries and update them:

- ```
select * from dauser.item where item_name like '%- DCM0';
```

Note down the item\_id for these entries.
- ```
update <dbUser>.item SET item_name='<Secondary_DC> - DCM0' where item_id=<item_id_from_select>;
```
- ```
select * from dauser.item where item_name like '<Primary_DC >';
```

Perform the above select statement against each DC hostname in the primary environment.
- ```
update <dbUser>.item SET item_name='<Secondary_DC>', item_display_name='<Secondary_DC>' where item_id=<item_id_from_select>;
```

- Update the DC IP address(s) and hostname(s) in the device table so they have the secondary DC hostname(s) and IP address(s).

```

dradmin=> select item_id,hostname,V6_NTOA(primary_ip_address) from dauser.device where hostname like 'ratki01%';
item_id | hostname | V6_NTOA
-----+-----+-----
398 | ratki01-U121951.ca.com | 10.130.232.24
(1 row)

dradmin=> update dauser.device SET hostname='ratki01-U122222.ca.com', primary_ip_address=V6_ATON('10.130.226.73')
where item_id=398;
OUTPUT
-----
1
(1 row)

dradmin=> select item_id,hostname,V6_NTOA(primary_ip_address) from dauser.device where hostname like 'ratki01%';
item_id | hostname | V6_NTOA
-----+-----+-----
398 | ratki01-U122222.ca.com | 10.130.226.73
(1 row)

```

Here are SQL commands to run to identify these entries and update them:

- `select item_id,hostname,V6_NTOA(primary_ip_address) from dauser.device where hostname like '<Primary_DC_Hostname>';`  
Perform the above select statement against each DC hostname in the primary environment and note down the item\_id.
- `update dauser.device SET hostname='<Secondary_DC_hostname>', primary_ip_address=V6_ATON('<Secondary_DC_IP>') where item_id=<item_id_from_select>;`

- Update the IP address of item\_id 7 in the device table so that it has the secondary DA IP.

```

dradmin=> select item_id,V6_NTOA(primary_ip_address) from dauser.device where item_id=7;
item_id | V6_NTOA
-----+-----
7 | 127.0.1.1
(1 row)

dradmin=> update dauser.device SET primary_ip_address=V6_ATON('10.130.233.194') where item_id=7;
OUTPUT
-----
1
(1 row)

dradmin=> select item_id,V6_NTOA(primary_ip_address) from dauser.device where item_id=7;
item_id | V6_NTOA
-----+-----
7 | 10.130.233.194
(1 row)

```

Here is the SQL query to run:

- `update dauser.device SET primary_ip_address=V6_ATON('<Secondary_DA_IP>') where item_id=7;`

- Run COMMIT to make all updates that have been performed permanent.

```

dradmin=> commit;
COMMIT
dradmin=>

```

**\*\*Note:** Keep DA services stopped on secondary DA server.

## CA Performance Center

- You will need to export and import the MySQL databases.
- Update certain entries in the netqosportal and em databases.

### On primary CAPC node:

1. Export the netqosportal db:  
`/opt/CA/MySQL/bin/mysqldump netqosportal > $backupDir/netqosportal.sql`
2. Export the event db:  
`/opt/CA/MySQL/bin/mysqldump em > $backupDir/em.sql`

### On secondary CAPC node:

1. Copy exported netqosportal and em db files over to secondary CAPC
2. Stop all CAPC services:
  - a. `/etc/init.d/caperfcenter_devicemanager stop`
  - b. `/etc/init.d/caperfcenter_eventmanager stop`
  - c. `/etc/init.d/caperfcenter_console stop`
  - d. `/etc/init.d/caperfcenter_sso stop`
3. Import netqostport db:
  - `mysql -u netqos -p netqosportal < /$dir_path/netqosportal.sql`  
(requested password: netqos)
4. Import event db:
  - `mysql -u netqos -p em < /$dir_path/em.sql`  
(requested password: netqos)
5. On the secondary CAPC server, get into the mysql prompt and change the database to netqosportal.

```
[root@ratki01-U122221 opt]# mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 36
Server version: 5.6.10-enterprise-commercial-advanced MySQL Enterprise Server - Advanced Edition (Commercial)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use netqosportal;
Database changed
mysql>
```

- On secondary netqosportal db, update the following columns in the data\_sources2 table to reflect the new ips/hostnames in the secondary environment.

ConsoleName column:

EventManager@<Primary\_EventManager> → EventManager@<Secondary\_EventManager>

Data Aggregator@<Primary\_DataAggregator> → Data Aggregator@<Secondary\_DataAggregator>

ConsoleHost and Host column:

Update these columns with the correct details associated with the corresponding data source in the secondary environment.

Example:

Table: data\_sources2  
WF - DR - Secondary - CAPC/netqosportal/TABLE/data\_sources2

SourceID	SourceType	SourceGUID	ConsoleName	ConsoleHost	ConsolePort	ConsoleProtocol	Host	Port
0	16	72ef7a3a-d5e9-4461-9de0-7076c6cd7ee0	CA Performance Center	10.130.233.207	8182	http	10.130.233.207	8481
2	1024	26c525fdc06e4c4bb4e579e54ace8547	EventManager@10.130.233.207	10.130.233.207	8281	http	10.130.233.207	8281
3	262144	8a533e9af4764892b6e4a0015e493099	Data Aggregator@10.130.233.41	10.130.233.41	8581	http	10.130.233.41	8581

Table: data\_sources2  
WF - DR - Secondary - CAPC/netqosportal/TABLE/data\_sources2

SourceID	SourceType	SourceGUID	ConsoleName	ConsoleHost	ConsolePort	ConsoleProtocol	Host	Port
0	16	72ef7a3a-d5e9-4461-9de0-7076c6cd7ee0	CA Performance Center	10.130.227.120	8182	http	10.130.227.120	8481
2	1024	26c525fdc06e4c4bb4e579e54ace8547	EventManager@10.130.227.120	10.130.227.120	8281	http	10.130.227.120	8281
3	262144	8a533e9af4764892b6e4a0015e493099	Data Aggregator@10.130.233.194	10.130.233.194	8581	http	10.130.233.194	8581

Run the following SQL queries on the mysql prompt to update these entries:

- `update data_sources2 SET ConsoleName='EventManager@<Secondary_EventManager>', ConsoleHost='<Secondary_EventManager>', Host='<Secondary_EventManager_IP>' where ConsoleName like 'EventManager%';`
- `update data_sources2 SET ConsoleName='Data Aggregator@<Secondary_DA>', ConsoleHost='<Secondary_DA>', Host='<Secondary_DA>' where ConsoleName like 'Data Aggregator%';`
- `update data_sources2 SET ConsoleHost='<Secondary_CAPC>', Host='<Secondary_CAPC>' where ConsoleName like 'CA Performance Center';`

- On secondary netqosportal db, update the following columns in the performance\_center\_properties table to reflect the ip/hostname in the secondary environment.

Example:

Table: performance\_center\_properties

WF - DR - Secondary - CAPC/netqosportal/TABLE/performance\_center\_properties

PropName	Priority	PropValue
SAML2IdpSessionTimeout	0	0
SsoLocalhostUserId	0	1
NpcWebServiceHost	0	10.130.233.207
NpcWebSiteHost	0	10.130.233.207
LDAPTimeout	0	10000

  

Table: performance\_center\_properties

WF - DR - Secondary - CAPC/netqosportal/TABLE/performance\_center\_properties

PropName	Priority	PropValue
SAML2IdpSessionTimeout	0	0
SsoLocalhostUserId	0	1
NpcWebServiceHost	0	10.130.227.120
NpcWebSiteHost	0	10.130.227.120
LDAPTimeout	0	10000

Run the following SQL queries on the mysql prompt to update these entries:

- update performance\_center\_properties SET PropValue='<Secondary\_CAPC>' where PropName like 'NpcWebServiceHost';*
- update performance\_center\_properties SET PropValue='<Secondary\_CAPC>' where PropName like 'NpcWebSiteHost';*

- Now change databases to use the em database.

```
mysql> use em;
Database changed
mysql>
```

- On secondary em db, update the following columns in the data\_sources table to reflect the ip/hostname in the secondary environment.

ConsoleName	Host	Enabled	SourceName	IDataSource	IEventProducer
93099 Data Aggregator@10.130.233.41	10.130.233.41	Y	Data Aggregator	http://10.130.233.41:8581/DataSourceWS	http://10.130.233.41:8581/EventProducerWS
1099 Data Aggregator@10.130.233.194	10.130.233.194	Y	Data Aggregator	http://10.130.233.194:8581/DataSourceWS	http://10.130.233.194:8581/EventProducerWS

Run the following SQL query on the mysql prompt to update these entries:

- `update data_sources SET ConsoleName='Data Aggregator@<Secondary_DA>', Host='<Secondary_DA>', IDataSource='http://<Secondary_DA>:8581/DataSourceWS', IEventProducer='http://<Secondary_DA>:8581/EventProducerWS';`

10. On secondary em db, update the following columns in the performance\_center\_properties table to reflect the ip/hostname in the secondary environment.

The image shows three sequential screenshots of a database table named 'performance\_center\_properties' in a tool like SQL Enterprise Manager. The table has columns: PropName, Priority, and PropValue. The first screenshot shows the initial state where PropValue for NpcWebServiceHost, NpcWebSiteHost, and DS.ConsoleHost is '10.130.233.207'. The second screenshot shows these values updated to '10.130.227.120'. The third screenshot shows the DS.ConsoleName property updated from 'EventManager@10.130.233.207' to 'EventManager@10.130.227.120'. Blue arrows indicate the flow of updates between the screenshots.

PropName	Priority	PropValue
SsoLocalhostUserId	1	1
NpcWebServiceHost	1	10.130.233.207
NpcWebSiteHost	1	10.130.233.207
DS.ConsoleHost	1	10.130.233.207
LDAPTimeout	1	10000

  

PropName	Priority	PropValue
SsoLocalhostUserId	1	1
NpcWebServiceHost	1	10.130.227.120
NpcWebSiteHost	1	10.130.227.120
DS.ConsoleHost	1	10.130.227.120
LDAPTimeout	1	10000

  

PropName	Priority	PropValue
SsoEncryptionAlgorithm	1	DES
DS.ConsoleName	1	EventManager@10.130.233.207
LdapEncryption	0	false

  

PropName	Priority	PropValue
SsoEncryptionAlgorithm	1	DES
DS.ConsoleName	1	EventManager@10.130.227.120
LdapEncryption	0	false

Run the following SQL queries on the mysql prompt to update these entries:

- `update performance_center_properties SET PropValue='<Secondary_CAPC>' where PropName like 'NpcWebServiceHost';`
- `update performance_center_properties SET PropValue='<Secondary_CAPC>' where PropName like 'NpcWebSiteHost';`
- `update performance_center_properties SET PropValue='<Secondary_CAPC>' where PropName like 'DS.ConsoleHost';`

- `update performance_center_properties SET PropValue='EventManager@<Secondary_EventManager>' where PropName like 'DS.ConsoleName';`

11. Type 'exit' to leave the mysql prompt.

12. Start all CAPC services on secondary CAPC node:

- a. `/etc/init.d/caperfcenter_devicemanager start`
- b. `/etc/init.d/caperfcenter_eventmanager start`
- c. `/etc/init.d/caperfcenter_console start`
- d. `/etc/init.d/caperfcenter_sso start`

13. Configure HTTPS on secondary CAPC node using the same settings as in primary CAPC node.

## *Data Aggregator*

On Primary DA server:

1. Export the following files from the primary DA server:
  - `/opt/IMDataAggregator/apache-karaf-2.3.0/deploy/*.xml`
  - `/opt/IMDataAggregator/apache-karaf-2.3.0/custom/devicetypes/DeviceTypes.xml`

On Secondary DA server:

1. Copy the exported files from the primary DA server to the secondary DA (same location):
  - `/opt/IMDataAggregator/apache-karaf-2.3.0/deploy/*.xml`
  - `/opt/IMDataAggregator/apache-karaf-2.3.0/custom/devicetypes/DeviceTypes.xml`
2. Start DA services.