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# **Micro Focus Security**

## **ArcSight ArcSight ESM**

Software Version: 7.0 Patch 1

## **CORR-Engine Backup and Recovery Tech Note**

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# ESM Backup and Recovery - Compact Mode

**Note:** The procedures described in this guide apply to ESM in compact mode only.

The information in this technical note applies to ArcSight ESM with CORR-Engine . This procedure is for backing up the CORR-Engine and restoring it to the same machine or a new machine that has been set up to look exactly like the original machine.

This does not cover backup and restore of the any connectors installed on this machine.

To back up the entire installation in one operation, stop all services and make a copy of `/opt/arcsight` on another storage medium. Include `/etc/hosts` and `/etc/init.d`. This can take a long time, if you have terabytes of data.

For all backup operations, back up directly to data storage media other than the one the data is currently on. You should make sure that this backup media is large enough, so take the time to add up the sizes of all the relevant files and folders. Database tables compress pretty well, but event archives do not.

The more selective backup and restore procedures are as follows.

Back up the CORR-Engine:

- Shutdown ESM services except `mysqld` and `postgresql`.
- Backup selected files and folders.
- Export certain database tables.
- Export trends.
- Back up configuration data.
- Back up archive data.
- Restart the services.

Restore:

- Import database tables.
- Import trend data.
- Restore configuration data.
- Restore the files and folders you backed up.
- Restore archive data.
- Start all services.

# Backing up ESM with CORR-Engine

Use this procedure to back up the CORR-Engine and data. It is expected that for every file, directory, and exported database table, that you save the backup copy in some safe location on another machine.

## 1. **Stop your connectors:**

If you stop the connectors, they mark the event where they left off and start in the same place when you restart them. Eventually they catch up. If you let the connectors run after ESM has been stopped, they will cache the data they are collecting. When you restart ESM, all connectors dump their cached events to ESM at the same time. If you have many connectors, the sudden dump from all of them can overload the system and some events might be dropped. Therefore, we recommend that you stop all connectors before step 2.

## 2. **Stop services:**

Run the `arcsight_services` command as user `arcsight` to shut down all services except the `mysqld` service and the `postgres` service. Refer to the "ArcSight\_Services Command" topic in the "Administrative Commands" section of the *ESM Administrator's Guide*.

## 3. **Back up files:**

Back up the following files and folders using the `copy` command.

- `/home/arcsight/.bash_profile`
- `/opt/arcsight/logger/data/mysql/my.cnf`
- `/etc/hosts`
- `/opt/arcsight/manager/config/server.properties`
- `/opt/arcsight/manager/config/database.properties`
- `/opt/arcsight/logger/current/arcsight/logger/user/logger/logger.properties`
- `/opt/arcsight/manager/config/server.wrapper.conf`
- `/opt/arcsight/manager/config/jetty`
- `/opt/arcsight/manager/jre/lib/security/cacerts`
- `/opt/arcsight/manager/user/manager/license/arcsight.lic`
- `/opt/arcsight/manager/config/keystore*`

## 4. **Export system tables:**

Run the `export_system_tables` command:

```
/opt/arcsight/manager/bin/arcsight export_system_tables arcsight <mysql_
password> arcsight -s
```

This generates a very large file, so you are recommended to run  
`gzip /opt/arcsight/manager/tmp/arcsight_dump_system_tables.sql`  
and then back up the resulting .gz file to your safe backup location.

#### 5. **Dump selected tables:**

Export selected tables from the database (as user *arcsight*) using the following command format:

```
/opt/arcsight/logger/current/arcsight/bin/mysqldump -uarcsight -p arcsight
${tablename}| gzip > /tmp/${tablename}.sql.gz
```

...where:

-uarcsight says to use the database user account called *arcsight*.

-p followed by a space means it prompts you for a password.

*arcsight* is the name of the database.

`${tablename}` is the name of the table to export, from the list, below.

The path, /tmp/, in this case, can be anywhere you want.

Specify the following tables:

- user\_sequences
- arc\_event\_annotation
- arc\_event\_annotation\_p
- arc\_event\_path\_info
- arc\_event\_payload
- arc\_event\_payload\_p
- arc\_event\_p

This command uses compression to greatly reduce disk space. For large databases, compression is also likely to make the commands finish faster.

The *user\_sequences* table is the table where the ESM manager gets the event IDs from the database. Export the *user\_sequences* table daily.

When the export is complete, copy the .gz file to the same backup location as the other files you backed up off the machine.

#### 6. **Export trends:**

If you need to keep trends, use the following commands to export them. You should be logged in as user *arcsight*. Enter each line on the command line and press return:

```
DBTODUMP=arcsight
```

```
SQL="SET group_concat_max_len = 10240;"
```

```
SQL="${SQL} SELECT GROUP_CONCAT(table_name separator ' ')"  
  
SQL="${SQL} FROM information_schema.tables WHERE table_  
schema='${DBTODUMP}' "  
  
SQL="${SQL} AND (table_name like 'arc_trend%');"  
  
TBLIST=`/opt/arcsight/logger/current/arcsight/bin/mysql -u arcsight -  
p<mysql_password> -AN -e"${SQL}"`  
  
/opt/arcsight/logger/current/arcsight/bin/mysqldump -u arcsight -p  
${DBTODUMP} ${TBLIST} > /tmp/arcsight_trends.sql
```

When the export is complete, copy the .sql file to the same backup location as the other files you backed up off the machine.

#### 7. **Back up configuration data:**

Make a note of the following, which must match exactly on the machine to which you restore:

- Operating system and version
- Computer domain name and hostname
- File system type
- Path to the archive locations for each storage group
- ESM version
- MySQL password
- Timezone of the machine

Run the `configbackup` command:

```
/opt/arcsight/logger/current/arcsight/logger/bin/arcsight configbackup
```

The `configbackup` command creates the `/opt/arcsight/logger/current/arcsight/logger/tmp/configs/configs.tar.gz` file, which you copy to the same backup location as the other files you backed up.

#### 8. **Back up archive data:**

Back up the archive located at `/opt/arcsight/logger/data/archives`. Back it up separately. If the archive location has been moved to a SAN, set up a backup schedule there.

If you cannot afford to lose events that occurred since midnight, when the last archive was created, back up `/opt/arcsight/logger/data/logger`. However, in addition to the un-archived data since midnight, you also get events from each day from yesterday to the beginning of your retention period, which are also in the archives.

This backup also has to include the metadata. Make sure the postgresql service is up and running (bring it up if it's down).

Run this command:

```
/opt/arcsight/logger/current/arcsight/bin/pg_dump -d rddb -c -n data -U  
web |gzip -9 -v > /tmp/postgres_data.sql.gz
```

Copy postgres\_data.sql.gz to a backup location.

**Notes:**

- When offline event archives are restored to another system using the `restorearchives` command, the event annotations are not restored. The offline archives are not affected.
- After recovery, archive of the non-default storage group will not occur on the day of the recovery. Archiving will resume after recovery day.

**9. Restart services:**

Run the following command as user *arcsight* to restart services. Skip this if your next step is to upgrade the operating system or reinstall ESM.

```
/etc/init.d/arcsight_services start all
```

**10. Restart connectors**



# Restoring ESM with CORR-Engine

This procedure is designed for restoring to the same machine or a new machine that has been set up to look exactly like the original machine. Make sure the following characteristics on the recovery machine are exactly the same as they were on the backup machine:

- Operating system and version (if using `configbackup` and `disasterrecovery` commands as part of this process)
- Computer domain name and hostname
- File system type
- Path to the archive locations for each storage group
- ESM version
- MySQL password
- Timezone of the machine

1. **Stop your connectors:**

If you stop the connectors, they mark the event where they left off and start in the same place when you restart them. Eventually they catch up. If you let the connectors run after ESM has been stopped, they will cache the data they are collecting. When you restart ESM, all connectors dump their cached events to ESM at the same time. If you have many connectors, the sudden dump from all of them can overload the system and some events might be dropped. Therefore, we recommend that you stop all connectors before step 2.

2. **Stop services:**

Run the `arcsight_services` command as user `arcsight` to shut down all services except the `mysqld` service and the `postgresql` service. Refer to the "ArcSight\_Services Command" topic in the "Administrative Commands" appendix of the *ESM Administrator's Guide*.

3. **Import system tables:**

If you compressed the exported file with `gzip`, unzip it with this command:

```
gzip -d <path>/arcsight_dump_system_tables.sql.gz
```

Run the `import_system_tables` command as user `arcsight`.

```
/opt/arcsight/manager/bin/arcsight import_system_tables arcsight <mysql_password> arcsight <path>/arcsight_dump_system_tables.sql
```

If you get an error about the `user_sequence` table, run these two commands:

```
gzip -d /tmp/${tablename}.sql.gz
```

```
/opt/arcsight/logger/current/arcsight/bin/mysql -uarcsight -p<mysql_
password> arcsight < /tmp/user_sequences.sql
```

4. **Import trend data:**

To import trend data, run the following command on the command line as user *arcsight*:

```
/opt/arcsight/logger/current/arcsight/bin/mysql -u arcsight -p arcsight <
/tmp/arcsight_trends.sql
```

This command assumes that your trend data has been copied from backup to the */tmp/* directory. Your file name or directory may be different.

5. **Restore files:**

Restore all the files listed in ["Back up files:" on page 5](#).

6. **Make sure the MySQL database is running.**

Log in and issue a MySQL command to test that the database is running:

```
/opt/arcsight/logger/current/arcsight/bin/mysql -uarcsight -p arcsight
describe arc_resource;
```

If you can run both of these commands without any error, the MySQL database is operational.

7. **Restore configuration data.**

Copy the *configs.tar.gz* file from the backup folder to the */opt/arcsight/logger/current/backups/* folder. (That is where the *disasterrecovery* command expects to find it.)

Check to see if the logger services are still stopped. If not, run the *arcsight\_services* command as user *arcsight* to shut it down again.

Run the *disasterrecovery* command as follows:

```
cd /opt/arcsight/logger/current/arcsight/logger/bin
arcsight disasterrecovery start
```

The *disasterrecovery* command restores the *configs.tar.gz* file.

This command requires that the operating system be the same version that was in use when you ran *configbackup*.

8. **Restore archive data.**

Restore the archive files back to */opt/arcsight/logger/data/archives*.

If you backed up */opt/arcsight/logger/data/logger*, restore it, too. Then restore the metadata by running these two commands:

```
gzip -d /opt/backup/postgres_data.sql.gz
/opt/arcsight/logger/current/arcsight/bin/psql -d rddb -U web -f
/opt/backup/postgres_data.sql
```

These commands assume that your backup file is in the `/opt/backup` directory. Change it to wherever you backed up that file.

9. **Restore dumped tables:**

Run the following commands as user *arcsight* to restore the tables that were exported with the `mysqldump` command:

```
gzip -d /tmp/${tablename}.sql.gz
```

```
/opt/arcsight/logger/current/arcsight/bin/mysql -uarcsight -p arcsight <  
/tmp/${tablename}.sql
```

...where:

-uarcsight says to use the database user account called *arcsight*.

-p followed by a space means it prompts you for a password.

The next *arcsight* is the name of the database.

`${tablename}` is the name of the table to export.

The path, `/tmp/`, in this case, is wherever you are restoring the table from.

10. **Restart services:**

Run the following commands as user *root* to restart services:

```
/opt/arcsight/manager/bin/setup_services.sh  
/etc/init.d/arcsight_services start all
```

11. **Restart connectors**

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