FICON® Data Migration Maintenance and Troubleshooting SECTION

Contents

1. Introduction

This section describes the maintenance and the recovery operation (in case of failure) on the execution of FICON® Data Migration (Hereinafter referred to as FICON DM) functions.

2. FICON DM Function Overview

FICON DM is a function that uses when the data in the subsystem migrates to USP VM through the FICON I/F.
Please refer to the FICON® Data Migration Operation Manual for further information of the necessary configurations to execute this function or of the operational procedures.

2.1 FICON DM Configuration

The following figure shows the configuration while migrating the data by the FICON DM.

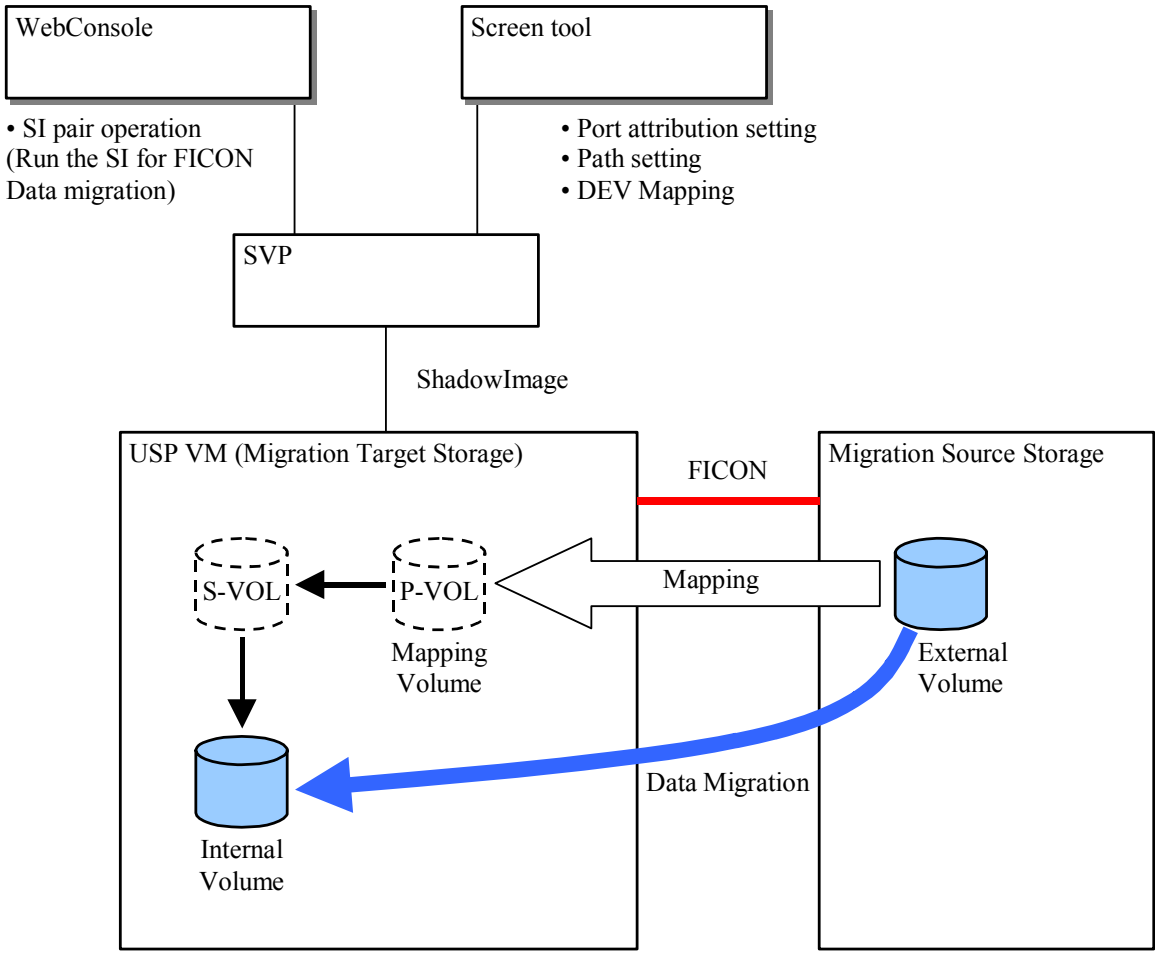

Fig. 2.1-1 FICON DM Configuration

The data migration by the FICON DM uses the screen tool of the FICON DM, and the ShadowImage (hereinafter referred to as SI) as shown on the above.

(1) It maps the data migration source volume inside the USP VM as a virtual volume. This mapping process runs the tool for FICON DM, whose program starts from the SVP.

(2) It runs the WebConsole from the SVP, and creates a pair: the above described mapping volume as a P-VOL of SI, and the migration target volume as a S-VOL of SI, with the SI for FICON DM.

(3) SI for FICON DM tries to copy the data from the P-VOL of SI, but the actual data is in the Data migration source volume of the external storage. Therefore the data is read and copied to the S-VOL of SI in the USP VM, which is the destination.

This process realizes the data migration.

2.2 The Outline of FICON DM Operation

The following shows the data migration process by the FICON DM.

*1: Operation by the local data migration operator

*2: Operation by the maintenance staff

1. Migration planning preparation (preparation) (*1)

2. Constructing of the Work Environment
   (2-1) Upgrade the version of the Micro-program of the FICON DM supported version (*2)
   (2-2) Necessary hardware installation (*2)
   (2-3) Installation of the Program Product that it related to FICON DM (*1)
   (2-4) FICON DM Tool Start-up (*1)
   (2-5) Port attribution setting by the FICON DM tool (*1)
   (2-6) Connection of the FICON physical cable (*2)
   (2-7) Physical path setting by the FICON DM tool (*1)
   (2-8) Offline the Host path of the migration source storage (*2)
   (2-9) CU path setting by the FICON DM tool (*1)
   (2-10) Virtual Volume mapping of the migration source volume by the FICON DM tool (*1)

3. Data Migration Operation
   (3-1) Data copy to the migration target volume by the SI for Mainframe (*1)

4. Confirmation operation of the Data migration completion (*1)

5. Cleanup after the operation completed
   (5-1) Delete the SI for Mainframe Pair (*1)
   (5-2) Unmapping the volume executed by the FICON DM tool (*1)
   (5-3) Delete the CU path executed by the FICON DM tool (*1)
   (5-4) Delete the physical path executed by the FICON DM tool (*1)
   (5-5) Remove the physical cable between the migration source storage and the migration target storage (*2)
   (5-6) Port attribution change from the FICON DM tool (FNP to HTP) (*1)
   (5-7) Uninstall the Program Product of the FICON DM (*1)
   (5-8) Uninstall the Program Product of the SI (Term & Unlimited) (*1)
   (5-9) Remote the hardware that is installed for the FICON DM operation (*2)
   (5-10) Confirm the state of device (*2)
   (5-11) SIM complete

Note

- (*1) When a failure occurred by such an incorrect operation of the local data migration operator, the maintenance operation such as the insert and remove of the cable may be requested for the maintenance staff.
- About the timing of the online process from the host to the migration target volume, it should be executed by the instruction of the local data migration operator, based on the data migration plan.

3. Maintenance

This section describes the maintenance operation during the data migrating by the FICON DM. Maintenance should not be done basically while operating the FICON DM unless the maintenance is required due to the failure occurrence.

3.1 PCB Maintenance

3.1.1 PCB Replacement

When replacing the PCB of the FNP attribution, if the physical path of the FICON DM is created on the PCB, a warning message is displayed to confirm whether it is the last path or not.
In this case, please ask to the local FICON DM data migration operator.
If the replacement is done in the state of existing the path, the incident is reported to the migration source storage. Therefore, you need to report to the customer that situation in advance.
After replacing the PCB, connect the cable to the same port before replacing. If the cable is not connected to those exact positions, the path will not be recovered.

3.1.2 Removing PCB

In the case of removing the FICON PCB (FICON initiator) which is set the FNP attribution, it cannot be removed if the FICON DM physical path is existed on the subject PCB.
In this case, please ask to the local FICON DM data migration operator.

3.2 Micro-program Exchange

3.2.1 Online Micro-program Exchange

The Online Micro-program Exchange is enabled even if the FICON DM is in use.

3.2.2 Offline Micro-program Exchange

If you execute the Offline Micro-program Exchange, please follow the description of KSN/ECN.
If you do not follow the instructions, such the following failure occurs on the FICON DM Solution.

(1) In the case of Offline Micro-program Exchange from the FICON DM unsupported version to FICON DM supported version.
   ① Execute the “Online” micro-program exchange of the SVP (SVP only supports Online.).
   ② Execute the “Offline” micro-program exchange on the whole of the micro-program including DKCMAIN and HTP (FNP).
   ③ Execute the “Online” micro-program exchange for the HTP (FNP) only.

When executing the port attribution changing from HTP to FNP with the FICON DM screen tool, the “Port Type Change Error (0x00000071) is displayed on the FICON DM display, and the attribution changing process is terminated abnormally.
In this case, the maintenance staff will be requested the recovery operation from the local data migration operator.
You are recommended to execute the replacing without exchanging the hardware of the subject PCB, for this recovery operation.

Note: Please note that the DKCMAIN and Micro-program version of the HTP are FICON DM supported version, it is indistinguishable whether the above step ③ is operated or not even if the support version is referred to define.

3.3 PS OFF/ON

Do not execute PS OFF/ON of the USP VM or the external storage of the data destination during the use of FICON DM.
If the PS OFF/ON is required, contact the local data migration operator and request them to finish the data migration operation by the FICON DM, and then execute it.