Harmonize Your SAS Environments with Hot Fix Versions

Jitendra N. Pandey
ABSTRACT

- The organizations that use SAS, tend to have more than one SAS environment, with at least one acting as a Development and the other one as a Production environment. Many organizations might also have Test, Sandbox and User Acceptance Testing (UAT) environments in addition to Development and Production, depending on the software development life cycle approach they use.
- SAS Platform Administrators and SAS Installation Representatives spend significant amount of time with SAS Deployment Manager to keep their SAS environments up-to-date with most recent Hot Fix updates released by SAS Technical Support. The Hot Fix installation is a critical part of SAS environment life cycle. However, at times it becomes difficult for SAS Platform Administrators and SAS Installation Representatives to maintain a consistency of Hot Fix versions across the environments. This ePoster provides an approach for how they can avoid running into Hot Fix version inconsistency across the environments.

A TYPICAL HOT FIX INSTALLATION PROCESS

- It is not always possible to install the hot fixes in all your SAS environments in the same downtime window. There are going to be two separate downtime windows, each for development and production environment. A typical hot fix installation process involves the following steps:
  - Run Deployment Registry Report
  - Run SASHFADD Tool
  - Run Hot Fix Download Scripts generated by SASHFADD
  - Stop SAS Services
  - Install Hot Fix
  - Start SAS Services
  - Rerun Deployment Registry Report for validation (optional)
- As the downtime window for development environment approaches, you follow the above steps and complete the hot fix installation. As the downtime window for production environment approaches, you follow the same steps, end of story.
- However, often times, a hot fix released from SAS Technical Support is replaced with another new hot fix for the same product and series that addresses additional new problem notes. It could be a problem if this happens between the two downtime windows. Let us take an example of hot fix Z28001. You installed Z28001 in your development environment and Z28001 was replaced by Z28002 before you could install the same in your production environment.

OUTCOME OF TYPICAL HOT FIX PROCESS

If you run the deployment registry report in both the environments after the hot fix installation, you could clearly see the difference. The following snippet of the deployment registry reports from development (left) and production (right) environments shows that Z28001 is missing from the production environment:
Harmonize Your SAS Environments with Hot Fix Versions

Jitendra N. Pandey
Electrolux Home Products Inc., Charlotte, NC

PROPOSED HOT FIX INSTALLATION PROCESS

The above inconsistency could have been avoided very easily if you ran deployment registry reports, SASHFADD and downloaded all the hot fixes in all of your SAS environments together in your first downtime window. Running deployment registry report and SASHFADD do not require your SAS services to be taken down. Once you have downloaded the hot fixes in all of the SAS environments during the same downtime window, you could install them in the environments during the downtime agreed for that environment, be it test, UAT or production. This way all of your SAS environments shall always be in sync from hot fix version perspective.

OUTCOME OF PROPOSED HOT FIX INSTALLATION PROCESS

If we run deployment registry report, SASHFADD and downloaded all the hot fixes in all of your SAS environments during the same downtime window, all the same hot fixes will be downloaded from SAS Technical Support website. Once downloaded, they can be installed during the downtime agreed for that environment, whether test, UAT or production.

CONCLUSION

If we run deployment registry report, SASHFADD and hot fix download scripts generated by SASHFADD in all our SAS environments in the same time frame, all the same hot fixes will be downloaded from SAS Technical Support website. Once downloaded, they can be applied or installed in the environments when the downtime window for that environment reaches and the hot fix version inconsistency can be avoided without any compromise.
ABSTRACT

The organizations that use SAS, tend to have more than one SAS environment, with at least one acting as a Development and the other one as a Production environment. Many organizations might also have Test, Sandbox and User Acceptance Testing (UAT) environments in addition to Development and Production, depending on the software development life cycle approach they use. SAS Platform Administrators and SAS Installation Representatives spend significant amount of time with SAS Deployment Manager to keep their SAS environments up-to-date with most recent Hot Fix updates released by SAS Technical Support. The Hot Fix installation is a critical part of SAS environment life cycle. However, at times it becomes difficult for SAS Platform Administrators and SAS Installation Representatives to maintain a consistency of Hot Fix versions across the environments. This paper provides an approach for how they can avoid running into Hot Fix version inconsistency across the environments.

INTRODUCTION

It requires a lot of planning and discussions with the development teams and the users to agree on a downtime window for hot fix installation for development and production environments. And it is not always possible to install the hot fixes in all your SAS environments in the same downtime window. There are going to be two separate downtime windows, each for development and production environment. A typical hot fix installation process involves the following steps:

1. Run Deployment Registry Report
2. Run SASHFADD Tool
3. Run Hot Fix Download Scripts generated by SASHFADD
4. Stop SAS Services
5. Install Hot Fix
6. Start SAS Services
7. Rerun Deployment Registry Report for validation (optional)

As the downtime window for development environment approaches, you follow the above steps and complete the hot fix installation. As the downtime window for production environment approaches, you follow the same steps, end of story.

However, often times, a hot fix released from SAS Technical Support is replaced with another new hot fix for the same product and series that addresses additional new problem notes. It could be a problem if this happens between the two downtime windows. Figure 1 outlines an example of a typical hot fix installation schedule. Let us take an example of hot fix Z28001. You installed Z28001 in your development environment and Z28001 was replaced by Z28002 before you could install the same in your production environment.
Figure 1. A Typical SAS® Hot Fix Installation Schedule for a two Environment Deployment

If you run the deployment registry report in both the environments after the hot fix installation, you could clearly see the difference. The following snippet of the deployment registry reports from development (left) and production (right) environments shows that Z28001 is missing from the production environment:

![Image of deployment registry reports](image1)

Figure 2. Snippet of SAS® Deployment Registry Report from Development (left) and Production (right) Environments

Now let’s take a look at SAS Technical Support page of Z28002. As you can see that hot fix Z28001 was replaced by hot fix Z28002.

![Image of SAS® Technical Support Page](image2)

Figure 3. Snippet from SAS® Technical Support Page for Hot Fix Z28002
Your SAS/ACCESS Interface to ODBC did not have either of Z28001 and Z28002. When you ran SASHFADD in your development environment, it determined from the deployment registry report from the development environment that your SAS/ACCESS interface to ODBC needed the hotfix Z28001 and it included Z28001 in the hot fix download script. You installed Z28001 in your development environment. However, by the time the downtime window for your production environment reached and you ran SASHFADD, SAS Technical Support replaced Z28001 with Z28002 and SASHFADD included Z28002 in the download script and you ended up downloading and installing Z28002 in your production environment and hence the inconsistency.

Some experts might argue that this is not an inconsistency because the previous Problem Note 58444 was also addressed by the hot fix Z28002, and we can have an ongoing debate if this is an inconsistency or not. The author of this paper believes that this is an inconsistency and looked out for a solution and also though it worth spreading among the SAS Platform Administrators via SAS Global Forum paper.

**SOLUTION**

The above inconsistency could have been avoided very easily if you ran deployment registry reports, SASHFADD and downloaded all the hot fixes in all of your SAS environments together in your first downtime window. Running deployment registry report and SASHFADD do not require your SAS services to be taken down. Once you have downloaded the hot fixes in all of the SAS environments during the same downtime window, you could install them in the environments during the downtime agreed for that environment, be it test, UAT or production. This way all of your SAS environments shall always be in sync from hot fix version perspective.

**Figure 4. Proposed SAS® Hot Fix Installation Schedule for Development and Production Environments**

**Figure 5. Snippet of SAS® Deployment Registry Reports from Development (left) and Production (right) Environments**
CONCLUSION

If we run deployment registry report, SASHFADD and hot fix download scripts generated by SASHFADD in all our SAS environments in the same time frame, all the same hot fixes will be downloaded from SAS Technical Support website. Once downloaded, they can be applied or installed in the environments when the downtime window for that environment reaches and the hot fix version inconsistency can be avoided without any compromise.

CONTACT INFORMATION

Your comments and questions are valued and encouraged. Contact the author at:

   Jitendra N. Pandey  
   Electrolux Home Products Inc., Charlotte, NC  
   jitendra.pandey@electrolux.com

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. ® indicates USA registration.

Other brand and product names are trademarks of their respective companies.