Upgrading from SAS Marketing Automation 4.4 to 5.1

March 13, 2008

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Overview

Upgrading from SAS Marketing Automation 4.4 to SAS Marketing Automation 5.1 uses many of the same SAS tools and processes you used when Marketing Automation was initially installed. For an upgrade you are required to have:

- Marketing Automation 5.1 media
- The Customer Intelligence Dynamic Cell Utility
- A valid Software Installation Data file and
- A valid plan file for the Marketing Automation components.

Deployment changes from Marketing Automation 4.4 to Marketing Automation 5.1

- The Export Adapters supported for MA 4.4 are no longer needed. The functionality of these adapters has been included in MA5.1.
- Xythos is still required for MA5.1 but does not need any type of update. **Do not re-install or re-configure Xythos or the database associated with Xythos.**
- There is a new middle-tier component associated with Marketing Automation 5.1 call SAS Customer Intelligence Reporting. It allows support of a common data model between CI solutions.
- JMS messaging configuration is required for MA5.1 and SAS Customer Intelligence Reporting. Full instructions are provided below.
- WebSphere client jars are now included with Marketing Automation 5.1

With Marketing Automation 5.1 there has been a plan file change. Verify that the plan file you are using for this upgrade contains any plan file changes needed for Marketing Automation 5.1, noted further in this document.

Below are the instructions for upgrading a three tier – SAS Server, Middle-Tier and Client Tier – Marketing Automation 4.4 installation to a Marketing Automation 5.1 installation. For specific product instructions on upgrading other SAS products please consult your Tech Support Representative.

Note about the Upgrade to Service Pack 4 for SAS 9.1.3

The Marketing Automation 5.1 installation software includes the SAS 9.1.3 Service Pack 4 installation kit for base SAS, the Mid Tier and Desktop Clients. If you follow the instructions below, the Service Pack 4 installation will automatically be included in the software you install on each machine.

Phase 1 - Pre-installation Steps

General Preparation

Before upgrading to MA 5.1, please follow the steps below.

- Read this document to completion before proceeding.
- Read "*Backing up SAS Content in Your SAS 9 Enterprise Intelligence Platform*" to completion before proceeding.
  http://support.sas.com/resources/papers/contentbackup.pdf
- Hold a migration strategy discussion with a SAS consultant if required
- Download the Dynamic Cell Utility file from the SAS Customer Intelligence Clearinghouse web site located at
  http://ftp.sas.com/techsup/download/MktAuto/MA51DynamicCellUtility.zip

- Review the system requirements for your operating system and upgrade to the suggested JDK listed in the document.
  http://supportprod.unx.sas.com/software/ci/ma/51/MA51sreq.pdf
- Upgrade any information maps with subject codes (see further instructions below)
- Check that you have the correct version of the web application server for your environment.

    - Websphere 6.0.2.19 or
    - Weblogic Application Server 8.1 SP6

  Information on upgrading your web application server can be found at:
  http://supportexp.unx.sas.com/resources/thirdpartysupport/index.html.

- For the completion of the Marketing Automation 5.1 configuration, you will need to know the following items:
    - SAS userids and passwords, such as the SAS Administrator and SAS Web Administrator.
    - The SAS Application Server Name for your environment. This name is usually "SASMain" or "SASApp" and can be found in the SAS Management Console under the server manager.
    - The SAS Installation directory location and SAS Configuration directory location.
    - The home directory of your Application Server (Weblogic or Websphere).

Phase 2 – Prepare Marketing Automation 4.4 for Migration

Run the Dynamic Cell Utility

In SAS Customer Intelligence 5.1, migrated diagrams, or campaigns, that have one or more dynamic cells will be converted to be dynamic diagrams. The Dynamic Cell Utility can be used with SAS Marketing Automation 4.4 to identify the campaigns and diagrams that need to be re-drawn before upgrading to SAS Customer Intelligence 5.1. Information on how to download and run the utility can be found in Appendix B at the end of this document.

Back up the Metadata and WebDav Repositories

Information on how to back up the metadata repository and Xythos dav repository can be found in the document "*Backing up SAS Content in Your SAS 9 Enterprise Intelligence Platform* " on the MA consultant's web site located at: http://support.sas.com/resources/papers/contentbackup.pdf

Back up all SAS Configuration Directories and plan file

Back up the SAS Configurations on all installed tiers by copying the directory to another location. Back up your existing plan.xml file.

Update Information Maps with a New Subject Code

SAS Marketing Automation 5.1 requires a new subject code extended attribute in any information maps that are used. This attribute associates a 2 digit code with a subject. There is only one code per subject.

For Example: Subject_Code_Subject_ID_Customer=01.

See the section "Marketing Automation Subject Extended Attributes" in the chapter "Making Data Available to MA" in the MA 5.1 Administrator's Guide for more information.

Campaigns with required User Defined Fields

Campaigns with required user defined fields should have a code filled in before running the migration. Campaigns will migrate even if the required UDF's do not have values.

However, it is important to note that in 5.1, campaigns and communications may not execute properly until all required UDF's are populated.

Modify the plan file

All of the Marketing Automation components are required to have entries as Deployed and Configured Components in the plan file in order for the SAS Configuration Wizard to deploy and configure MA correctly. You can manually edit your MA44 plan file to add lines to your plan.xml file or subtract lines from your plan.xml file. Please modify the Platform entry to match your installation. Also, make sure that the Configured Component entry is associated with the correct machine for multi-tier plan files. The DeployedComponent and the ConfiguredComponent entries should be on the same machine in the plan file.

Add the following to the Mid Tier plan file:

```
<DeployedComponent Id="$._CUSTINTELMID" Name="SAS Customer
Intelligence Reporting Mid-Tier" ProductName="SAS Customer
Intelligence Reporting Mid-Tier"
ProductIdentifier="CUSTINTELMID" Platform="WIN" />
<DeployedComponent>

<ConfiguredComponent Id="$._CUSTINTELMID" Name="SAS Customer
Intelligence Reporting Mid-Tier" ProductName="SAS Customer
Intelligence Reporting Mid-Tier"
ProductIdentifier="CUSTINTELMID" Platform="WIN" />
<ConfiguredComponent>
```

REMOVE the following lines in the plan.xml file if they exist.

```
<DeployedComponent Id="$._EMAEXPORT" Name="SAS Marketing
Automation Export Adapters" ProductName="SAS Marketing
Automation Export Adapters" ProductIdentifier="EMAEXPORT"
Platform="WIN">
</DeployedComponent>

<ConfiguredComponent Id="$._EMAEXPORT" Name="SAS Marketing
Automation Export Adapters" ProductName="SAS Marketing
Automation Export Adapters" ProductIdentifier="EMAEXPORT"
Platform="WIN">
</ConfiguredComponent>

<ConfiguredComponent Id="$._POSTGRESQL" Name="PostgreSQL"
ProductName="PostgreSQL" ProductIdentifier="POSTGRESQL"
```



```
Platform="WIN">
</ConfiguredComponent>


<ConfiguredComponent Id="$._XYTHOSWEBDAV" Name="Xythos WebFile
Server OEM Package" ProductName="Xythos WebFile Server OEM
Package" ProductIdentifier="XYTHOSWEBDAV" Platform="WIN">
```

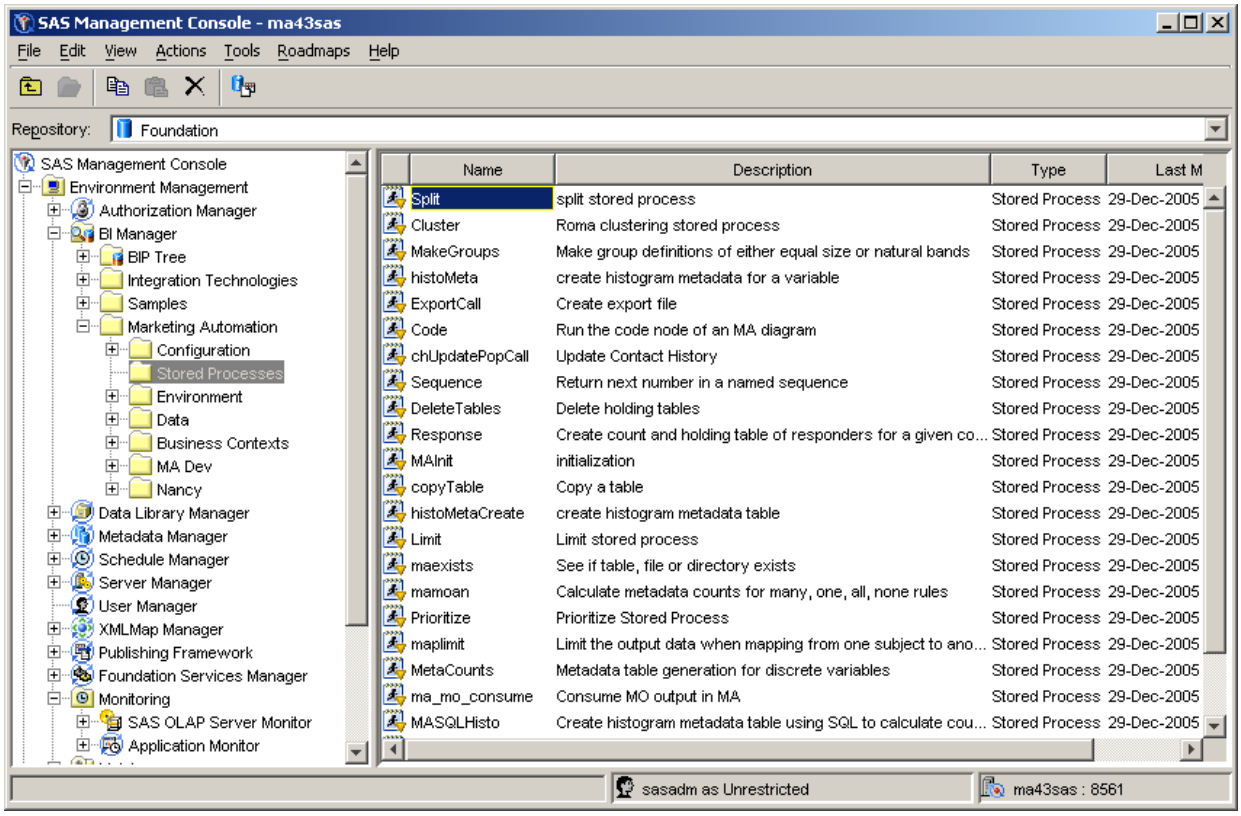
Once plan file is updated and SAS installation data file (SID) is checked you can then create the SAS Software Depot with the MA 5.1 installation kit.

Delete the Marketing Automation Stored Processes

It is necessary to delete all the stored processed delivered with MA 4.4 so they can be re-installed cleanly with MA 5.1. Note that this does not mean that any customer developed stored processes need to be (or should be) deleted, only those delivered within the MA product!

- Using the SAS Management Console:
  - Select the BI Manager from the SAS Management Console Tree
  - Select Marketing Automation
  - Select Stored Processes
  - Delete all of the original Marketing Automation stored Processes in the list

The following screen shot shows an example of the SAS Management Console view of the stored processes:



Remove the SAS Marketing Automation Export Adapters

In SAS Marketing Automation 5.1, the SAS Marketing Automation Export Adapters are no longer required. You must remove the Export Adapters to ensure a successful migration. Please see *Appendix A: "Removal of the SAS Marketing Automation Export Adapters"* for complete instructions.

Phase 3 – Upgrade SAS Server Tier

Stop your SAS services

- SAS Metadata Server,
- Object Spawner,
- Share Server,
- OLAP Server,
- Connect Server

IMPORTANT NOTE: Remember to back up a copy of the configuration directory, in case it needs to be restored. For example, C:\SAS\Lev1\SASConfiguration copy to C:\SAS\Lev1\Copy of SASConfiguration.

Start the SAS Software Navigator

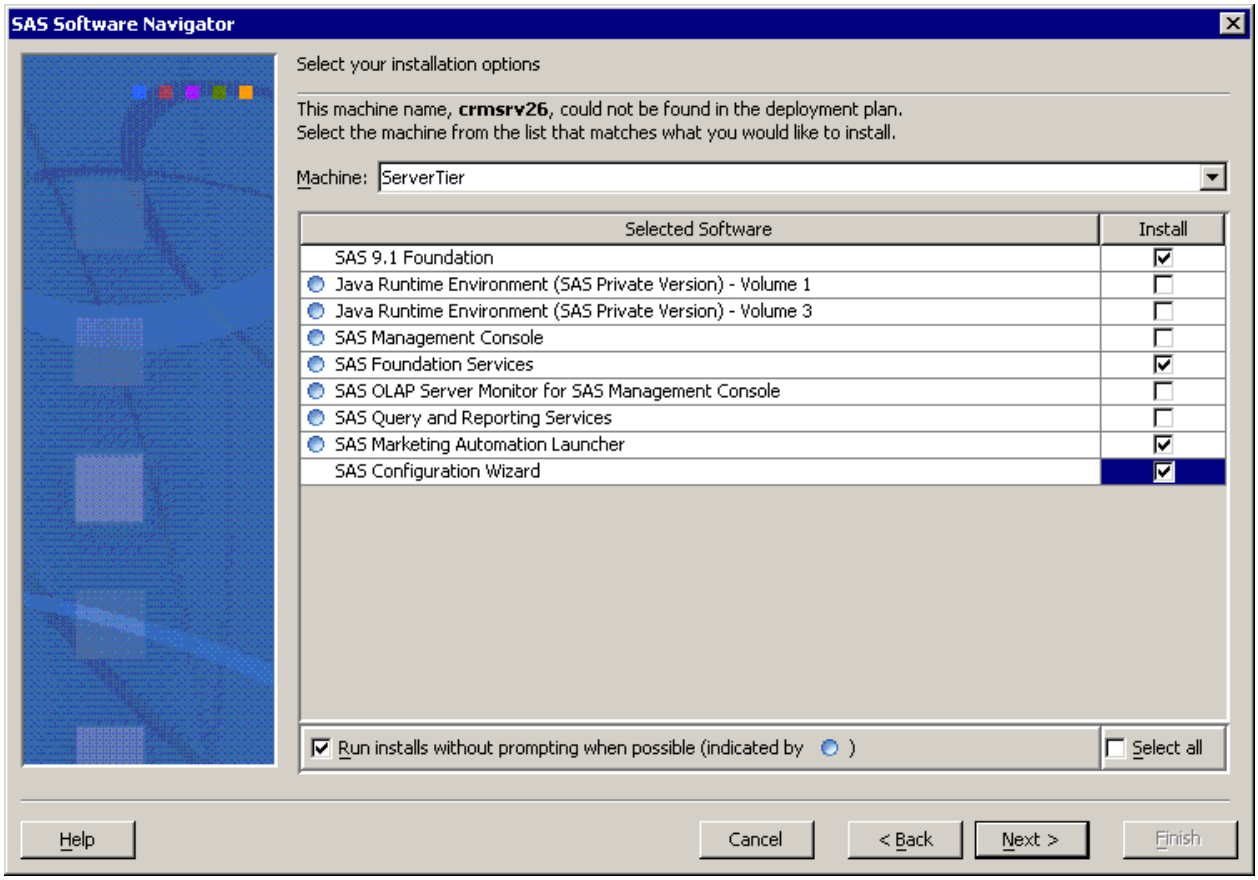
Use the plan file you updated for the installation of MA 5.1

Select software to install on SAS Server Tier

On the installation screen, check only the following software items:

- SAS 9.1 Foundation
- SAS Foundation Services
- SAS Marketing Automation Launcher
- SAS Configuration Wizard
- (Other MA components installed on this machine)

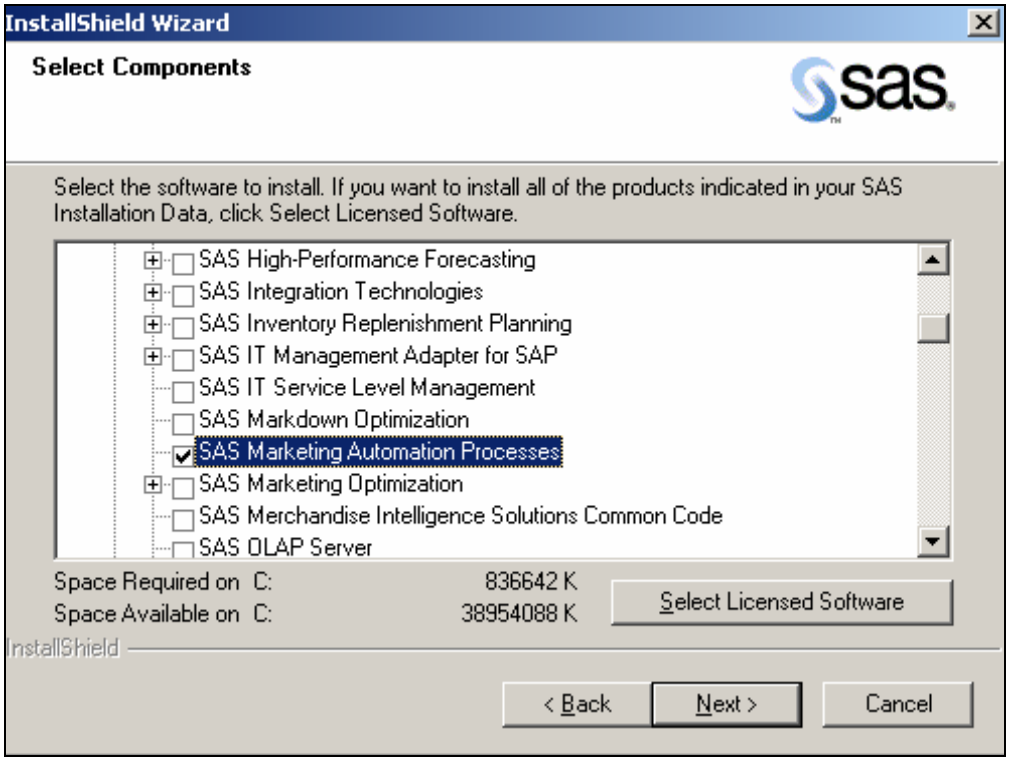
The following page has a screen shot of the Windows environment with these software items identified:



Select the Marketing Automation Processes

When you start the install, the system will first run the systems requirements wizard, and then you'll be prompted to select components for the SAS 9.1 Foundation. Only select the SAS Marketing Automation Processes and SAS Marketing Automation Server components listed under the SAS Software item as shown below.

Note that if your site has many other products licensed, they will also appear in the SAS 9.1 tree.



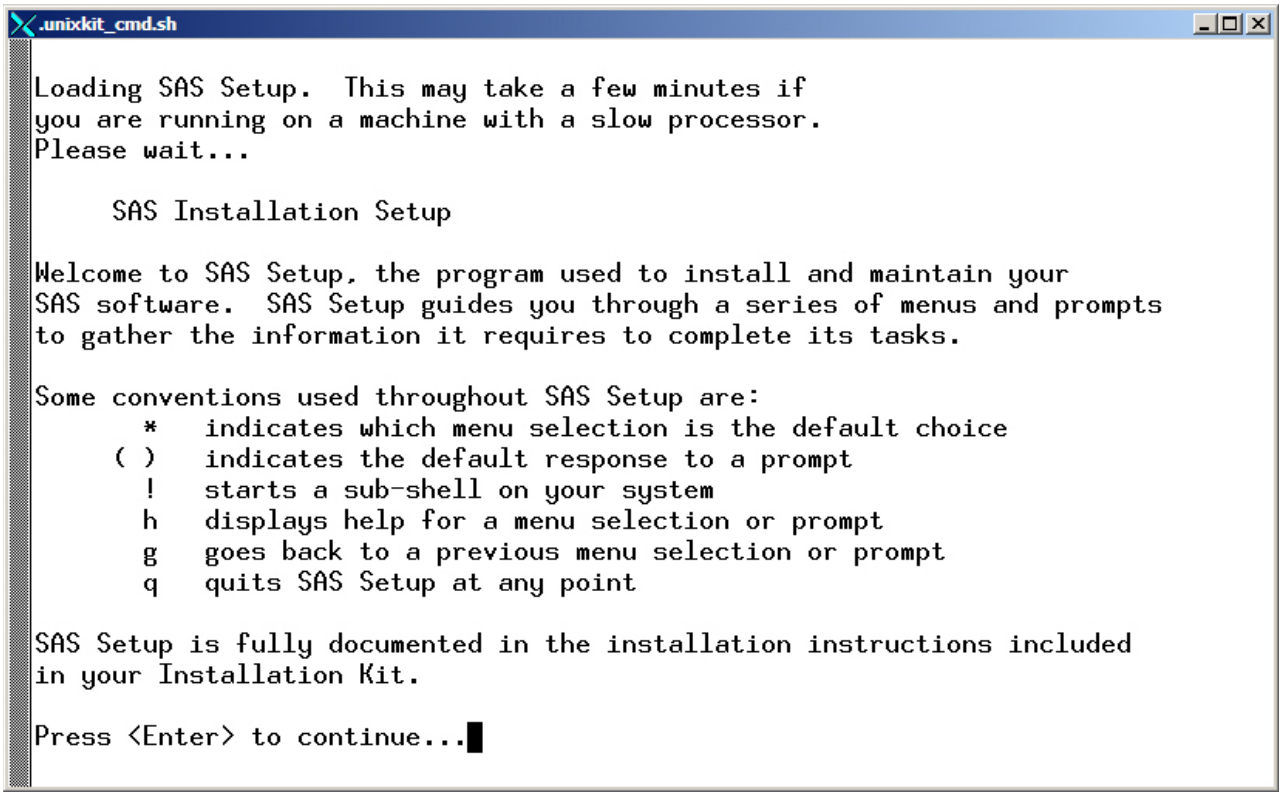
Additional steps for a UNIX SAS Tier only

After you select the above software to install (SAS 9.1 Foundation, SAS Management Console, and so on) the UNIX installer runs another shell for installing Foundation SAS. If you've installed Foundation SAS previously, this install shell will look familiar to you.

This script will prompt you for information about the install in a command line mode environment. See the following screen shots for a step-by-step explanation of what to do.

Screen 1: SAS Foundation Install begins

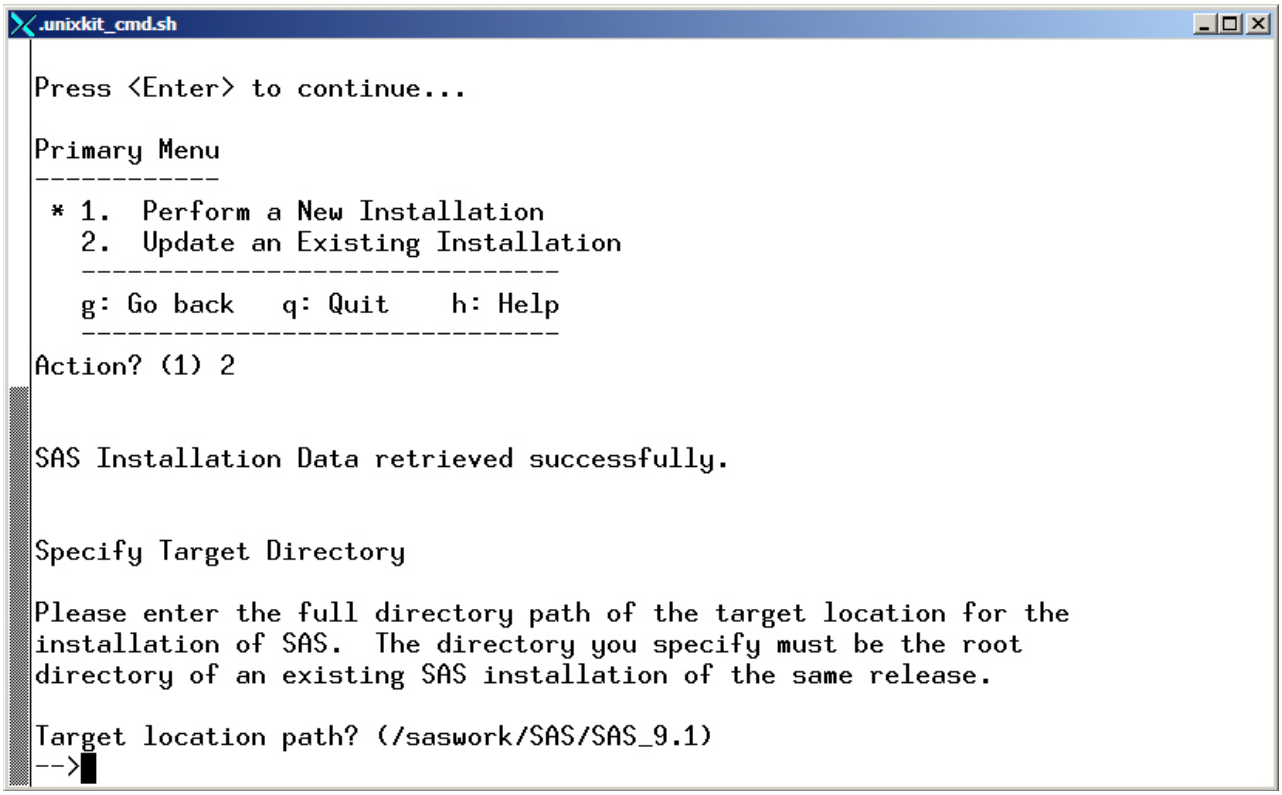
"*Press <Enter> to continue….*"



Screen 1

Screen 2: Update an Existing Installation

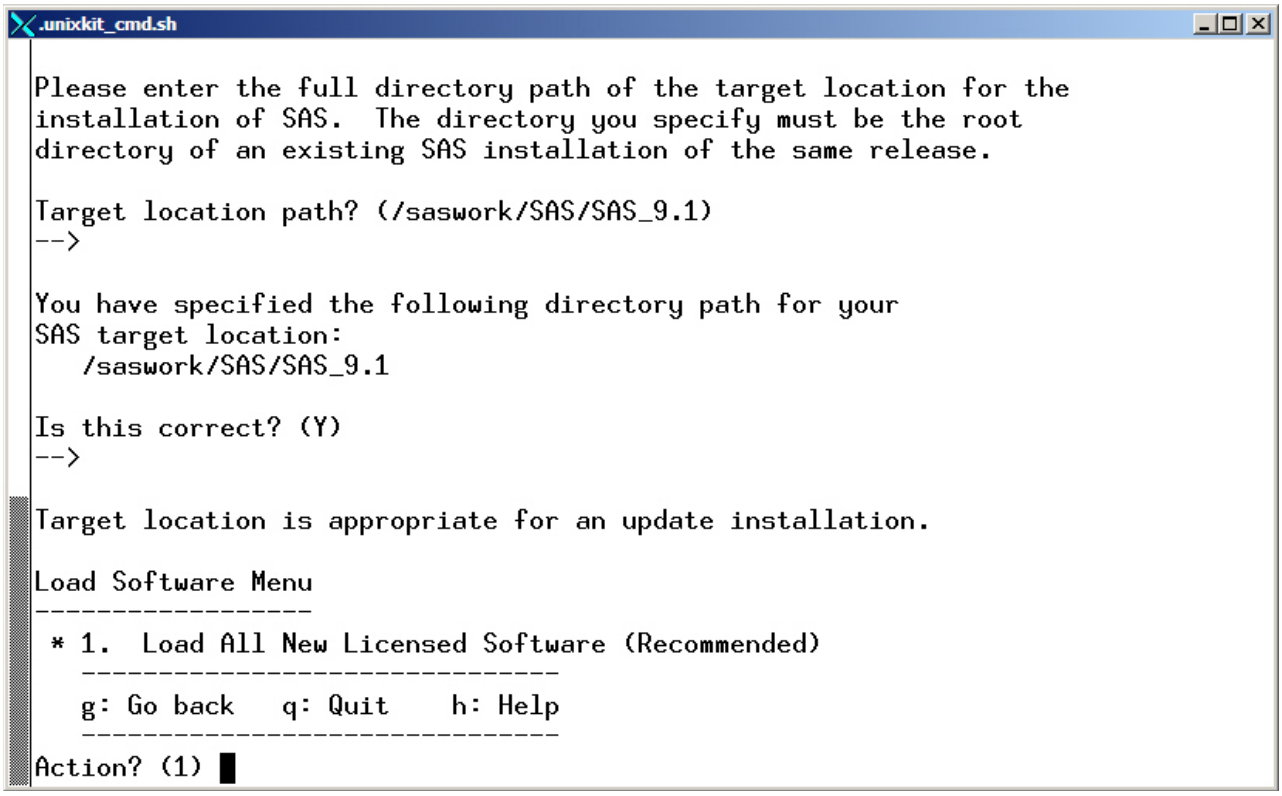
Select "*Update an Existing Installation*" by selecting option 2 as shown in screen 2 below. Also, confirm the target install path where Foundation SAS is installed.



Screen 2

Screen 3: Load All New Licensed Software

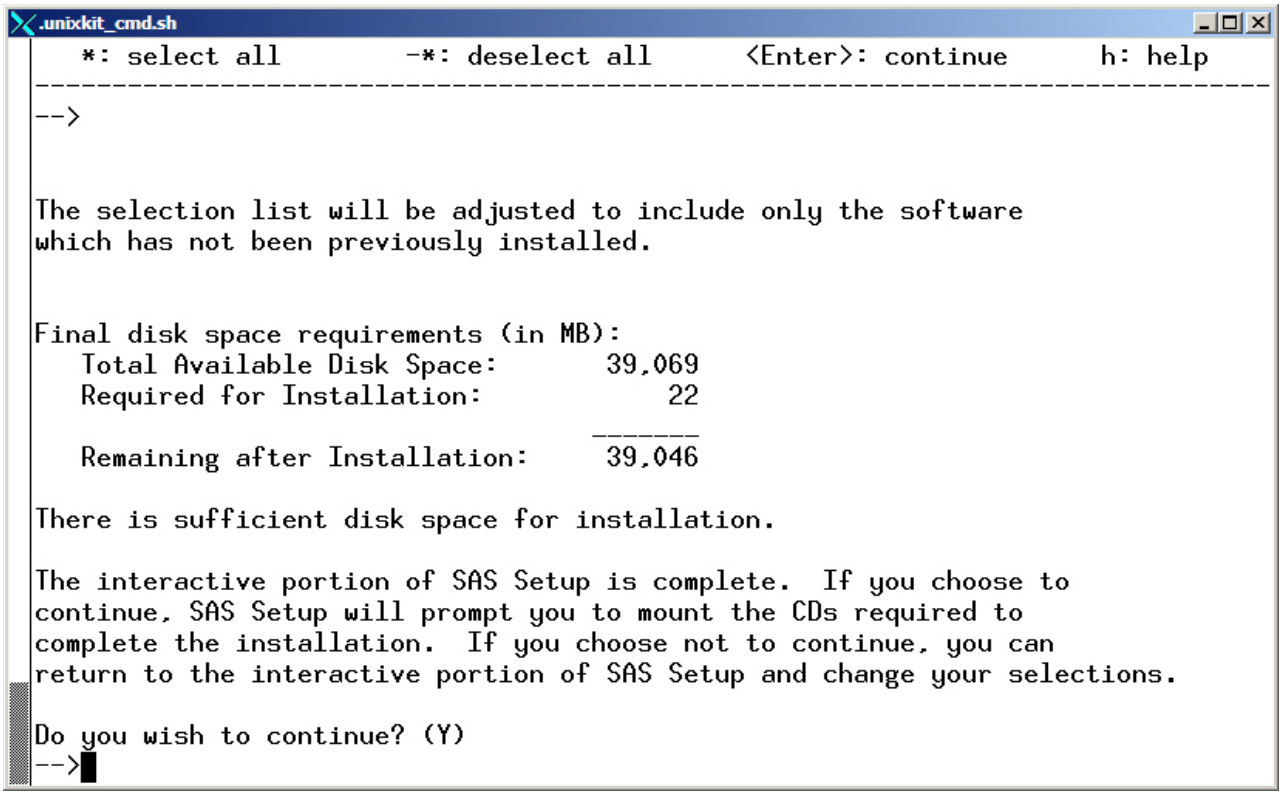
Select "*Load All New Licensed Software"* by hitting Enter to select option 1.



Screen 3

Screen 4: Complete the Install

The final prompt is for verification. The system will indicate how much space it needs to complete the Foundation install. (The numbers shown below might not match your install.) Press enter to continue with the Foundation Install. Follow any remaining prompts on the mounting of CDs.




```
   *: select all        -*: deselect all      <Enter>: continue      h: help
-------------------------------------------------------------------------------
-->


The selection list will be adjusted to include only the software
which has not been previously installed.


Final disk space requirements (in MB):
   Total Available Disk Space:       39,069
   Required for Installation:            22
                                     _______
   Remaining after Installation:     39,046

There is sufficient disk space for installation.

The interactive portion of SAS Setup is complete.  If you choose to
continue, SAS Setup will prompt you to mount the CDs required to
complete the installation.  If you choose not to continue, you can
return to the interactive portion of SAS Setup and change your selections.

Do you wish to continue? (Y)
-->
```

Screen 4

Run the Configuration Wizard (Windows and UNIX):

- The configuration wizard will automatically run as the last step of the install.
- Do not follow the “My Configuration” steps.
- Load Marketing Automation "primer" metadata to update the stored processes
  - To load the metadata, run the following SAS program: <configuration directory>\Lev1\Utilities\MarketingAutomation\LoadMAMetadata.sas
  - Verify that the process ran successfully by looking in the log. The end of the file should indicate that the “Repository already contains Marketing Automation Metadata” and give a list of stored processes that were added.

- To verify that the process ran successfully, look for the following in the log.

```
NOTE: Repository already contains Marketing Automation Metadata
NOTE: /Marketing Automation found at A5EP3UG7.AK0000RU was
updated with the following Stored Processes:
```

You will see the following errors.

```
ERROR: An IdentityGroup named MarketingAutomationAdvancedUser
already exists in this server.

ERROR: An IdentityGroup named MarketingAutomationNoviceUser
already exists in this server.
```

These are okay and just indicate that the SAS Marketing Automation Advanced and Novice User groups are in the metadata repository.

Apply Hotfixes

Technical Support is maintaining SAS Note SN-030527 that documents recommended hotfixes for your products. Please review the SAS Note at http://tsdsrv05.unx.sas.com:7777/docs/sasnotes/fusion/30/527.html.

Stop your SAS services and the Web Application Server:

- Remote Services application
- Web application server (Weblogic or Websphere)

IMPORTANT NOTE: Remember to back up a copy of the configuration directory, in case it needs to be restored. For example, C:\SAS\Lev1\SASConfiguration_mid copy to C:\SAS\Lev1\Copy of SASConfiguration_mid.

Start the SAS Software Navigator

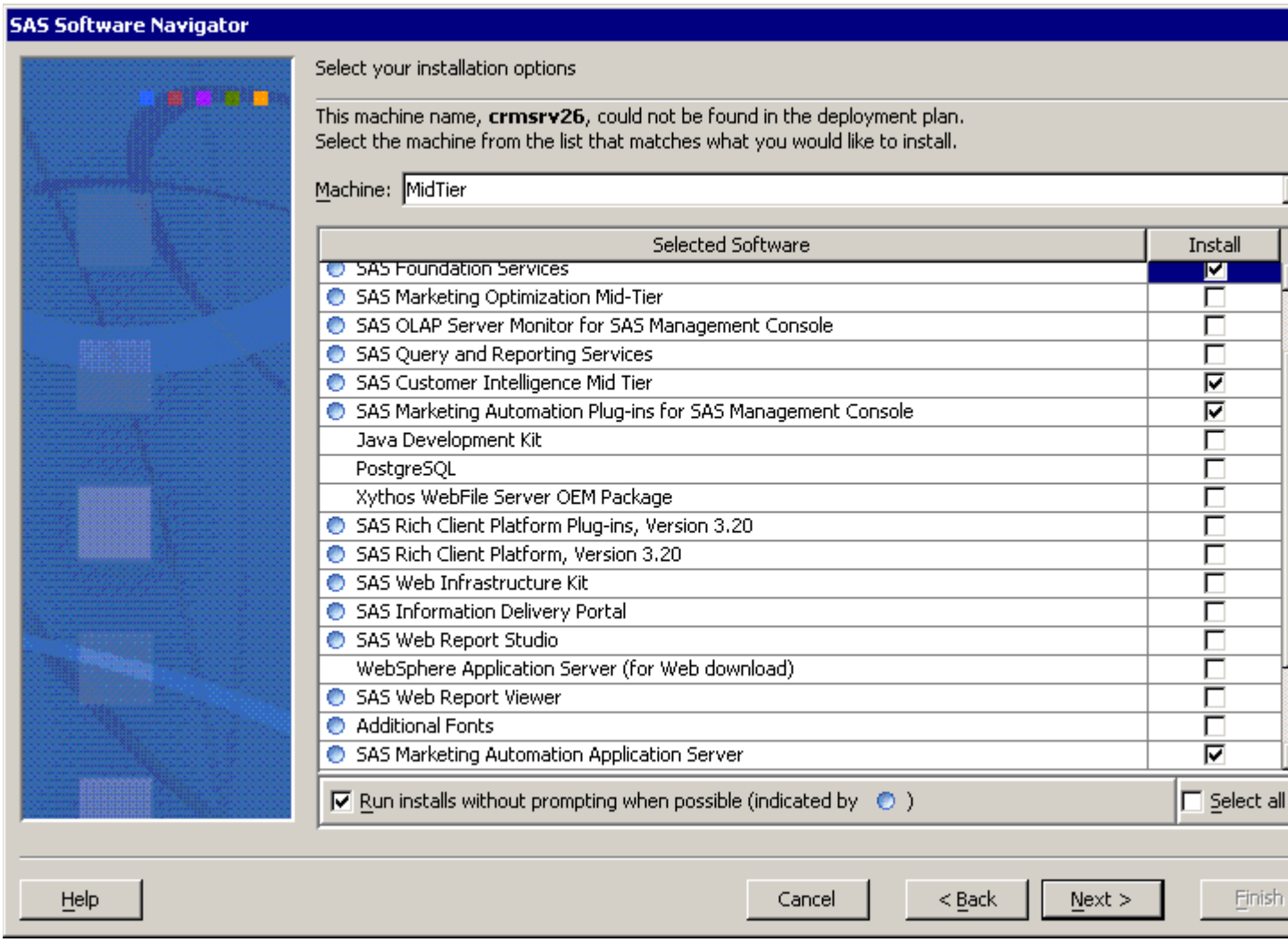
Use the plan file you updated for the installation of MA 5.1.

Select software to install on the Middle-Tier.

On the installation screen, check only the following software items:

- SAS Customer Intelligence Plug-ins for SAS Management Console
- SAS Marketing Automation Application Server
- SAS Customer Intelligence Web Components
- SAS Customer Intelligence Middle-Tier
- SAS Foundation Services
- SAS Configuration Wizard
- (Other MA Components installed on this machine)

The following page has a screen shot of the Windows environment with these software items identified:



- Run the Configuration Wizard

- In the “Edit Properties” window of the configuration wizard. Review the Marketing Automation properties, the Appserver properties, and the LSF Scheduler properties. Update these properties if necessary.

- Do not follow the “My Configuration” steps.

- Apply 01MA51 Hotfix
  This release of Marketing Automation requires that you apply a service pack before proceeding. Navigate to the Technical Support hotfix download site at http://www.sas.com/techsup/download/hotfix/hotfix.html and apply the 01MA51 hotfix. Follow the complete instruction set found at the download site to apply the hotfix to your middle-tier.

- Merge Marketing Automation Service Factory to update the information services objects n SAS Management Console:
  - Select "+" to expand the Foundation Services Manager.
  - Select "+" to expand the Remote Services Node.
  - Select "+" to expand the BIP Remote Services Node.
  - Highlight **BIPInformation Service**.
  - Using the right mouse button, select Merge Service Configuration...
  - From the file dialog box, choose the following file: <installationdirectory/SAS/SASMarketingAutomationCore/4.1/MAInformationServiceFactory.xml
  - Click "OPEN".
  - A message box will appear indicating that the services have been merged

- Add SAS Web Administrator to the SASMarketingAutomationAdvancedUser and SAS MarketingAutomationNoviceUser groups.
  - Invoke SAS Management Console
  - Navigate to **User Manager**
  - Click on the **MarketingAutomationAdvancedUser** group
  - Click on the **Members** tab
  - Move the SAS Web Administrator from the **Available Members** column to the **Current Members** column.
  - From the User Manager, click on the MarketingAutomationNoviceUser group
  - Click on the **Members** tab
  - Move the SAS Web Administrator from the **Available Members** column to the **Current Members** column.

Configure Websphere JMS Messaging for Marketing Automation

- Start your Websphere application server
- For Windows environments
  - open a command shell and change directories to: <SASInstallDir>\SASMarketingAutomationCore\4.1\Config\scripts
  - Execute MAWebsphereJMS.bat
  - Note: The instructions.html file created during the configuration step of the installation contains the manual instructions for creating JMS messaging.
- For UNIX environments
  - navigate to the following directory: <SASInstallDir>/SASMarketingAutomationCore/4.1/Config/scripts
  - Assume root privileges or privileges to update Websphere
  - Make sure MAWebsphereJMS.sh has execute permission
  - Execute MAWebsphereJMS.sh

- Note: The instructions.html file created during the configuration step of the installation contains the manual instructions for creating JMS messaging.

Configure Websphere JMS Messaging for SAS Customer Intelligence Reporting

- Start your Websphere application server
- For Windows environments
  - open a command shell and change directories to: <SASInstallDir>\SASCustomerIntelligenceReporting\5.1\Config\scripts
  - Execute CIWebsphereJMS.bat
  - Note: The instructions.html file created during the configuration step of the installation contains the manual instructions for creating JMS messaging.
- For UNIX environments
  - navigate to the following directory: <SASInstallDir>/SASCustomerIntelligenceReporting/5.1/Config/scripts
  - Assume root privileges or privileges to update Websphere
  - Make sure CIWebsphereJMS.sh has execute permission
  - Execute CIWebsphereJMS.sh
  - Note: The instructions.html file created during the configuration step of the installation contains the manual instructions for creating JMS messaging.

Configure Weblogic JMS Messaging for SAS Customer Intelligence Reporting

- Start your Weblogic application server
- For Windows environments
  - open a command shell and change directories to: <SASInstallDir>\SASCustomerIntelligenceReporting\5.1\Config\scripts
  - Execute CIWeblogicJMS.bat
  - Note: The instructions.html file created during the configuration step of the installation contains the manual instructions for creating JMS messaging.
- For UNIX environments
  - navigate to the following directory: <SASInstallDir>/SASCustomerIntelligenceReporting/5.1/Config/scripts
  - Assume root privileges or privileges to update Websphere
  - Make sure CIWeblogicJMS.sh has execute permission
  - Execute CIWeblogicJMS.sh
  - Note: The instructions.html file created during the configuration step of the installation contains the manual instructions for creating JMS messaging.

Re-start the SAS Services Application and the Application Server.

- Check StartRemoteServices script

  Check the *StartRemoteServices* script for Marketing Automation settings in <configuration directory>/Lev1/web/Deployments/RemoteServices /WEB-INF for the following settings:

  ```
  set SERVICES_OPTS= %SERVICES_OPTS% -Xms1024m -
  Xmx1024m -DentityExpansionLimit=10000000
  ```

  This is the first set of SERVICES_OPTS options. You can alternately restore the settings you had before the update if they have been updated and are different from above.

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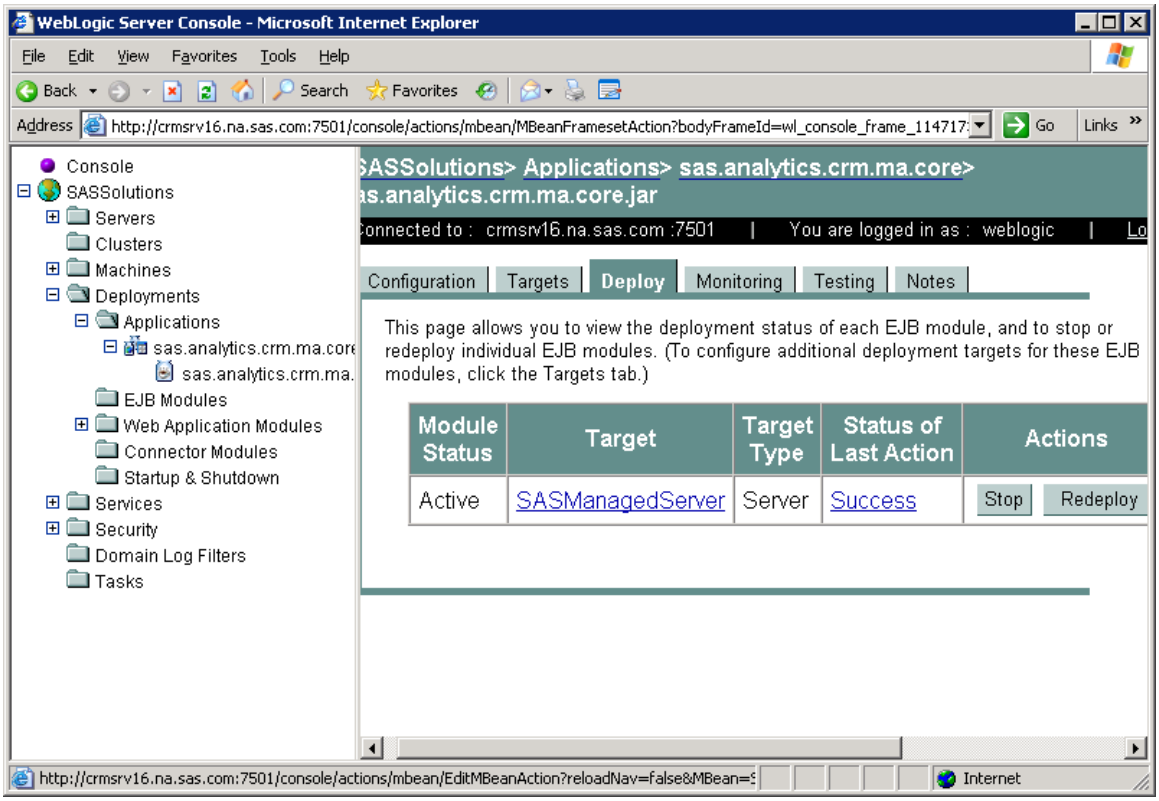
- Start the SAS Services Application
- Re-start your application server (Websphere or weblogic)

Re-deploy Marketing Automation Components (Weblogic)

If you are deploying to BEA WebLogic, follow the instructions listed below:

- Log into the Weblogic console
- Navigate **to Deployments==> Applications**
- Click on the sas.analytics.crm.ma.core link
- Click on the sas.analytics.crm.ma.core.jar
- Click on the deploy tab
- Click **stop** and stop the current deploy.
- Click the **Configuration** tab to verify that your deployment path is the **Lev1\web\webapps\exploded** directory where the updated ear now resides.
- Click the **'Deploy'** tab at the top of the right window.
- Click the **'ReDeploy'** button under the Actions column.



Deploy SAS Customer Intelligence Services War (Weblogic)

- Log into the Weblogic console
- Expand the tree on the left Deployments -> Web Application Modules
- On the left pane click on the “Deploy new web application module” link
- Locate the sas.analytics.crm.ma.ccsservice war file located in the **Lev1\web\webapps\exploded** directory.
- Click the *Target Module* button.
- Check the check box representing the <<server name>>
- On the next page select the *Deploy* button.
- After the deployment, select the stop button.
- Click on the Configurations tab.
- Enter 150 for the *Load order* field.
- Start the application.

Re-deploy Marketing Automation Web Application (Weblogic)

This section is optional for Marketing Automation customers. If Campaign Web Studio is not installed, you can skip this section.
Campaign Management customers (which are not Marketing Automation packages) do not have this component and therefore, should skip this step.

If you are deploying to BEA WebLogic, follow the instructions listed below:

- Log into the Weblogic console
- Navigate **to Deployments==> Applications**
- Click on the sas.analytics.crm.ma.webapp link
- Click on the deploy tab
- Click **stop** and stop the current deploy.
- Click the **Configuration** tab to verify that your deployment path is the **Lev1\web\webapps\exploded** directory where the updated ear now resides.
- Click the **'Deploy'** tab at the top of the right window.
- Click the **'ReDeploy'** button under the Actions column.

Deploy Marketing Automation Components (Websphere)

If you are deploying to IBM Websphere, follow the instructions listed below:

- Log on to the Websphere admin console.
- Navigate to Applications->Install New Application
  - Select “Local path” radio button
  - Select Browse button and navigate to the Marketing Automation ear file (\SAS\<plan name>\Lev1\ web\webapps\sas.analytics.crm.ma.core.ear)
  - Next
  - Next
  - Continue
  - Step 1: Choose Next
  - Step 2: Choose Next
  - Step 3: Choose Next
  - Step 4: Choose Next
  - Step 5: Choose Next
  - Step 6: Select the “SAS Customer Intelligence Servlets” then choose Next
  - Step 7: Choose Next
  - Step 8 (Summary): Choose Finish
  - Save

- Navigate to Applications->Enterprise Applications
  - Select Marketing Automation 5.1 link
  - Classloader Mode: PARENT_LAST
  - Apply
  - Save

- Navigate to Applications->Enterprise Applications
  - Select Marketing Automation 5.1 check box
  - Select Start button

Deploy SAS Customer Intelligence Services Application (Websphere)

- Logon to the Websphere Admin Console
- Navigate to Applications->Install New Application
  - Select “Local path” radio button
  - Select Browse button and navigate to the Customer Intelligence war file (\SASConfigDir\Lev1\web\webapps\sas.analytics.crm.ma.ccsservice.war
  - Click OK
  - Enter /ccs **(with the */*)** in the *Context root* field
  - Next
  - Continue
  - Step 1: Enter **CICommonServices** in the *Application Name* field, then choose Next.
  - Step 2: Choose Next
  - Step 3: Choose Next
  - Step 4: (Summary): Choose Finish
  - Save

- Navigate to Applications->Enterprise Applications
  - Select CICommonServices link
  - Classloader Mode: PARENT_LAST
  - Under the *startup options* section enter 10 for the *starting weight* field.
  - Apply
  - Save

- Navigate to Applications->Enterprise Applications
  - Select Marketing Automation 5.1 check box
  - Select Start button

Deploy SAS Marketing Automation Web Application (Websphere)

This section is optional for Marketing Automation customers. If Campaign Web Studio is not installed, you can skip this section.
Campaign Management customers (which are not Marketing Automation packages) do not have this component and therefore, should skip this step.

- Logon to the Websphere Admin Console
- Navigate to Applications->Install New Application
  - Select “Local path” radio button
  - Select Browse button and navigate to the Campaign Web Studio war file (\SASConfigDir\Lev1\web\webapps\sas.analytics.crm.ma.webapp.war
  - Click OK
  - Enter **ma** in the *Context root* field

- Next
- Next
- Continue
- Next
- Map Modules to Servers by checking the selected Server
- Next
- Next
- Finish

Deployment of the SAS Marketing Automation Web Components Update

Please NOTE: In Asian languages, a problem occurs in the Websphere environment when MA5.1 is deployed. In the Campaign Web Studio Campaign Wizard, double byte characters in some fields are shown as garbage and are incorrectly registered, thus the campaign cannot be created.

To correct the problem if using a double byte language, set the application server to full UTF-8:

- In Websphere file **encoding.properties** ensure **ja=UTF-8**
- Start up Websphere console
  - Click on your server name
  - Click on Process Definition
  - Click on Java Virtual Machine
  - Add to generic JVM arguments: **-Dclient.encoding.override=UTF-8**

Phase 5 – Upgrade Client-Tier

Note: Update the client on only one machine to verify migration. When completed, this will ensure that all other client PCs still with MA4.4 clients will be unable to access repository until migration complete and go-live state is reached. When you have successfully completed the migration of the Marketing Automation Campaign data then the remaining client PCs can be upgraded.

Start the SAS Software Navigator

Use the plan file you updated for the installation of MA 5.1

Select software to install on the Client

On the installation screen, check only the following software items:

- SAS Customer Intelligence Plug-ins for SAS Management Console
- SAS Customer Intelligence Studio
- SAS Marketing Automation Integration Utilities
- SAS Foundation Services
- SAS Configuration Wizard
- Other MA Components installed on this machine

Other clients such as Information Map Studio, SAS Web Report Studio etc should be upgraded in accordance with their relevant documentation.

Run the Configuration Wizard (Windows and UNIX):

- The Configuration Wizard will automatically run as the last step of the install.
- Do not follow the “My Configuration” steps

NOTE: Once Upgrade has completed you will need to re-set MATables, MAMeta, and MAMisc directory permissions back to Shareable. The upgrade process changes the existing settings and does not set them back to be updatable at run time. The MATables, MAMeta and MAMisc directories are located at <config_dir>\Lev1\SASMain\data.

Apply 01MA51 Hotfix
This release of Marketing Automation requires that you apply a service pack before proceeding. Navigate to the Technical Support hotfix download site at http://www.sas.com/techsup/download/hotfix/hotfix.html and apply the 01MA51 hotfix. Follow the complete instruction set found at the download site to apply the hotfix to your client tier.

Phase 6 - Migration of Data

Add the Administrator User to Marketing Automation Advanced Users Group

In order for the migration tools to run successfully, the administrator user (default is sasadm) must have a domain property and must be added to the SAS Marketing Automation Advanced Users Group.

Using SAS Management Console

- Navigate to *User Manager*
- Choose *SAS Administrator* from the list of users
- Choose the *Logins* Tab
- Modify the login to add an Authentication Domain if one is not specified
- Click OK
- Choose the MarketingAutomationAdvancedUser group from the list of users
- Choose the Members Tab
- Move the SAS Administrator user from the Available Members column to the Current Members column

These actions are only needed for migration. Once you have successfully completed the migration phase, you can take the SAS Administrator out of the MarketingAutomationAdvancedUsers group and remove the Authentication domain from the user properties.

Update the Diagram Tools and Channels

Update the tools and channels in the SAS Customer Intelligence Plug-in by using the SAS Management Console to expand the Customer Intelligence plug-ins group under Application Management.

- Expand Application Resources
- Choose Channels – right-click and select "**Reset**"
- Choose Diagram Tools - right-click and select "**Reset**"

Migrating Definitions

If you are deploying to BEA WebLogic in a Windows environment, follow the instructions listed below:

Run the following command to perform the migration of campaign definitions. Run the command from the <SAS Install Directory>/SASMarketingAutomationCore/4.1/utilities directory. Replace the ADMINUSER and ADMINPW token with the SAS Administrator userid and password before submitting the command.

"C:\Program Files\SAS\Shared Files\JRE\1.4.2_09\bin\java.exe" -Xmx256m -DentityExpansionLimit=10000000 -Djava.system.class.loader=com.sas.app.AppClassLoader -Dsas.app.class.dirs="." -Dsas.app.class.path=sas.analytics.crm.ma.utilities.jar;. -Dsas.ext.config=sas.java.ext.config -cp sas.launcher.jar;. com.sas.analytics.crm.util.client.Utilities -userid ADMINUSER -password ADMINPW -migration –phase1 -debug 1>phase1.log 2>&1

If you are deploying to IBM Websphere in a Windows environment, follow the instructions listed below.

Run the following command to perform the migration of campaign definitions. Replace the ADMINUSER and ADMINPW token with the SAS Administrator userid and password before submitting the command.

"C:\Program Files\SAS\Shared Files\JRE\1.4.2_09\bin\java.exe" -Xmx256m -DentityExpansionLimit=10000000 -Djava.system.class.loader=com.sas.app.AppClassLoader -Dsas.app.class.dirs="." -Dsas.app.class.path=sas.analytics.crm.ma.utilities.jar;. -Dsas.ext.config=sas.java.ext.config -cp sas.launcher.jar;. -Dcom.sun.CORBA.giop.ORBGIOP12BuffMgr=0 -Dorg.omg.CORBA.ORBClass=com.ibm.CORBA.iiop.ORB -Dorg.omg.CORBA.ORBSingletonClass=com.ibm.rmi.corba.ORBSingleton -Djavax.rmi.CORBA.StubClass=com.ibm.rmi.javax.rmi.CORBA.StubDelegateImpl -Djavax.rmi.CORBA.PortableRemoteObjectClass=com.ibm.rmi.javax.rmi.PortableRemoteObject -Djavax.rmi.CORBA.UtilClass=com.ibm.ws.orb.WSUtilDelegateImpl -Dcom.ibm.CORBA.iiop.SubcontractInit=com.ibm.ws.orb.WSSubcontractInitImpl com.sas.analytics.crm.util.client.Utilities -userid ADMINUSER -password ADMINPW -migration –phase1 -debug 1>phase1.log 2>&1

If you are deploying on a UNIX operating system accessing either IBM Websphere or BEA WebLogic follow the instructions below.

Run the following command to perform the migration of campaign definitions. Replace the ADMINUSER and ADMINPW token with the SAS Administrator userid and password before submitting the command.

INSTALLDIR/SASMarketingAutomationCore/4.1/utilities/sasCIUtil -userid ADMINUSER -password ADMINPW -migration –phase1 -debug

Note: it is recommended to redirect your output to a file to inspect later.

Evaluation of Migration Logs

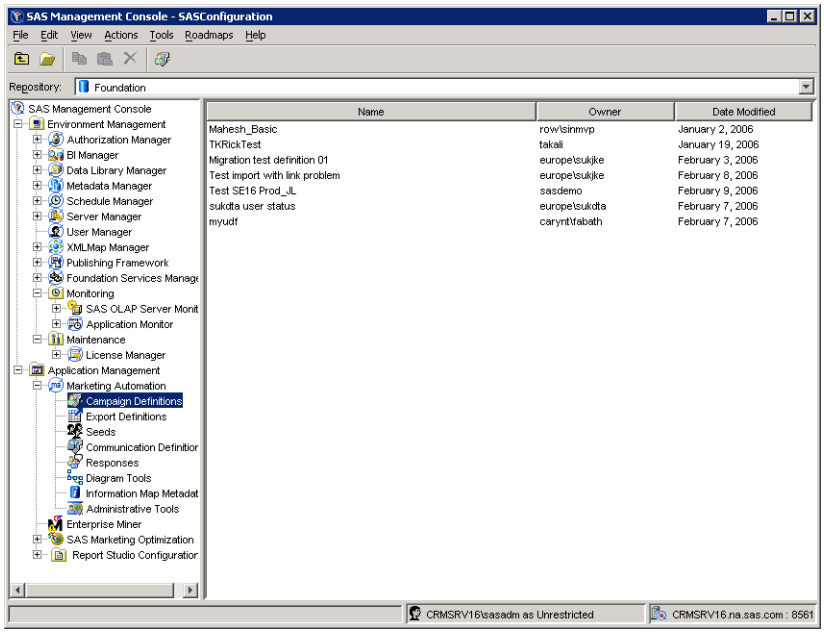
The log files created in the previous step should be evaluated to determine successful completion:

- Phase1_out.log - This log contains an audit of all assets migrated by this step.
- Phase1_err.log – This log will be empty on a successful completion.
- It is okay to run this task a second time. Any campaigns or diagrams that have already migrated will not be migrated again.
- If you encounter errors that you cannot resolve, please contact Technical Support please contact Technical Support.

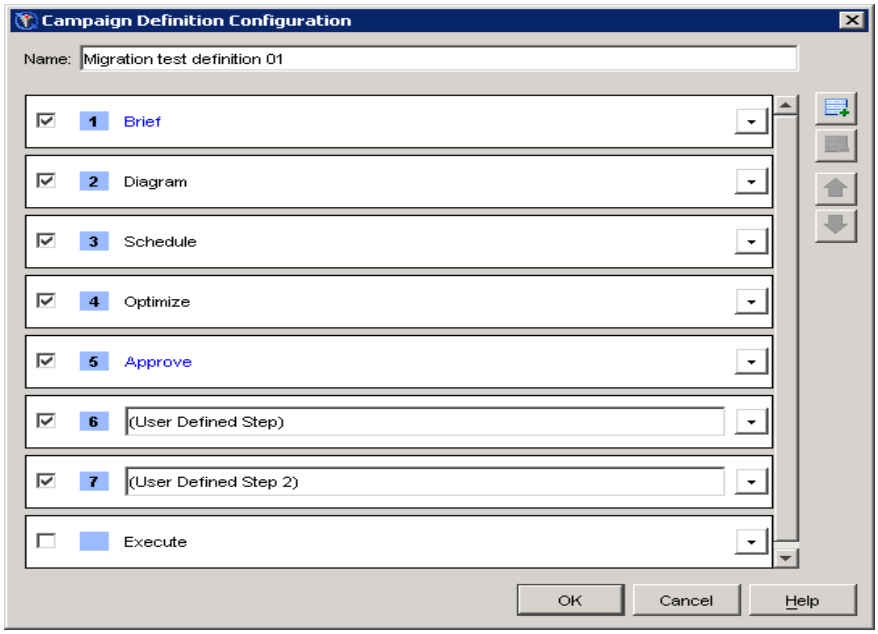
Verification of SAS Management Console Elements

Campaign Definitions

Log on to the SAS Management Console Customer Intelligence Plug-ins 5.1 client. You will see the following screen. Look not only at the general list but also look at the properties to validate that the detail has been migrated as well, including User Defined Fields.



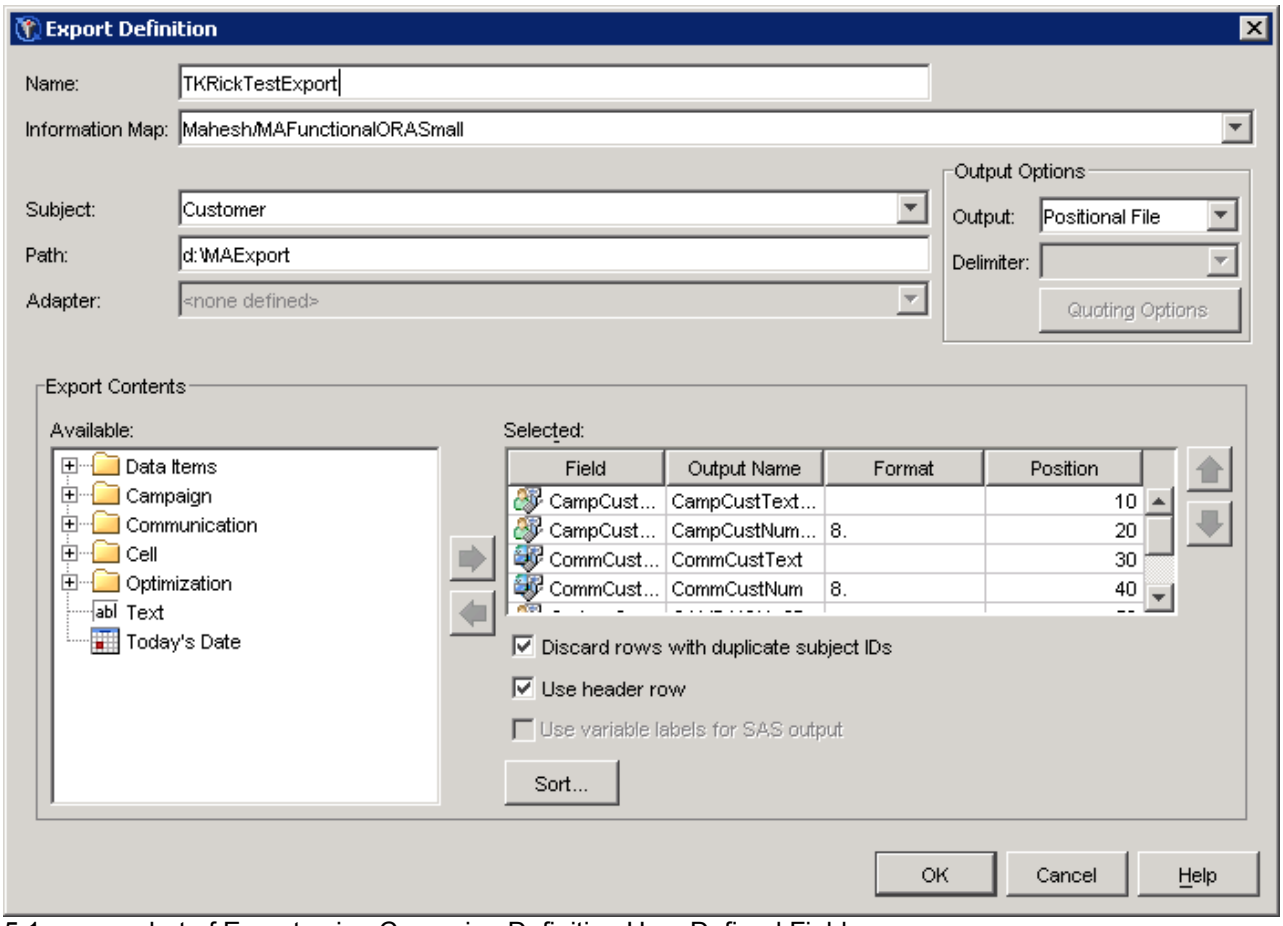
5.1 screen shot of specific Campaign Definition



5.1 screen shot of specific Campaign Definition with UDFs

Export Definitions

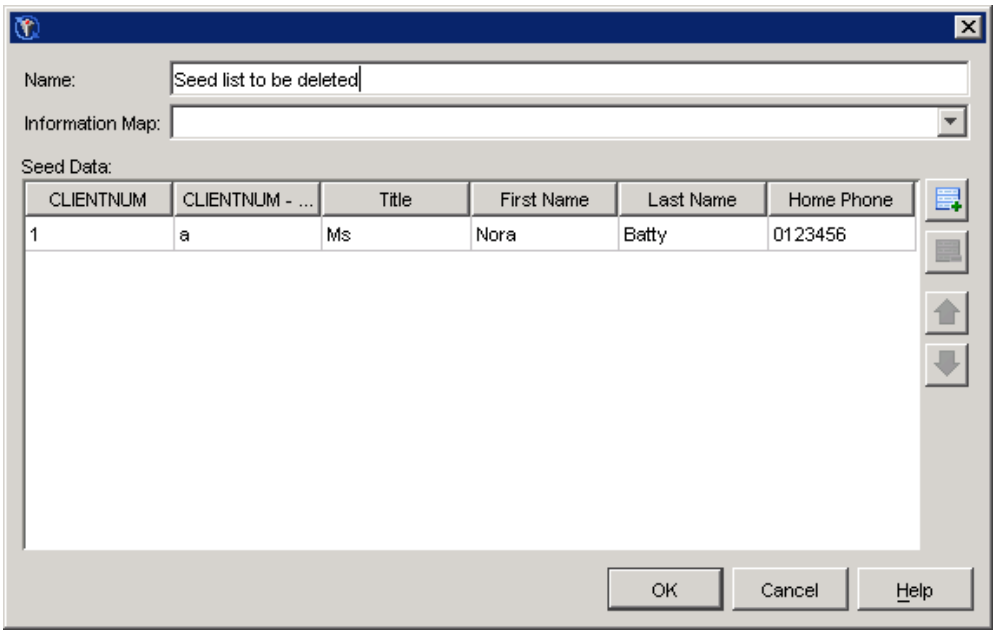
Access the Customer Intelligence 5.1 SAS Management Console plug-in and make sure that all the Export Definitions have been migrated:



5.1 screen shot of Export using Campaign Definition User Defined Fields

Seeds Validation

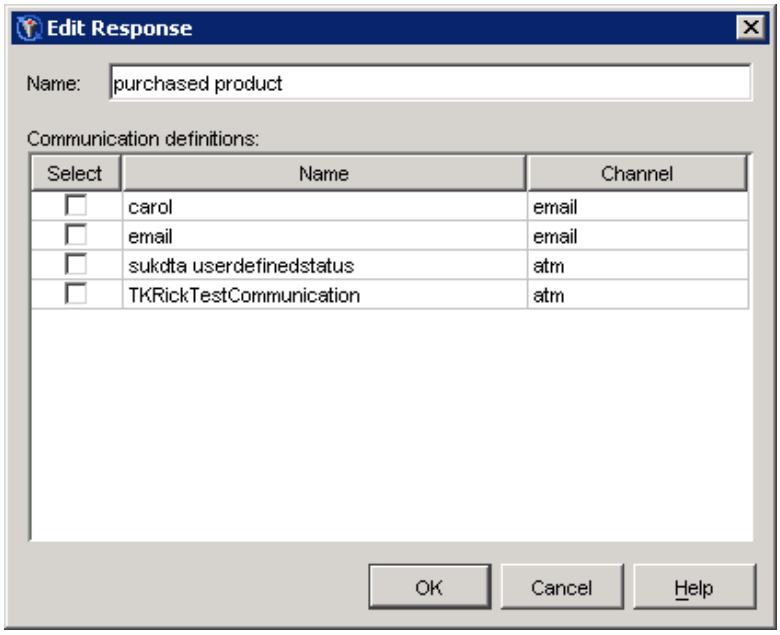
Log on to the SAS Management Console. Access the Customer Intelligence 5.1 SMC plug-in and make sure that all the Seed definitions have been migrated:



5.1 screen shot

Responses Validation

Log on to the SAS Management Console. Access the Customer Intelligence 5.1 SAS Management Console plug-in and make sure that all the Response definitions have been migrated:



5.1 screen shot

Running the Campaign and Diagram Migration

The final step is to migrate all the Marketing Automation campaigns and diagrams. This step is optional but recommended.

If you are deploying to BEA Weblogic in a Windows environment, follow the instructions listed below.

Run the following command to perform the migration. Replace the ADMINUSER and ADMINPW token with the SAS Administrator userid and password before submitting the command.

"C:\Program Files\SAS\Shared Files\JRE\1.4.2_09\bin\java.exe" -Xmx256m -DentityExpansionLimit=10000000 -Djava.system.class.loader=com.sas.app.AppClassLoader -Dsas.app.class.dirs="." -Dsas.app.class.path=sas.analytics.crm.ma.utilities.jar;. -Dsas.ext.config=sas.java.ext.config -cp sas.launcher.jar;. com.sas.analytics.crm.util.client.Utilities -userid ADMINUSER -password ADMINPW -migration –phase2 -debug 1>phase2_out.log 2>phase2_err.log

If you are deploying to IBM Websphere in a Windows environment, follow the instructions listed below.

Run the following command to perform the migration. Replace the ADMINUSER and ADMINPW token with the SAS Administrator userid and password before submitting the command.

"C:\Program Files\SAS\Shared Files\JRE\1.4.2_09\bin\java.exe" -Xmx256m -DentityExpansionLimit=10000000 -Djava.system.class.loader=com.sas.app.AppClassLoader -Dsas.app.class.dirs="." -Dsas.app.class.path=sas.analytics.crm.ma.utilities.jar;. -Dsas.ext.config=sas.java.ext.config -cp sas.launcher.jar;. -Dcom.sun.CORBA.giop.ORBGIOP12BuffMgr=0 -Dorg.omg.CORBA.ORBClass=com.ibm.CORBA.iiop.ORB -Dorg.omg.CORBA.ORBSingletonClass=com.ibm.rmi.corba.ORBSingleton -Djavax.rmi.CORBA.StubClass=com.ibm.rmi.javax.rmi.CORBA.StubDelegateImpl -Djavax.rmi.CORBA.PortableRemoteObjectClass=com.ibm.rmi.javax.rmi.PortableRemoteObject -Djavax.rmi.CORBA.UtilClass=com.ibm.ws.orb.WSUtilDelegateImpl -Dcom.ibm.CORBA.iiop.SubcontractInit=com.ibm.ws.orb.WSSubcontractInitImpl com.sas.analytics.crm.util.client.Utilities -userid ADMINUSER -password ADMINPW -migration –phase2 -debug 1>phase2_out.log 2>phase2_err.log

If you are deploying on a UNIX operating system accessing either IBM Websphere or BEA WebLogic follow the instructions below.

Run the following command to perform the migration. Replace the ADMINUSER and ADMINPW token with the SAS Administrator userid and password before submitting the command.

INSTALLDIR/SASMarketingAutomationCore/4.1/utilities/sasCIUtil -userid ADMINUSER -password ADMINPW -migration -phase2 -debug

Note: it is recommended to redirect your output to a file to inspect later.

Evaluation of Migration Logs

The log files created in this step should be evaluated to determine successful completion:

- phase2_out.log - This log contains an audit of all assets migrated by this step.
- phase2_err.log – This log will be empty on a successful completion.
- It is okay to run this task a second time. Any campaigns or diagrams that have already migrated will not be migrated again.
- If you encounter errors that you cannot resolve, please contact Technical Support.

New Data Model for Marketing Automation 5.1 Contact and Response History

The contact and response history table formats for Marketing Automation 5.1 have changed. Before migrated or new campaigns are executed, the information map(s) will need to be changed to include these new structured tables and to make sure that the custom properties (extended attributes) relating to contact and response history are pointing to this new table. If this is not done, the contact history updates for migrated or new campaigns will fail when attempting to use the old Marketing Automation 4.4 structure.

See *Appendix C: Migration from MA44 to MA51 Data Model* for complete details.

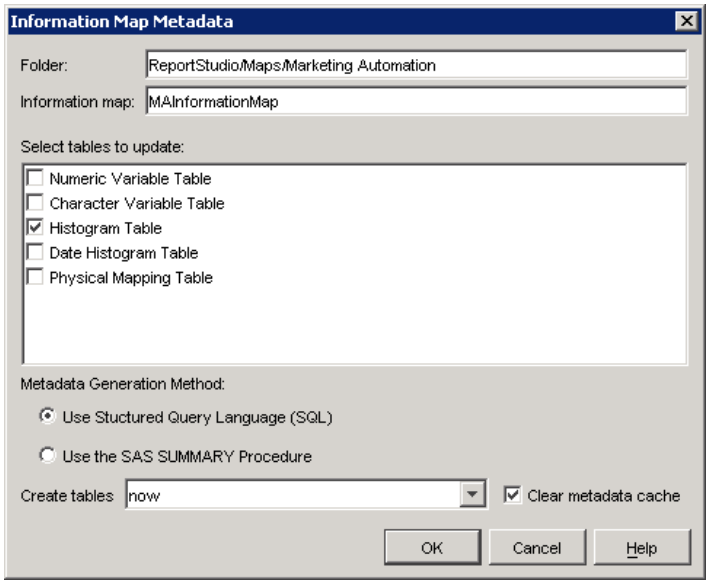
Migration Validation

General Validation within Campaign Studio

Open MA 5.1 Customer Intelligence Studio to verify objects such as campaign diagrams exist. You can open and test a variety of these objects to validate that the system is working correctly.

Generating Metadata

Metadata will need to be re-generated within the MA 5.1 environment.



5.1 screen shot

Phase 7 - Further Client Upgrades

Now that the system is running with one client successfully, it is time to apply the Client Tier upgrade steps as per earlier instructions to all client machines

Phase 8 - Housekeeping

Optional - Reclaim Unused Disk Space Using %OMABAKUP

Once you have completed a successful migration, you have the option of reclaiming disk space used by the migration.

To do this you will need to use the OMABACKUP process to reclaim space in OMR with a setting that reclaims the space. The information below is taken from the following document

http://supportexp.unx.sas.com/rnd/eai/openmeta/v91/setup/backup.html#reclaim

> When metadata is deleted from a SAS metadata repository, the record is removed from both memory and disk; however, the space allocated for the record remains in the data set after the record is removed. To reclaim unused disk space left by previously deleted metadata objects from SAS metadata repositories, you can set the **Reorg** option in the %OMABAKUP command. When **Reorg="Yes"**, %OMABAKUP re-creates repository data sets as repositories are copied to the backup destination, then copies the re-created data sets back to the production location. Because of the overhead associated with re-creating the data sets, you might not want to execute this option for every backup. The default value is **Reorg="No"**. Consider using this option on a monthly basis and after large amounts of metadata have been deleted, such as during the MA 4.4 upgrade and migration process.

Appendix A – Removal of the SAS Marketing Automation Export Adapters.

Introduction

This document describes the steps necessary to remove (uninstall) the SAS Marketing Automation Export Adapters before an upgrade and migration to SAS Customer Intelligence 5.1.

The export adapters are no longer required in the solution since a new integration has been provided between SAS Marketing Automation (Customer Intelligence) and SAS Digital Marketing. The Export Adapters must be removed from any system where they were previously installed to ensure a successful migration to the new 5.1 release.

Removal from a system using BEA WebLogic

1. Remove the classpath setting to add the adapter Jar file

The adapter Jar file (sas.analytics.crm.adapter.bes.jar) should be removed from the WebLogic Application Server classpath setting. The Jar file will have been installed to a location on the middle-tier machine which is available to the application server. This folder is called the 'adapters deployed location' and has a typical (or similar) path as follows…

C:\Program Files\SAS\SASMarketingAutomation\MAExportAdapters\4.1

The path specification of this folder location should be removed (along with the Jar file name) from the classpath of the application server. This can be achieved by either modifying the WebLogic start-up script (startWebLogic.cmd) or, more typically, if the Weblogic Managed Server is started from the Node Manager, by modifying the classpath setting within the Remote Start tab in the Weblogic Admin console. The screen-shot below shows this page of the admin console:

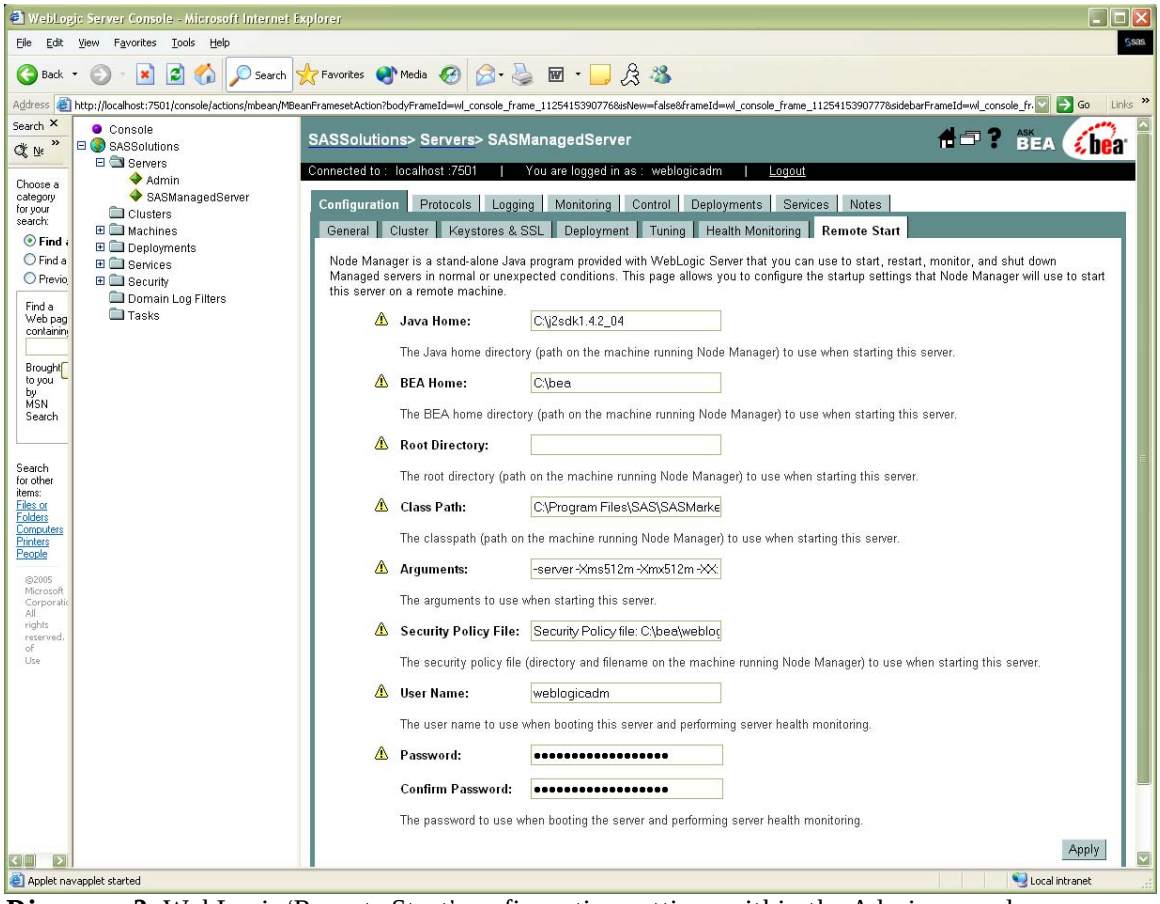


Diagram 2: WebLogic 'Remote Start' configuration settings within the Admin console.

In either case of modifying the start-up script or setting from the admin console, the classpath should be changed removing the following text (this assumes our example deployment location above):

C:\PROGRA~1\SASMarketingAutomation\MAExportAdapters\4.1\sas.analytics.crm.adapter.bes.jar;C:\PROGRA~1\SASMarketingAutomation\MAExportAdapters\4.1\;

2. Removing the Adapter Jars from the SAS Management Console Plug-in Folder

In order for the export definition plug-in to access the export adapter code, the Jar files for the adapter framework and the actual adapter jar will have been manually copied to the plug-in folder on the client machine. The location of the plug-in folder is typically…

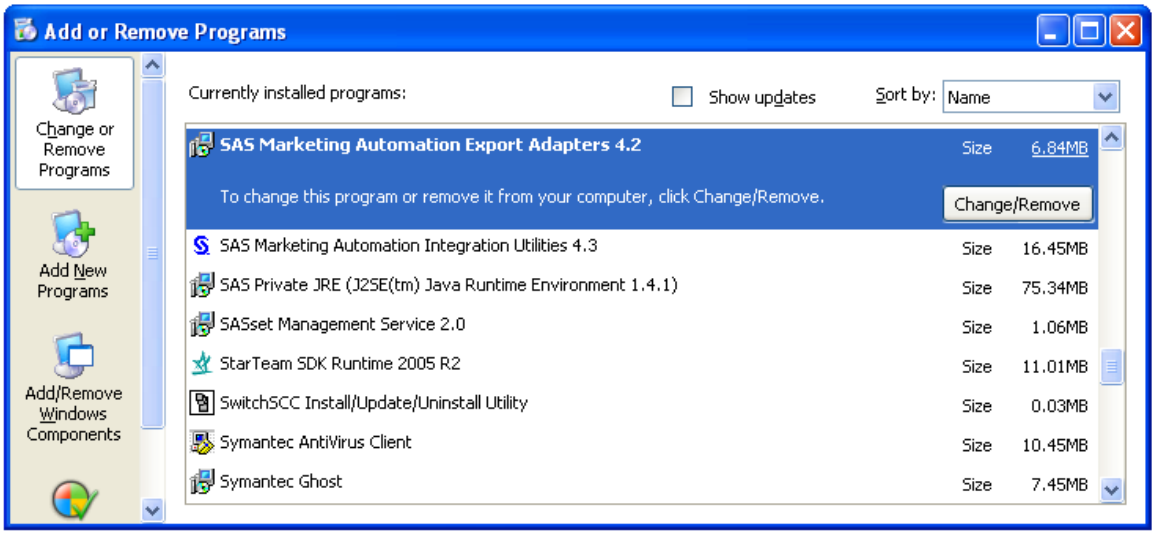
C:\Program Files\SAS\SASManagementConsole\9.1\plugins

The following jars should be deleted from the deployed location to the plug-in folder.

sas.analytics.crm.adapter.bes.jar
sas.analytics.crm.ma.adapter.jar

3. Uninstalling the SAS Marketing Automation Export Adapters

To remove the export adapters, run the uninstall program from the 'Add or Remove Programs' section of the Microsoft Windows Control Panel (See the note below for UNIX based systems); Select the 'SAS Marketing Automation Export Adapters' program item from the list and then click the 'Change/Remove' button to start the uninstall process.



A dialog box will appear prompting you to select the language to use for the uninstall wizard, and then a 'welcome' screen will prompt you to continue with the process.

Simply click the 'Next' button (twice) to begin removal of the installed files. You might be prompted to confirm the deletion of some files that have been updated, for example the file 'server.properites' will have changed. Simply click 'Yes to All' to remove these files. Click the 'Finish' button to end the process and close the window.

This completes the removal process for systems using BEA WebLogic.

Removal from a System Using IBM WebSphere

Removal of the adapter on WebSphere shares some of the same steps described in the previous section for WebLogic. This includes steps 2 and 3 of the WebLogic uninstall. Please refer to the previous section for details of these steps. In addition to these steps the following is also required.

1. Removal of the WebSphere Shared Library for the adapter Jars

The SEM Adapter Jar files will have been added to a shared library that can be loaded by the MA Application Server. The Jar files will have been copied to a convenient location on the middle-tier machine which is available to the application server. This folder is called the 'adapters shared library folder' and can have any name or location but a typical (or similar) path should have been created as follows…

<drive:\>SASBES\

Where <drive:\> is the designation of the root folder – for example, C:\ or D:\

For example:

D:\SASBES\

The jar files will have been copied from the 'adapters deployed location' and will include the following:

sas.analytics.crm.adapter.bes.jar
sas.analytics.crm.ma.adapter.jar
sas.email.broadcast.jar (See Note below)

Before deleting these files and folder remove the shared library from within WebSphere. From the WebSpere Administrate Console set up the shared library as follows:

The first step is to remove the shared library from the MA libraries. This is achieved in the Administrate Console as follows:

- Select Applications->Enterprise Applications.
- Select Marketing Automation 4.3.
- Select Libraries.

- Select ‘SASBES’ Adapter Shared Library (using the example name above)
- Click the ‘Remove’ button.
- Click the ‘Apply’ button.
- Click the ‘Save’ button.

The next step is to delete the shared library.

- Select Environment->Shared Libraries.
- Select the ‘SASBES’ shared library.
- Click the ‘Delete’ button.
- Click the ‘Apply’ button.
- Click the ‘Save’ button.

You can now safely exit the administrative console and delete the SASBES folder and the contained files.

2. Remove WebSphere policy permissions for the shared library Jar files

The policy permissions of the Jar files that were contained in the shared library must also be removed. This is achieved by using the ‘policytool’ editor that accompanies the WebSphere installation. Remove the policy permissions for the Jars using the following steps:

Navigate to the following folder and open up a command prompt.

<WAS_Install>/WebSphere/AppServer/java/jre/bin/policytool/

Where <WAS_Install> is the home folder location of the WenSphere installation. For example, if WebSphere has been installed to a folder called ‘MAHOME\Program Files’ on the ‘D:’ drive, then folder might look like:

D:\MAHOME\Program Files\WebSphere\AppServer\java\jre\bin\policytool\

Start the editor by typing ‘policytool’ at the command prompt and pressing the enter key. Alternatively, simply double click the ‘policytool.exe’ file from your file browser (for example, Windows Explorer).

The PolicyTool window will open and the editor will look for the Java policy file in your home directory. If it does not exist, an error message is displayed. This is normal; simply click OK to close the error message. The policy file that needs to be edited is called ‘app.policy’. This file is located with the WebSphere folder structure as follows:

<WAS_Install>/WebSphere/AppServer/config/cells/<Cell>/nodes/<Node>/

Where:

<WAS_Install> is the home folder location of the WenSphere installation as previously described.
<Cell> is the cell name of the application server (for example, ma43mid).
<Node> is the node name of the application server (often given the same name as Cell).

Open the policy file by using the file menu: Click File > Open. The 'open' dialog box will be seen as shown below:

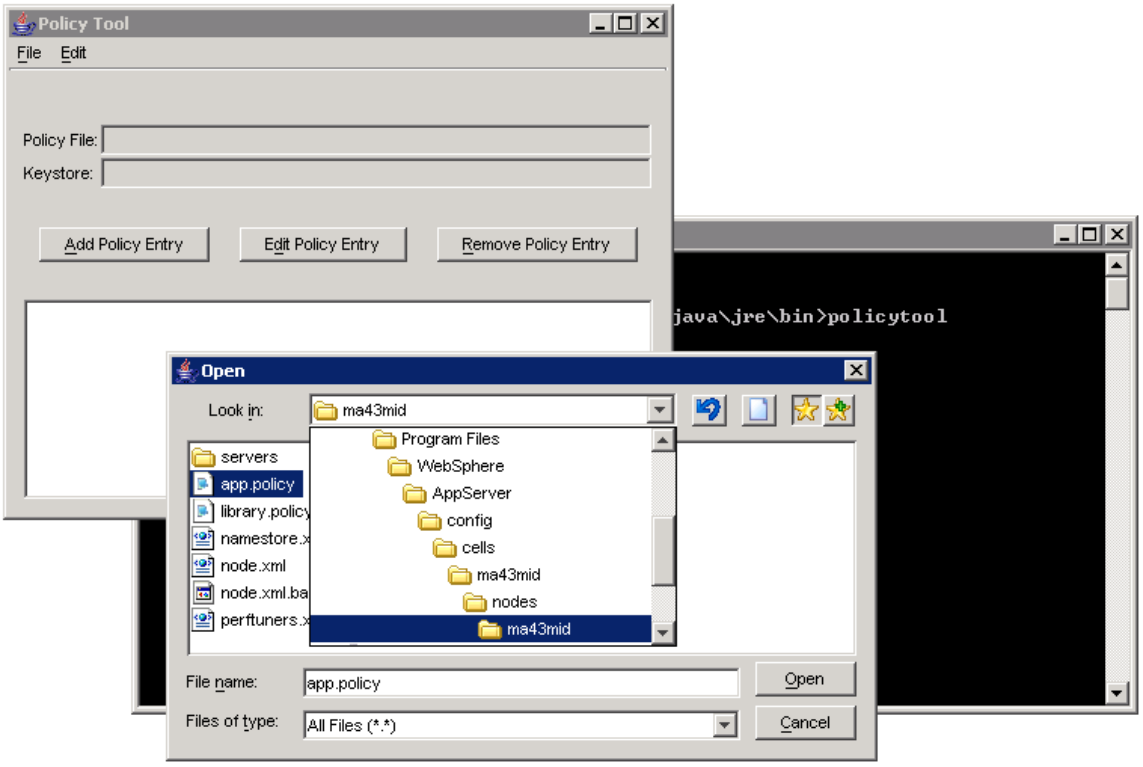


Diagram 5: Policytool file open dialog box.

Navigate to the directory tree in the Open window to pick up the policy file that you need to update. After selecting the policy file, click Open. The code base entries are listed in the window.

Use the following steps to remove entries from the policy file:

- In turn, select each of the following CodeBase entries:

  CodeBase "file:/d:/SASBES/sas.analytics.crm.adapter.bes.jar"
  CodeBase "file:/d:/SASBES/sas.analytics.crm.ma.adapter.jar"
  CodeBase "file:/d:/SASBES/sas.email.broadcast.jar"

- For each entry click the 'Remove Policy Entry' button

WARNING: Be careful not to remove any entries other than the ones specified above. The following screen shot shows the entries included in the list (the last three in the list):

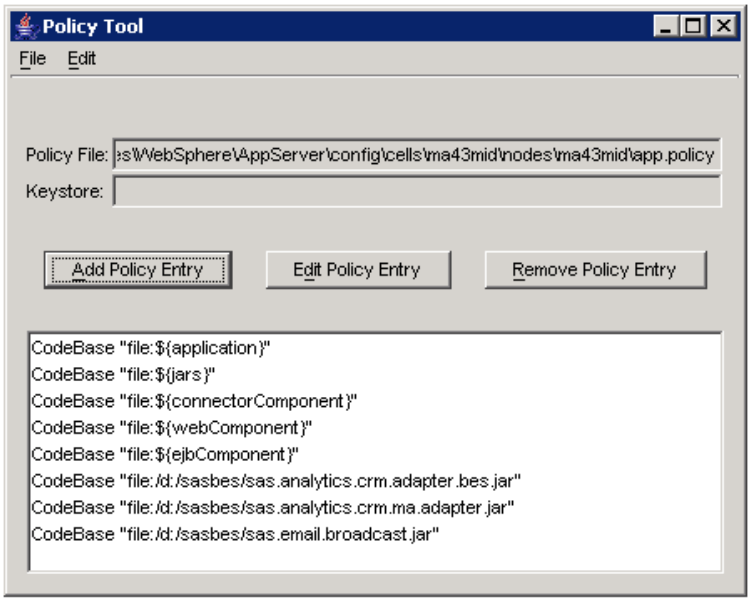


Diagram 7: Policytool main dialog box showing ‘sasbes’ entries before they are removed.

Finally, to save changes to the policy file, select ‘File>Save’ from the file menu and click the ‘OK’ button. Exit the Policytool editor by using ‘File>Exit’.

3. Remove the server.properties file to the WebSphere extensions folder

In order that the ‘server.properties’ files could be access by the application server, it would have been copied to the WebSphere library extension folder. Copying the file to this location allows the file to be accessed and loaded at the same time as the adapter Jar file classes. The WebSphere library extensions folder can be found at:

<WAS_Install>\WebSphere\AppServer\lib\ext

Delete the ‘server.properties’ file from this location.

This completes the removal process for systems using IBM WebSphere.

Note: Please ensure you have also read and followed steps 2 and 3 for WebLogic. Please refer to the previous section for details of these steps. These steps are also applicable to the WebSphere configuration.

Appendix B – Customer Intelligence 5.1 Dynamic Cell Utility

Customer Intelligence 5.1

Dynamic Cell Utility

Usage Guide

Introduction

In SAS Customer Intelligence 5.1, migrated diagrams, or campaigns, that have one or more dynamic cells will be converted to be dynamic diagrams. This is the case even if there is a mix of on-change and dynamic cells in the original diagram. In order to keep the original behavior of these diagrams it is necessary to create two new drawings, one with the nodes that keep to the dynamic style, and another with nodes that behave more like the on-change style. This document describes a (command line) utility that can be used with SAS Marketing Automation 4.4 to identify the campaigns and diagrams that have this situation so that they can be re-drawn before upgrading to SAS Customer Intelligence 5.1.

This utility is capable of outputting the following information:

- Business Context
- Campaign (or diagram) Name
- Campaign (or diagram) Folder
- Cell Name
- Cell type (dynamic, on-change, static)

The information can be delivered in various formats including HTML, EXCEL, and SAS Dataset. The ability to convert this information to SAS Dataset allows the user to submit SQL against the data so that they can be sorted and further manipulated in order to find the campaigns and diagrams of particular interest.

The utility is provided for use with the SAS Marketing Automation 4.4 Integration Utilities and consists of XSLT files that can be downloaded from the Customer Intelligence Clearinghouse Web-Site. The files are

provided within a zip file (MA51DynamicCellUtility.zip) for convenience. The content of this zip file is shown below:

MA51DynamicCellUtility.zip

```
extract_campaigncellsTABLE.xml
extract_campaigncellsHTML.xml
campaigncellsHTML.xsl
campaigncellsTABLE.xsl
```

The first two files in this list provide template extract requests that can be submitted to the SAS Marketing Automation Integration Utilities to generate data either in tabular or HTML format. The second two files in this list contain style-sheet transformations (XSLT) which are referenced by the first two extract request files. These files should be copied to a location accessible to the Integration Utilities. The remainder of this document describes how to use these files.

Creating Tabular Data (XML Table, Excel, and SAS Dataset)

The `extract_campaigncellsTABLE.xml` file contains an extract request in the following format:

```
<?xml version="1.0" encoding="UTF-8"?>
<MAExtractRequest outxsl="campaigncellsTABLE.xsl">
  <CampaignDO detail="ALL">
    <Folder operator="=">
      <Name operator="=">FolderName</Name>
      <ParentFolder operator="=">Marketing Automation 4\Data</ParentFolder>
    </Folder>
  </CampaignDO>
  <FlowDO detail="ALL">
    <Folder operator="=">
      <Name operator="=">FolderName</Name>
      <ParentFolder operator="=">Marketing Automation 4\Data</ParentFolder>
    </Folder>
  </FlowDO>
</MAExtractRequest>
```

Before submitting this request to the Integration Utilities it is necessary to edit the file in order to change the name of the folder from which the list of campaigns and diagrams will be generated. The text shown in **bold** above should be modified and additionally it might also be necessary to change the 'ParentFolder' value where nested folders are used. Alternatively, the 'Folder' section of the XML request can be completely removed to create a 'wide-request' that can extract all campaigns and diagrams in the system.

Please Note: If there are large numbers of campaigns and diagrams in the system a wide-request might not be appropriate due to the limitation of how much data can be extracted from the utilities in a single request.

The request can be submitted to the Integration Utilities as shown in the following example:

```
sasmaextract user pw DefaultAuth "" extract_campaigncellsTABLE.xml dataout.xml
     ①       ② ③      ④      ⑤              ⑥                   ⑦
```

Where:

1) sasmaextract Command
2) User ID

3) Pass Word
4) OMR Domain (Default Authentication Domain)
5) Master Business Context
6) Extract Request
7) Output File (XML)

The resulting XML file (dataout.xml) will contain information that is presented in tabular XML format. This format uses multiple <ROW> tags in which each row contains column tags that provide the campaign/diagram name, folder, cell name, cell code, cell type, and a mixed cell indicator (y/n). This file can be loaded directly into Microsoft Excel or can be converted to SAS data sets using the XML libref engine as follows.

The example SAS code shows how to read the XML into a SAS dataset.

```
libname campcells xml 'dataout.xml'; 1

libname myfiles 'SAS-library'; 2

data myfiles.object; 3
   set campcells.object;
run;
```

1. The first LIBNAME statement assigns the libref CAMPCELLS to the physical location of the XML document (complete pathname, filename, and file extension is needed here), and specifies the XML engine. By default, the XML engine expects GENERIC format.

2. The second LIBNAME statement assigns the libref MYFILES to the physical location of the SAS library that will store the resulting SAS data set. The V9 engine is the default.

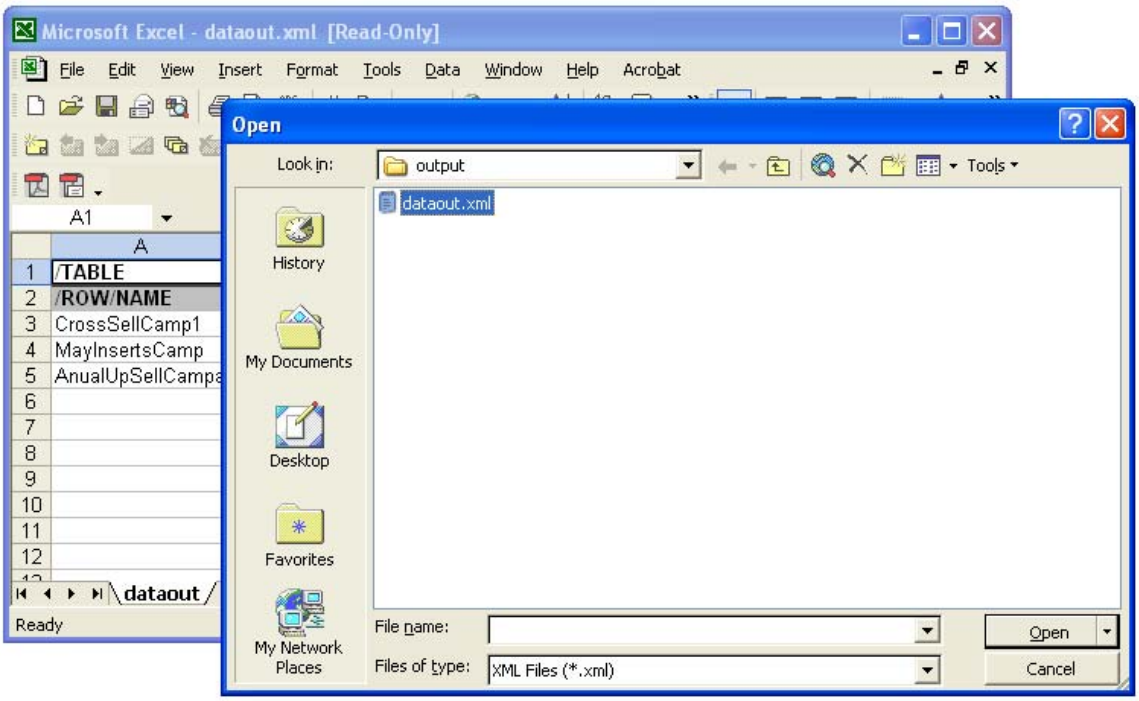
3. The DATA step reads the XML document and writes its content in SAS proprietary format.

For more information on using the SAS XML LIBNAME Engine please see the online documentation at:

http://support.sas.com/onlinedoc/913/docMainpage.jsp

See: *Base SAS → SAS XML LIBNAME Engine: User's Guide*

Alternatively, the xml file can be easily loaded directly into Microsoft Excel:



Creating an HTML Report

The `extract_campaigncellsHTML.xml` file contains an extract request a similar format to that of the previous table request:

```
<?xml version="1.0" encoding="UTF-8"?>
<MAExtractRequest outxsl="campaigncellsHTML.xsl">
  <CampaignDO detail="ALL">
    <Folder operator="=">
      <Name operator="=">FolderName</Name>
      <ParentFolder operator="=">Marketing Automation 4\Data</ParentFolder>
    </Folder>
  </CampaignDO>
  <FlowDO detail="ALL">
    <Folder operator="=">
      <Name operator="=">FolderName</Name>
      <ParentFolder operator="=">Marketing Automation 4\Data</ParentFolder>
    </Folder>
  </FlowDO>
</MAExtractRequest>
```

Again, before submitting this request to the Integration Utilities it is necessary to edit the file in order to change the name of the folder from which the list of campaigns and diagrams will be generated.

The request can be submitted to the Integration Utilities as shown in the following example:

```
sasmaextract user pw DefaultAuth "" extract_campaigncellsHTML.xml dataout.htm
     ①       ② ③     ④     ⑤              ⑥                   ⑦
```

Where:

1) sasmaextract
2) User ID
3) Pass Word
4) OMR Domain (Default Authentication Domain)
5) Master Business Context
6) Extract Request
7) Output File (HTML)

The resulting HTML file (dataout.htm) will contain information that is presented in tabular HTML format. This format has multiple rows in which each row contains columns that provide the campaign/diagram name, folder, cell name, cell code, cell type, and a mixed cell indicator (y/n). This file can be loaded into any application that knows how to display or use HTML.

Re-drawing diagrams

Diagrams that contain both linkable dynamic cells and linkable ‘on change” cells will be flagged by the dynamic cell tool. Below are some suggestions on how to manage these diagrams or campaigns.

- Decide if the diagram or campaign should contain both *linkable on change* cells and *linkable dynamic* cells. Can the diagram be changed to support only one type?
- If the diagram or campaign should contain both types of linkable cells:

- Separate the diagram or campaign into two copies, one containing only the linkable cells that were *on change* in the original diagram and one copy containing only the linkable cells that were *dynamic* in the original diagram.
- In the "on change cell" diagram, **uncheck** the "*use most recent data when referenced by link node*" check box.
- In the "dynamic cell" diagram, **check** the "*use most recent data when referenced by link node*" check box.

To learn more about the new MA5.1 diagram level check boxes, see the chapter "Creating Diagrams" in the *SAS Marketing Automation 5.1: Users Guide.*

Appendix C – Migration from MA44 to MA51 Data Model

Table of Contents

Overview:

The purpose of this document to explain the migration steps of data from the MA44 to the MA51 data model.

Data Model Tables:

MA44 Data Model Tables:

Table Name	Process Updating
CONTACTS_<Subject>	Update Contact History (MA)
RESPONSES_<Subject>	Customer Centric ETL

MA51 Data Model Tables:

Subject Area	Table Name	Process Updating
Campaign	CI_CAMPAIGN	Publish 2 Model
	CI_MARKETING_CELL	Publish 2 Model
	CI_CAMPAIGN_EXT	Publish 2 Model
	CI_CAMPAIGN_CHAR_UDF	Publish 2 Model
	CI_CAMPAIGN_NUM_UDF	Publish 2 Model
	CI_CAMPAIGN_DATE_UDF	Publish 2 Model
	CI_CAMPAIGN_STATUS	Publish 2 Model
	CI_CHANGE_LOG	Publish 2 Model
	CI_CHANGE_TYPE	One Time Insert
Communication	CI_COMMUNICATION	Publish 2 Model
	CI_COMMUNICATION_EXT	Publish 2 Model
	CI_COMMUNICATION_CHAR_UDF	Publish 2 Model
	CI_COMMUNICATION_NUM_UDF	Publish 2 Model
	CI_COMMUNICATION_DATE_UDF	Publish 2 Model
	CI_COMMUNICATION_STATUS	Publish 2 Model
	CI_MARKETING_CELL	Publish 2 Model
Cell_Package	CI_CELL_PACKAGE	Publish 2 Model
	CI_CELL_PACKAGE_TREATMENT_CNT	Publish 2 Model
	CI_CONTROL_GROUP_TYPE	One Time Insert
Treatment	CI_CHANNEL	One Time Insert
	CI_PACKAGE	Publish 2 Model
	CI_TREATMENT	Publish 2 Model
	CI_PACKAGE_X_TREATMENT	Publish 2 Model
Contact	CI_CONTACT_HISTORY_<SUBJECT>	CI Common Web Service
	CI_PRESENTED_TREATMENT_<SUBJECT>	CI Common Web Service
	CI_CONTACT_HISTORY_STATUS	One Time Insert
Response	CI_RESPONSE_HISTORY_<SUBJECT>	CI Common Web Service
	CI_RESPONSE	Publish 2 Model
	CI_RESPONSE_X_CELL_PACKAGE	Publish 2 Model
	CI_RESPONSE_TYPE	One Time Insert
	CI_RESPONSE_CHANNEL_RESPONSE	Publish 2 Model

Column Mapping from MA44 to MA51:

CONTACT HISTORY:

MA44		MA51	
Table Name	**Column Name**	**Table Name**	**Column Name**
CONTACTS_<SUBJECT>	CAMPAIGN_CD	CI_CAMPAIGN	CAMPAIGN_CD
CONTACTS_<SUBJECT>	SUBJECT_ID	CI_CONTACT_HISTORY_<SUBJECT>	SUBJECT_ID
CONTACTS_<SUBJECT>	COMM_OCCUR_ID	CI_COMMUNICATION	COMMUNICATION_OCCURENCE_NO
CONTACTS_<SUBJECT>	COMM_OCCUR_STATUS_CD	CI_COMMUNICATION_STATUS	COMMUNICATION_STATUS_DESC
CONTACTS_<SUBJECT>	COMMUNICATION_CD	CI_COMMUNICATION	COMMUNICATION_CD
CONTACTS_<SUBJECT>	CONTACT_EXPORTED_DTTM	CI_COMMUNICATION	EXPORT_DTTM
CONTACTS_<SUBJECT>	CONTACT_CREATION_DTTM	CI_CONTACT_HISTORY_<SUBJECT>	CONTACT_DTTM
CONTACTS_<SUBJECT>	CONTACT_EXECUTED_DTTM	CI_CAMPAIGN	RUN_DTTM
CONTACTS_<SUBJECT>	CAMPAIGN_ID	Not Migrated	
CONTACTS_<SUBJECT>	COMMUNICATION_ID	Not Migrated	
CONTACTS_<SUBJECT>	CAMPAIGN_OCCUR_ID	Not Migrated	
CONTACTS_<SUBJECT>	CONTACT_STATUS_CD	Not Migrated	
CONTACTS_<SUBJECT>	CONTACT_CREATION_BY_NM	Not Migrated	
CONTACTS_<SUBJECT>	CONTACT_DROPPED_CD	Not Migrated	
CONTACTS_<SUBJECT>	CONTACT_DROPPED_DTTM	Not Migrated	
CONTACTS_<SUBJECT>	CONTACT_DROPPED_BY_NM	Not Migrated	
CONTACTS_<SUBJECT>	CONTACT_EXECUTED_BY_NM	Not Migrated	
CONTACTS_<SUBJECT>	CONTACT_EXPORTED_BY_NM	Not Migrated	
CONTACTS_<SUBJECT>	COMM_OCCUR_PLAN_DTTM	Not Migrated	
CONTACTS_<SUBJECT>	CONTACT_UPDATED_BY_NM	Not Migrated	
CONTACTS_<SUBJECT>	CONTACT_UPDATED_CD	Not Migrated	
CONTACTS_<SUBJECT>	COMM_OCCUR_STATUS_UPDATED_DTTM	Not Migrated	
CONTACTS_<SUBJECT>	CONTACT_UPDATED_DTTM	Not Migrated	

RESPONSE_HISTORY_<SUBJECT>:

MA44		MA51	
Table Name	**Column Name**	**Table Name**	**Column Name**
RESPONSES_<SUBJECT>	RESPONSE_CD	CI_RESPONSE	RESPONSE_NM
RESPONSES_<SUBJECT>	CAMPAIGN_CD	CI_CAMPAIGN	CAMPAIGN_CD
RESPONSES_<SUBJECT>	COMMUNICATION_CD	CI_COMMUNICATION	COMMUNICATION_CD
RESPONSES_<SUBJECT>	SUBJECT_ID	CI_RESPONSE_HISTORY_<SUBJECT>	SUBJECT_ID
RESPONSES_<SUBJECT>	COMM_OCCUR_ID	CI_COMMUNICATION	COMMUNICATION_OCCURENCE_NO
RESPONSES_<SUBJECT>	INFERRED_RESPONSE_FLG	CI_RESPONSE_HISTORY_<SUBJECT>	INFERRED_RESPONSE_FLG
RESPONSES_<SUBJECT>	RESPONSE_LOAD_DTTM	CI_RESPONSE_HISTORY_<SUBJECT>	PROCESSED_DTTM
RESPONSES_<SUBJECT>	RESPONSE_DTTM	CI_RESPONSE_HISTORY_<SUBJECT>	RESPONSE_DTTM
RESPONSES_<SUBJECT>	RESPONSE_CHANNEL_CD	CI_CHANNEL	CHANNEL_NM
RESPONSES_<SUBJECT>	RESPONSE_RULE_CD	Not Migrated	

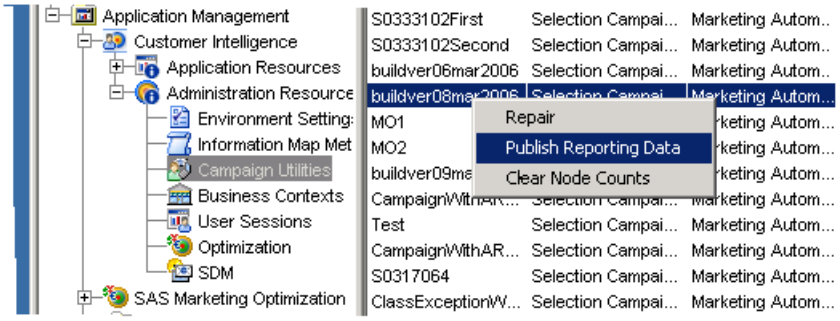
Migration Steps per Subject Table:

Input Table	Output Table
CONTACTS_<SUBJECT>	CI_CONTACT_HISTORY_<SUBJECT>
RESPONSES_<SUBJECT>	CI_RESPONSE_HISTORY_<SUBJECT>

Step 1: From SAS Management Console Publish all available campaign data of migrated campaigns to Customer Intelligence Data Model . Tables identified by "Publish 2 Model" would get populated by the first time publish of an existing campaign.

Publish can be executed through

SAS Management Console ➔
Application Management
➔ Customer Intelligence
➔ Administrative Resources
Campaign Utilities
➔ Publish Reporting Data



Step 2: Alter the input table to assign the right CAMPAIGN_SK & COMMUNICATION_SK to each CONTACTS_<SUBJECT> and RESPONSES_<SUBJECT> row

Add Column	Look Up Table	Join Condition
CAMPAIGN_SK	CI_CAMPAIGN	CONTACTS_<SUBJECT>.CAMPAIGN_CD = CI_CAMPAIGN.CAMPAIGN_CD
COMMUNICATION_SK	CI_COMMUNICATION	CONTACTS_<SUBJECT>.COMMUNICATION_CD = CI_COMMUNICATION.COMMUNICATION_CD
		CONTACTS_<SUBJECT>.COMM_OCCUR_ID = CI_COMMUNICATION.COMMUNICATION_OCCURENCE_NO

Note: For Campaigns and Communications where there does not exist rows in the CI_CAMPAIGN/ CI_COMMUNICATION table user has to decide what should be course of action with those

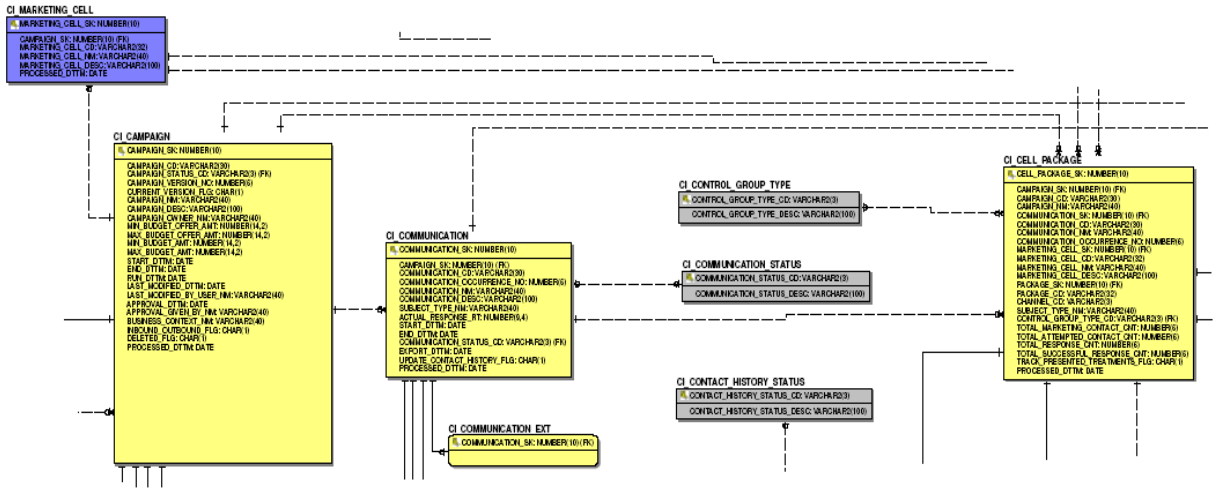
CONTACTS_<SUBJECT>/RESPONSES_<SUBJECT> rows. These are cases where MA does not have Campaign/Communication data in the metadata repository either because they are old or were deleted.

Step 3: Alter the input table to assign the correct CELL_PACKAGE_SK for every row of CONTACTS_<SUBJECT> & RESPONSES_<SUBJECT>

IMPORTANT: MA44 CONTACTS_<SUBJECT> or RESPONSES_<SUBJECT> did not have CELL information as part of the contacts or responses row. This step is a manual process to resolve.

Notes to help in resolution:

- CI_CELL_PACKAGE: This is an intersection table between CI_MARKETING_CELL & CI_COMMUNICATION table on account of a many-to-many relationship between CI_MARKETING_CELL & CI_COMMUNICATION. For example, every new row in the CI_COMMUNICATION or in the CI_MARKETING_CELL results in a new row in the CI_CELL_PACKAGE table and thus a new CELL_PACKAGE_SK
- For those Communication rows where there is only one Marketing Cell the user can identify the right CELL_PACKAGE_SK from the CI_CELL_PACKAGE table using the COMMUNICATION_SK value
- For those communication where there are many cells to a communication or vice versa user would have to decide on how to resolve the CONTACTS_<SUBJECT> or RESPONSES_<SUBJECT> rows to the right CELL_PACKAGE_SK



Step 4: Resolve the right _CD values and alter the Input table to append the MA51 _CD columns instead.

MA44 _CD columns were CHAR(30) columns. These in the MA51 data model have been moved to respective lookup tables and are stored in the _NM (Name) or _DESC (description) columns highlighted below.

For each of these _DESC/ _NM column there would be a corresponding _CD (3 characters) column which would then be used in populating the CONTACT_HISTORY_<SUBJECT> or the RESPONSE_HISTORY_<SUBJECT> tables.

CONTACT_HISTORY Codes Migration

MA44 Column	Maps to MA51 Column	Column used to Update CI_CONTACT_HISTORY _<SUBJECT> .(CONTACT_HISTORY_STATUS_CD)
COMM_OCCUR_STATUS_CD	COMMUNICATION_STATUS_DESC	CI_COMMUNICATION. COMMUNICATION_STATUS_CD

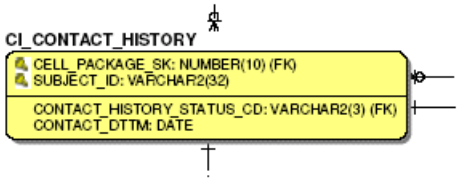
RESPONSE_HISTORY Codes Migration

MA44 Column	Maps to MA51 Column	Column used to Update CI_RESPONSE_HISTORY_<SUBJECT>
RESPONSE_CD	CI_RESPONSE.RESPONSE_NM	CI_RESPONSE.RESPONSE_CD
RESPONSE_CHANNEL_CD	CI_CHANNEL.CHANNEL_NM	CI_CHANNEL.CHANNEL_CD

Step 5: Update target MA51 tables

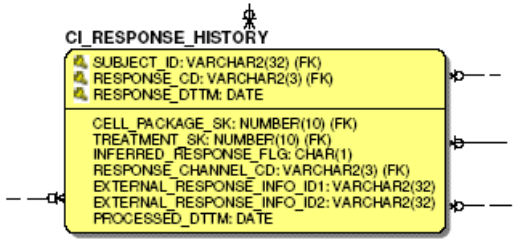
On completing the above steps the INPUT table is now modified to populate

CI_CONTACT_HISTORY_<SUBJECT> :



CI_CONTACT_HISTORY_<SUBJECT>	CELL_PACKAGE_SK	Step 3
	SUBJECT_ID	CONTACTS_<SUBJECT>.SUBJECT_ID
	CONTACT_HISTORY_STATUS_CD	CI_COMMUNICATION. COMMUNICATION_STATUS_CD
	CONTACT_DTTM	CONTACTS_<SUBJECT>. CONTACT_CREATION_DTTM

CI_RESPONSE_HISTORY_<SUBJECT> :



CI_RESPONSE_HISTORY	SUBJECT_ID	RESPONSES_<SUBJECT>.SUBJECT_ID
	RESPONSE_CD	CI_RESPONSE.RESPONSE_CD

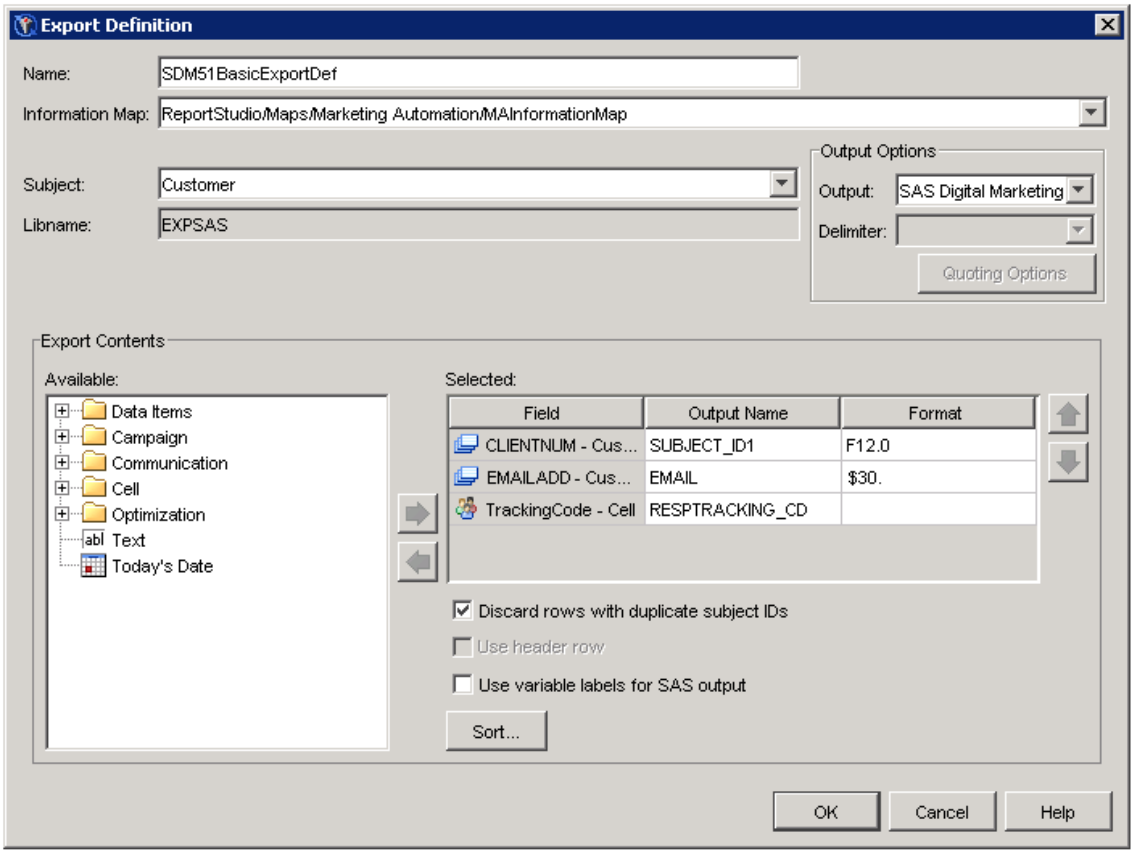
	RESPONSE_DTTM	RESPONSES_<SUBJECT>.RESPONSE_DTTM
	CELL_PACKAGE_SK	From Step 3
	TREATMENT_SK	-<BLANK>-
	INFERRED_RESPONSE_FLG	RESPONSES_<SUBJECT>.INFERRED_RESPONSE_FLG
	RESPONSE_CHANNEL_CD	CI_CHANNEL.CHANNEL_CD
	EXTERNAL_RESPONSE_INFO_ID1	-<BLANK>-
	EXTERNAL_RESPONSE_INFO_ID2	-<BLANK>-
	PROCESSED_DTTM	SYSDATE

Appendix D – Migration of SAS Digital Marketing Broadcast in SAS Customer Intelligence 5.1

In SAS Customer Intelligence 5.1 there is no 'automatic' migration of communications that were previously used to execute SAS Digital Marking e-mail broadcasts. This is due to the latest changes in these two products which improve the overall integration but make it not possible to implement a successful migration path in a fully automatic way. Existing assets (export definitions, communications, broadcasts, and so on) can still be used in the new release, but there are a small number of manual steps required to ensure they continue to execute following an upgrade to SAS Customer Intelligence 5.1.

Step 1: Updating the Export Definition

In SAS Customer Intelligence 5.1 it is no longer necessary to identify the digital marketing broadcast within the export definition. The 'adapter' tab has been completely removed from the user interface of the SAS Management Console plug-in for export definitions and will no longer appear.



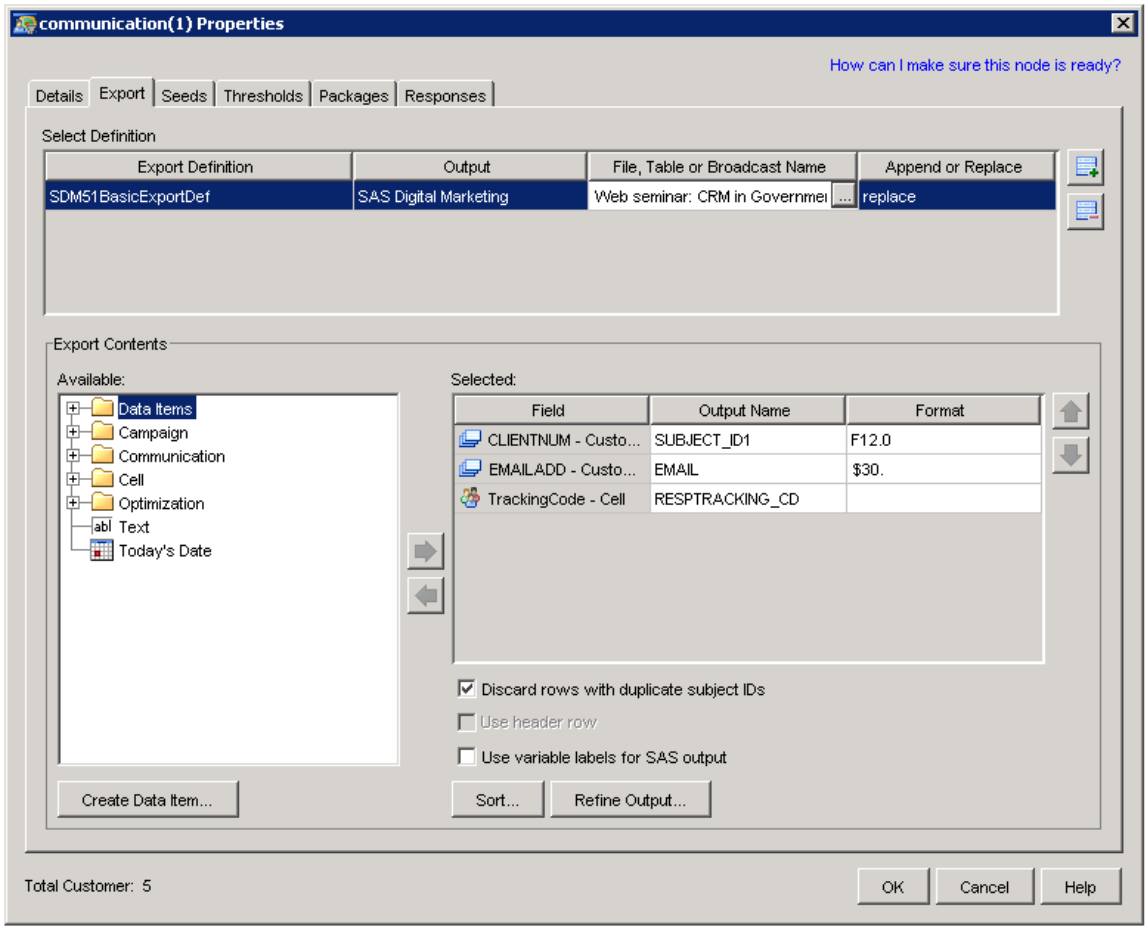
Instead of specifying the broadcast, the user simply has to state that the export definition will be used as the basis to create a recipient table to be sent to SAS Digital Marketing. This is achieved by selecting an output type of "SAS Digital Marketing" from within the output options. Update the existing export definition to select this output type. An export definition of this type must also include output fields for

'SUBJECT_ID1", "EMAIL", and "RESPONSETRACKING_CD". The definition should also be updated to include these necessary fields.

Step 2: Updating the Communication

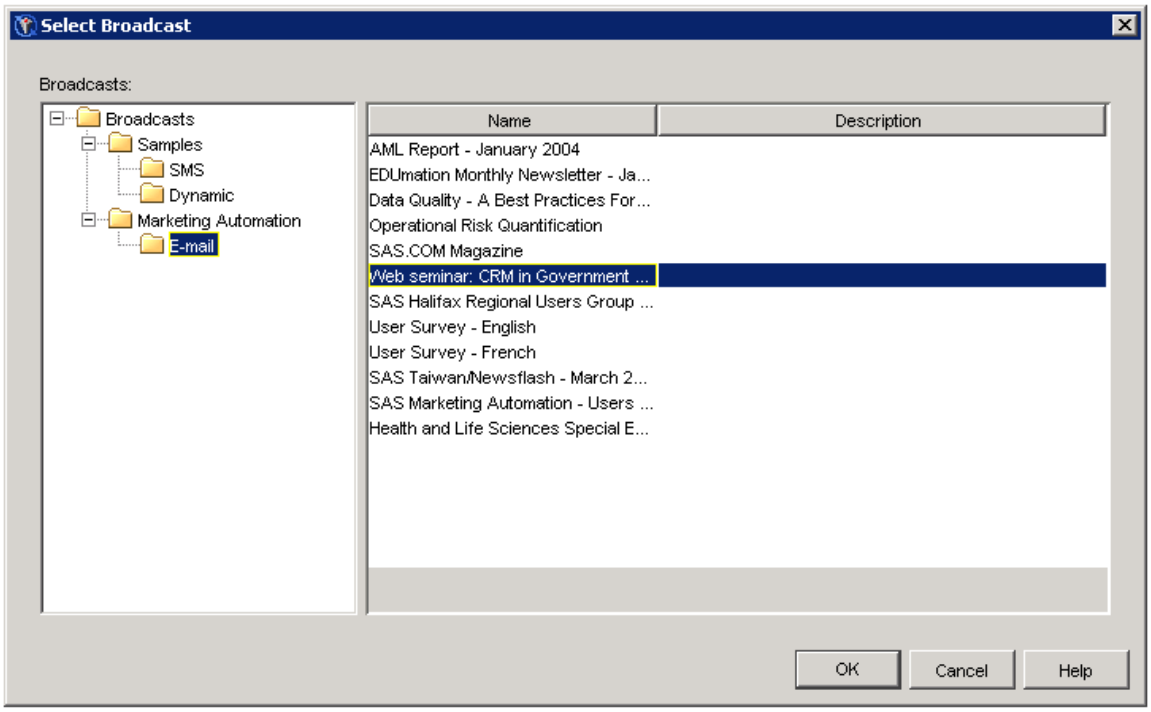
Identifying which broadcast to execute for a particular communication can now be set in one of two ways; through a communication definition or through the communication properties. This allows the SAS Customer Intelligence user the choice of how and when the broadcast will be chosen. It is no longer necessary to pick the broadcast at the early phases of campaign development.

An existing communication that previously used an export definition tied to a broadcast should be updated to specify the broadcast in the communication properties.



Because a 'tear-off' model is used, copies of export definitions are held within the communication properties. It is therefore necessary to delete the existing export definition from the list and re-add the updated export definition which was modified and saved in the previous step. To do this, use the '+' and '-' buttons next to the 'Selected Definition' section of the dialog box. Select the updated export definition from the available list.

After the updated export definition is added it should be possible to select the desired broadcast. This is simply achieved by clicking the ellipses button in the 'File, Table, or Broadcast' name column. A broadcast selection dialog box will open that shows the available broadcasts.



Select the required broadcast and click the 'OK' button to add this information back to the communication properties. Save the updated communication properties by clicking 'OK' from the dialog box. Save the campaign to store your changes.

The steps necessary for migration of the broadcast are now complete.

Important Notes

It is no longer necessary to specify the table from which the broadcast will receive the recipient list. This is because when the communication runs a table is generated behind the scenes and given a unique table name. The table is created in the library specified in the export definition. SAS Digital Marketing will automatically use this auto-generated table when the broadcast is executed by running the communication.

Only new broadcasts created in SAS Digital Marketing 5.1 can use the 'CI Export' data model. It is not possible to track replies and responses into the SAS Customer Intelligence Common Data Model (contact history and response history) using existing broadcasts created in SAS Digital Marketing 4.4 or lower. New broadcasts must be created if this new functionality is required.

