

▶ Technical Paper

Setting up SAS®9 National Language Support in Microsoft Windows Operating Environments



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Introduction

English editions of SAS® software do not always work well for users in other parts of the world because the software uses formatting and language conventions that are specific to English environments. To ensure that it processes national data correctly, SAS software includes *National Language Support (NLS)* features that enable SAS applications to function correctly in the global market. These NLS features ensure that SAS software can handle national data correctly in an English interface. In addition, SAS provides the features enable the SAS applications to be localized so that they reflect the specific local conventions, language, and culture for a particular geographical region.

This paper explains the procedure for installing NLS features in SAS®9 in Windows operating environments. The topics covered are as follows:

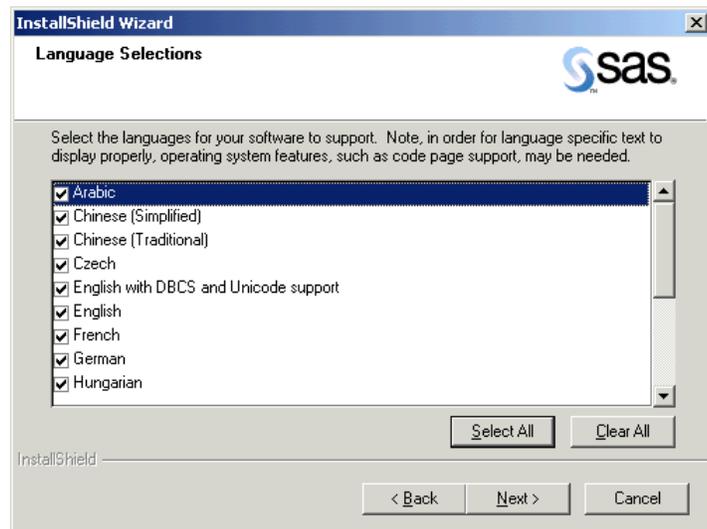
- installing NLS capability in SAS® 9.1.3, SAS® 9.2, SAS® 9.3, and SAS® 9.4
- performing post-installation configuration
- configuring regional and language settings

Installing National Language Support for SAS®9

National Language Support is added during the installation process. The following sections explain how to add NLS for SAS 9.1.3, SAS 9.2, SAS 9.3, and SAS 9.4.

NLS Support for SAS® 9.1.3

To add NLS support for SAS 9.1.3, follow the installation steps that are described in the *User Installation Guide for SAS® 9.1.3 Foundation for Microsoft® Windows®* (support.sas.com/documentation/installcenter/the_sas_system/9.1.3_TS1M3/win/win/user.pdf). Information about NLS installation (language selection) begins on page 14 of the user installation guide. During the installation, the Language Selections page appears in the installation wizard, as shown here:



For a first-time installation, **you must select** the options **English with DBCS and Unicode support** and **English**. These selections install National Language Support into your software. (**Note:** If you have to reinstall SAS, and the English edition was installed previously, you do not have to reinstall the English edition.)

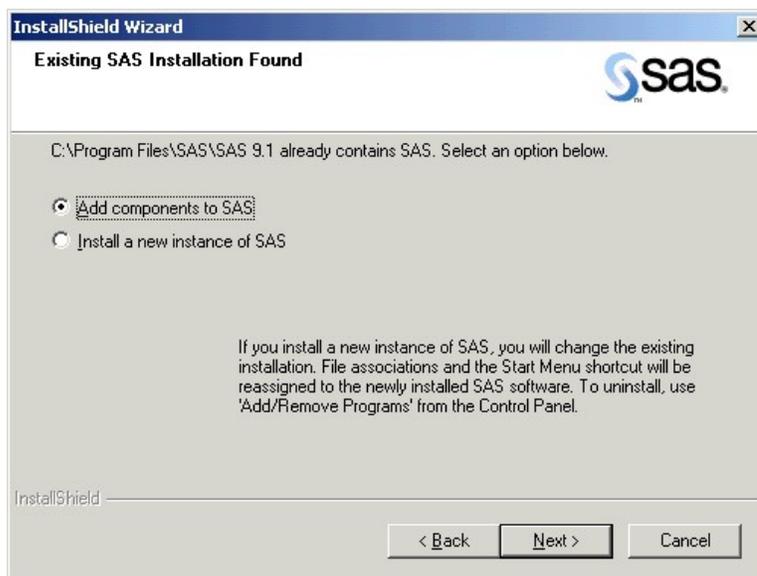
Localized editions of SAS (for example, Chinese Simplified or French) are optional. As stated earlier, a *localized edition* of the software is one that reflects the specific local conventions, language, and culture of a particular geographical region. The benefit to installing localized editions of SAS is that you do not need to perform post-installation configuration for National Language Support. Moreover, the interface for a localized edition is translated into the language that is appropriate for that locale.

If you are using the English edition only, select the previously mentioned options (**English with DBCS and Unicode support** and **English**) to install for that edition. However, if you select these options, you must perform post-installation configuration, which is discussed in the next section of this paper.

When the installation is finished, shortcuts to your internationalized or localized editions of SAS are added to your **Programs** menu. To access these shortcuts, select **Start ► Programs ► SAS**.

Note: It is possible to skip the **Language Selection** step during installation and add NLS support later, but you need to reinstall SAS, as follows:

1. Execute the setup.exe file from the installation CD's root folder to invoke the SAS® Software Navigator.
2. During the reinstallation process, select **Add components to SAS** on the Existing SAS Installation Found page of the wizard, as shown here:



3. Click **Next** and follow the remaining prompts in the wizard.

NLS Support for SAS® 9.2, SAS® 9.3, and SAS® 9.4

In SAS 9.2, SAS 9.3, and SAS 9.4, NLS support is included, by default, when you run the SAS® Deployment Wizard. When you invoke the wizard by executing the setup.exe file in your SAS Software Depot, you can see the NLS support selections as the installation of SAS® Foundation progresses. As shown in the following display, the language options **DBCS Extensions**, **English**, **English with DBCS Support**, and **Unicode Support** are selected by default.



Localized editions of SAS (for example, Chinese Simplified or French) are optional. As stated earlier, a *localized edition* of the software is one that reflects the specific local conventions, language, and culture of a particular geographical region. The benefit to installing localized editions of SAS is that you do not need to perform post-installation configuration for National Language Support. Moreover, the interface for a localized edition is translated into the language that is appropriate for that locale.

When the installation is finished, shortcuts to your internationalized or localized editions of SAS are added to your Windows program menu. To access these shortcuts in SAS 9.2, select **Start ► Programs ► SAS ► SAS 9.2 (Additional Languages)**. To access these shortcuts in SAS 9.3 and SAS 9.4, select **Start ► Programs ► SAS ► Additional Languages**.

Performing Post-Installation Configuration for SAS®9 National Language Support

After you successfully install the English edition of SAS with DBCS and Unicode support to the default location, follow these post-installation configuration steps to support other languages:

1. Navigate to the SAS®9 NLS configuration file (sasv9.cfg):
 - For SAS 9.1, the file is located in `C:\Program Files\SAS\SAS 9.1\nls\ld`.
 - For SAS 9.2, the file is located in `C:\Program Files\SAS\SASFoundation\9.2\nls\ld`.
 - For SAS 9.3, the file is located in `C:\Program Files\SASHome\SASFoundation\9.3\nls\ld`.
 - For SAS 9.4, the file is located in `C:\Program Files\SASHome\SASFoundation\9.4\nls\ld`.
2. Open sasv9.cfg with Windows Notepad and edit the configuration file for your language, as explained in the following sections.

Asian Languages

For SAS® 9.1 and SAS® 9.2

In the configuration file:

1. Search for the `-DBCSLANG` option.
2. Place comment delimiters around the default `-DBCSLANG` option, as shown below:

```
/* -dbcslang japanese */
```

Commenting out this option rather than deleting it preserves the default setting.

Note: If your language is Japanese, you do not need to change this option because `-DBCSLANG JAPANESE` is the default setting. For more details, see SAS Note 18317, “Default DBCS session locale is set to Japanese on SAS®9.” (support.sas.com/kb/18/317.html)

3. Add a new `-DBCSLANG` option for your language, as shown here:

```
-dbcslang language
```

In addition to **Japanese**, other valid values for *language* are as follows:

- **Chinese** [for Chinese (Simplified)]
- **Taiwanese** [for Chinese (Traditional)]
- **Korean**

For SAS® 9.3 and SAS® 9.4

In the configuration file:

1. Search for the `-LOCALE` option.
2. Place comment delimiters around the default `-LOCALE` option, as shown below:

```
/* -locale ja_JP */
```

Commenting out this option rather than deleting it preserves the default setting.

Note: If your language is Japanese, you do not need to change this option because -DBCSLANG JAPANESE is the default setting. For more details, see SAS Note 18317, "Default DBCS session locale is set to Japanese on SAS®9." (support.sas.com/kb/18/317.html)

3. Add a new -LOCALE option for your language, as shown here:

```
-locale locale-value
```

In addition to **Ja_JP**, other valid values for *locale-value* are as follows:

- **zh_CN** [for Chinese (Simplified)]
- **zh_TW** [for Chinese (Traditional)]
- **Ko_KR** (Korean)

European Languages

For SAS® 9.1 and SAS® 9.2

In the configuration file:

1. Search for the -DBCS option.
2. Place the default -DBCS, -DBCSTYPE, and -DBCSLANG options within comment delimiters, as shown below:

```
/* -dbsc */  
/* -dbcstype pcms */  
/* -dbcslang japanese */
```

Commenting out these options rather than deleting them preserves the default setting.

3. Add the -LOCALE option for your language:

```
-locale locale-value
```

In this syntax, *locale-value* specifies your particular locale. For example, -LOCALE fr_FR designates the French_France locale and -LOCALE es_PR designates the Spanish_PuertoRico locale. Valid locale values are available in the chapter titled "Values for the LOCALE= System Option" in the SAS® National Language Support (NLS) Reference Guide. Be sure to see the guide that is specific to your release of SAS. (For SAS 9.1, the corresponding document title is *SAS® National Language Support (NLS): User's Guide*.) Links to the respective documentation for each release are available in the [Resources](#) section at the end of this document.

For SAS® 9.3 and SAS® 9.4

In the configuration file:

1. Search for the -LOCALE option.
2. Place comment delimiters around the default -LOCALE option, as shown below:

```
/* -locale ja_JP */
```

Commenting out this option rather than deleting it preserves the default setting.

3. Add the -LOCALE option for your language:

```
-locale locale-value
```

In this syntax, *locale-value* specifies your particular locale. For example, -LOCALE fr_FR designates the French_France locale and -LOCALE es_PR designates the Spanish_PuertoRico locale. Valid locale values are available in the chapter titled “Values for the LOCALE= System Option” in the *SAS® National Language Support (NLS) Reference Guide*. Be sure to see the guide that is **specific to your release of SAS**. (For SAS 9.1, the corresponding document title is *SAS® National Language Support (NLS): User's Guide*.) Links to the respective documentation for each release are available in the [Resources](#) section at the end of this document.

Unicode (UTF-8) Server

For SAS® 9.1

To configure SAS as a Unicode (UTF-8) server in SAS 9.1:

1. Search for the -DBCSTYPE and -DBCSSLANG options.
2. Comment out the default -DBCS,-DBCSTYPE, and -DBCSSLANG options, as shown below:

```
/* -dbcstype pcms */
/* -dbcslang japanese */
```

3. Add the following -ENCODING= option:

```
-encoding=utf-8
```

For SAS® 9.2

In SAS 9.2, the configuration for the Unicode server is implemented automatically. SAS 9.2 also configures a shortcut that enables you to invoke the Unicode server directly. To invoke SAS 9.2 as a Unicode (UTF-8) server, select **Start ► Programs ► SAS ► SAS 9.2 license Renewal and Utilities ► SAS 9.2 (Unicode Server)**.

Note: When you start the SAS (Unicode server) application directly from the SAS 9.2 shortcut, the following warning message appears in the log window:

```
WARNING: Display of UTF8 encoded data is not fully supported by
the SAS Display Manager System.
```

For SAS® 9.3

In SAS 9.3, the configuration for the Unicode server is implemented automatically. SAS 9.3 also configures a shortcut that enables you to invoke the Unicode server directly. To invoke SAS 9.3 as a Unicode (UTF-8) server, select **Start ► Programs ► SAS ► Additional Languages ► SAS 9.3 (Unicode Support)**.

Note: When you start the SAS (Unicode server) application directly from the SAS 9.3 shortcut, the following warning message appears in the log window:

```
WARNING: Display of UTF8 encoded data is not fully supported by
         the SAS Display Manager System.
```

This is a normal message, and it does not indicate an installation error. For more details, see SAS Note 44231, "Display of UTF-8 encoded data is not fully supported by the SAS Display Manager system." (support.sas.com/kb/44/231)

For SAS® 9.4

In SAS 9.4, the configuration for the Unicode server is implemented automatically. SAS 9.4 also configures a shortcut that enables you to invoke the Unicode server directly. To invoke SAS 9.4 as a Unicode (UTF-8) server, select **Start ► Programs ► SAS ► Additional Languages ► SAS 9.4 (Unicode Support)**.

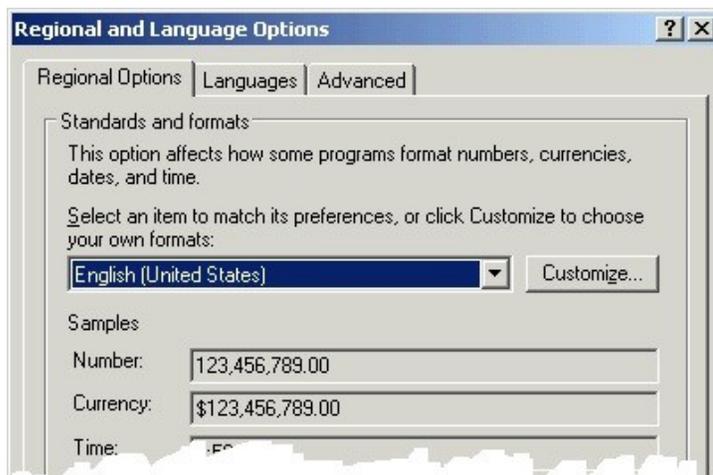
Configuring Regional and Language Settings

After you install National Language Support in SAS, you must configure the regional and language settings for Windows environments, as follows.

Note: The following instructions are for all Windows environments. However, this paper only shows examples for Windows XP and Windows 7, as described in the following sections:

Windows XP

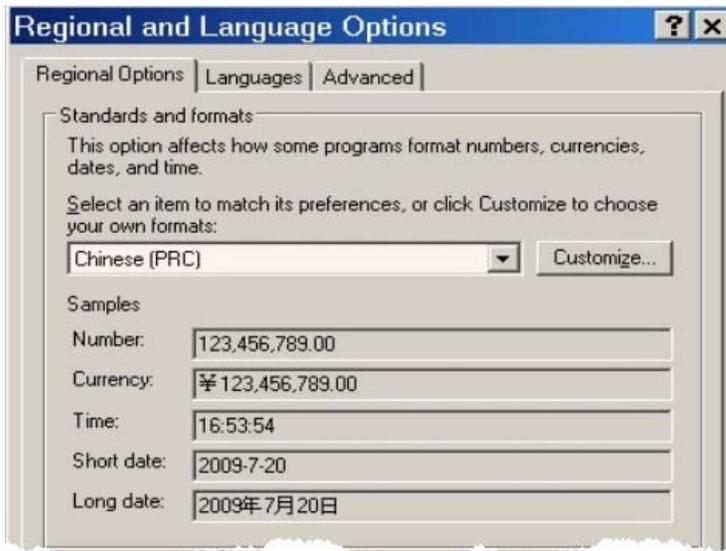
1. Select **Start ► Settings ► Control Panel ► Regional and Language Options** to display the Regional and Language Options dialog box.



Note: The next two steps are for Java applications. If your system does not have any Java based SAS applications installed (for example, SAS® Management Console), [you can move directly to step 4](#), because those configurations are optional.

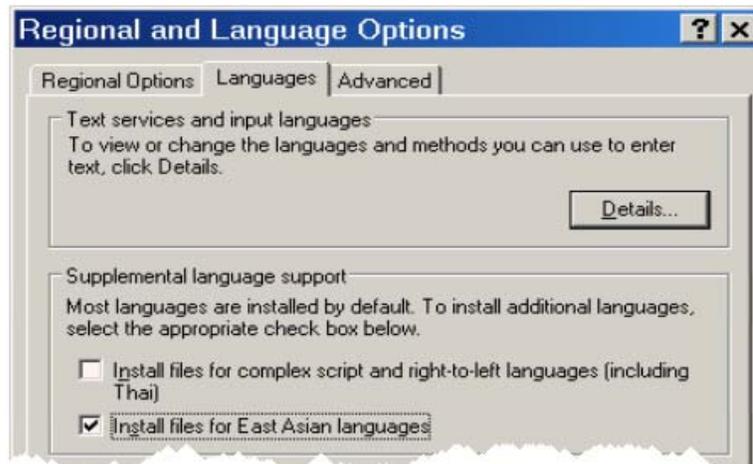
2. In the **Standards and formats** section of the **Regional Options** tab, select your locale. For example, in the following display, Simplified Chinese (**Chinese [PRC]**) is selected.

Note: For Traditional Chinese, you must select **Chinese (Taiwan)**.



Note: For Unicode support, select **English (United States)**.

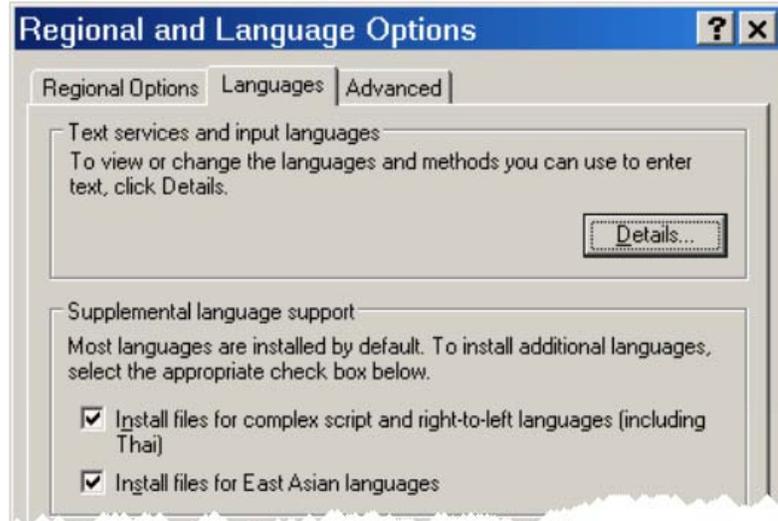
3. In the **Location** section, select your specific location (for example, **China**, as shown in the preceding display). **Note:** For Unicode, select **United States**.
4. Install the appropriate fonts:
 - **For East Asian languages:**
 - a. Click the **Languages** tab.
 - b. Under **Supplemental language support**, select the check box **Install files for East Asian languages**, as shown in the following display:



- **European languages:** This step is not applicable for European languages because they are installed by default.

- **Unicode support:**

- a. Click the **Languages** tab.
- b. Under **Supplemental language support**, select both check boxes (**Install files for complex script and right-to-left languages [including Thai]** and **Install files for East Asian languages**), as shown in the following display:



During this step, you might receive a message similar to the following:

The required files are already installed on your hard disk. Setup can use these existing files or Setup can recopy them from your original Windows CD-ROM or from a network share.

Would you like to skip file copying and use the existing files? (If you click No, you will be prompted to insert your Windows CD-ROM or to supply an alternate location where the needed files may be found.)

Yes No

If you receive this message and you do not have the Windows CD, contact your system administrator.

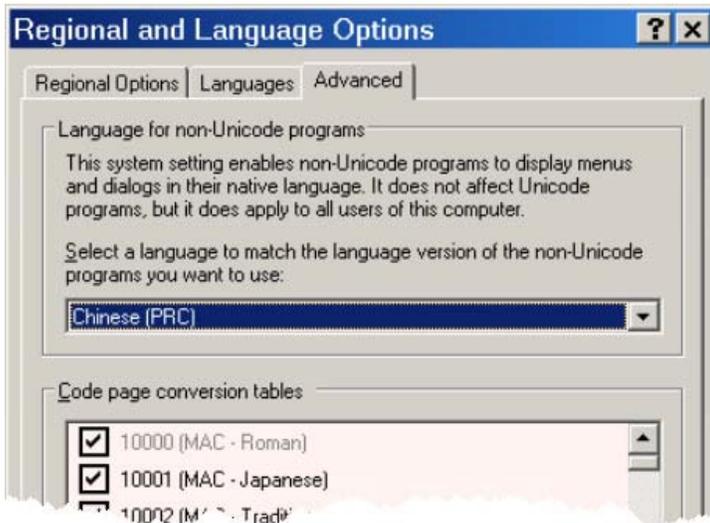
You might also receive the following message saying that you need to restart your computer:



However, you can wait until you finish step 5 to restart it, so click **No** if this dialog box appears.

5. **For all languages:** Under **Language for non-Unicode programs** on the **Advanced** tab, select a language [for example, **Chinese (PRC)**] to match the language edition of your non-Unicode programs.

Note: As mentioned in step 2, you must select **Chinese (Taiwan)** for Traditional Chinese. For Unicode support, select **English (United States)**.



6. Click **OK** and then restart your computer. Your NLS working environment will be active after you restart your computer.

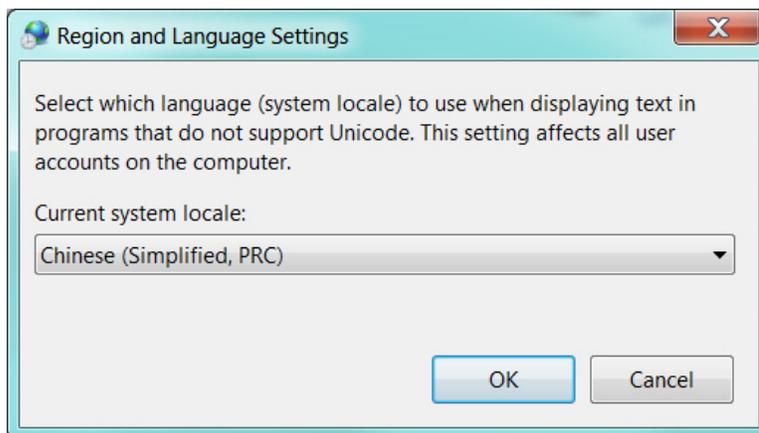
Windows 7

1. Select **Start ► Control Panel ► Clock, Language, and Region ► Change display language** to display the Region and Language dialog box. Then click the **Administrative** tab, as shown below:

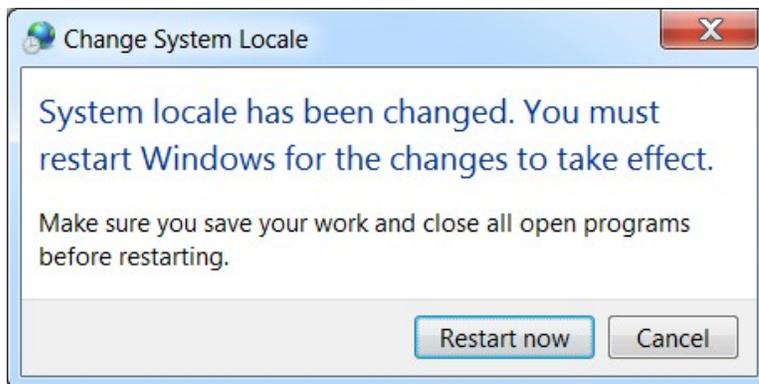


2. On the **Administrative** tab shown in the previous display, click the **Change system locale** button to display the Region and Language Settings dialog box.

3. Select your system locale value [for example, **Chinese (Simplified, PRC)**] and click **OK**.



When you click **OK**, the following message appears:



4. Click **Restart now** to restart your computer in your NLS working environment.

Resources

SAS Institute Inc. 2004. *SAS® 9.1 National Language Support (NLS): User's Guide*. Cary, NC: SAS Institute Inc. Available at support.sas.com/documentation/onlinedoc/91pdf/sasdoc_91/nls_ug_7618.pdf.

SAS Institute Inc. 2006. SAS Note 18317, "Default DBCS session locale is set to Japanese on SAS®9." Available at support.sas.com/kb/18/317.html.

SAS Institute Inc. 2008. *User Installation Guide for SAS® 9.1.3 Foundation for Microsoft® Windows®*. Cary, NC: SAS Institute Inc. Available at support.sas.com/documentation/installcenter/the_sas_system/9.1.3_TS1M3/win/win/user.pdf.

SAS Institute Inc. 2009. *SAS® 9.2 National Language Support (NLS): Reference Guide*. Cary, NC: SAS Institute Inc. Available at support.sas.com/documentation/cdl/en/nlsref/61893/PDF/default/nlsref.pdf.

SAS Institute Inc. 2011. *SAS® 9.3 National Language Support (NLS): Reference Guide*. Cary, NC: SAS Institute Inc. Available at support.sas.com/documentation/cdl/en/nlsref/63072/PDF/default/nlsref.pdf.

(list continued)

SAS Institute Inc. 2012. SAS Note 44231, "Display of UTF-8 encoded data is not fully supported by the SAS® Display Manager system." Available at support.sas.com/kb/44/231.html.

SAS Institute Inc. 2013. *SAS® 9.4 National Language Support (NLS): Reference Guide*. Cary, NC: SAS Institute Inc. Available at support.sas.com/documentation/cdl/en/nlsref/64811/PDF/default/nlsref.pdf.



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