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Intergraph Smart Data Validator

Release Bulletin

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Contents

Preface

This *Release Bulletin* contains high-level information about the Intergraph Smart® Data Validator application, regarding its compatibility, functionality, tools, utilities, and product terminology for the latest release.

Smart Data Validator Product Documentation

Smart Data Validator documentation is available as Help and as PDF files. To view printable guides for Smart Data Validator, click **Help > Printable Guides** in the software.

Hexagon PPM gives its customers permission to print as many copies of the delivered PDF files as they need for their non-commercial use. Do not print the PDF files for resale or redistribution.

Release Bulletin

- *Smart Data Validator Release Bulletin* - Provides information on Smart Data Validator features for the current release.

Installation and Overviews

- *Smart Data Validator Installation and Setup Guide* - Provides installation and setup instructions for Smart Data Validator.
- *Smart Data Validator Getting Started Guide* - Provides overview information to help users know about the Smart Data Validator functionalities.

Administration User's Guide

- *Smart Data Validator Administration User's Guide* - Provides instructions for administering the configuration of Smart Data Validator.

Job Management User's Guide

- *Smart Data Validator Job Management User's Guide* - Provides instructions on the management of jobs that process imported data to a specified workflow and export that data to a target system or target systems.

Customization Guide

- *Smart Data Validator Customization Guide* - Provides instructions for creating and modifying the various areas of customization possible in Smart Data Validator and details on provided samples included with the release.

Troubleshooting Guide

- *Smart Data Validator Troubleshooting Guide* - Provides information about troubleshooting the installation and configuration of Smart Data Validator.

Customer Support

For the latest support information for this product, use a web browser to connect to *http://hexagonppm.com/ppm-support* (*http://hexagonppm.com/ppm-support*). Also, you can submit any documentation comments or suggestions you might have on our support site.

To access the Technical User Forum, go to

http://www.intergraph.com/ppm/customers/tuf/foundation.aspx
(*http://www.intergraph.com/ppm/customers/tuf/foundation.aspx*)

Document Scope

This document is intended for system administrators, managers, and integration specialists in organizations that are using the Smart Data Validator application with a server database, SmartPlant® Enterprise system, or Engineering Data Warehouse.

Customer Support

Access our customer support web site for the most up-to-date information about all Hexagon PPM products. To access the support web site, browse to the following site, and type your user name and password:

https://smartsupport.intergraph.com (*https://smartsupport.intergraph.com*)

Customers with appropriate privileges can perform the following actions:

- See what's new
- Search the knowledge base for answers to support questions
- Submit, review, and update service requests
- Check product release and support end dates
- Download product documentation or read it online
- Find and download solutions, fixes, service packs, and upgrade information
- View the compatibility matrix of products, databases, and operating systems

Knowledge base

To access the knowledge base on the support web site, click **Search Answers** and type a topic name. Then type **Smart Data Validator** and select the product short name under **Product**. For example, for Smart Data Validator, the product short name is **SDV**. Then, click **Search**.

Software compatibility matrix

Information about the system requirements is available in the *Smart Data Validator Hardware and Software Requirements* (on page 12) and the *Smart Data Validator Installation and Setup Guide*.

Additional information about third party software and database support is available in the *Hexagon PPM Compatibility Matrix - Product Report* on the support site. To view this matrix, browse to the following Web address, and type your support user name and password: *https://smartsupport.intergraph.com* (*https://smartsupport.intergraph.com*). Click **View Downloads** at the top of the page, and then click the **Product Compatibility** link on the right side of the page. Select a product from the **Select the Product Name** list, and then choose the version of the product from the **Version** list.

SECTION 1

Smart Data Validator 2018 Updates

Smart Data Validator Administration

- A new process step, **SDVMDRProcessStep**, is now available in the **Convert Import Validate Export** workflow and allows you to relate the MDR document master with other document masters in the submittal. For more information, see *Attach the Convert Import Validate Export workflow automatically* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-116012)
- The import mappings delivered with Smart Data Validator to process the Master Document Registry submittal are now enhanced to support the relationship between the MDR document master and other document masters in the submittal. For more information, see *Load files in SmartPlant Foundation Desktop Client using Loader* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-111304)
- You can now use the **Check for Unmapped Properties** option in the **Edit Rule** dialog box to report the unmapped properties in the validation report. For more information, see *Validation rule description* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-116148)
- You can now create a new job details item using the SmartPlant Foundation Desktop Client. You can use the job details item to specify the required details to process the CSV files attached to the submittal, for converting it into a job. For more information, see *Create a new job details item object* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-114447)
- You can now import, validate, and export published documents using Smart Data Validator. For more information, see *Mappings for published documents* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-117430, CR-AM-117431)
- You can now specify a version number for a document during import mapping using the **SPFDocVersion** property. For more information, see *Document Mappings* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-117428)
- A new validation rule, **Check Duplicate Issue Dates**, checks to see if if there are revisions with duplicate issue dates for the same master document and prevents the revisions from being loaded. For more information, see *Validation Rules and Actions* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-111891)
- You can now find the class definition of a parent object using a new computed column, **GetParentObjectClassDef**. For more information, see *Use the Computed column* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-114222)
- You can now use the **ConvertToHash** computed column to generate a unique hash code for objects when you have case-sensitive data in your CSV file but the database you are exporting to is case-insensitive. For more information, see *Use the Computed column* and *ConvertToHash function* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-123252)

- The **Date Time**, **Double**, **Integer**, **Regular Expression**, **String Does Not Start With**, **String Not Equal To**, and **Check Properties Against Schema** rules are now enhanced to support the validation of relationship properties. For more information, see *Validation Rules and Actions* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-109129, CR-AM-110983)
- The **Check Properties Against Schema** rule can now be auto-generated when configuring relationship property mappings. For more information, see *Rule auto-generation model* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-110983)
- Smart Data Validator now automatically changes the status of an existing planned revision of a document from RESERVED to RESERVEDSUPERSEDED when a newer revision is loaded. For more information, see *Use planned revisions of documents with an MDR submittal* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-110845)
- The planned revision status of a document is now automatically changed from RESERVEDSUPERSEDED to RESERVED if all the actual revisions are deleted for any reason. For more information, see *Use planned revisions of documents with an MDR submittal* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-112195)
- You can now unzip any zipped files uploaded with a submittal object if they are not referenced in the attached CSV file. For more information, see *Attach the Convert Import Validate Export workflow automatically* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-113029)
- A new validation rule, **Check File Exists for Document Revision**, validates the document revision and checks if any file is attached to it, unless the document revision is a planned revision. In the case of a planned revision, the rule does not check for attached files. For more information, see *Validation rule description* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-113436)
- Smart Data Validator now supports multiple values in columns when processing CSV files. You can create a column header with multiple values by selecting the **Multiple Values Column** checkbox in the **Create a new column header** dialog box in Smart Data Validator Administration. For more information, see *Create a new column header* in the *Intergraph Smart Data Validator Administration User's Guide.* (CR-AM-113407)
- You can specify a default separator for CSV columns with multiple values in the **System Options** wizard in Smart Data Validator Administration. For more information, see *Set Smart Data Validator Default Options* in the *Intergraph Smart Data Validator Administration User's Guide.* (CR-AM-113407)
- A new validation rule, **Check Is Claimable**, checks to see if a data object is claimable into a Smart Digital Asset | Collaboration project and prevents the object from being loaded. For more information, see *Validation rule description* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-113608)
- A new validation rule, **Check Is Revisable**, checks to see if a document is revisable to a Smart Digital Asset | Collaboration project and prevents the document revision from being loaded. For more information, see *Validation rule description* in the *Intergraph Smart Data Validator Administration User's Guide*. (CR-AM-113608)
- You can now delete a job definition using Smart Data Validator Administration. For more information, see *Delete a job definition* in the *Smart Data Validator Administration User's Guide*. (CR-AM-107489)

- You can now create validation rules for relationship properties using Smart Data Validator Administration. For more information, see *Create a validation rule* in the *Smart Data Administration User's Guide*. (CR-AM-107788)
- You can now export relationship properties to a target system using Smart Data Validator Administration. For more information, see *Relationship property mapping* and *Stage relationship property to target relationship property mappings* in the *Smart Data Validator Administration User's Guide*. (CR-AM-107486)
- A new workflow, **Convert Import Validate Export**, is now delivered in the product installation folder. With this workflow, you can convert a SmartPlant Foundation object such as a submittal into a Smart Data Validator job and process it further for loading data into Smart Digital Asset | Collaboration. For more information, see *Converting a SmartPlant Foundation Object to a Smart Data Validator Job* in the *Smart Data Validator Administration User's Guide*. (CR-AM-107675)
- You can now create a job details object using the SmartPlant Foundation Desktop Client, and relate it to a submittal classification type. For more information, see *Create a new job details object in the Smart Data Validator Administration User's Guide*. (CR-AM-107675)
- You can now extract the value of any property in a job using a new computed column function, **GetJobDetails**. For more information, see *Use the computed column* in the *Smart Data Validator Administration User's Guide*. (CR-AM-107676)
- You can now attach a workflow to documents after they are exported. For more information, see *Attach the Convert Import Validate Export workflow automatically* in the *Smart Data Validator Administration User's Guide*. (CR-AM-108543)
- A new property definition, **VTLJobNumber**, is now available on the IVTLJob interface definition for creating staging tables with the prefix, 'VTL'. (CR-AM-107673)
- You can now split the CSV file attached to a SmartPlant Foundation object by specifying the column name and values in it. For more information, see *Create a new job details object in the Smart Data Validator Administration User's Guide*. (CR-AM-108544)
- The **Import Definition Copy** and **Export Mappings Copy** commands now copy the relationship property mappings. (CR-AM-108451)
- The inconsistencies in the relationship properties are now detected and reported when you create a job definition using Smart Data Validator Administration. (CR-AM-108453)
- Termination or deletion of target system relationships using implicit delete process now takes into consideration both ends of the relationship given in the implicit delete rule. (TR-AM-109074)
- Import mappings, export mappings, and rule sets to process Master Document Registry, Master Tag Registry, and Tag Document Registry submittals are now delivered with Smart Data Validator. They are available at [Installation folder]\SDV\2016\ProjectData\Mappings. For more information see *Create a new job details object* in the *Smart Data Validator Administration User's Guide*. (CR-AM-107692, CR-AM-107678, CR-AM-107677)
- The job details object is now associated with one or more classification types of SmartPlant Foundation objects by creating a relationship between the job details object and the classification type. For more information, see *Converting a SmartPlant Foundation Object to a Smart Data Validator Job* in the *Smart Data Validator Administration User's Guide*. (CR-AM-109189)
- When the staging and target systems are the same, conflicts can occur while you are creating export mappings for the properties of an object in a raw attribute map. You can now

resolve the conflicts by adding a suffix to the property name in the raw attribute map that will ensure that the staging and target system properties have different names. For more information, see *Define a raw attribute map* in the *Smart Data Validator Administration User's Guide*. (CR-AM-109442)

Smart Data Validator Installation and Setup

- You can now use target systems that are installed with SmartPlant Foundation 2016. A new Target System Adapter setup file compatible with SmartPlant Foundation 2016 is provided in the installation folder. For more information, see *Install Smart Data Validator target system adapter compatible with SmartPlant Foundation 2016* in the *Intergraph Smart Data Validator Installation and Setup Guide*. (CR-AM-115348)
- To preserve customization settings during upgrade, Smart Data Validator now provides two separate files for both the staging system and the target system. For more information on these settings files, see *Update the Smart Data Validator* site and *Update the Smart Data Validator target system* in the *Intergraph Smart Data Validator Administrator's User Guide*. (DI-AM-110623)
- The setup.exe file for installing Smart Data Validator was renamed SDV_setup.exe. For more information, see the *Intergraph Smart Data Validator Install and Setup Guide*. (CR-AM-107963)

Smart Data Validator Job Management

- You can now control access to Smart Data Validator Job Management by relating any access group to the **VTLJobModuleAccess** method. For more information, see *Access Permissions* in *Smart Data Validator Job Management User's Guide*. (TR-AM-114014)
- You can now delete multiple jobs simultaneously using Smart Data Validator Job Management. For more information, see *Sort your jobs* in *Smart Data Validator Job Management User's Guide*. (CR-AM-115344)
- Smart Data Validator no longer attempts to process CSV files that do not contain data. A warning message is provided when you select one or more blank CSV files while creating a job, and the blank files are not processed further. (CR-AM-103139)
- You can now create jobs in the desired plant or project in Smart Data Validator Job Management by setting the scope to the required plant or project. For more information on setting the scope, see *Set active scope* in the *Smart Data Validators Job Management User's Guide*. (CR-AM-107675)

SECTION 2

Smart Data Validator Hardware and Software Requirements

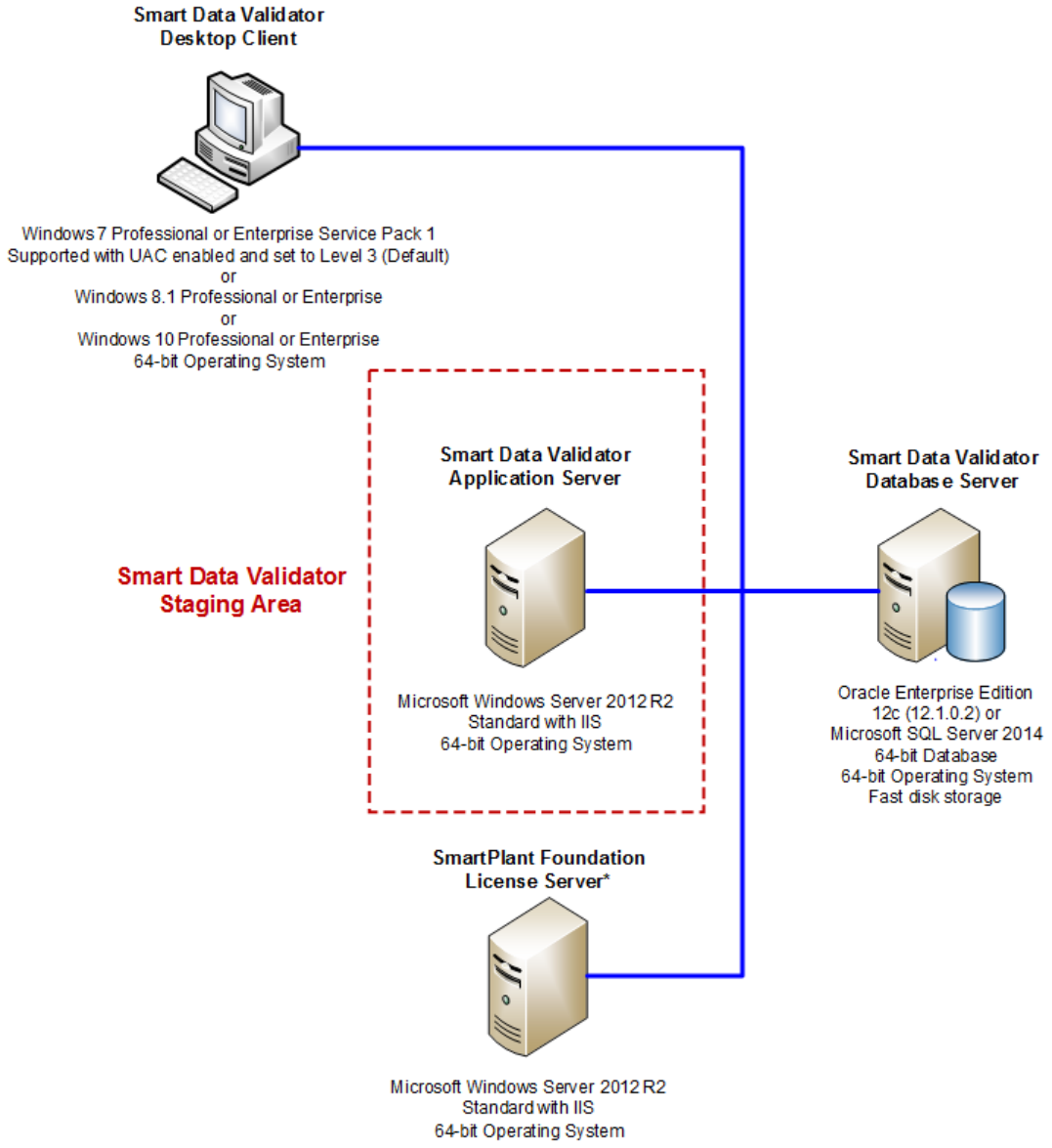
Before beginning an installation of Smart Data Validator, verify that your servers and workstation computers meet the required hardware recommendations and software requirements.

- Smart Data Validator is a 64-bit application. It was certified on 64-bit hardware with a 64-bit operating system.
- For increased performance for the Smart Data Validator Database Server, we recommend using a 64-bit database server.
- We highly recommend installing the database software on a Database Server separate from the Smart Data Validator Application Server for improved performance.
- For increased performance, use different application servers for staging and target systems. Also, install separate database servers for staging and target systems respectively.
- Smart Data Validator is based on SmartPlant Foundation technology, which provides a comprehensive electronic data storage, exchange, management, and integration system.
- Smart Data Validator must be installed on an Application Server that has been configured with SmartPlant Foundation Server Components and all the required prerequisite software.
- Smart Data Validator client must be installed on a workstation that has been configured with SmartPlant Foundation Desktop Client and all the required prerequisite software.

NOTE Hardware sizing, especially for servers, depends on many factors such as the number of concurrent users per site, the size of the project (which translates into the size of the database), and other software that is running on the machine.

Smart Data Validator architecture

The following diagram example represents a summary of the preferred architecture for Smart Data Validator.



* The optional License Server specifications are for a SmartPlant License Manager implementation. FLEXlm specifications differ. For more information, see the detailed recommendations.

Smart Data Validator database server

Please refer to your Oracle or Microsoft SQL Server product documentation for information on configuring your database server hardware.

Smart Data Validator database server has the same hardware and software requirements as SmartPlant Foundation. For more information on SmartPlant Foundation hardware and software recommendations, see the *SmartPlant Foundation Installation and Setup Guide* delivered with SmartPlant Foundation software.

IMPORTANT For SQL Server databases, the case-sensitivity of Smart Data Validator is based on the collation settings. You must set the case-sensitive or case-insensitive settings while installing the database. This setting will determine whether or not Smart Data Validator will consider case during rule execution.

Smart Data Validator application server

The Smart Data Validator application server must be installed on a SmartPlant Foundation application server. Smart Data Validator application server has the same hardware and software requirements as SmartPlant Foundation. For more information on SmartPlant Foundation hardware and software recommendations, see the *SmartPlant Foundation Installation and Setup Guide* delivered with SmartPlant Foundation software.

IMPORTANT Smart Data Validator requires 1 TB of disk space on the application server to run import, validation, and export operations on large data sets.

Software prerequisites

- SmartPlant Foundation 2018. For more information on installing SmartPlant Foundation, see *SmartPlant Foundation Installation and Setup Guide*.

Smart Data Validator client workstation

Hardware recommendations

These hardware recommendations are based on a 64-bit platform.

- 4 core 3 GHz processor
- 8 GB RAM
- 200 GB of free disk space for software installation
- DVD drive access, either locally or through a network connection for installation
- 100 BaseT or higher network interface

Supported operating system

- Windows 7 Professional or Enterprise Service Pack 1 (64-bit)

  NOTE Windows 7 is supported with UAC enabled and set to Level 3 (Default).
- Windows 8.1 Professional or Enterprise (64-bit)

- Windows 10 Professional or Enterprise (64-bit)

  NOTE Windows 8.1 and Windows 10 are supported with UAC enabled and set to "Notify me only when apps try to make changes to my computer" (default).

Microsoft Office version

- 32-bit version of Microsoft Office 2010, 2013, and 2016

Software prerequisites

- SmartPlant Foundation Desktop Client 2018. For more information on installing SmartPlant Foundation, see *SmartPlant Foundation Installation and Setup Guide*.

SECTION 3

SmartPlant Enterprise Internationalization

Supporting internationalization in a homogeneous environment is one of the enhancements available in SmartPlant Enterprise. A homogeneous environment uses elements from only a single locale. For example, a German customer running on a German operating system using only German characters and German cultural conventions is a fully supported homogeneous environment configuration.

Homogeneous Environments

When starting a new project, use extra care during installation and configuration to ensure the proper creation and maintenance of homogeneous environments:

- All the computers (servers and clients) within an integrated SmartPlant Enterprise implementation must have the same regional settings, and no one should change the regional settings after the project has started.
- Do **not** cross the decimal locale boundary. This is the most common cause of numeric data corruption and calculation errors. Having users with different regional settings (such as with a period versus a comma for the decimal point) causes the software to interpret values unpredictably. For example, a pipe run with a pressure of 35.3 psi can be read by the software as 353 psi to the user with different regional settings. A cable length defined as 39 ft 11,21 inches has been interpreted as 121718910971323 meters when published to an XML file. These incorrect interpretations may be used in internal software calculations and can be impossible to backtrack or correct. Do not change the decimal point character to try to solve an issue. Doing so will only corrupt values in the database or in text files.
- Do **not** cross the character-set locale boundary. For example, the character set boundary between Western (Latin-based) and Eastern Europe (Cyrillic-based), or between Eastern Europe and Japan.
- Create Oracle databases using AL32UTF8 for the database character set and AL16UTF16 for the NLS character set.
- Never modify the NLS_LANG registry entry on an Oracle client. Doing so causes the character data not to convert to Unicode.
- Create Microsoft SQL Server databases with locale-specific collation settings and ensure that all databases have the **same** setting.

Heterogeneous Environments

In contrast, a heterogeneous environment using elements from different, or even multiple locales, **is not supported**. Many customers are currently operating in unsupported heterogeneous environments and are often not aware of that fact. Examples of heterogeneous environments:

- Entering or viewing Japanese data on a US/English operating system

- Using German Regional Settings (where the decimal point is a comma) on a US/English operating system
- Using databases with different character encodings such as CL8MSWIN1251 or JA16SJIS
- Using multiple languages in a project, **especially** when crossing language-group boundaries
- Using an English server with different local language clients

International / Bi-lingual Projects

International bi-lingual projects are possible; however, great care must be used when configuring these environments. Limitations exist and must be properly understood:

- Oracle and MS SQL Server databases can reside on any language operating system, as long as the databases have been created and configured with proper Unicode and collation settings.
- All SQL Server databases must have the same collation setting and reflect the *master* language. Text is stored, sorted, indexed, and presented based on the collation setting. You must determine which language will be used primarily to generate output (P&IDs, SLDs, reports, approval documents, and so forth.) If Russian and English text is entered, and Russian is the target locale, choose the collation based on the Cyrillic character set.
- All Microsoft operating systems (Japanese, Russian, German, and so forth) can enter English characters. The reverse, however, is not true in most cases.
- Keyboard-locale can be changed as long as a character-set and code-page boundary is not crossed. For example, English, German, French, and Spanish characters can all be used in the same project because the same Windows® code-page (1252) is used. However, Russian characters (code-page 1251) cannot be used in a US/English environment.
- You must decide which language operating system is the master for bi-lingual projects.

The following is an example of a Russian-based project:

Companies in the United States and the United Kingdom are working a project with a Russian company and the deliverables (drawings, reports, and so forth) must ultimately be provided in Russian. The companies in the U.S. and the U.K. are working the project using the *master* Russian operating systems (possibly using virtual Russian operating systems running on VMware Workstation). The U.S. and U.K. companies can install and use English Microsoft Office products on the Russian operating system because Office products are globally enabled. If a Russian interface exists for the SmartPlant Enterprise application, then Russian users can use the Russian interface while the English-speaking users continue to use the US/English interface. English-speaking engineers can enter English characters. Russian-speaking engineers can enter Russian characters.

However, because the Russian locale uses different decimal and character-set locales, everyone (English and Russian engineers) **must** use the Russian decimal symbol which is a comma. For customization purposes, databases can be modified to accommodate new Russian-specific requirements (fields, properties, and so forth.) Using filters, display sets, and other software features, bi-lingual projects can be further customized. Graphic data, reports, and so forth can be created in either or both languages.

⚠ CAUTION Do not change regional settings to reflect a U.S. environment in order to resolve problems in a non-US/English homogeneous configuration. Doing this creates a heterogeneous configuration that **will** cause other possibly hidden problems that cannot be corrected. Everyone working on a project must use the same regional settings and character set throughout the life of the project.

Citrix XenApp Solutions for International Projects

Using Citrix XenApp Solutions, you can define environments that isolate users from having to interact with non-native language operating systems while improving data integrity and minimizing opportunities for data corruption. However, users must enter data using master locale conventions for the project (decimal separator and date conventions, for example). You can create these environments using different combinations of languages, but some limitations exist. For example, you cannot use Russian and Chinese text together in a project. In addition, special language characters (the German ä and ß for example) cannot be used if the master locale is outside the western Latin-based languages (the master locale is Russian, Chinese, Japanese, or Korean, for example).

Questions and Assistance

Please contact your support representative for assistance and answers to your questions: see *customer support* (*http://hexagonppm.com/ppm-support*).

SECTION 4

Known Issues

The Readme.pdf file contains information about open issues or trouble reports (TRs) for Smart Data Validator and is available with the Smart Data Validator installation setup.

SECTION 5

Training

For more information about Smart Data Validator course availability and schedules, see *http://www.intergraph.com/ppm/training.aspx http://www.intergraph.com/ppm/training.aspx*.