Release Notes for Unified Development Server (UDS)

Version 5.1 (Beta Release)

Updated February 7, 2003

These release notes contain important information available at the time of the Beta release of Sun™ Open Network Environment (ONE) Unified Development Server, Version 5.1. Information on significant updates, known problems, fixed bugs, and other issues are addressed here. Read this document before you begin using this release of UDS.

These release notes for the Beta release will be updated when this release becomes generally available. At that time, the updated release notes will be available for download at the Sun documentation web site:

`http://docs.sun.com/prod/s1unidevs`

These release notes contain the following sections:

General Information

Unified Development Server 5.1 contains fixes for problems that were found with Unified Development Server 5.0. The distribution for this release includes a CD that contains the following:

- Unified Development Server 5.1
- Unified Development Server Runtime 5.1
- Unified Development Server 5.0 Documentation

  Use the UDS 5.0 Documentation with UDS 5.1.

For each supported platform, the CD now contains separate distribution files that must be unpacked before you can install the product. For information on unpacking the distribution files and installing the distribution, refer to "Unpacking the Distribution Files from the Installation CD" in these release notes.

Supported Systems and Software

This release of UDS 5.1 Beta has been certified for specific combinations of hardware, operating systems, and third party software. When this release becomes generally available, the platform matrix will be updated. Table 1 shows the supported products and platforms for the UDS 5.1 Beta release.

Table 1 Supported Products and Platforms

Operating System	Windowing System	Network	Database	C++ Compiler	External Interfaces
Windows NT 4.0 SP 6a	Native windowing	OS-supplied TCP-IP	Oracle 9.2.0.1.0 with Net9 Client	Developer Studio .Net	• ActiveX • DDE • OLE v2.0 • JIDL w/ JDK 1.3.1 • Sun ONE Directory Server v4.13
Windows 2000 (SP 2)	Native windowing	OS-supplied TCP-IP	Oracle 9.2.0.1.0 with Net9 Client	Developer Studio .Net	• JIDL w/ JDK 1.3.1 • Sun ONE Directory Server v4.13
Solaris 8	Motif level 2.1.1 with patch 108940-33	OS-supplied TCP/IP	Oracle 9.2.0.1.0 with Net9 Client	Sun ONE Developer Studio 7	• JIDL w/ JDK 1.3.1 • Sun ONE Directory Server v4.13
Solaris 9	Motif level 2.1.2	OS-supplied TCP-IP	Oracle 9.2.0.1.0 with Net9 Client	Sun ONE Developer Studio 7	• JIDL w/ JDK 1.3.1 • Sun ONE Directory Server v4.13

Support for SOAP v1.1

UDS 5.1 conforms with SOAP v1.1, as defined by the W3C (http://www.w3.org/TR/2000/NOTE-SOAP-20000508), with some limitations.

Limitations include issues such as interoperability with systems that require or prohibit type specifications and support for arrays, unsigned integers, and In-Out parameters. For more information on SOAP support in UDS 5.1, including information on possible workarounds for some limitations, refer to the Sun Knowledge Base article 7655, available at:

http://knowledgebase.iplanet.com/ikb/kb/articles/7655.html

Updates in UDS 5.1

This section describes the following significant updates that are included with Unified Development Server 5.1.

Support for Native Threading on Unix

This release of UDS 5.1 implements native threading on Unix. In previous releases, the ftexec process used Forte threading, binding the process to a single processor. This new support allows a single partition to scale across multiple processors in a Unix environment.

Changes to UDS XML Server Feature

This release contains many changes to the XML Server feature introduced in UDS 5.0. To understand what these changes mean to your production environment, read the following sections:

Upgrading UDS 5.0 XML Servers and Applications to UDS 5.1

If you are running a UDS 5.0 XML server application and want to install and interoperate with a UDS 5.1 XML server distribution, you must redeploy your application from a UDS 5.1 development repository.

New Support for Arrays

UDS 5.1 now supports arrays for input and return parameters with XML servers. Any simple data type (int, string, boolean, float, etc.) can be an element in an array.

NOTE UDS does not allow arrays of arrays. UDS does allow arrays of structs, if the struct's elements are simple data types.

Changes to XML Server Configuration Options

This release contains the following changes to XML server configuration options:

- Multiple HTTP listeners
- SSL is no longer available

Setting Multiple HTTP Listeners for XML Servers

New configuration options were added to this release for setting HTTP listeners on XML servers. The default number of listeners for an XML server is 10. These listeners are synchronous, but you can run them all at once. You can modify the number of listeners in one of two ways:

- Use Fscript
  `SetServiceEOSAttr` *service_object_name* `listeners` *number_of_listeners*
- Use the XML Server Configuration dialog

Using Fscript Use the Fscript command SetServiceEOSAttr *service_object_name* `listeners` *number_of_listeners* to set the number of listeners for a service object when you export it as an XML server.

Code Example 1 shows an Fscript session in which the service object's hostname, port, and number of listeners are set. The original example is Code Example 7-2, in chapter 7 "Exporting an iPlanet UDS Service Object as an XML Server," in *Integrating with External Systems*.

Code Example 1 Using Fscript to set HTTP listeners for an XML server

```
. . .
-- Export as an XML Server
SetServiceEOSInfo BankServices.BankSO xml urn:my-xmlserver

-- The following Fscript command used to set the xml server to ssl.
-- It no longer works in UDS.
-- SetServiceEOSAttr BankServices.BankSO TransportType ssl

SetServiceEOSAttr BankServices.BankSO TransportHost garf.forte.com
SetServiceEOSAttr BankServices.BankSO TransportPort 8888
```

Code Example 1 Using Fscript to set HTTP listeners for an XML server *(Continued)*

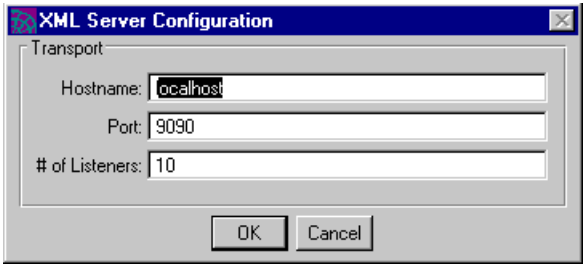
```
-- The following FScript command sets the number of listeners
-- for the xml server to eight. The default is ten.
SetServiceEOSAttr BankServices.BankSO listeners 8
. . .
```

Using the XML Server Configuration Dialog After you partition the service object as an XML server:

1. Open the service object's properties window from the Partition Workshop by right-clicking the service object and selecting properties.
2. Select the Export tab.
3. Select More Export Options...

   The XML Server Configuration dialog appears.

Figure 1 XML Server Configuration dialog



4. Set the following options for the XML server and select OK:
   - Hostname
   - Port
   - Number of Listeners

   The ssl option is no longer available for XML server configurations.

Changes to Generating Java Source Files

UDS 5.1 introduces some changes in how Java source files for client applications are generated and where they are placed.

Fscript Command GenerateXMLJava Not Supported

Chapter 8, "Creating Java Client Applications for an XML Server," in *Integrating With External Systems* instructs you to use the `GenerateXMLJava` Fscript command to generate Java source files for your Java client applications. This command no longer works.

UDS automatically generates Java source and service object WSDL files when you distribute your XML server application using one of the following methods:

- Use the Fscript command `MakeAppDist`
- Select **File > Make Distribution** in the Partition Workshop

New Locations for Generated Java and WSDL Files

The destination locations where Java client application and service object WSDL files were written in UDS 5.0 have changed.

Location of Java Client Application Files UDS places the generated Java files in a Java project at the following location:

`FORTE_ROOT/appdist/`*envname*`/`*appname*`/c10/generic/`*partitionname*`/java`

The Java project has the following directory structure, with the generated Java files placed in the *projectname* directory:

`com/forte/xmlsvr/`*projectname*

Location of Service Object WSDL Files UDS places the generated service object WSDL files in the following location:

`FORTE_ROOT/appdist/`*envname*`/`*appname*`/cl0/generic/`*partitionname*

NOTE Each WSDL file is placed in the partition of the XML server service object that it describes.

HTTPSupport Library Proxy Enhancements

This release includes enhancements to the HTTPSupport library to enable the use of web proxies. Web proxies are objects that act as both clients and servers in order to make requests and receive responses on behalf of other clients.

The most common use for web proxies is to cache responses for repeated requests. If a client makes the same request more than once the response can be fetched from a local cache (assuming the same response is appropriate for subsequent requests), instead of the client having to reconnect to an external server. This can improve response time and make more efficient use of network resources.

Three additional parameters to the `HTTPConfigManager.SetConfigValue()` method have been added to support web proxies. Table 2 lists the parameters and describes their function:

Table 2 New SetConfigValue method parameters

Parameter	Description
`HTTP_CONFIG_PROXY_NAME`	Set the name of a web proxy
`HTTP_CONFIG_PROXY_PORT`	Set the port number of a web proxy
`HTTP_CONFIG_PROXY_EXCEPTIONS`	Specify domains that do not require web proxies

Setting Parameters

- Use `HTTP_CONFIG_PROXY_NAME` to set the name of the web proxy. If no proxy name is specified, the use of web proxies is disabled.
- Use `HTTP_CONFIG_PROXY_PORT` to set the port number of the web proxy. The default port number is 8080.
- Use `HTTP_CONFIG_PROXY_EXCEPTIONS` to specify domains that do not require web proxies.

Code Example 2 configures the client to send all requests via the proxy *my_company.com*, and specifies that *my_company.com* listen on port 7071. It also specifies that requests to *domain1.com* and *domain2.com* do not require a web proxy.

Code Example 2 Setting Web Proxy Parameters

```
helper : HTTPHelper           = new();
config : HTTPConfigManager    = helper.FindConfigManager();

config.SetConfigValue(HTTP_CONFIG_PROXY_NAME,'my_company.com');
config.SetConfigValue(HTTP_CONFIG_PROXY_PORT,7071);
config.SetConfigValue(HTTP_CONFIG_PROXY_EXCEPTIONS,
                      'domain1.com,domain2.com');
```

New SCM Fscript Command

A new Fscript command has been added to this release. The command enables you to export all projects in a workspace in the format used by the Source Code Management (SCM) library:

```
ScmExportWorkspace directory_name
```

This command exports all non-library projects in a workspace in the format supported by the SCM library. Projects are exported to the base directory specified with *directory_name*. Both relative and absolute directories can be used.

NOTE The target directory must already exist. If it does not, the `ScmExportWorkspace` command fails.

For each non-library project in the workspace a subdirectory with that project's name is created below the base directory. Export files for that project are written to the subdirectory, in the format used by the `ScmExportProject` command. Table 3 lists the files exported for each component type:

Table 3 Files exported for each component type

Component Type	Files exported
Window	*class_component_name*.cdf
	component_name.cex
	component_name.fsw
Non-interface	*class_component_name*.cdf
	component_name.cex
All other components including interfaces	*component_name*.cdf

When the workspace is exported with `ScmExportWorkspace`, a script called *`workspace_name`*`.scr` is written to the base directory; you can use it to import all the exported projects in the correct order.

Improved Support for Internationalization

This release provides a full set of locales for Ireland as well as a set of locales that support the ISO-8859-15 codeset.

Irish Locales

Irish locales provided in this release are listed in Table 4.

Table 4 New Irish locales

Country	Language	Locale	Supported Codesets
Ireland	English	en_EI.asc	ASCII
		en_EI.ebc	EBCDIC
		en_EI.iso1	ISO_8859-1
		en_EI.iso15	ISO-8859-15
		en_EI.mac	Macintosh
		en_EI.win	Windows
		en_EI.dec	DEC
		en_EI.hp8	HP_8
		en_EI.850	Codepage 850
		en_EI.1047	Codepage 1047
		en_EI.utf8	UTF_8

ISO-8859-15 Locales

Locales that support the ISO-8859-15 codeset are listed in Table 5.

Table 5 New locales supporting the ISO-8859-15 codeset

Locale	Country	Language
da_dK.iso15	Denmark	Danish
de_CH.iso15	Switzerland	German
de_DE.iso15	Germany	German
en_AU.iso15	Australia	English
en_CA.iso15	Canada	English
en_EI.iso15	Ireland	English
en_GB.iso15	Great Britain	English
en_HK.iso15	Hong Kong	English
en_MY.iso15	Malaysia	English
en_SG.iso15	Singapore	English
en_US.iso15	United States	English
es_ES.iso15	Spain	Spanish
es_MX.iso15	Mexico	Spanish
fi_FI.iso15	Finland	Finnish
fr_BE.iso15	Belgium	French
fr_CA.iso15	Canada	French
fr_CH.iso15	Switzerland	French
fr_FR.iso15	France	French
is_IS.iso15	Iceland	Icelandic
it_IT.iso15	Italy	Italian
ms_MY.iso15	Malaysia	Malay
nl_BE.iso15	Belgium	Dutch
nl_NL.iso15	Netherlands	Dutch
no_NO.iso15	Norway	Norwegian
pt_PT.iso15	Portugal	Portuguese
sv_SE.iso15	Sweden	Swedish

Support for European Union Currency Added

This release includes improved support for the European Union currency symbol. Locales for European Union members that have adopted the Euro now provide the Euro currency symbol (“€”).

Table 6 lists the locales supporting the EU currency, and indicates for each locale how the Euro is displayed.

Table 6 European locales that support the EU currency

Country	Language	Locale	Supported Codesets	How Euro is displayed
Ireland	English	en_EI.asc	ASCII	EUR
		en_EI.ebc	EBCDIC	EUR
		en_EI.iso	ISO_8859-1	EUR
		en_EI.iso15	ISO-8859-15	€
		en_EI.mac	Macintosh	EUR
		en_EI.win	Windows	EUR
		en_EI.dec	DEC	EUR
		en_EI.hp8	HP_8	EUR
		en_EI.850	Codepage 850	EUR
		en_EI.1047	Codepage 1047	EUR
		en_EI.utf8	UTF_8	€
France	French	fr_FR.asc	ASCII	EUR
		fr_FR.ebc	EBCDIC	EUR
		fr_FR.iso	ISO-8859-1	EUR
		fr_FR.iso15	ISO-8859-15	€
		fr_FR.mac	Macintosh	EUR
		fr_FR.win	Windows	EUR
		fr_FR.dec	DEC	EUR
		fr_FR.hp8	HP_8	EUR
		fr_FR.850	Codepage 850	EUR
		fr_FR.1047	Codepage 1047	EUR
		fr_FR.utf8	UTF_8	€

Table 6 European locales that support the EU currency *(Continued)*

Country	Language	Locale	Supported Codesets	How Euro is displayed
Belgium	French	fr_BE.asc	ASCII	EUR
		fr_BE.ebc	EBCDIC	EUR
		fr_BE.iso	ISO-8859-1	EUR
		fr_BE.iso15	ISO-8859-15	€
		fr_BE.mac	Macintosh	EUR
		fr_BE.win	Windows	EUR
		fr_BE.dec	DEC	EUR
		fr_BE.hp8	HP_8	EUR
		fr_BE.850	Codepage 850	EUR
		fr_BE.1047	Codepage 1047	EUR
		fr_BE.utf8	UTF_8	€
Germany	German	de_DE.asc	ASCII	EUR
		de_DE.ebc	EBCDIC	EUR
		de_DE.iso	ISO-8859-1	EUR
		de_DE.iso15	ISO-8859-15	€
		de_DE.mac	Macintosh	EUR
		de_DE.win	Windows	EUR
		de_DE.dec	DEC	EUR
		de_DE.hp8	HP_8	EUR
		de_DE.850	Codepage 850	EUR
		de_DE.1047	Codepage 1047	EUR
		de_DE.utf8	UTF_8	€

Table 6 European locales that support the EU currency *(Continued)*

Country	Language	Locale	Supported Codesets	How Euro is displayed
Spain	Spanish	es_ES.asc	ASCII	EUR
		es_ES.ebc	EBCDIC	EUR
		es_ES.iso	ISO-8859-1	EUR
		es_ES.iso15	ISO-8859-15	€
		es_ES.mac	Macintosh	EUR
		es_ES.win	Windows	EUR
		es_ES.dec	DEC	EUR
		es_ES.hp8	HP_8	EUR
		es_ES.850	Codepage 850	EUR
		es_ES.1047	Codepage 1047	EUR
		es_ES.utf8	UTF_8	€
Finland	Finnish	fi_FI.asc	ASCII	EUR
		fi_FI.ebc	EBCDIC	EUR
		fi_FI.iso	ISO-8859-1	EUR
		fi_FI.iso15	ISO-8859-15	€
		fi_FI.mac	Macintosh	EUR
		fi_FI.win	Windows	EUR
		fi_FI.dec	DEC	EUR
		fi_FI.hp8	HP_8	EUR
		fi_FI.850	Codepage 850	EUR
		fi_FI.1047	Codepage 1047	EUR
		fi_FI.utf8	UTF_8	€

Table 6 European locales that support the EU currency *(Continued)*

Country	Language	Locale	Supported Codesets	How Euro is displayed
Italy	Italian	it_IT.asc	ASCII	EUR
		it_IT.ebc	EBCDIC	EUR
		it_IT.iso	ISO-8859-1	EUR
		it_IT.iso15	ISO-8859-15	€
		it_IT.mac	Macintosh	EUR
		it_IT.win	Windows	EUR
		it_IT.dec	DEC	EUR
		it_IT.hp8	HP_8	EUR
		it_IT.850	Codepage 850	EUR
		it_IT.1047	Codepage 1047	EUR
		it_IT.utf8	UTF_8	€
Netherlands	Dutch	nl_NL.asc	ASCII	EUR
		nl_NL.ebc	EBCDIC	EUR
		nl_NL.iso	ISO-8859-1	EUR
		nl_NL.iso15	ISO-8859-15	€
		nl_NL.mac	Macintosh	EUR
		nl_NL.win	Windows	EUR
		nl_NL.dec	DEC	EUR
		nl_NL.hp8	HP_8	EUR
		nl_NL.850	Codepage 850	EUR
		nl_NL.1047	Codepage 1047	EUR
		nl_NL.utf8	UTF_8	€

Table 6 European locales that support the EU currency *(Continued)*

Country	Language	Locale	Supported Codesets	How Euro is displayed
Belgium	Dutch	nl_BE.asc	ASCII	EUR
		nl_BE.ebc	EBCDIC	EUR
		nl_BE.iso	ISO-8859-1	EUR
		nl_BE.iso15	ISO-8859-15	€
		nl_BE.mac	Macintosh	EUR
		nl_BE.win	Windows	EUR
		nl_BE.dec	DEC	EUR
		nl_BE.hp8	HP_8	EUR
		nl_BE.850	Codepage 850	EUR
		nl_BE.1047	Codepage 1047	EUR
		nl_BE.utf8	UTF_8	€
Portugal	Portuguese	pt_PT.asc	ASCII	EUR
		pt_PT.ebc	EBCDIC	EUR
		pt_PT.iso	ISO-8859-1	EUR
		pt_PT.iso15	ISO-8859-15	€
		pt_PT.mac	Macintosh	EUR
		pt_PT.win	Windows	EUR
		pt_PT.dec	DEC	EUR
		pt_PT.hp8	HP_8	EUR
		pt_PT.850	Codepage 850	EUR
		pt_PT.1047	Codepage 1047	EUR
		pt_PT.utf8	UTF_8	€
Greece	Greek	el_GR.asc	ASCII	EUR
		el_GR.iso	ISO_8859-7	EUR
		el_GR.win	Windows	EUR

Bugs Fixed in UDS 5.1

Table 7 provides a brief description of critical bugs fixed in UDS, 5.1.

Table 7 Bugs Fixed in UDS 5.1

Number	Description
4614883	DateTimeData.SetCurrent() is not thread safe
4618611	128-character limit on LDAPSession.modify
4620166	Font deserialization problems in DisplaySystem
4623698	TCP/IP Keepalive not enabled on VMS
4625276	Documentation: Info on optionList of ConnectDB method is inconsistent and incomplete. The optionList element DB_SYB_PACKETSIZE for the ConnectDB method was previously undocumented. This allows you to set a larger packetsize for an application's connection to a Sybase database. DB_SYB_PACKETSIZE is now documented in the online help. Open the online help, select the index, and look for the following: • ConnectDB • Changing an Application's Default TDS Packet Size • Configuring the Sybase Server for a Larger Packet Size
4625734	AfterCurrentNodeChange event not received in ListView dragging & dropping a row
4627153	Import statements in generated Java
4627525	File needed to compile/link XMLSvr missing in the NT version of the product
4631185	Unhandled exception in XactMgr hangs system
4638138	Replicated partitions don't start reliably
4645907	LoadLibrary sometimes causes Mutex errors
4649558	Drag and drop causes segv if dragged widget is moved
4652604	SetPrinterName does not affect printer highlighted in PrintDialog on NT
4677567	Serializing qqsh_Mutex error
4681459	Importing a certificate using SHA/RSA causes segv
4683065	Invoking a method on an interface during C++ call-in causes a segv
4683077	GetUsageTime returns access time for both modification and access on Unix

Table 7 Bugs Fixed in UDS 5.1 *(Continued)*

Number	Description
4686947	Unresolved symbols auto-compiling partition containing XMLParser fails
4703288	UDS passes incorrect position values to ActiveX control
4703897	Wrong cookie expiration date template used in httpsupport library
4706964	Exception: Attempt to cast an object of class intf to interface intf
4729673	Long project names cause syntax errors when compiling
4743836	HTTPSupport overrides the content-type to "multipart/mixed"
4749288	DateFormat of Japanese Emperor era fails
4752159	NT GUI apps require an extra button click
4759779	ArrayField display is inconsistent
4763184	Problem with compmsg on Windows NT.
4763337	Socket files not cleaned up
4765906	DirectoryFile.Move can cause recursive directory creation
4780485	After edit, content of TextEditField truncated
4780726	RequestFocus does not work correctly with ActiveXField
4792456	UDS XML APIs are vulnerable to an XML Denial-of-service attack For more information about this bug fix, see Sun knowledgebase article 8366. Title: Fix for Possible Denial of Service (DOS) Vulnerability in XML Parsers `http://knowledgebase.iplanet.com/ikb/kb/articles/8366.html`
4795761	Incorrect data type mapping in XMLSvr Java generation DoubleData now maps to a Double FloatData now maps to a Float long maps to an int This is the expected behavior. The documentation states that a long maps to a long. This is incorrect.
4801007	DirectoryFile.ListFiles not work on NT/2000/XP

Known Problems

This section lists known problems with this release, suggesting possible workarounds.

Table 8 Known Problems

Bug Number	Details
4720947	qqxd_attr class is not a subclass of qqxd_Node exception
	Workaround: Make the XMLDOM2 library a supplier plan to your XML project and instantiate something from it, like an Element, in one of the service object's init methods. This forces the library to load.
4658532	Fscript-generated Java files do not contain the correct type conversion.
	In the manual *Integrating with External Systems*, Table 7-1 on page 139 states that a UDS long Data Type maps to a Java long Data Type. This is incorrect. A UDS long Data Type maps to Java int Data Type.

Documentation Errata

This section provides corrections to significant errors or omissions in the documentation provided for UDS 5.1.

Unpacking the Distribution Files from the Installation CD

The installation guides provided with this release do not describe how to unpack the distribution files before you begin installing the software. This section describes how to unpack the distribution files and then begin the installation process. The process for unpacking the distribution varies according to the platform.

The following sections provide instructions for unpacking the files into a local directory for each platform. After unpacking the files into a local directory, you can follow the procedures in the installation guides to proceed with installing UDS. The following installation guide is available from the UDS 5.1 CD:

- *iPlanet UDS System Installation Guide 5.0*

Windows Platforms

For Windows platforms, the distribution file is a self-extracting executable file that begins with the prefix "pc_w32_." For example, the self-extracting executable for UDS Runtime is:

```
pc_w32_RTV.exe
```

Execute this file to unpack the distribution to a local directory. After unpacking the file, proceed with the installation, as described in the sections for installing on Windows platforms in the installation guides.

UNIX Platforms

For UNIX platforms, the distribution file is a tape archive (tar) file whose contents must be extracted to a local directory prior to installation. For example, the following distribution files are available on the UDS CD:

`sun_sol_dev.tar` (Sun SPARC)

Before extracting the files, make sure you have enough disk space to hold the contents of the tar files. Table 9 lists the disk space requirements for the contents of the extracted files.

Table 9 UNIX Disk Space Requirements for Extracting Distribution Files

UDS Product Component	Disk Space Required (Approx.)
UDS	80 MB
Runtime Version	34 MB

To extract the installation files, mount the CD and copy the appropriate distribution file for your platform to a local directory. Then use the following `tar` command to extract the installation files:

```
tar xvf sun_sol_dev.tar
```

The extracted files reside in a top-level `CDROM_PlatformName` directory that corresponds to a root directory on a CD image. You can now proceed with the installation, as described in the sections for installing on UNIX platforms in the installation guides.

How to Report Problems

We appreciate your willingness to participate in this Beta program. Please help us make Unified Development Server 5.1 a better product. If you would like to provide feedback, please send email to the UDS Beta feedback alias:

```
uds-betafeedback@Sun.com
```

If you have problems with UDS, contact Sun customer support using the telephone dispatch number associated with your maintenance contract.

So that we can best assist you in resolving problems, please have the following information available when you contact support:

- Description of the problem, including the situation where the problem occurs and its impact on your operation
- Machine type, operating system version, and product version, including any patches and other software that might be affecting the problem
- Detailed steps on the methods you have used to reproduce the problem
- Any error logs or core dumps

For More Information

Useful information can be found at the following Internet locations:

- Sun ONE Documentation

  `http://docs.sun.com/`
- Sun ONE Software Products and Service

  `http://www.sun.com/software/`
- Sun ONE Support and Knowledge Base

  `http://www.sun.com/service/sunone/software/index.html`
- Sun ONE Consulting and Professional Services

  `http://www.sun.com/service/sunps/iplanet/`

- Sun ONE Developer Information

  http://developer.iplanet.com/

- Sun ONE Software Training

  http://www.sun.com/software/training/

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