SOAP Toolkit for HP OpenVMS
Installation Guide and Release Notes

February 2007

Version 2.0
Based on Apache Axis Version 1.1

Contents:

Hardware Prerequisites
Software Prerequisites -- Client
Software Prerequisites -- Server
Removing the Previous Version
Downloading the ToolKit
Expanding the ToolKit
Installing the SOAP ToolKit
After Installing the Toolkit
Installing the Sources and Documentation
Removing the Kit
Known Issues
Release Notes
Support

Before Installing the SOAP Toolkit

Hardware Prerequisites

The SOAP Toolkit for OpenVMS is available on OpenVMS Alpha and OpenVMS Industry Standard 64 (I64).

Disk Space Requirements

The SOAP Toolkit Version V2.0 self-extractable file for OpenVMS Alpha and I64 requires approximately 42,000 blocks of disk space. The product installation requires approximately 100,200 blocks of disk space.

Software Prerequisites - Client

The following software is required to call web services with the SOAP Toolkit for OpenVMS:

For OpenVMS Alpha:

- HP OpenVMS Alpha Version 7.3-2 (or higher)
- HP Software Development Kit (SDK) for the Java™ Platform Version 1.4.2 (or higher)

For OpenVMS I64:

- HP OpenVMS I64 Version 8.2 (or higher)
- HP **Software Development Kit (SDK) for the Java™ Platform** Version 1.4.2 (or higher)

For both Alpha and I64:

- All patches required for SDK for the Java™ Platform. Check the SDK documentation for the version of Java you are installing to be sure that you have all prerequisite OpenVMS Alpha patches.

- **JAXP-1.1 compliant XML parser** such as Xerces or Crimson must be configured before the SOAP toolkit will operate. (However, you may install the SOAP toolkit without an XML parser being configured.)

Note: The **Crimson parser** is included with the Java SDK Version 1.4 (or higher). A **Xerces parser** is included in the SOAP Toolkit. To use this parser, add it to your classpath after installation. For example:

```
$ define java$classpath disk$:[axis-1_1.openvms.libjars]xercesImpl.jar
```

Software Prerequisites - Server

The following software is required to deploy web services with the SOAP Toolkit for OpenVMS:

- All Axis **client prerequisites**
- A Java Servlet container

When deploying web services with the OpenVMS SOAP Toolkit, a servlet container is required to host the Axis Servlet. There are three configuration options for establishing a Servlet container, as follows:

- Use the built-in Java Servlet container named SimpleAxisServer. (See **Axis documentation.)**

  Note: SimpleAxisServer is NOT a production weight web server, but is appropriate for evaluation or prototyping and testing in a development environment.

- Use Tomcat (CSWS_JAVA) as the servlet container while using the built-in web server in Tomcat.
- Use Tomcat (CSWS_JAVA) as the servlet container and the Apache-based Secure Web Server (CSWS) as your web server.

The SOAP Toolkit for OpenVMS has been tested on Alpha with the following versions of CSWS and CSWS_JAVA:

- **HP Secure Web Server (CSWS)** Version 1.2 (or higher) for OpenVMS
- **CSWS_JAVA** Version 2.0 (or higher) for Secure Web Server for OpenVMS

The SOAP Toolkit for OpenVMS has been tested on I64 only with the included SimpleAxisServer.

Note: Installing on an **ODS-5 enabled disk** is **required**.

Removing the Previous Version

There are two ways a user can remove the previous versions:

1. Run `AXIS$ROOT:[000000]UNINSTALL_SOAP_TOOLKIT-2_0.COM` to remove the product. For example:

   ```
   $ @AXIS$ROOT:[000000]UNINSTALL_SOAP_TOOLKIT-2_0.COM
   ```

2. PCSI product installation provides an option to delete the previously installed kit. It checks for `AXIS$ROOT:[000000]UNINSTALL_SOAP_TOOLKIT-2_0.COM` and prompts for removal.

Downloading and Installing the SOAP Toolkit

Downloading the Kit

The SOAP Toolkit for OpenVMS can be obtained in three different ways:

1. OpenVMS Alpha via the e-Biz CDs for OpenVMS Alpha
2. I64 Delta CDs for OpenVMS Integrity
3. OpenVMS website for both OpenVMS Alpha and Integrity. To download the kit, please submit the registration form.

Expanding the Kit

To expand the SOAP Toolkit for OpenVMS, perform the following steps:

1. Create a temporary directory on an ODS-5 disk to hold the installation file that will be extracted from the `SOAP-V0200-I64.EXE` or `SOAP-V0200-AXP.EXE` file. For example:

   ```
   $ CREATE/DIRECTORY DISK$:[TEMP]
   ```

2. Copy `SOAP-V0200-I64.EXE` or `SOAP-V0200-AXP.EXE` to the temporary directory created in Step 1.

3. Set default to the temporary directory created in Step 1. For example:

   ```
   $ SET DEFAULT DISK$:[TEMP]
   ```

4. Enter the following command to extract relevant files from the SOAP kit.

   ```
   $ RUN SOAP-V0200-I64.EXE (For Integrity)
   $ RUN SOAP-V0200-AXP.EXE (For Alpha)
   ```

The following example provides the procedure for expanding the self-extractable kit on OpenVMS Alpha and I64 respectively:

```
$ RUN SOAP-V0200-AXP.EXE
UnZipSFX 5.41 of 16 April 2000, by Info-ZIP (Zip-
Bugs@lists.wku.edu)
inflating: HP-VMS-SOAP-V0200--1.PCSI$COMPRESSED
inflating: HP-VMS-SOAP-V0200--1.PCSI$COMPRESSED_ESW

$ RUN SOAP-V0200-I64.EXE
UnZipSFX 5.42 of 14 January 2001, by Info-ZIP (Zip-
Bugs@lists.wku.edu).
inflating: HP-VMS-SOAP-V0200--1.PCSI$COMPRESSED
inflating: HP-VMS-SOAP-V0200--1.PCSI$COMPRESSED_ESW
```

Installing the Kit

To install the SOAP Toolkit for OpenVMS, enter a command similar to the following:

```
  $ prod install soap

The following product has been selected:
    HP VMS SOAP V2.0                        Layered Product

Do you want to continue? [YES]

Configuration phase starting ...

You will be asked to choose options, if any, for each selected product
and for any products that may be installed to satisfy software
dependency requirements.

HP VMS SOAP V2.0: SOAP Toolkit Version 2.0 for OpenVMS, based on Apache
Axis 1.1

    © Copyright 2007 Hewlett-Packard Development Company, L.P.

    Hewlett-Packard Company

* This product does not have any configuration options.

Execution phase starting ...

The following product will be installed to destination:
    HP VMS SOAP V2.0                        DISK$ALPHASYS:[VMS$COMMON.]

Portion done: 0%...10%...20%...30%...40%...50%...90%

AXIS$ROOT has been defined.
The following logical must be added to SYS$MANAGER:SYLOGICALS.COM so
that it will be defined each time the system is rebooted.

$ define/sys/nolog/trans=concealed AXIS$ROOT
DISK$ALPHASYS:[SYS0.SYSCOMMON.AXIS.]
```

```
After finishing the SOAP Toolkit 2.0 installation, we recommend that
you execute the installation validation tests by running soap_toolkit-
2_0_util.com.
   @AXIS$ROOT:[AXIS-1_1.openvms.coms]soap_toolkit-2_0_util.com

For documentation on AXIS and for further instructions please access
the Apache AXIS website at the following url.

http://ws.apache.org/axis/
...100%

The following product has been installed:
    HP VMS SOAP V2.0                       Layered Product
$
```

After Installing the SOAP Toolkit

After the installation is complete, perform the following tasks.

1. Run the validation tests:

a. In one OpenVMS terminal session enter the following command to startup the SimpleAxisServer:

```
$ @AXIS$ROOT:[AXIS-1_1.openvms.coms]start_simple_axis_server
```

Following is a log of a validation test run as viewed from this terminal session:

```
$ @AXIS$ROOT:[AXIS-1_1.openvms.coms]start_simple_axis_server

Enter Port Number[8080]

%DCL-S-SPAWNED, process axis_server spawned
%DCL-S-ATTACHED, terminal now attached to process axis_server
Dec 10, 2006 11:22:59 AM
org.apache.axis.transport.http.SimpleAxisServer run
INFO: SimpleAxisServer starting up on port 8080.
Dec 10, 2006 11:25:06 AM org.apache.axis.utils.Admin processWSDD
SEVERE: Administration service requested to quit, quitting.
Dec 10, 2006 11:25:06 AM
org.apache.axis.transport.http.SimpleAxisServer stop
INFO: SimpleAxisServer quitting.
%DCL-S-RETURNED, control returned to process _TNA34:
$
```

b. In another OpenVMS terminal session enter the following command to run the validation tests:

```
$ @AXIS$ROOT:[AXIS-1_1.openvms.coms]soap_toolkit-2_0_util.com
```

Following is a log of a validation test run as viewed from this terminal session:

```
$ @AXIS$ROOT:[AXIS-1_1.openvms.coms]soap_toolkit-2_0_util.com
```

```
           SOAP Toolkit 2.0 (based on Apache AXIS) Utility
           -----------------------------------------------
        1 - Show current configuration

        2 - Run SOAP Toolkit 2.0 Validation Procedure

        3 - Copy supplemental jar files to AXIS$ROOT:[AXIS-1_1.LIB]

        E. Exit SOAP Toolkit 2.0 Utility
           -----------------------------------------------
Please choose a task: 2

The SOAP Toolkit 2.0 validation tests will now be run.

Note: The OpenVMS SOAP Toolkit V2.0 kit provides optional jar files in
AXIS$ROOT:[AXIS-1_1.OPENVMS.LIBJARS]. These files are often needed to
use AXIS but are not included in the AXIS distribution from the Apache
Group. They are included in the OpenVMS SOAP Toolkit as a convenience
for the user.

This validation procedure will use the optional jar files to run the
installation verification tests. You have the option of using these
jar files in your SOAP Toolkit deployment. To use these jar files,
choose option 3 from this utility to copy the files to AXIS$ROOT:[AXIS-
1_1.LIB]

The SOAP Toolkit 2.0 Validation Tests require that the Simple Axis
Server be started in another process. The Simple Axis Server is a web
server provided in the Axis distribution to be used for prototyping.
Please execute the command below from a different terminal window.

@axis$root:[axis-1_1.openvms.coms]start_simple_axis_server

By default the Simple Axis Server will listen on port 8080. If this
port is already in use you may specify a different port number as an
argument to the command procedure. For Example:

@axis$root:[axis-1_1.openvms.coms]start_simple_axis_server 999

If a different port was specified when calling
start_simple_axis_server.com then provide that port number below.

Enter the port number on which Simple Axis Server is listening [8080]:


 ... Running validation tests...This may take a few moments...

%DCL-S-SPAWNED, process soap_val_tsts spawned
%DCL-S-ATTACHED, terminal now attached to process soap_val_tsts
%DCL-S-RETURNED, control returned to process _FTA149:

The results of the validation tests are saved to a log file. Please
compare the tests results log file against the benchmark log file
provided in the same directory. The benchmark log file shows the
expected results when the validation tests complete successfully.
```

```
The log file produced is:
        AXIS$ROOT:[AXIS-1_1.OPENVMS.VALIDATION-
TESTS]validate_soap_toolkit_install.log

The benchmark log file is:
        AXIS$ROOT:[AXIS-1_1.OPENVMS.VALIDATION-
TESTS]validate_benchmark.log
```

To compare the two log files use the command:

```
    $diff /ignore=(spacing,blank,trailing)-
    AXIS$ROOT:[AXIS-1_1.OPENVMS.VALIDATION-
    TESTS]validate_soap_toolkit_install.log-
    AXIS$ROOT:[AXIS-1_1.OPENVMS.VALIDATION-TESTS]validate_benchmark.log

Choice  (R- Return to Menu)  (E- Exit): E
```

2. Check the results of the validation test log validate_soap_toolkit_install.log by performing a DIFF against the validate_benchmark.log file supplied in the validation-tests directory as instructed when running the validation procedure selection

Run SOAP Toolkit 2.0 Validation Procedure as documented above in step 1.

Note: If a port number other than the default 8080 was used, then this will show up in the DIFF of the log and benchmark files.

Following is a log of a DIFF:

```
$ diff /ignore=(spacing,blank,trailing)-
_$     AXIS$ROOT:[AXIS-1_1.OPENVMS.VALIDATION-
TESTS]validate_soap_toolkit_install.log -
_$     AXIS$ROOT:[AXIS-1_1.OPENVMS.VALIDATION-
TESTS]validate_benchmark.log
Number of difference sections found: 0
Number of difference records found: 0

DIFFERENCES /IGNORE=(SPACING,TRAILING_SPACES,BLANK_LINES)/MERGED=1-
    AXIS$ROOT:[AXIS-1_1.openvms.validation-
tests]VALIDATE_SOAP_TOOLKIT_INSTALL.LOG;1-
    AXIS$ROOT:[AXIS-1_1.openvms.validation-
tests]validate_benchmark.log;1
$
```

Note: If a port number other than the default 8080 was used, this will show up in the DIFF of the validation run log and benchmark files.

The following shows the contents of a successful validation test log:

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
BEGIN - Run Validation Test: Stock

Processing file /axis$root/axis-1_1/samples/stock/deploy.wsdd
<Admin>Done processing</Admin>
Test Command: java "samples.stock.GetInfo" -p 8080 "CSCO" "name"
CSCO: Cisco Systems
```

```
Processing file /axis$root/axis-1_1/samples/stock/undeploy.wsdd
<Admin>Done processing</Admin>
END - Run Validation Test: Stock
------------------------------------------------------------

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
BEGIN - Run Validation Test: Userguide example3

Processing file /axis$root/axis-
1_1/samples/userguide/example3/deploy.wsdd
<Admin>Done processing</Admin>
Test Command: java "samples.userguide.example3.Client" -p 8080 "Look
what I typed!"
You typed : Look what I typed!
Processing file /axis$root/axis-
1_1/samples/userguide/example3/undeploy.wsdd
<Admin>Done processing</Admin>
END - Run Validation Test: Userguide example3
------------------------------------------------------------

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
BEGIN - Run Validation Test: Userguide example4

Processing file /axis$root/axis-
1_1/samples/userguide/example4/deploy.wsdd
<Admin>Done processing</Admin>
Test Command: java "samples.userguide.example4.Client" -p 8080
Hi, you've reached the testMethod.
END - Run Validation Test: Userguide example4
------------------------------------------------------------

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
BEGIN - Run Validation Test: Userguide example5

Processing file /axis$root/axis-
1_1/samples/userguide/example5/deploy.wsdd
<Admin>Done processing</Admin>
Test Command: java "samples.userguide.example5.Client" -p 8080
Hi, Glen Daniels!

You seem to have ordered the following:

1 of item : mp3jukebox
4 of item : 1600mahBattery

If this had been a real order processing system, we'd probably have
charged you about now.
END - Run Validation Test: Userguide example5
------------------------------------------------------------

Shutting down SimpleAxisServer...
<Admin> quitting.</Admin>
$
```

3. Add the following line to SYS$MANAGER:SYLOGICALS.COM so that this logical is defined to make AXIS automatically available each time the system is rebooted.

```
$ define/sys/nolog/trans=concealed AXIS$ROOT DISK$:[AXIS.]
```

where `DISK$:[AXIS.]` is the location where you installed the SOAP Toolkit Version 2.0.

Installing the Sources and Documentation

The sources and documentation are provided in the form a backup saveset. Execute the following command to restore the documentation and sources.

```
$ set def AXIS$ROOT:[000000]
$ @soap_restore_backups.com

*** THIS PROCEDURE WILL LET YOU RESTORE DOCUMENTATION OR SOURCE OR BOTH
ON TO AXIS$ROOT:[000000…] ***
                1. RESTORE DOCUMENTATION ONLY
                2. RESTORE SOURCES ONLY
                3. RESTORE DOCUMENTATION AND SOURCES
                4. EXIT
TYPE 1 OR 2 OR 3 OR 4 : 1

BACKUP RESTORE OPERATION STARTS.....

DOCUMENTATION IS RESTORED.

$ @soap_restore_backups.com
*** THIS PROCEDURE WILL LET YOU RESTORE DOCUMENTATION OR SOURCE OR BOTH
ON TO AXIS$ROOT:[000000…] ***
                1. RESTORE DOCUMENTATION ONLY
                2. RESTORE SOURCES ONLY
                3. RESTORE DOCUMENTATION AND SOURCES
                4. EXIT
TYPE 1 OR 2 OR 3 OR 4 : 2

BACKUP RESTORE OPERATION STARTS.....

SOURCE IS RESTORED

$ @soap_restore_backups.com
*** THIS PROCEDURE WILL LET YOU RESTORE DOCUMENTATION OR SOURCE OR BOTH
ON TO AXIS$ROOT:[000000…] ***
                1. RESTORE DOCUMENTATION ONLY
                2. RESTORE SOURCES ONLY
                3. RESTORE DOCUMENTATION AND SOURCES
                4. EXIT
TYPE 1 OR 2 OR 3 OR 4 : 3

BACKUP RESTORE OPERATION STARTS.....

DOCUMENTATION AND SOURCES ARE RESTORED

$ @soap_restore_backups.com
*** THIS PROCEDURE WILL LET YOU RESTORE DOCUMENTATION OR SOURCE OR BOTH
ON TO AXIS$ROOT:[000000…] ***
                1. RESTORE DOCUMENTATION ONLY
                2. RESTORE SOURCES ONLY
                3. RESTORE DOCUMENTATION AND SOURCES
```

```
                4. EXIT
TYPE 1 OR 2 OR 3 OR 4 : 4

$
```

Removing the Kit

To remove the SOAP Toolkit Version 2.0 kit, enter the following command:

```
$ prod remove soap
```

The following information is displayed:

```
$ prod remove soap

The following product has been selected:
    HP VMS SOAP V2.0                        Layered Product

Do you want to continue? [YES]

The following product will be removed from destination:
    HP VMS SOAP V2.0                        DISK$I64SYS:[VMS$COMMON.]

Portion done:
0%...10%...20%...30%...40%...50%...60%...70%...80%...90%...100%

The following product has been removed:
    HP VMS SOAP V2.0                        Layered Product
```

Known Issues

On OpenVMS V7.3-2, removing the SOAP product will display the following error messages, but the uninstallation is not affected. You will have to manually delete these files.

```
$ prod remove soap

The following product has been selected:
    HP VMS SOAP V2.0                        Layered Product

Do you want to continue? [YES]

The following product will be removed from destination:
    HP VMS SOAP V2.0                        DISK$ALPHASYS:[VMS$COMMON.]

Portion done: 0%...10%
%PCSI-E-FILNOTPUR, error deleting
DISK$ALPHASYS:[SYS0.SYSCOMMON.][AXIS.AXIS-1_1.
webapps.axis.web-
inf.classes.samples.attachments]EchoAttachmentsService$MemoryOn
lyDataSource.class;1
-SYSTEM-W-BADFILENAME, bad file name syntax
Portion done: 20%...30%...40%...50%...60%
%PCSI-E-FILNOTPUR, error deleting
DISK$ALPHASYS:[SYS0.SYSCOMMON.][AXIS.AXIS-1_1.
test.badWSDL]Error-OutputInOperationWithUndefinedMessage.wsdl;1
```

```
-SYSTEM-W-BADFILENAME, bad file name syntax
%PCSI-E-FILNOTPUR, error deleting
DISK$ALPHASYS:[SYS0.SYSCOMMON.][AXIS.AXIS-1_1.
test.badWSDL]Error-OutputInOperationWithMissingMessageAttribute.wsdl;1
-SYSTEM-W-BADFILENAME, bad file name syntax
%PCSI-E-FILNOTPUR, error deleting
DISK$ALPHASYS:[SYS0.SYSCOMMON.][AXIS.AXIS-1_1.
test.badWSDL]Error-InputInOperationWithUndefinedMessage.wsdl;1
-SYSTEM-W-BADFILENAME, bad file name syntax
%PCSI-E-FILNOTPUR, error deleting
DISK$ALPHASYS:[SYS0.SYSCOMMON.][AXIS.AXIS-1_1.
test.badWSDL]Error-InputInOperationWithMissingMessageAttribute.wsdl;1
-SYSTEM-W-BADFILENAME, bad file name syntax
%PCSI-E-FILNOTPUR, error deleting
DISK$ALPHASYS:[SYS0.SYSCOMMON.][AXIS.AXIS-1_1.
test.badWSDL]Error-FaultInOperationWithUndefinedMessage.wsdl;1
-SYSTEM-W-BADFILENAME, bad file name syntax
%PCSI-E-FILNOTPUR, error deleting
DISK$ALPHASYS:[SYS0.SYSCOMMON.][AXIS.AXIS-1_1.
test.badWSDL]Error-FaultInOperationWithUndefinedMessage-
MultipleFaults.wsdl;1
-SYSTEM-W-BADFILENAME, bad file name syntax
%PCSI-E-FILNOTPUR, error deleting
DISK$ALPHASYS:[SYS0.SYSCOMMON.][AXIS.AXIS-1_1.
test.badWSDL]Error-FaultInOperationWithMissingMessageAttribute.wsdl;1
-SYSTEM-W-BADFILENAME, bad file name syntax
%PCSI-E-FILNOTPUR, error deleting
DISK$ALPHASYS:[SYS0.SYSCOMMON.][AXIS.AXIS-1_1.
test.badWSDL]Error-FaultInOperationWithMissingMessageAttribute-
MultipleFaults.ws
dl;1
-SYSTEM-W-BADFILENAME, bad file name syntax
Portion done: 70%...80%...90%
%PCSI-E-FILNOTPUR, error deleting
DISK$ALPHASYS:[SYS0.SYSCOMMON.][AXIS.AXIS-1_1.
samples.attachments]EchoAttachmentsService$MemoryOnlyDataSource.class;1
-SYSTEM-W-BADFILENAME, bad file name syntax
Portion done: 100%

The following product has been removed:
    HP VMS SOAP V2.0                        Layered Product
```

Release Notes

This section contains notes on the current release of the SOAP Toolkit for OpenVMS.

There are currently no release notes for the Version 2.0 kit.

Support

Customer Release Versions

See the SOAP Toolkit Software Support page for information.

For technical feedback to the SOAP Toolkit for OpenVMS engineering team, please send mail to OpenVMS.eBusiness@hp.com.