# BeanConnect V3.0: Questions and Answers

# General Checklist

If you run into problems when working with BeanConnect, you first should use the following general checklist to verify that you have paid attention to the essentials of an orderly installation, configuration and administration of BeanConnect.

For further BeanConnect-specific information concerning the individual topics please refer to the specified chapter of the BeanConnect manual.

Im englischen Exemplar des BeanConnect V3.0 Handbuchs wird "**a**pplication **s**erver" immer mit kleinem "a" und kleinem "s" geschrieben.

Did you…

1. start your computers?

2. install and start the Application Server (e.g. Oracle WebLogic Server) ?

3. install and configure BeanConnect Resource Adapter and deploy it into the Application Server?
   (see chapter 3 "Installing BeanConnect" and 4 "Configuration in the application server")

4. install all software components which are required as a prerequisite for the BeanConnect Proxy (openUTM 6.2, PCMX)?
   (see chapter 3 "Installing BeanConnect")

5. install the BeanConnect Proxy Container?
   (see chapter 3 "Installing BeanConnect")

6. install the BeanConnect Management Console?
   (see chapter 3 "Installing BeanConnect")

7. configure BeanConnect Proxy?
   (see chapter 6 "Configuration of BeanConnect ")

8. define the EIS partner system in the Management Console?
   (see chapter 6 "Configuration of BeanConnect ")

9. for Outbound Communication: Create the calling EJB and deploy it into the application server?
   (see chapter 4 "Configuration in the application server")

10. for Outbound Communication: Create the necessary entries (configuration properties like ProxyURL, ConnectionUrl, encoding) in the resource adapter/application server?
    (see chapter 4 "Configuration in the application server")

11. for Outbound Communication: Create the necessary elements (Outbound Service, Outbound Communication Endpoint) in the Management Console?
    (see chapter 6 "Configuration of BeanConnect ")

12. for Outbound Communication: Create and configure the program to be called in the EIS?
    (see chapter 6 "Configuration of BeanConnect " and 8 "EIS Configuration")

13. for Inbound Communication: Create the EJB to be called and deploy it into the application server?
    (see chapter 4 "Configuration in the application server")

14. for Inbound Communication: Create the necessary entries (Inbound Listener Port, activation-config properties) in the resource adapter/application server?
    (see chapter 4 "Configuration in the application server")

15. for Inbound Communication: Create the necessary elements (Inbound Message Endpoint, possibly Inbound User) in the Management Console?
    (see chapter 6 "Configuration of BeanConnect")

16. for Inbound Communication (using Inbound User): Define a mapping to a User in the WebLogic Server or define an identical User in the WebLogic Server?

17. for Inbound Communication: Create and configure the calling program in the EIS?
    (see chapter 6 "Configuration of BeanConnect " and 8 "Adapting the configuration in the EIS partner")

18. after modifications in the configuration of the resource adapter (ProxyURL, inboundListenerPort) redeploy the resource adapter into the application server?
    (see chapter 4 "Configuration in the application server")

19. save the new/modified configuration data in the Management Console and initiate an "Update Configuration"?
    (see chapter 6 "Configuration of BeanConnect ")

20. transfer the input files generated for the EIS partners onto the platform of the EIS and adjust the generation/configuration of the EIS?
(see chapter 7 "Adapting the configuration in the EIS partner")

21. perform and successfully finish all todo topics (e.g. Save, Update), which are named in the Management Console?
(see chapter 5 "BeanConnect Management Console")

22. make sure that all components needed (application server, proxy, EIS) are running and available?
(see chapter 6 "Configuration of BeanConnect")

23. check the relevant logging files (in the application server, resource adapter, proxy) for error messages? This is done best in the direction of communication (for Outbound Communication look first into the resource adapter logging, for Inbound Communication first into the logging of EIS or proxy).
(see chapter 13 "Logging, diagnostics and troubleshooting")

Notice:

If you work with Outbound Communication via UPIC protocol only, you can ignore the remarks on the Proxy, because this Communication is carried out directly without the Proxy.

# Operation of the BeanConnect Proxy

## At which Time the Start of the Proxy Container is Successfully Completed?

- **Problem:** During start-up of the proxy container many messages are issued. At which time the start is successfully completed and the proxy container is available?

  **Solution:** After a successful start one of the following messages is created:
  This message is displayed with a header containing date and time in the starting window or written to the logfile.
  The name of the logfile start with „utmp.out" followed by a timestamp from the startup.

  > K050 Successful warm start for application <name> under UTM <version no.>
  > K051 Successful cold start for application <name> under UTM <version no.>

  After this the proxy container is available.

## The Proxy Container cannot be Started

- **Problem:** When starting the proxy container the following messages are created:

  > K049 **Error 58** during application startup
  > K058 Abnormal termination of task <task no.>
  > K059 Abnormal termination of application run
  > U229 utmmain: utmwork process died, pid: <task no.>
  > U221 utmmain: UTM application <appl. name> <version no.> terminated
  > BeanConnect run terminated with -1

  **Reason:** The errorcode "**Error 58**" is indicating that the directory SYSLOG in the Proxy Container Home Directory has been deleted or renamed by mistake. For this reason the proxy container can no more be started.

  **Solution:** On Solaris/Linux navigate to the BeanConnect Proxy Container home directory and enter the following commands:
  > . ./initenv.sh
  > $UTMPATH/ex/kdcslog . 20

  > On Windows open a command window, navigate to <proxy-container-home> and then enter the following commands:
  > shsc\initenv.cmd
  > %UTMPATH%\ex\kdcslog . 20

  Thereby the missing directory will be created again and will be initialized for BeanConnect. The variable UTMPATH here points to the installation directory of openUTM.

- **Problem:** When starting the proxy container the following messages appear:

  > [BeanConnect.c.sharemem]: sharemem.c(322) - SHM: ShmemCreate return( -1 )
  > [BeanConnect.info]: strtshut.c(376) - BeanConnect Proxy STARTUP: couldn't create the shared memory
  > [BeanConnect.info]: strtshut.c(220) - BeanConnect Proxy STARTUP: shutdown initiated due to fatal error conditions
  > [BeanConnect.info]: strtshut.c(755) - BeanConnect Proxy SHUTDOWN:
  > -------------- start --------------
  > [BeanConnect.info]: strtshut.c(758) - BeanConnect Proxy [id=0|pid=2252]
  > [BeanConnect.c.sharemem]: sharemem.c(738) - SHM: ShmemDetach( ShmAddr = 00000000 ) called
  > [BeanConnect.info]: sharemem.c(750) - SHM: ShmemDetach() call UnMapViewOfFile( pShmAddr = 00000000 ): error=487
  > [BeanConnect.c.sharemem]: sharemem.c(768) - SHM: ShmemDetach() return( -1 )
  > [BeanConnect.info]: sharemem.c(1119) - SHM: ConvertIdToHandle(): no valid handle exists. ShmId = -1
  > [BeanConnect.info]: sharemem.c(412) - SHM: ShmemDelete() call CloseHandle( Handle = 0 ): error=6
  > [BeanConnect.c.sharemem]: sharemem.c(952) - SHM: ShmemRsetEnv() return
  > [BeanConnect.info]: strtshut.c(922) - BeanConnect Proxy SHUTDOWN:
  > -------------- end --------------

**Reason:** A container-specific shared memory cannot be created because the corresponding shared memory key is already in use on the host. The proxy container therefore cannot be started.

**Solution:** The shared memory key used by BeanConnect can be found in the file <proxy-container-home>/config/container.properties assigned to the parameter container.share-mem-key. It is created using the value of the port number (variable.CONTAINER_PORT). Please check which other application uses the same shared memory key. Change the shared memory keys of this application or install your BeanConnect Proxy Container again and provide another port number.


## Problems during Restart of the Proxy Container (Solaris, Linux)

- **Problem:** When calling the script change.sh to restart the proxy container on Solaris or Linux, after providing the password:
        Please enter password: <admin password>
    the following message appears:
        U110 Terminal already connected to UTM application <proxy name>

    **Reason:** An openUTM Terminal Entry has already been activated (dtp.sh).

    **Solution:** Shut the active Terminal Entry (by entering KDCOFF) and then start again the script change.sh.

- **Problem:** When calling the script change.sh to restart the proxy container on Solaris or Linux, after providing the password:
        Please enter password: <admin password>
    the following messages appear:
        K092 Please enter password and optional new password
        U108 Password:
        U123 New password:
        K006 Invalid password - please sign on
        U107 Login name:
        K004 User identification kdcappl  is invalid - please sign on
        U107 Login name:
        U118 Input terminated with "END" key
        Press an arbitrary key . . .

    **Reason:** You have entered an invalid administration password.

    **Solution:** Start the script change.sh again and enter the correct password.


## Problems during Restart of the Proxy Container (Windows)

- **Problem:** When activating the icon "Proxy Container Restart" in the proxy container's program group on Windows, after providing the password:
        Please enter password: <admin password>
    the following message appears:
        U110 Terminal already connected to UTM application <proxy name>

    **Reason:** An openUTM Terminal Entry has already been activated (e.g. via the icon "Terminal Entry" under "Advanced" in the proxy container's program group).

    **Solution:** Shut the active Terminal Entry (by entering KDCOFF) and then activate again the icon "Proxy Container Restart".

- **Problem:** When activating the icon "Proxy Container Restart" in the proxy container's program group on Windows, after providing the password:
        Please enter password: <admin password>
    the following messages appear:
        K092 Please enter password and optional new password
        U108 Password:
        U123 New password:
        K006 Invalid password - please sign on
        U107 Login name:
        K004 User identification kdcappl  is invalid - please sign on

U107 Login name:
U118 Input terminated with "END" key
Press an arbitrary key . . .

**Reason:** You have entered an invalid administration password.

**Solution:** Close the window, activate the icon "Proxy Container Restart" again and enter the correct password.


## K043 Message during Start of the Proxy Container

- **Problem:** When starting the proxy container, the following message and return code appear:
  K043 DMS error F002 for file ./USLA         on Solaris or Linux
  K043 DMS error F002 for file .\USLA         on Windows

  **Reason:** The directory USLA in the Proxy Container Home Directory has been deleted or renamed by mistake.

  **Solution:** The message can be ignored, because BeanConnect does not need this directory. The proxy container will be started and its functionality will not be affected.

### Operation of the BeanConnect Management Console

## Management Console cannot be Started (Solaris, Linux)

- **Problem:** When starting the Management Console on Solaris or Linux, the following message is issued:

  Exception in thread "AWT-EventQueue-0" java.awt.HeadlessException:
  **No X11 DISPLAY variable was set,** but this program performed an operation which requires it.
      at java.awt.GraphicsEnvironment.checkHeadless(GraphicsEnvironment.java:159)
      at java.awt.Window.<init>(Window.java:318)
      at java.awt.Frame.<init>(Frame.java:419)
      at javax.swing.JFrame.<init>(JFrame.java:194)
      at net.fsc.tpbasics.fe.MainBase$1.run(MainBase.java:432)
      at java.awt.event.InvocationEvent.dispatch(InvocationEvent.java:209)
      at java.awt.EventQueue.dispatchEvent(EventQueue.java:461)
      at java.awt.EventDispatchThread.pumpOneEventForHierarchy(EventDispatchThread.java:242)
      at java.awt.EventDispatchThread.pumpEventsForHierarchy(EventDispatchThread.java:163)
      at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:157)
      at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:149)
      at java.awt.EventDispatchThread.run(EventDispatchThread.java:110)

  Or

  Exception in thread "main" java.lang.InternalError: **Can't connect to X11 window server** using 'host1234:0.0'
  as the value of the DISPLAY variable.
      at sun.awt.X11GraphicsEnvironment.initDisplay(Native Method)
      at sun.awt.X11GraphicsEnvironment.access$000(X11GraphicsEnvironment.java:53)
      at sun.awt.X11GraphicsEnvironment$1.run(X11GraphicsEnvironment.java:142)
      at java.security.AccessController.doPrivileged(Native Method)
      at sun.awt.X11GraphicsEnvironment.<clinit>(X11GraphicsEnvironment.java:131)
      at java.lang.Class.forName0(Native Method)
      at java.lang.Class.forName(Class.java:164)
      at java.awt.GraphicsEnvironment.getLocalGraphicsEnvironment(GraphicsEnvironment.java:68)
      at sun.awt.X11.XToolkit.<clinit>(XToolkit.java:96)
      at java.lang.Class.forName0(Native Method)
      at java.lang.Class.forName(Class.java:164)
      at java.awt.Toolkit$2.run(Toolkit.java:821)
      at java.security.AccessController.doPrivileged(Native Method)
      at java.awt.Toolkit.getDefaultToolkit(Toolkit.java:804)
      at net.fsc.tpbasics.util.res.ResourceLoader.getImage(ResourceLoader.java:485)
      at net.fsc.tpbasics.util.res.ResourceLoader.getIcon(ResourceLoader.java:521)
      at net.fsc.jca.tools.mc.r.R.getIcon(R.java:206)
      at net.fsc.jca.tools.mc.fe.Main.<clinit>(Main.java:222)


  **Reason:** The environment variable DISPLAY has not been set and exported before starting the Management Console.

  **Solution:** The environment variable DISPLAY can be set and exported as follows:
      DISPLAY=<host-name>:0.0
      export DISPLAY

  Then start the Management Console again. For <host-name> you can specify the name of the computer, on which the Management Console is to be started or the X11-Server where the GUI should be displayed.

  You can also provide the hosts IP address instead of the hosts name

# Administration via the Management Console

## Modifications of the Configuration do not Come into Effect

- **Problem:** The modifications of the configuration which have been done via the Management Console, e.g. definition of new services or EIS partners, do not come into effect during operation.

    **Reason:** The new configuration has not yet been completely done.

    **Solution:** In the list of todo topics the Management Console displays all still open actions, which are required for the successful completion of the configuration modification. These first have to be performed. The actions may also concern the EIS side of the communication and therefore not be practicable via the Management Console.

## Name Conflicts when Generating the EIS System

- **Problem:** The generation of a UTM partner application using the statements created by the BeanConnect Management Console fails because of name conflicts. The generation tool KDCDEF reports with relation to an OSI-LPAP statement:

    K413 Ambiguous definition of ASSOCIATION-NAME <prefix><nbr> .

    **Reason:** Name conflicts can arise, when several BeanConnect instances configure the same UTM partner application as EIS partner. If identical prefixes <prefix> are configured for the EIS partner from the different Management Console instances, BeanConnect is unable to detect and prevent this.

    **Solution:** In this case it is the responsibility of the involved administrators, to specify unique prefixes (parameter Prefix of the EIS partner objects) when defining EIS partners with the Management Console.

# Administration using Scripts

## The Call of a Proxy Container Script Fails

- **Problem:** The call of a script in the subdirectory shsc of the proxy container (on Solaris/Linux from a shell, on Windows from a command prompt) does not work as expected. For example the following message is issued:

    The system cannot find the path specified.

    **Reason:** The script was called out of a wrong directory.

    **Solution:** On Windows you should first check whether there is an icon in the BeanConnect program group for the use of the script. This is the preferable way to call the script. Otherwise you open a shell (on Solaris or Linux) respectively a command window (on Windows) and navigate to <proxy-container-home>. From there you call the respective script with shsc/<scriptname>.sh or with .\shsc\<scriptname>.cmd

## Bean Development

## Handling of Exceptions

- **Problem:** How do I handle exceptions thrown by methods of the user API (net.fsc.jca.communication)?

    **Solution:** If EISConnectionExceptions are thrown by methods of the user API, then the error code of the exception definitely should be evaluated (using one of the methods getErrorCode() or getErrorCodeString()).
    The error code provides basic information on the cause of the error, for example: TIMEOUT, ROLLBACK or CONFIGURATION_ERROR.

Possible actions for specific error codes are described in the Javadoc of the class net.fsc.jca.communication.EISConnectionException.

Further indications concerning the reason of the error are contained within the message of the exception, which can be read with getMessage().
In the case of a configuration error sometimes also the DC code from the KDCS call APRO in the proxy is returned in the message. Example:
        Error when sending to EIS; configuration error (KD10)
(KD10: No connection to the partner application is established.)

Finally, detailed error information can be found in the diagnostic message which can be read with getDiagnosticString(). The analysis of its content, however, is mainly a matter of the support team, not of the customer.

If an application catches an XAException, then as well it should evaluate the corresponding error code (xaException.errorCode).

## After Deployment an OLTP Message-driven Bean cannot be Used

- **Problem:** The deployment of an OLTP message-driven bean (for Inbound Communication) in the WebLogic Server succeeded. But when trying to use the OLTP message-driven bean, a javax.resource.spi.UnavailableException with the following error message occurs:

    BCS00048X: No message endpoint activated for given message endpoint "<message-endpoint-name>", error code: 12
    at net.fsc.jca.beanconnect.in.comm.MessageHandler.handleUserMsg (MessageHandler.java:201)

    **Reason:** The deployment of the bean succeeded only partially.

    **Solution:** It has to be checked whether the JAR files representing the OLTP message-driven bean do exist under applications\<EJB-deployment-name> in the WebLogic home directory. If not, then the following entries are missing in the application.xml element of the bean's EAR file:
            <module> <ejb> JAR-file-name </ejb> </module>

        After this has been added, the bean has to be redeployed.

# Communication in general

## No Communication Possible between Resource Adapter and EIS

- **Problem:** The communication between resource adapter and EIS does not work (any more).

    **Reason:** One of the BeanConnect components is not available.

    **Solution:** Start the BeanConnect Management Console, select the appropriate proxy under BeanConnect Proxies in the navigation tree on the left, and call "Check Availability" from its context menu. The action dialog Check Availability is displayed, which shows information concerning the current state of the proxy and its components. Inactive components can be started using the command "Start Proxy" from the proxy's context menu.

## K119 Message on SYSLOG

- **Problem:** In the stdout/stderr protocol of the proxy container the message K119 appears with inserts 10 and 2, e.g.
        K119 OSI-TP error information: <EIS-partner-prefix>OSICL, , , 10, 2, <index>

    **Reason:** The message indicates a connection bottleneck for the EIS partner with prefix <EIS-partner-prefix>.

    **Solution:** Via the Terminal Entry (Solaris, Linux: shsc/dtp.sh; Windows: entry under Advanced in the proxy container's program group) enter the command:
            kdcinf osi-lpap,l=kdcall
        and retrieve the number of current and maximum possible connections.

In a table all defined OSI-LPAP entries will be displayed. The column ASSOC shows the maximum number of connections and the column CONNECT contains the number of currently established connections. If both values are equal for the OSI-LPAP mentioned in the K119 message (<EIS-partner-prefix>OSICL) then the maximum number of connections should be increased. This can be done from the Management Console using "Edit Properties" for the concerned EIS partner with prefix <EIS-partner-prefix> (see the Management Console's online help).

## Poor Performance

- **Problem:** The number of transactions per minute is very low.

    **Reason:** Possibly the number of configured proxy container processes is too low.

    To check this, from the Management Console choose 'Advanced Features' – 'Properties / Statistics' under the corresponding proxy node. There information concerning current settings and performance is provided.
    Check the value of Workload. If it is near 100 percent repeatedly, then there exists a bottleneck because of too few proxy container processes. The number of processes should be increased.

    **Solution:** From the Management Console choose 'Edit Properties' in the context menu of the proxy concerned. On the dialog's Performance Settings tab (only displayed in Expert Mode) you can increase the value in the section 'Number of Proxy Container Processes'. Continuing with 'Save' and 'Reload' for the proxy you then start the desired number of processes.
    (Attention: A greater number of processes also mean an increased demand of working storage.)
    For further information see the Management Console's online help at "Properties of Proxy" --> "Performance Settings" under "Number of Proxy Container Processes".

## Creation of a Custom Charset

- **Problem:** How can I create a custom Charset?

    **Solution:** How to create custom charsets is shown in an example.
    This example is provided in the directory "encoding/sample" of the installed resource adapter.

## Outbound Communication

## General Notice

- **Problem: Where can I get information concerning the cause of an error?**

    **Solution:** The calling bean usually receives an exception in the case of an error.
    At any rate the logging files (in the application server, resource adapter, proxy) should be examined for error messages. This is done best following the direction of communication (for Outbound Communication in the resource adapter first, then in the proxy). In the Log4j logging files, error messages are indicated by the string "ERROR".
    (see chapter 13 "Logging, diagnostics and troubleshooting")

## No Connection to the Proxy

- **Problem:** When calling a service, after waiting for a longer period of time the following message is received in the bean/resource adapter logging:

```
Exception thrown for connection <BCU01020.1>:
net.fsc.jca.communication.EISConnectionException:
2013-09-20 12:52:46.940+0200: BCS10023X: JUpicException caught in
createProxyConnection(): de.siemens.utm.jupic.JUpicConnectException: JUpic
connection problem: de.siemens.utm.jupic.JRfc1006ConnectException:
JRfc1006/Socket(): Socket Exception for [MCH7576D:30304]
java.net.ConnectException: Connection refused: connect (la[102/T'JUPIC'],
ra[proxyhost/30304/T'BCU30304']) {BE 1006s}, error code: java.io.IOException
```

```
[EC_IO_EXCEPTION:104], connectionId:
de.siemens.utm.jupic.JUpic[4:1379674365910#65f00a]
, error code: communication error [EC_COMMUNICATION_ERROR:11], connectionId:
BCU01020.1, proxy: proxyhost:30304/BCU30304, userId: BCU01020; diagnostic string:
net.fsc.jca.communication.EISConnectionException:
```

> **Reason:** The proxy is not reachable. This can mean that the proxy has not been started, or that the configuration (ProxyURL) is wrong.

> **Solution:** Start the proxy, if necessary. Check the ProxyURL and modify the configuration, if need be.

## No Connection to the EIS

- **Problem:** When calling a service, the following message is received in the bean/resource adapter logging and in the logging of the proxy:

  > net.fsc.jca.communication.EISConnectionException: BCP02665X: exception in getConnection(echo): javax.naming.NameNotFoundException: <date-time> BCP00303X: Name >echo< not found

  > **Reason:** The Communication Endpoint in the proxy is not defined (here: echo)

  > **Solution:** Via the Management Console configure the necessary Outbound Communication Endpoint (named "echo" in the example) for the proxy.

## Data from Application Server is Unreadable in the EIS Program Unit

- **Problem:** The data, which is sent from a bean residing in the application server to a program unit in the EIS, is not "readable".

  > **Reason:** No encoding table or a wrong encoding table is used.

  > **Solution:** First it has to be checked, which encoding is used on the computers involved (application server and EIS). The table which maps the two encoding types must then be specified in the connection-factory entry of the used Connection Factory in the file weblogic-ra.xml.

## K119 Message in the Proxy

- **Problem:** In the stdout/stderr protocol of the proxy container the message K119 appears with the inserts 2,3, ,,,,  for example
  K119 OSI-TP error information: <EIS-Partner-Prefix>OSICL, ,2, 3, 18,…

  > **Reason:**  the EIS partner did refuse the transferred user (user not created, wrong password,…)

  > K119 OSI-TP error information: <EIS-Partner-Prefix>OSICL, ,2, 3, 22,…

  > **Reason:**  the EIS partner did refuse the service (TAC), because the service is unknown or locked.

## Communication of the Bean with the Proxy Fails

- **Problem:** During the call of an EJB method the first communication call of a transactionless connection to the proxy (mostly call() or receive()) fails. The following exception occurs:

  > net.fsc.jca.communication.EISConnectionException:
  > NamingException during JNDI lookup, proxyURL = <proxyURL>,
  > Exception: javax.naming.CommunicationException:
  > java.rmi.RemoteException: de.siemens.utm.jupic.JUpicConnectException:
  > JUpic connection problem: de.siemens.utm.jupic.JRfc1006ConnectException:

JRfc1006/Socket(): Socket Exception for [<ip-address>]
java.net.ConnectException: Connection refused; …

If the connection is transactional, the following exception occurs instead:

net.fsc.jca.communication.EISConnectionException:
<date-time> BCS00211X: cm.allocateConnection(mcf, info) threw
ResourceException:  javax.resource.ResourceException: SystemException:
Failed to add the resource due to error in the resource:
javax.transaction.xa.XAException: XAResource:: start in proxy failed,
proxyURL = <proxyURL>

In <ip-address> you can find the internet address of the called computer as the resource adapter receives it. From the proxy URL <proxyURL> the computer name <host>, the port number <port> and the name which is used to address the proxy <proxy_cont_name> can be identified. The connection, however, could not be established.

**Reason:** There are several possible reasons:
- the computer name is wrong
- the port number is wrong
- the internet address of the computer is wrong
- the access to the computer is protected by a firewall
- the proxy has not been started
This list is not necessarily complete!

**Solution:** Depending on the reason you have to
- specify the correct computer name in the ProxyURL
- correct the port number in the ProxyURL
- fix the internet address in the name service
- treat the configuration of the firewall
- start the proxy

For the configuration of the ProxyURL see the manual, chapter 4 "Configuration in the application server". The starting of the proxy from the Management Console is described in chapter 5 "BeanConnect Management Console - Overview".

- **Problem:** A bean calls the method getConnection(). This method call fails.

  In the Logging Output window of the Management Console the last event shown is an ERROR message of the Log4j logger BeanConnect.ui.out. The text of the listed exception says:

  SystemException: Failed to add the resource due to error in the resource:
  javax.transaction.xa.XAException: XAResource:: start in proxy failed, proxyURL = <host>:16000/BCU16001

  The previous event of the logger de.siemens.utmejb.comm.ClientServerConnection provides the reason

  RFC1006 connection refused   Reason(0x 2)=TSAP not active

  **Reason:** This message means that on the computer <host> there is a process with the active listener port 16000. This listener port accepts the so-called RFC1006 protocol, but it does not know the Transport Service Access Point (TSAP) "BCU16001".

  **Solution:** The transport selector (TSEL) in the proxy URL per convention is made up of the prefix "BCU" and of the port number of the proxy URL. In the example this convention is ignored (16001 instead of 16000). The TSEL must be specified as "BCU16000".

### Error when Calling a Session Bean

- **Problem:** The proxy writes an error message

    BCP00490X: Session bean net.fsc.jca.beanconnect.ejb.OutboundConnectionHome(...) not found or cannot be loaded

    and throws a javax.ejb.NoSuchObjectLocalException.

    **Reason:** Possibly an internal error in the proxy

    **Solution:** Initialize a restart of the proxy via the Management Console.

# Inbound Communication

## General Notice

- **Problem:** Where can I get information concerning the cause of an error?

    **Solution:** A message is sent to the caller only if the Message Endpoint, which is assigned to the called service name, has been configured with Type=Dialog in the Management Console.

    At any rate the logging files (in the application server, resource adapter, proxy) should be examined for error messages. This is done best following the direction of communication (for Inbound Communication in the EIS or proxy first). In the Log4j logging files, error messages are indicated by the string "ERROR". (see chapter 13 "Logging, diagnostics and troubleshooting")

## No Inbound Connection from Proxy to Resource Adapter Possible

- **Problem:** In the Management Console when calling "Update State" from the list of Inbound Message Endpoints for the proxy, the following message is issued:
    The state of the inbound message endpoints could not be updated.
    Reason: net.fsc.jca.tools.util.ToolException: The resource adapter does not answer.
    Check the configured host and port properties in the resource adapter's properties dialog.

    Similarly when calling "Check Availability" the Result Details for the resource adapter read as:
    The resource adapter does not answer.
    Check the configured host and port properties in the resource adapter's properties dialog.

    **Reason:** This behaviour may have several reasons:
    - o WebLogic Server containing the resource adapter is not running.
    - o The definitions of the Inbound Listener Port for the resource adapter and for the proxy do not match.
      To find out the reason first check, whether the entries specified in the Management Console and in the resource adapter do fit.

    **Solution:** Depending on the reason:
    - o If WebLogic Server is not available, it should be started.
    - o To modify the InboundListenerPort in the resource adapter's ra.xml file proceed as follows:
        1. Extract ra.xml from the archive BeanConnect.rar
        2. Modify ra.xml
        3. Add the modified ra.xml to BeanConnect.rar and pay attention to the correct file path (META-INF).
        4. Deploy the BeanConnect resource adapter
        5. Restart the application server

## K119 Message in the Proxy

- **Problem:** In the stdout/stderr protocol of the proxy container the message K119 appears with the inserts 3,3,18, for example
    K119 OSI-TP error information: <EIS-Partner-Prefix>OSICL, ,3, 3, 18,…

    **Reason:** the EIS partner did refuse the transferred user (user not created, wrong password,…)

## K128 Message in the Proxy

- **Problem:** During Inbound Communication using OSI TP the following message is issued in the proxy to SYSLOG and SYSOUT:
  > K128 UTM-D job rejected: <EIS-partner-prefix>OSICL/ /BCOSI0 /<EIS-partner-prefix>OSICL
  > <EIS-partner-prefix><curr.no> <osi-lses> 01 KM01 <service-name>
  > e.g. in the message
  > K128 UTM-D job rejected: RAIOSICL/ /BCOSI0 /RAIOSICL RAI1 01 KM01 NOTAC
  > <EIS-partner-prefix> = RAI means that the EIS partner with prefix RAI has sent the request.

  The OSI TP job submitter when calling MGET receives the OSI TP status information I/I (service inactive, transaction inactive)

  With Inbound Communication using UPIC, APPLI or Socket the following message is issued in the proxy to SYSLOG and SYSOUT:
  > K009 Transaction code <service-name>   is invalid - input please

  A Socket/APPLI client receives the message K009 as user message, a UPIC client receives an empty user message and the K009 message appears in the UPIC logging.

  - **Reason:** The service name <service-name> is not defined in the proxy. That is, in the Management Console there is no Inbound Message Endpoint for the proxy, to which the service name and the EIS partner with prefix <EIS-partner-prefix> is assigned.

  - **Solution:** First it has to be checked, whether a suitable Inbound Message Endpoint for the proxy has already been configured, but the "Save" or "Update Configuration" action is still to be performed. This can be done using the Management Console's todo list. If still no suitable definition exists, an Inbound Message Endpoint with the needed properties has to be added, and the configuration has to be concluded with "Save" and "Update Configuration".

## Message Endpoint not Found

- **Problem:** When calling a service for Inbound Communication in the proxy the following message is output to error log:
  > btacont(): MessageEndpoint not found

  The error message is sent to the caller as user message, if no end of transaction has been requested yet. A distributed transaction is reset, if the job submitter requests end of transaction.

  - **Reason:** The configuration of the Inbound Message Endpoint is not yet fully completed.

  - **Solution:** Using the Management Console's todo list it has to be checked, whether after the creation of the Inbound Message Endpoint and the "Save" action the necessary "Reload" for the proxy has been performed.

## UnavailableException in the Application Server

- **Problem:** The resource adapter writes an error message
  > BCS00048X: No message endpoint activated for given message endpoint <message-endpoint name> , error code: 12

  and throws a javax.resource.spi.UnavailableException with the same error text. This exception with error text is sent as response to the caller, if end of transaction has not yet been requested. No conversion of text takes place.
  A distributed transaction is reset, if the job submitter requests end of transaction.

  - **Reason:** The MessageEndpoint Name is not known in the resource adapter.

  - **Solution:** The Message Endpoint has to be specified when deploying the message-driven bean into the application server.
    (see the manual, chapter 4 "Configuration in the application server" )

## No Connection to the Application Server

- **Problem:** The proxy cannot establish a connection to the resource adapter and writes an error message into the Log4j logging file:

     btaoltp(): error on URAC_sendAttribute(): URAC_ATTR_NO_CONNECTION (106)

  Socket/APPLI/UPIC clients in addition receive the message text as answer. With OSI TP job submitters the dialog finishes abnormally.
  The distributed transaction is reset immediately.
  For asynchronous jobs only the message in the logging file can be seen.

  **Reason:** There are several possible reasons:
  - The resource adapter is not available.
  - The value specified in the Management Console for "Application Server Host" of the proxy is wrong.
  - The values for InboundListenerPort in the resource adapter and in the Management Console for the proxy do not match.

  **Solution:** It is to be checked whether the resource adapter has been installed, configured and deployed properly, and whether the application server has been started.
  (see the manual, chapter 4 "Configuration in the application server", as well as the WebLogic description)
  In the Management Console call "Edit Properties" from the context menu of the node 'Resource Adapter' beneath the node of the corresponding proxy, check the values of "Application Server Host" and "Resource Adapter Inbound Listener Port" in the displayed dialog, and modify them, if necessary.

## Proxy Receives no Answer from Application Server

  **Problem:** The proxy writes an error message into the Log4j logging file:

     btaoltp(): error on URAC_sendreceiveMsg(): URAC_RESP_RCVHDR_TIMEOUT (617)

  Socket/APPLI/UPIC clients in addition receive the message text as answer. With OSI TP job submitters the dialog finishes abnormally.
  The distributed transaction is reset immediately.
  For asynchronous jobs only the message in the logging file can be seen.

  **Reason:** The proxy receives no answer from the resource adapter within the time interval specified for the Message Endpoint (Reply/Transaction Timer).

  **Solution:** It has to be checked, whether the resource adapter is still running orderly. If yes, for Message Endpoints not implementing the asynchronous message listener interface it has to be checked, whether the Reply/Transaction Timer interval has to be increased (adapted to the runtime of the onMessage-method).
  (see the manual, chapter 7 "Configuration of BeanConnect")

## NotSupportedException in the Application Server

- **Problem:** The resource adapter writes an error message

     BCS00049X: Dialog request does not match to asynchronous ActivationSpec
     AsynActivationSpecJBImpl23686732[redeliveryThreshold = 1,
     ActivationSpecJBImpl23686732["CALLASYNASDIALOG", encoding active,
     encoding = <encoding>, ResourceAdapterJBImpl with
     [inboundListenerPort=<port>,ProxyURL=<proxyurl>]]]., error code: 17,

  and throws a javax.resource.NotSupportedException with the same error text. This exception with error text is sent as response to the caller, if end of transaction has not yet been requested by the job submitter. No conversion of text takes place.
  A distributed transaction is reset, if the job submitter requests end of transaction.

  **Reason:** A Message Endpoint configured in the Management Console with Type=Dialog is assigned in the application server to a message-driven bean which implements the asynchronous message listener interface.

  **Solution:** The configuration of the Message Endpoint in the Management Console has to be corrected (Type=Asynchronous).

- **Problem:** The resource adapter writes an error message

    BCS00049X: Asynchronous request does not match to dialog ActivationSpec DialogActivationSpecJBImpl843963[ActivationSpecJBImpl843963["CALLDIALOGASASYN", encoding active, encoding = <encoding>, ResourceAdapterJBImpl with [inboundListenerPort=<port>,ProxyURL=<proxyurl>]]]., error code: 17

    and throws a javax.resource.NotSupportedException with the same error text. For asynchronous communication there is neither a distributed transaction nor will a response be sent. Errors during asynchronous Inbound Communication can only be recognized by way of the messages in the Log4j logging file.

    **Reason:** A Message Endpoint configured in the Management Console with Type=Asynchronous is assigned in the application server to a message-driven bean which does not implement the asynchronous message listener interface.

    **Solution:** The configuration of the Message Endpoint in the Management Console has to be corrected (Type=Dialog).

# Diagnosis

## General Proceeding for Problems with Log4j

- **Problem** Is the "right" configuration file in use?

    **Solution:** By setting the system property

    -Dlog4jCfgDebug=true

    it can be achieved, that the configuration file in use will be displayed.

    If the automatic search for a configuration file is not desired, by setting the system property

    -DBeanConnect.log4j.properties.xml=<file-or-url>

    it can be explicitly stated, which configuration file shall be used.

- **Problem: The log output does not appear.**

    **Solution:** By applying the option debug="true" in the headline of the configuration file it can be achieved, that Log4j indicates whether all files could be created and which loggers were initialized with which level.

    Notice: The parameter additivity="false" for a logger breaks the inheritance strategy.