



Connect:Express

GIS Services

Version 4.3.05

Sterling Commerce
An IBM Company

Connect:Express GIS Services

Version 4.3.05 First Edition

This documentation was prepared to assist licensed users of the Connect:Express system ("Sterling Commerce Software"). The Sterling Commerce Software, the related documentation and the information and know-how it contains, is proprietary and confidential and constitutes valuable trade secrets of Sterling Commerce, Inc., its affiliated companies or its or their licensors (collectively "Sterling Commerce"), and may not be used for any unauthorized purpose or disclosed to others without the prior written permission of Sterling Commerce. The Sterling Commerce Software and the information and know-how it contains have been provided pursuant to a license agreement which contains prohibitions against and/or restrictions on its copying, modification and use. Duplication, in whole or in part, if and when permitted, shall bear this notice and the Sterling Commerce, Inc. copyright legend.

Where any of the Sterling Commerce Software or Third Party Software is used, duplicated or disclosed by or to the United States government or a government contractor or subcontractor, it is provided with RESTRICTED RIGHTS as defined in Title 48 CFR 52.227-19 and is subject to the following: Title 48 CFR 2.101, 12.212, 52.227-19, 227.7201 through 227.7202-4, FAR 52.227-14(g)(2)(6/87), and FAR 52.227-19(c)(2) and (6/87), and where applicable, the customary Sterling Commerce license, as described in Title 48 CFR 227-7202-3 with respect to commercial software and commercial software documentation including DFAR 252.227-7013(c) (1), 252.227-7015(b) and (2), DFAR 252.227-7015(b)(6/95), DFAR 227.7202-3(a), all as applicable.

The Sterling Commerce Software and the related documentation are licensed either "AS IS" or with a limited warranty, as described in the Sterling Commerce license agreement. Other than any limited warranties provided, NO OTHER WARRANTY IS EXPRESSED AND NONE SHALL BE IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE OR FOR A PARTICULAR PURPOSE. The applicable Sterling Commerce entity reserves the right to revise this publication from time to time and to make changes in the content hereof without the obligation to notify any person or entity of such revisions or changes.

References in this manual to Sterling Commerce products, programs, or services do not imply that Sterling Commerce intends to make these available in all countries in which Sterling Commerce operates.

Printed in the United States of America.

Copyright © 2007. Sterling Commerce, Inc. All rights reserved.

Connect:Express is a registered trademark of Sterling Commerce. All Third Party Software names are trademarks or registered trademarks of their respective companies. All other brand or product names are trademarks or registered trademarks of their respective companies.

Contents

CONTENTS	3
PREFACE	1
INTRODUCTION	2
OVERVIEW	3
SUPPORTED VERSIONS	4
INSTALLATION	4
<i>Installing on Unix</i>	4
<i>Installing on Windows</i>	5
CONFIGURING THE LISTENING PORT OF CONNECT:EXPRESS	5
<i>Windows</i>	6
<i>Unix</i>	6
DESCRIPTION OF CONNECT:EXPRESS SERVICES	7
IMPLEMENTING A CONNECT:EXPRESS SERVICE	8
<i>Creating a Service Instance</i>	8
<i>Creating a Business Process</i>	9
<i>Checking-in the Business Process</i>	11
EXECUTING A CONNECT:EXPRESS SERVICE	12
LOGGING CALLS TO SERVICES	12
TRACING COMMUNICATIONS WITH A MONITOR	13
REFERENCE GUIDE	15
PARAMETERS SHARED BY ALL SERVICES	16
CXACTIVITY	16
CXCONFIGURATION	18
CXETB3PRESENTATION	20
CXFILE	22
CXJOURNAL	27
CXPARTNER	30
CXPRESENTATION	35
CXSESSION	38
CXSTATISTICS	40
CXTRANSFERSUBMIT	42
CXTRANSFERCONTROL	48
CXTRANSFERSTATUS	49
NOTIFICATIONS	51
CONFIGURING A GIS HTTP SERVER TO RECEIVE NOTIFICATIONS	51
<i>Creating the Business Process to Receive the Notification</i>	51
<i>Associating the Business Process to an URI of the http Server</i>	52
EXECUTING THE BUSINESS PROCESS TO RECEIVE THE NOTIFICATION	56
HTTP NOTIFICATION IN CONNECT:EXPRESS UNIX	58
<i>Installing the HTTP Notification</i>	58
<i>Configuring the HTTP Notification</i>	60
<i>Configuring Transfers for HTTP Notification</i>	62
<i>Executing tom httpn Process to Send Notifications</i>	64
<i>Managing Monitor, GIS or Httpn Stop</i>	67
<i>Notifications Sequence</i>	67
<i>Troubleshooting</i>	68

<u>Purging the Notification System.....</u>	<u>68</u>
<u>HTTP NOTIFICATION IN CONNECT:EXPRESS WINDOWS.....</u>	<u>69</u>
<u>Installing the HTTP Notification.....</u>	<u>69</u>
<u>Uninstalling the HTTP Notification.....</u>	<u>69</u>
<u>Configuring the HTTP Notification</u>	<u>69</u>
<u>Configuring Transfers for HTTP Notification.....</u>	<u>72</u>
<u>Starting/Stopping the tom httpn Process.....</u>	<u>73</u>
<u>Httpn_status.exe Utility Showing Notifications Waiting to be Sent.....</u>	<u>74</u>
<u>Httpn_cmd.exe utility.....</u>	<u>78</u>
<u>Httpn_service.exe Utility for tom httpn Installation / Uninstallation as Windows Service.....</u>	<u>78</u>
<u>Purging the Notification System.....</u>	<u>79</u>
<u>NOTIFICATION FIELDS.....</u>	<u>79</u>
<u>CONNECT:EXPRESS USER INTERFACE</u>	<u>82</u>
<u>INSTALLING THE INTERFACE.....</u>	<u>82</u>
<u>Deploying the Interface.....</u>	<u>82</u>
<u>Installing the GIS Ressources.....</u>	<u>82</u>
<u>DESCRIPTION OF THE INTERFACE.....</u>	<u>85</u>
<u>Managing Directories.....</u>	<u>87</u>
<u>File Transfer Request.....</u>	<u>90</u>
<u>Monitoring Requests.....</u>	<u>93</u>
<u>Purging Requests.....</u>	<u>97</u>
<u>INTEGRATION WITH GIS.....</u>	<u>99</u>
<u>Parameters of the URI.....</u>	<u>99</u>
<u>Configuration Business Process</u>	<u>101</u>

Preface

This document describes the Connect:Express Services proposed in GIS. Connect:Express services enable you to use Connect:Express functionality from GIS.

Overview describes the installation procedure and provides an overview of the Connect:Express services.

Reference Guide is the reference guide of Connect:Express services.

Notifications describes the implementation of Connect:Express notifications with GIS.

Connect:Express User Interface describes the implementation of a Connect:Express browser interface with GIS.

Introduction

Connect:Express GIS services enable a GIS business process to use the functionality of a Connect:Express Unix or Windows, locally or remotely.

The services provide an interface to the various components of Connect:Express:

- Symbolic partners and files: list, create, update, delete.
- Session and presentation tables: list and update.
- Connect:Express configuration file: list
- File transfers: active, journal and statistics.
- Submit a file transfer request.
- Interrupt, restart, purge a file transfer.

The services logon to Connect:Express via a TCP/IP connection.

Connect:Express services are available for Unix and Windows platforms.
Connect:Express Windows must be licensed for the « Activity Manager » option.

In the following, a Connect:Express monitor is referred to as a « monitor », the GIS Browser interface (dashboard) is referred to as the « GIS interface» and the Business process graphical modeler (GPM) is referred to as the « modeler ».

Reference Guide provides a detailed description of all services.

The browser interface enables the following operations:

- Symbolic partners and files: list, create, update, delete.
- File transfers: active, journal and statistics.
- Submit a file transfer request.
- Interrupt, restart, purge a file transfer.

This chapter provides an overview of the installation procedure and of the Connect:Express services.

Overview

Connect:Express GIS services establish TCP/IP connections with monitors. You must configure an API TCP/IP port for each monitor that you want to administrate. You can configure the connection parameters in an instance of a Connect:Express service or pass them in the business process.

You can access all Connect:Express configuration files (Partners, Files, Tables) and manage file transfers.

You are provided a number of services and parameters. You can set default parameters in service instances that you configure and that you select in a business process. You can complement the parameters of the service in the business process itself.

Important note: the file transfer request service does not transfer any file from GIS to Connect:Express. This means that you must place the file in the Connect:Express environment before sending the transfer request. For this purpose, you can use the GIS File System Adapter, if the monitor is on the same system as GIS, or FTP for example, if the monitor is remote.

You should take care of access rights to the files.

Supported Versions

The following table shows the correspondence between GIS and Connect:Express versions supported:

Connect:Express GIS Services	GIS	Connect:Express Unix	Connect:Express Windows
4.3.05	4.3	143-1 with Patch 143-121	305.001

Installation

Connect:Express GIS services are shipped in a zip file for Windows CXGIS_WIN_4.3.05.zip or a tar file for Unix CXGIS_UNIX_4.3.05.tar. When the installation is complete, Connect:Express services are shown in the Service Configuration screen of GIS interface (Dashboard) and in the modeler (GPM).

Installing on Unix

Logon to the GIS user account and do the following (we suppose that the GIS installation directory is <installdir>):

1. Change directory to <installdir>/bin of GIS, and stop GIS if it is running.

In a test environment:

```
# ./hardstop.sh
```

In a production environment:

```
# ./softstop.sh
```

2. Copy CXGIS_UNIX_4.3.05.tar in a temporary directory.
3. Extract the archive:

```
# tar xvf CXGIS_UNIX_4.3.05.tar
```

4. The following files are extracted:

- ❖ cx_4.3.05.jar
- ❖ cxcmd.jar

- ❖ CXJAI.jar
- ❖ cxlogger.txt
- ❖ installer.jar
- ❖ install.sh

5. Install the services:

```
# ./install.sh
```

6. Restart GIS.

```
# cd <installdir>/bin
# ./run.sh
```

Installing on Windows

Logon to the GIS user account and do the following (we suppose that the GIS installation directory is <installdir>):

1. Open a DOS command windows, change directory to <installdir>bin of GIS, and stop GIS if it is running.

In a test environment:

```
# hardstop.cmd
```

In a production environment:

```
# softstop.cmd
```

2. Copy CXGIS_WIN_4.3.05.zip in a temporary folder, for example c:\tmpdir.
 3. Extract the archive (with WinZip for example).
 4. Start setup.exe to install the services.
5. Restart GIS.

```
# run.cmd
```

Configuring the Listening Port of Connect:Express

You activate the listening port of Connect:Express differently on Windows and Unix.

Windows

To accept commands from GIS services, Connect:Express Windows must have the "Activity Manager" option in its license key.

Connect:Express Windows monitor can listen to remote API clients. The default port number is 7000. You can display and update the active port number in the Graphical interface of Connect:Express through the dialog box « Administration \ Parameters \ Monitor \ Network \ TCP/IP ».

Unix

Connect:Express unix does not need any special license to accept commands from GIS services.

You can configure the API listening port in the `sysin` file of Connect:Express in `$TOM_DIR/config`.

Edit the `sysin` file and add the line:

```
APPORP=<port-number>
```

You need to stop/start the monitor to activate the API server, `tom_api` process

Description of Connect:Express Services

The following table shows the list of the services provided:

Service	Description
CXTransferSubmit	Submit a transfer request to Connect:Express
CXTransferStatus	Inquire the status of a file transfer (Ended or running)
CXTransferControl	Interrupt, restart, purge a file transfer
CXPartner	Manage symbolic partners.
CXFile	Manage symbolic files.
CXSession	Manage PeSIT and Etebac3 session tables.
CXPresentation	Manage PeSIT and Etebac3 presentation tables of Connect:Express Unix Manage PeSIT presentation tables of Connect:Express Windows.
CXEtb3Presentation	Manage Etebac3 presentation tables of Connect:Express Windows.
CXJournal	List of the Journal.
CXActivity	List of active transfers.
CXConfiguration	List the configuration file and the asset protection information.
CXStatistics	List of the statistics.

A service enable you to access a component (Transfer request, Partner, File, Table ...) with different modes. The following table shows the list of the modes available:

Mode	Description
CREATE	Creation. A new element is added, an error is returned if it is a duplicate.
REPLACE	Replace. A new element is added, it is replaced if it is a duplicate.
UPDATE	Update. The element is updated with the parameters provided.
GET	Read one or several elements. Characteristics of the elements selected are recorded in a document.
DELETE	Delete an element.
LIST	Read several elements. The list of elements selected is recorded in a document.
SUBMIT	Submit a file transfer request.
INTERRUPT	Interrupt a file transfer.
RESTART	Restart a file transfer.
PURGE	Purge one or several transfer requests

All modes are not available for each service: for example REPLACE is not available CXJournal service.

Implementing a Connect:Express Service

To implement a Connect:Express service do the following:

1. Create a service instance with GIS interface.
2. Create a bpml source file with the modeler, to use this instance.
3. Import the business process source code with the GIS interface: check-in the bpml file that you created.

Creating a Service Instance

Use Deployment/Services/Configuration/New Service of GIS interface to create a new instance of a service. Connect:Express services are shown in the list, starting with "CX".

Services Configuration

CXFileInst: Name

Name : CXFileInst

Description:

Select a group:

None

Create New Group

Select Group:

Fill in the parameters of the instance. You are not required to define all parameters: some can be left empty or set to [Undefined]. You will be able to provide them when creating the Business process. If you are creating an instance for one monitor, you can then fill in the IP address, listening port, OS type and Login information.

Services Configuration

CXFileInst: Connect:Express File Management (1/5)

Connect:Express address:

Connect:Express api port:

OS type: ▼

User name:


User password:

Logging: ▼

Api Trace: ▼

Mode: ▼

File name:



Some parameters are OS dependant. For example SNA LU6.2 is available for Connect:Express Windows only: in this case the name of the OS is indicated in the parameter label .

While executing the service, parameters that are not applicable are ignored.

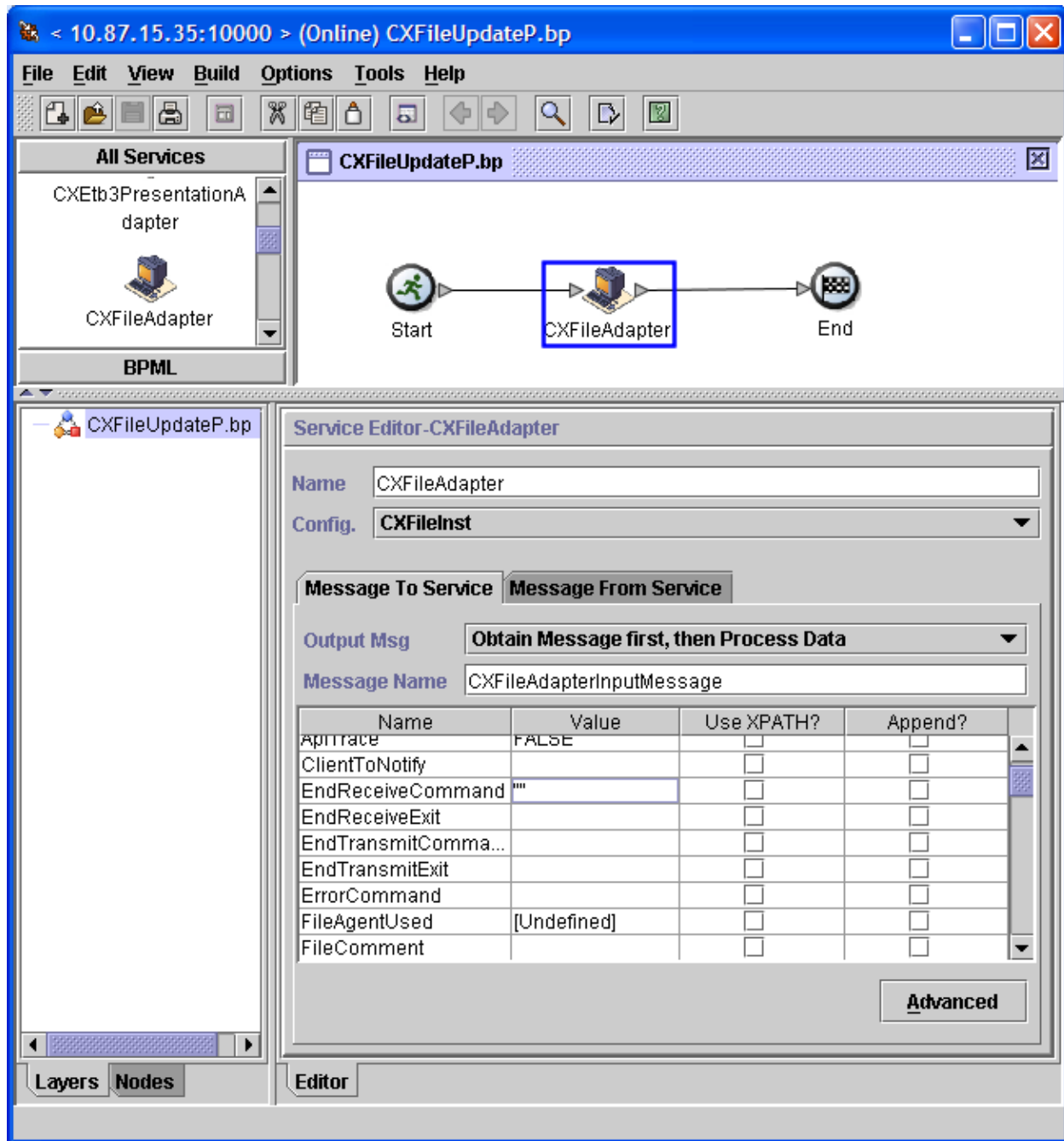
Creating a Business Process

The service instance that you created is available when configuring the service in a business process. The example below shows how the modeler screen displays a Connect:Express service instance and parameters.

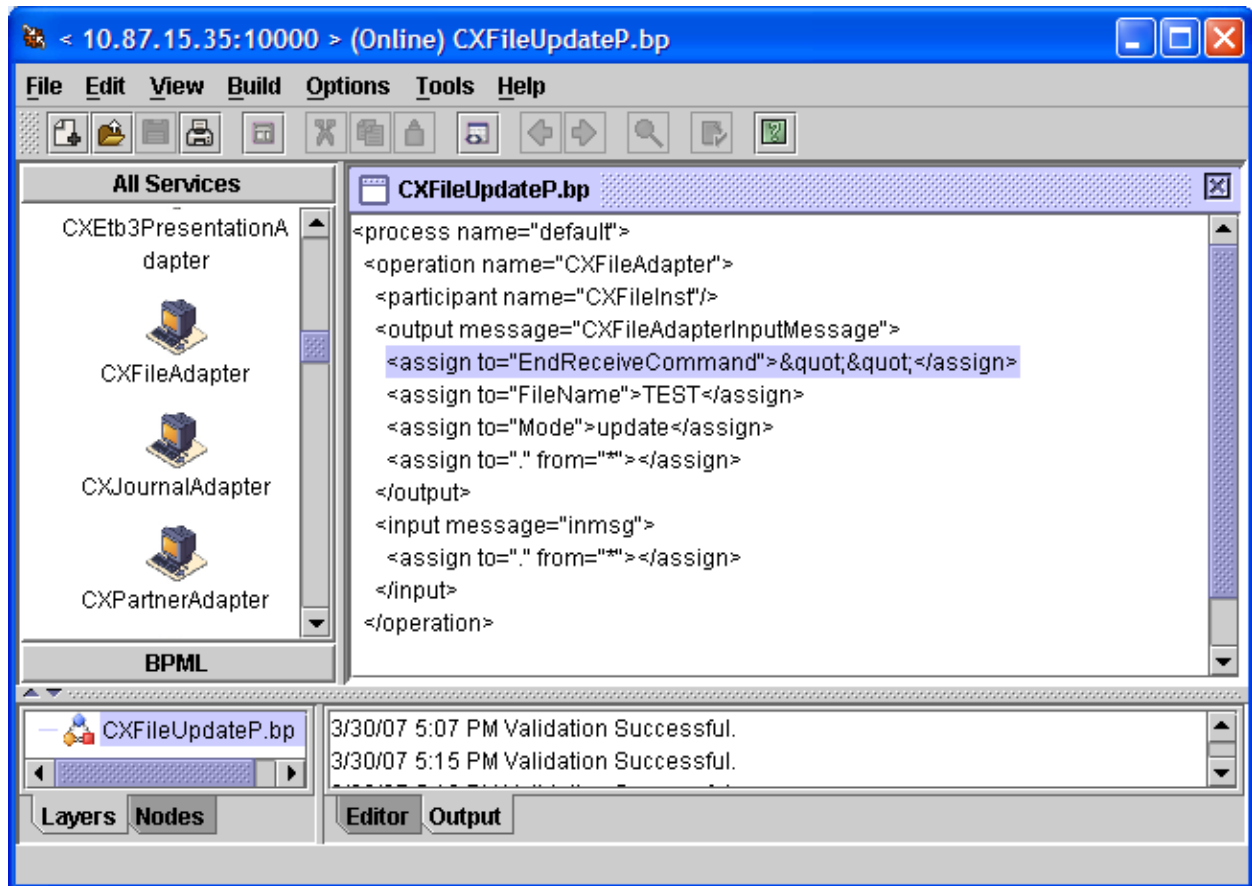
You can change the parameters that you defined in the instance. You can define the parameters that you did not define in the instance, using constants or XPATH expressions.

In order to clear a parameter, use «''» (double quote, between quotes) as shown for the EndReceiveCommand field in the example. If you let the field blank, this means that you don't define the parameter.

In UPDATE mode letting the field blank will not change the field, setting the field to « ' ' » will set the field to spaces or zero according to the type of field.



You can view the result in the bpmn source code screen, as shown below:



Checking-in the Business Process

Use GIS interface to check-in the Business Process in GIS.

Process Definition Check In

Process: CXFileUpdateP: Select Definition

Filename:

Description:

Executing a Connect:Express Service

While executing the business process, a call to a Connect:Express service writes the service request parameters in the process data (<CXServiceRequest> element), then the service response (<CXServiceResponse> element) with the return code, possible error message and any information related to the service (number of elements returned, transfer request number ...).

For GET and LIST modes, the execution of the service writes the information returned in a document CX<service>_<step>. Most are XML documents.

Logging Calls to Services

If you select option Logging=True for a service, the service parameters are recorded in the cx.log file. Use Operations / System / Logs as shown below. Select ConnectExpress Adapters / cxlog to display the trace of call to Connect:Express services.

<ul style="list-style-type: none"> ▼ Operations ▼ System <ul style="list-style-type: none"> ▀ Troubleshooter ▀ Performance ▀ Support Tools ▀ Logs ▀ Licenses ▀ Reports ▀ Thread Monitor ▀ JDBC Monitor ▀ Archive Manager ▀ Lock Manager ▀ Message Monitor ▀ Perimeter Servers ▀ Federated Systems ▀ Accounts 	<ul style="list-style-type: none"> ▀ archive.log ▀ archive.log 	<ul style="list-style-type: none"> 03/31/2007 00:00:00 03/30/2007 14:25:46 	<ul style="list-style-type: none"> 193 KB 78 KB 	<ul style="list-style-type: none"> Logging: Off Logging: Off 	
	Business Process Exceptions				
	Business Process Execution				
	<ul style="list-style-type: none"> ▀ wf.log ▀ wf.log ▀ wf.log ▀ wf.log 	<ul style="list-style-type: none"> 04/02/2007 00:00:00 04/01/2007 00:00:00 03/31/2007 00:00:00 03/30/2007 14:15:18 	<ul style="list-style-type: none"> 4 KB 4 KB 5 KB 3 KB 	<ul style="list-style-type: none"> Logging: Off Logging: Off Logging: Off Logging: Off 	
	Business Process Policy Statistics				
	Connect Direct Secure Perimeter Adapter				
	ConnectDirect Server Adapter Protocol Layer				
	ConnectDirect Server and Requester Adapter and Services				
	<ul style="list-style-type: none"> ▀ cdinterop.log ▀ cdinterop.log ▀ cdinterop.log ▀ cdinterop.log 	<ul style="list-style-type: none"> 04/02/2007 00:00:00 04/01/2007 00:00:00 03/31/2007 00:00:00 03/30/2007 14:15:26 	<ul style="list-style-type: none"> 0 KB 1 KB 1 KB 1 KB 	<ul style="list-style-type: none"> Logging: Off Logging: Off Logging: Off Logging: Off 	
	ConnectEnterprise Server Adapter and Services				
	ConnectExpress Adapters				
	<ul style="list-style-type: none"> ▀ cx.log 	<ul style="list-style-type: none"> 04/02/2007 00:00:00 	<ul style="list-style-type: none"> 0 KB 	<ul style="list-style-type: none"> Logging: Off 	

```
[2007-03-30 17:15:22.222] ALL 000000000000 GLOBAL_SCOPE
Proces:CXPartnerGetAllP.Id:286085.Service:CXPartnerInst.Request:partner
Serverid=localhost:9000:X:ADMIN:****:FALSE:0:30:0,PartnerName=*,Mode=get,

[2007-03-30 17:39:12.647] ALL 000000000000 GLOBAL_SCOPE
Proces:CXTransferSubWaitP.Id:286111.Service:CXTransferSubInst.Request:transfer
Serverid=localhost:9000:X:ADMIN:****:FALSE:0:30:0,FileName=FILE01,PhysicalName=
$TOM_DIR/config/sysin.txt,TransferDirection=T,PartnerName=BOUCLE,TypeOfLink=T,F
ileLabel=lab01,LocalName=BOUCLE,LocalPassword=PSW,TypeOfFile=TV,FileRecordLengt
h=8192,Mode=submit,
```

Tracing Communications with a Monitor

If you need to troubleshoot communication problems between a GIS service and a monitor, select option ApiTrace=True to trace TCP/IP session. The data flow of the TCP/IP session is written in a file located in the directory « user.home », and called « cxjai.<Monitor-Address>.<api-port>.trc ».

On Unix, user.home = \$HOME.
 On Windows, user.home = c:\Document And Settings\username.

You can send this trace file to Sterling Commerce support specialists for analysis.

This chapter provides a detailed description of Connect:Express services.

Reference Guide

The following pages show parameters and examples of process data and documents created for each service.

Tables below show parameters, with data types from the following list:

- ❖ S: String, uppercase
- ❖ s: String case sensitive
- ❖ C: Character
- ❖ i: Integer
- ❖ L: Long
- ❖ B: Boolean (true or false)
- ❖ D: Date format AAAA/MM/JJHH:MM:SS or HH:MM

Standard default values for modes CREATE and REPLACE, are *spaces* for types S and s, *spaces* for type c, *zero* for types i and L, *false* for type boolean. When the default value is not the standard one, it is specified.

Unix and Win columns indicate if the parameter is available on this OS, and the maximum length of the parameter if applicable.

The first table shows parameters that are shared by all services, and are required.

Parameters Shared by all Services

Parameters related to connection to monitor and login to monitor as well as trace parameters are listed below. They are required.

Field name	Description	Win	Unix	Data Type
Connect:Express Address	IP address or host name of the monitor	128	128	s
Connect:Express api port	TCP/IP Port of the monitor api server	5	5	i
OSType	Operating system on which the monitor is executing (Unix, Windows)	7	7	S
UserName	User name for login to the monitor Use « ADMIN »	8	8	S
UserPassword	User password for login to the monitor Use « ADMIN »	8	8	S
Logging	True: service parameters are written in the trace file cx.log of GIS	5	5	S
ApiTrace	True: TCP/IP session between GIS and the monitor (refer to « Tracing Communications with a monitor »)	5	5	S

CXActivity

CXActivity service enables you to display information about active transfers (GET) or list active transfers (LIST). Information is written in a document.

Active transfers have the following status:

Unix:

- A: Waiting selection
- C: Running
- O: Interrupted
- H: Held
- D: Delayed
- J: Waiting delay
- K: Waiting restart

Windows:

- W: Waiting selection
- T: Selected
- C: Running
- I: Interrupted
- S: Selection error
- R: Automatic restart

Information returned by this service is subject to constant change.

CXActivity Parameters

Field name	Description	Win	Unix	Data Type
Mode	get or list	7	7	S
RequestNumber	Transfer request number(wildcard supported)	12	8	S
TransferDirection	Transfer direction (T:Transmission, R:Reception, *:Both)	1	1	c
PartnerName	Symbolic partner name or '*'	8	8	S
FileName	Symbolic file name or '*'	8	8	S
Requestor	Requestor name (User, process, ...) or '*' *	8	8	S
TypeOfUser	Requestor type (E:External, I:Internal, *:Both)	1		c
UserRequestId	Transfer request user identification or '*'	16		s
DocumentFormat	List format: XML, Column, Column with header	-	-	-

Note: setting a parameter to '*' is equivalent to omitting the parameter.

Example

Executing the CXActivity service with (Mode=list,DocumentFormat=ColumnWithHeader) results in the following:

ProcessData

```

Process Data

Process Name: CXActivityListColP      Instance ID: 289669
Service Name: CXActivityInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXActivityRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
    <Mode>list</Mode>
  </CXActivityRequest>
  <CXActivityList_1 SCIObjectID="localhost:9ed927:111b192d865:5bba"/>
  <CXActivityResponse>
    <ActivityCount>4</ActivityCount>
    <ReturnCode>ACTIVITY_LIST_SUCCESSFUL</ReturnCode>
  </CXActivityResponse>
</ProcessData>

```

Document

```

CXActivityList_1

Process Name: CXActivityListColP      Instance ID: 289669
Service Name: CXActivityInst
Document in process data:
-----
Request      Requestor  FileName  PartnerName  Dir  Status
-----
09300006    pga       FILE01    BOUCLE       R    C
09300005    pga       FILE01    BOUCLE       R    C
09300002    pga       FILE01    BOUCLE       T    C
09300001    pga       FILE01    BOUCLE       T    C

```

CXConfiguration

The CXConfiguration service Displays the configuration parameters of a monitor and the content of the asset protection key.

CXConfiguration Parameters

Field name	Description	Win	Unix	Data Type
Mode	Get	7	7	S

Example

Executing the CXConfiguration service results in the following:

ProcessData

Process Data

```

Process Name: CXConfigurationGetP      Instance ID: 286110
Service Name: CXConfigurationInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXConfigurationRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
    <Mode>get</Mode>
  </CXConfigurationRequest>
  <CXConfigurationGet_1 SCIObjectID="localhost:9ed927:111a2c498f0:-48c2"/>
  <CXConfigurationResponse>
    <ReturnCode>CONFIGURATION_GET_SUCCESSFUL</ReturnCode>
  </CXConfigurationResponse>
</ProcessData>

```

Document

CXConfigurationGet_1

```

Process Name: CXConfigurationGetP      Instance ID: 286110
Service Name: CXConfigurationInst
Document Name: CXConfigurationGet_200703301737286110_1      Document Store: Database
Document in process data:

```

```

<?xml version="1.0" encoding="UTF-8"?>
<CXConfigurationGet>
  <Configuration>
    <OSType>UNIX</OSType>
    <GMTOffset>7200</GMTOffset>
    <AliasName>UNIX</AliasName>
    <ApiPort>9000</ApiPort>
    <ApiAddress/>
    <BuildDatabaseUsed>true</BuildDatabaseUsed>
    <Dpcsid>FEDORA</Dpcsid>
    <FtpListAllUsed>true</FtpListAllUsed>
    <FtpDefaultFile>FTPFIL</FtpDefaultFile>
    <FtpListenAddress/>
    <FtpListenPort>0</FtpListenPort>
    <StatisticsUsed>>false</StatisticsUsed>
    <SyslogUsed>>false</SyslogUsed>
    <LogSize>10000</LogSize>
  </Configuration>
</CXConfigurationGet>

```

```

<NotificationsUsed>>true</NotificationsUsed>
<RunType>C</RunType>
<Dpcpsw>PSW</Dpcpsw>
<SessionTimer>1</SessionTimer>
<TcpiplistenAddress/>
<TcpiplistenPort>6677</TcpiplistenPort>
<TraceUsed>>false</TraceUsed>
<MaxTransfer>6</MaxTransfer>
<TransferTimer>1</TransferTimer>
<X25LocalPort/>
<X25LocalAddress/>
<ProductInfo>C:E/UNIX 142-1</ProductInfo>
<SystemInfo>Sysname:Linux.Release:2.6.17-1.2157_FC5.Version:#1 Tue Jul 11 22:55:46
    EDT 2006.Machine:i686.Nodename:localhost.localdomain</SystemInfo>
<Mode>get</Mode>
<ExpirationDate>NO-LIMIT</ExpirationDate>
<ApkeyLine>PRODUCT EXPRESS</ApkeyLine>
<ApkeyLine>PRODUCT NUMBER 082</ApkeyLine>
<ApkeyLine>EXPIRATION DATE NO-LIMIT</ApkeyLine>
<ApkeyLine>OPERATING SYSTEM UNIX</ApkeyLine>
<ApkeyLine>ALIAS $SSL-LABS LINUX</ApkeyLine>
<ApkeyLine>PESIT NO-LIMIT</ApkeyLine>
<ApkeyLine>TCPIP NO-LIMIT</ApkeyLine>
<ApkeyLine>FTP NO-LIMIT</ApkeyLine>
<ApkeyLine>ETEBAC3 NO-LIMIT</ApkeyLine>
<Mode>get</Mode>
</Configuration>
</CXConfigurationGet>

```

CXEtB3Presentation

The CXEtB3Presentation service enables you to manage the Etebac3 presentation tables of a monitor executing on Windows. An entry is identified by the field PresentationTableId.

Note: For managing Etebac3 presentation tables on Unix use CXPresentation.

CXEtB3Presentation Parameters

Parameters for this service depend on the mode.

Modes create, replace or update

Field name	Description	Win	Unix	Data Type
Mode	create, replace or update	7	7	S
PresentationTableId	Name of the Etebac3 presentation table	50		s
TranslationUsed	Transcoding option (true/false)	5		
TranslationToEbcDic	Name or identification number of the transcoding table used from ASCII to EBCDIC	127		
TranslationToAscii	Name or identification number of the transcoding table used from EBCDIC to ASCII	127		

PresentationTableId parameter is required.

Defaults:

For modes **create** and **replace**, the following non standard defaults apply, if the parameter is omitted:
TypeOfCompression=N, TranslationToEbcDic=TOMNT.ASC, TranslationToAscii=TOMNT.ASC.

Example

Executing the CXEtB3Presentation service with (Mode=replace) results in the following:

ProcessData

```

Process Data
Process Name: WCXEtB3PresentationReplaceP      Instance ID: 289056
Service Name: CXEtB3Presentation
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXEtB3PresentationRequest>
    <Serverid>10.87.15.92:7000:W:ADMIN:****:FALSE:0:30:0</Serverid>
    <PresentationTableId>Etb3 presentation 1</PresentationTableId>
    <TranslationUsed>TRUE</TranslationUsed>
    <TranslationToEbcDic>XX.ASC</TranslationToEbcDic>
    <TranslationToAscii>YY.EBC</TranslationToAscii>
    <Mode>replace</Mode>
  </CXEtB3PresentationRequest>
  <CXEtB3PresentationResponse>
    <ReturnCode>ETB3PRESENTATION_REPLACE_SUCCESSFUL</ReturnCode>
  </CXEtB3PresentationResponse>
</ProcessData>

```


Mode delete

Field name	Description	Win	Unix	Data Type
Mode	Delete	7	7	S
PresentationTableId	Name of the Etebac3 presentation table	50		s

The PresentationTableId field does not support wildcard.

Modes get or list

Field name	Description	Win	Unix	Data Type
Mode	get ou list	7	7	S
PresentationTableId	Name of the Etebac3 presentation table or wildcard	50		s

If PresentationTableId is omitted, all tables are displayed.

Example

Executing the CXEtb3Presentation service with (Mode=get) results in the following:

ProcessData

```

Process Data
Process Name: WCXEtb3PresentationGetAllP      Instance ID: 289046
Service Name: CXEtb3Presentation
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXEtb3PresentationRequest>
    <Serverid>10.87.15.92:7000:W:ADMIN:****:FALSE:0:30:0</Serverid>
    <PresentationTableId/>
    <Mode>get</Mode>
  </CXEtb3PresentationRequest>
  <CXEtb3PresentationGet_1 SCIObjectID="localhost:9ed927:111b192d865:-6d1c"/>
  <CXEtb3PresentationResponse>
    <Etb3PresentationCount>2</Etb3PresentationCount>
    <ReturnCode>ETB3PRESENTATION_GET_SUCCESSFUL</ReturnCode>
  </CXEtb3PresentationResponse>
</ProcessData>

```

Document

```

CXEtb3PresentationGet_1
Process Name: WCXEtb3PresentationGetAllP      Instance ID: 289046
Service Name: CXEtb3Presentation
Document Name: CXEtb3PresentationGet_200704021243289046_1      Document Store: Database
Document in process data:
  <CXEtb3PresentationGet>
    <Etb3Presentation>
      <PresentationTableId>ETEBAC3 presentation with translation</PresentationTableId>
      <TranslationUsed>>true</TranslationUsed>
      <TranslationToEbcDic>TOMNT.ASC</TranslationToEbcDic>
      <TranslationToAscii>TOMNT.EBC</TranslationToAscii>
    </Etb3Presentation>
    <Etb3Presentation>
      <PresentationTableId>ETEBAC3presentation without translation</PresentationTableId>
      <TranslationUsed>>false</TranslationUsed>
      <TranslationToEbcDic/>
      <TranslationToAscii/>
    </Etb3Presentation>
  </CXEtb3PresentationGet>

```

CXFile

The CXFile service enables you to manage the symbolic files of a monitor. An entry is identified by the field FileName.

CXFile Parameters

Parameters for this service depend on the mode.

Modes create, replace or update

Field name	Description	Win	Unix	Data Type
Mode	create, replace or update	7	7	S
FileName	Symbolic file name Alphanumeric characters: A-Z,0-9,Space	8	8	S
FileComment	User description of the symbolic file	80		s
FileState	Symbolic file status (E: Enabled, H: Disabled)	1	1	C
TypeOfAllocation	Allocation Type (F: Fixed, D:Dynamic)	1	1	C
FileDirection	Transfer direction (T: Transmission, R: Reception, *: Both	1	1	C
TypeOfFile	Type of file (TF: Text fixed, TV: Text variable, BF: Binary fixed, BU: Binary undefined)	2	2	S
FileOpenOption	File open option (N: New, R: replace, O: Old)	1	1	C
FileSender	Partner or list of partners allowed to transmit the file Characters supported: A-Z,0-9,Space,\$,* (Windows) A-Z,0-9, Space,\$,* and # (Unix)	8	8	S
FileReceiver	Partner or list of partners allowed to receive the file Characters supported: A-Z,0-9,Space,\$,* (Windows) A-Z,0-9, Space,\$,* and # (Unix)	8	8	S
PresentationTableId	Name or identification number of the presentation table	50	1	S
LocalPhysicalName	Local physical name	127	44	s
FileRecordLength	Record length	5	5	i
StartTransmitExit	Beginning of transmission user exit	127	12	s(*)
EndTransmitExit	End of transmission user exit	127	12	s(*)
StartReceiveExit	Beginning of reception user exit	127	12	s(*)
EndReceiveExit	End of reception user exit	127	12	s(*)
StartTransmitCommand	Beginning of transmission user command	127	12	s(*)
EndTransmitCommand	End of transmission user command	127	12	s(*)
StartReceiveCommand	Beginning of reception user command	127	12	s(*)
EndReceiveCommand	End of reception user command	127	12	s(*)
ErrorCommand	Transfer error user command	127		s
NotifyUsed	Notification option (true/false)	5		B
ClientToNotify	Name of the client to notify	8		S
Pi99OffsetT	Offset of Pi99ValueT field for pi99 of transmission	3		i
Pi99LengthT	Length of Pi99ValueT field for pi99 of transmission	3		i
Pi99ValueT	Pi99 field for transmission	254		s
Pi99OffsetR	Offset of Pi99ValueR field for pi99 of reception	3		i
Pi99LengthR	Length of Pi99ValueR field for pi99 of reception	3		i
Pi99ValueR	Pi99 field for reception	254		s
FileLabel	User identification of the file	80		s
Priority	Priority (0: High, 1: Normal, 2: Low)		1	C
RemotePhysicalName	Remote physical name		44	S
FtpOptions	FTP Options (Type/Structure/Mode)		3	S

	Type:(E:Ebcdic, A:Ascii, B: Binary, *: unchanged) Structure (F: File, R: Record, *: Unchanged) Mode (B: Block, S: Stream, *: Unchanged)			
ParamFileUsed	Parameter card file option (true/false)		5	B
SpaceAllocationUsed	Space allocation option (true/false)		5	B
FtpStoreUniqueUsed	Ftp « store unique » option (true/false)		5	B
FileAgentUsed	File agent option (true/false)		5	B
TypeOfNotification	Type of Notification: 1 character ('0' to '7'). '0': No notification. '1': Notification at the beginning of the transfer. '2': Notification at the end of the transfer. '4': Notification if transfer error. Other possibilities are combinations with inclusive « OR » of these values. For example: '6' = '2' OR '4' for a notification at the end of transfer or in case of transfer error. Windows: This flag is used for HTTP notification only. Unix: This flag is used for HTTP notification or standard notification depending on the values of the keywords HTTPNF and NOTIFY in the sysin configuration file.	1	1	C

With modes **create** and **replace** the following parameters are required:

Unix:

FileName, FileDirection, PresentationTableId, TypeOfFile, FileSender, FileReceiver, LocalPhysicalName.

Windows:

FileName, FileDirection, PresentationTableId.

if FileDirection=R ou *: FileSender.

if FileDirection=T ou *: FileReceiver and FileRecordLength.

if NotifyUsed=true: ClientToNotify.

With mode **update** the following parameters are required:

FileName.

Defaults:

With modes **create** et **replace**, the following non standard defaults apply, if the parameter is omitted:

Unix, Windows: FileState = E, TypeOfAllocation=D, FileOpenOption=R.

Unix: FtpOptions="****".

(*) Supported characters for user exit and user commands fields are: A-Z, 0-9, a-z, Space, \$, ,, /, & and _ .

Example

Executing the CXFile service with (Mode=replace) results in the following:

ProcessData

<pre> Process Data Process Name: CXFileReplaceP Instance ID: 286098 Service Name: CXFileInst <?xml version="1.0" encoding="UTF-8"?> <ProcessData> <CXFileRequest> <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid> <FileName>TEST</FileName> <FileState>E</FileState> <FileComment/> <TypeOfAllocation>D</TypeOfAllocation> <FileDirection>*</FileDirection> <LocalPhysicalName>\$TOM_DIR/in/&REQNUMB.tmp</LocalPhysicalName> </pre>

```

<Priority>1</Priority>
<FileOpenOption>R</FileOpenOption>
<SpaceAllocationUsed>FALSE</SpaceAllocationUsed>
<FileSender>$$$ALL$$</FileSender>
<FileReceiver>$$$ALL$$</FileReceiver>
<PresentationTableId>1</PresentationTableId>
<TypeOfFile>TV</TypeOfFile>
<FileRecordLength>8192</FileRecordLength>
<StartTransmitCommand/>
<EndTransmitCommand/>
<StartReceiveCommand/>
<EndReceiveCommand>recv.sh</EndReceiveCommand>
<ErrorCommand/>
<StartTransmitExit/>
<EndTransmitExit/>
<StartReceiveExit/>
<EndReceiveExit/>
<FileLabel>lab01</FileLabel>
<ParamFileUsed>FALSE</ParamFileUsed>
<Pi99OffsetT/>
<Pi99LengthT/>
<Pi99ValueT/>
<Pi99OffsetR/>
<Pi99LengthR/>
<Pi99ValueR/>
<RemotePhysicalName/>
<FtpOptions>***</FtpOptions>
<FtpStoreUniqueUsed>FALSE</FtpStoreUniqueUsed>
<FileAgentUsed>FALSE</FileAgentUsed>
<TypeOfNotification>0</TypeOfNotification>
<NotifyUsed>TRUE</NotifyUsed>
<ClientToNotify/>
<Mode>replace</Mode>
</CXFileRequest>
<CXFileResponse>
  <ReturnCode>FILE_REPLACE_SUCCESSFUL</ReturnCode>
</CXFileResponse>
</ProcessData>

```

Mode delete

Field name	Description	Win	Unix	Data Type
Mode	Delete	7	7	S
FileName	Symbolic file name (no wildcard)	8	8	S

FileName field don't support wildcard.

Modes get or list

Field name	Description	Win	Unix	Data Type
Mode	get ou list	4	4	S
FileName	Symbolic file name or wildcard	8	8	S

If FileName field is omitted, all files are displayed or listed.

Example

Executing the CXFile service with (Mode=get) results in the following:

ProcessData

```

Process Data

Process Name: CXFileGetAllP      Instance ID: 286097
Service Name: CXFileInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXFileRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
    <FileName/>
    <Mode>get</Mode>
  </CXFileRequest>
  <CXFileGet_1 SCIObjectID="localhost:9ed927:111a2c498f0:-4be2"/>
  <CXFileResponse>
    <FileCount>3</FileCount>
    <ReturnCode>FILE_GET_SUCCESSFUL</ReturnCode>
  </CXFileResponse>
</ProcessData>

```

Document

```

CXFileGet_1

Process Name: CXFileGetAllP      Instance ID: 286097
Service Name: CXFileInst
Document Name: CXFileGet_200703301722286097_1      Document Store: Database
Document in process data:
<CXFileGet>
  <File>
    <FileName>FILE01</FileName>
    <FileState>E</FileState>
    <TypeOfAllocation>D</TypeOfAllocation>
    <FileDirection>*</FileDirection>
    <TypeOfFile>TV</TypeOfFile>
    <FileOpenOption>R</FileOpenOption>
    <FileSender>$$ALL$$</FileSender>
    <FileReceiver>$$ALL$$</FileReceiver>
    <PresentationTableId>1</PresentationTableId>
    <LocalPhysicalName>$TOM_DIR/in/&REQNUMB.txt</LocalPhysicalName>
    <FileRecordLength>2048</FileRecordLength>
    <StartTransmitExit/>
    <EndTransmitExit/>
    <StartReceiveExit/>
    <EndReceiveExit/>
    <StartTransmitCommand/>
    <EndTransmitCommand/>
    <StartReceiveCommand/>
    <EndReceiveCommand/>
    <Priority>1</Priority>
    <RemotePhysicalName/>
    <FtpOptions>***</FtpOptions>
    <ParamFileUsed>>false</ParamFileUsed>
    <SpaceAllocationUsed>>false</SpaceAllocationUsed>
    <FtpStoreUniqueUsed>>false</FtpStoreUniqueUsed>
    <FileAgentUsed>>false</FileAgentUsed>
    <TypeOfNotification>2</TypeOfNotification>
  </File>
  <File>
    <FileName>FILE02</FileName>
    ...
  <File>
    ...
</CXFileGet>

```

Example

Executing the CXFile service with (Mode=list) results in the following:

ProcessData

```

Process Data
Process Name: CXFileListP      Instance ID: 286099
Service Name: CXFileInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXFileRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
    <FileName/>
    <Mode>list</Mode>
  </CXFileRequest>
  <CXFileList_1 SCIObjectID="localhost:9ed927:111a2c498f0:-4b7b"/>
  <CXFileResponse>
    <FileCount>3</FileCount>
    <ReturnCode>FILE_LIST_SUCCESSFUL</ReturnCode>
  </CXFileResponse>
</ProcessData>

```

Document

```

CXFileList_1
Process Name: CXFileListP      Instance ID: 286099
Service Name: CXFileInst
Document Name: CXFileList_200703301725286099_1      Document Store: Database
Document in process data:
  <CXFileList>
    <FileList>
      <FileName>FILE01</FileName>
      <FileName>FILE02</FileName>
      <FileName>TEST</FileName>
    </FileList>
  </CXFileList>

```

CXJournal

The CXJournal service enables you to display the Journal records. The journal record identifier is the RequestNumber field.

Note: the amount of data that is received when requesting the list of transfers can be very large; you should consider this problem when setting the selection criteria.

CXJournal Parameters

Modes get or list

Field name	Description	Win	Unix	Data Type
Mode	get ou list	4	4	S
RequestNumber	Transfer request number	12	8	S
Requestor	Requestor name (User, process, ...)	8		S
FileName	Symbolic file name	8	8	S
PartnerName	Symbolic partner name	8	8	S
TransferDirection	Transfer direction(T: Transmission, R: Reception, *: Both)	1	1	C
MinimumDate	Selection start date or *	18	18	D
MaximumDate	Selection end date or *	18	18	D
Status	Transfer status or * Unix: A: waiting selection, H: held, K: waiting restart, C:running, E: ended, D: delayed, J: waiting delay, O: interrupted		1	C

Example

Executing the CXJournal service with (Mode=get) results in the following:

ProcessData

```

Process Data
Process Name: CXJournalGetAllP      Instance ID: 286114
Service Name: CXJournalInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXJournalRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
    <Interval>600</Interval>
    <Mode>get</Mode>
  </CXJournalRequest>
  <CXJournalGet_1 SCIObjectID="localhost:9ed927:111a2c498f0:-4746"/>
  <CXJournalResponse>
    <JournalCount>2</JournalCount>
    <ReturnCode>JOURNAL_GET_SUCCESSFUL</ReturnCode>
  </CXJournalResponse>
</ProcessData>

```

Document

CXJournalGet_1

Process Name: CXJournalGetAllP Instance ID: 286114
 Service Name: CXJournalInst
 Document Name: CXJournalGet_200703301744286114_1 Document Store: Database
 Document in process data:

```

<CXJournalGet>
  <Transfer>
    <RequestNumber>08900007</RequestNumber>
    <TransferIdent>5@0007</TransferIdent>
    <ExternalRequestNumber>08900007</ExternalRequestNumber>
    <Requestor>REMAPI</Requestor>
    <Trc>0000</Trc>
    <TrcMessage/>
    <Prc>0000</Prc>
    <Src>0000</Src>
    <Nrc>0000</Nrc>
    <TcpipRc>0000</TcpipRc>
    <X25Rc/>
    <X25Cause/>
    <X25Diagnostic/>
    <Status>E</Status>
    <StatusMessage>Ended</StatusMessage>
    <TypeOfUser>I</TypeOfUser>
    <TypeOfRequest>N</TypeOfRequest>
    <TransferDirection>T</TransferDirection>
    <Priority>1</Priority>
    <TypeOfLink>T</TypeOfLink>
    <FileName>FILE01</FileName>
    <PhysicalName>$TOM_DIR/config/sysin.txt</PhysicalName>
    <LocalPhysicalName>$TOM_DIR/config/sysin.txt</LocalPhysicalName>
    <RemotePhysicalName/>
    <FileLabel>lab01</FileLabel>
    <TransferOrigin>BOUCLE</TransferOrigin>
    <TransferDestination>BOUCLE</TransferDestination>
    <TransferSender/>
    <TransferReceiver/>
    <FileOrganization>S</FileOrganization>
    <TypeOfFile>T</TypeOfFile>
    <TypeOfCompression>M</TypeOfCompression>
    <TypeOfData>A</TypeOfData>
    <FileRecordLength>2048</FileRecordLength>
    <NetworkMessageSize>4096</NetworkMessageSize>
    <LocalName>BOUCLE</LocalName>
    <PartnerName>BOUCLE</PartnerName>
    <TypeOfPartner>0</TypeOfPartner>
    <Protocol>0</Protocol>
    <CrcUsed>>false</CrcUsed>
    <TcpipPort>6677</TcpipPort>
    <TcpipHostName/>
    <TcpipAddress>127.0.0.1</TcpipAddress>
    <X25RemoteAddress/>
    <X25LocalAddress/>
    <X25LocalPort/>
    <X25UserDataField/>
    <X25Facilities/>
    <TransferBeginningDate>2007/03/30 17:39:12</TransferBeginningDate>
    <TransferEndDate>2007/03/30 17:39:13</TransferEndDate>
    <RetryNumber>0</RetryNumber>
    <FileOpenOption>R</FileOpenOption>
    <NetworkBytes>00000000789</NetworkBytes>
    <FileNumberOfRecords>22</FileNumberOfRecords>
    <DateOfExecution>2007/03/30 17:39:12</DateOfExecution>
    <PartnerPassword>PSW</PartnerPassword>
    <UserDataReceived/>
    <UserDataSent/>
    <OriginPhysicalName/>
  
```



```

    <FileApi/>
    <ProcessId>21258</ProcessId>
    <FileAgentUsed>>false</FileAgentUsed>
    <MultiArticleUsed>>true</MultiArticleUsed>
    <TranslationTableNumber>0</TranslationTableNumber>
    <TypeOfNotification>2</TypeOfNotification>
    <FtpOptions>***</FtpOptions>
    <FtpStoreUniqueUsed>>false</FtpStoreUniqueUsed>
    <SpaceAllocationUsed>>false</SpaceAllocationUsed>
    <SessionTimer>0</SessionTimer>
    <TransferTimer>0</TransferTimer>
    <MaxRetries>0</MaxRetries>
    <Mode>get</Mode>
  </Transfer>
</Transfer>
...
</Transfer>
</CXJournalGet>

```

Example

Executing the CXJournal service with (Mode=list,DocumentFormat=ColumnWithHeader) results in the following:

ProcessData

```

Process Data

Process Name: CXJournalListColP      Instance ID: 289007
Service Name: CXJournalInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXJournalRequest>
    <Serverid>localhost:9000:X:ADMIN:***:FALSE:0:30:0</Serverid>
    <Mode>list</Mode>
  </CXJournalRequest>
  <CXJournalList_1 SCIObjectID="localhost:9ed927:111b192d865:-797d"/>
  <CXJournalResponse>
    <JournalCount>156</JournalCount>
    <ReturnCode>JOURNAL_LIST_SUCCESSFUL</ReturnCode>
  </CXJournalResponse>
</ProcessData>

```

Document

```

CXJournalList_1

Process Name: CXJournalListColP      Instance ID: 289007
Service Name: CXJournalInst
Document Name: CXJournalList_200704021124289007_1      Document Store: Database
Document in process data:
-----
Request      Requestor  FileName  PartnerName  Dir  Status Date
-----
08700104    pga       FILE01    BOUCLE      T   E       2007/03/28 15:30:35
08700103    pga       FILE01    BOUCLE      T   E       2007/03/28 15:30:31
08700102    pga       FILE01    BOUCLE      R   E       2007/03/28 15:30:44
08700101    pga       FILE01    BOUCLE      T   E       2007/03/28 15:30:44
...

```

CXPartner

The CXPartner service enables you to manage symbolic partners. An entry is identified by the field PartnerName.

CXPartner Parameters

Parameters for this service depend on the mode.

Modes create, replace or update

Field name	Description	Win	Unix	Data Type
Mode	create, replace or update	7	7	S
PartnerName	Symbolic partner name Supported characters: A-Z,0-9,Space	8	8	S
PartnerPassword	Symbolic partner password Supported characters: A-Z,0-9,Space	8	8	S
LocalNameType	Local identifier type(D:Dynamic, S:Static)	1		C
LocalName	Local alias name of Connect:Express	8	8	s
LocalPassword	Local alias password of Connect:Express	8	8	s
PartnerComment	User description of the symbolic partner	80		S
PartnerState	Status of the partner (E: Enabled, H: Disabled)	1	1	C
TypeOfPartner	Type of the partner (O: Non Connect:Express, T: Connect:Express)	1	1	C
RestartUsed	Automatic restart option (true, false)	5		B
Protocol	File transfer protocol Unix: 1: Etebac3, 2: FTP, 3: PeSIT. Note: On Unix, PeSIT level D ou E is set in the session table Windows: D: PeSIT-D, E: PeSIT-E, 3: Etebac3.	1	1	C
MaxSession	Maximum simultaneous sessions	3	2	i
MaxSessionIn	Maximum simultaneous Incoming sessions	3	2	i
MaxSessionOut	Maximum simultaneous outgoing sessions	3	2	i
SessionTableId	Name or identification number of the session table <i>Note: Session table number are from « 0 » to « 9 » on Unix</i>	50	1	S
TypeOfLink	Network link type Unix: T: TCP/IP, X: X25, P: PAD, M: TCP/IP+X25 Windows: T: TCP/IP, S: SNA LU6.2	1	1	C
TcpipAddress	Remote TCP/IP address	15	15	S
TcpipHostName	Remote TCP/IP host name	127	32	s
TcpipPort	Remote TCP/IP port	5	5	i
SnaLuName	Remote SNA LU6.2 address	8		S
AppcModeName	Remote LU6.2 mode name	8		S
AppcTpName	Remote LU6.2 transaction program name	64		S
X25LocalAddress	Local X25 address Numeric characters: 0-9	15	15	S
X25LocalPort	Local X25 port number	2	1	S
X25RemoteAddress	Remote X25 address Numeric characters: 0-9	15	15	S
X25UserDataField	X25 user data field Hexadecimal characters: 0-9,A-F	8	8	S
X25Facilities	X25 facilities Hexadecimal characters: 0-9,A-F	32	16	S
FtpDefaultFile	Default FTP file name Supported characters: A-Z,0-9,Space		8	S

RetryNumber	Maximum number of retries		8	i
SessionTimer	Session retry Timer		2	i
TransferTimer	Transfer retry Timer		2	i
SsslParmId	SSLPARM identifier Supported characters: A-Z,0-9,Space		8	S
RemoteClientSubjectDn	Criteria for remote client subject DN control	256		S
RemoteClientRootDn	Criteria for remote client root DN control	256		S
RemoteServerSubjectDn	Criteria for remote server subject DN control	256		S
RemoteServerRootDn	Criteria for remote server root DN control	256		S

With modes **create** and **replace** the following parameters are required:

PartnerName, TypeOfPartner, Protocol, SessionTableId, TypeOfLink.

Windows:

For TCP/IP, TcpipAddress or TcpipHostName.

For SNA, SnaLuName and AppcModeName.

For X25, X25LocalPort.

With mode **update** the following parameters are required:

PartnerName.

Defaults:

With modes **create** et **replace**, the following non standard defaults apply, if the parameter is omitted:

Unix, Windows: PartnerState = E.

Windows: RestartUsed=true, MaxSession=2 , MaxSessionIn=1, MacSessionOut=1.

(*) Supported characters for user exit and user commands fields are: A-Z, 0-9, a-z, Blank, \$, ,, /, & and _ .

Mode delete

Field name	Description	Win	Unix	Data Type
Mode	Delete	6	6	S
PartnerName	Symbolic partner name (no wildcard)	8	8	S

PartnerName field don't support wildcard.

Modes get or list

Field name	Description	Win	Unix	Data Type
Mode	get ou list	4	4	S
PartnerName	Symbolic partner name or wildcard	8	8	S

If the PartnerName field is omitted, all partners are displayed or listed.

Example

Executing the CXPartner service with (Mode=replace) results in the following:

ProcessData

```

Process Data

Process Name: CXPartnerReplaceP      Instance ID: 286096
Service Name: CXPartnerInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXPartnerRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
    <PartnerName>TEST</PartnerName>
    <PartnerPassword>PSW</PartnerPassword>
    <LocalNameType/>
    <LocalName>TEST</LocalName>
    <LocalPassword>PSW</LocalPassword>
    <PartnerComment/>
    <PartnerState>E</PartnerState>
    <TypeOfPartner>0</TypeOfPartner>
    <RestartUsed/>
    <Protocol>E</Protocol>
    <MaxSession>20</MaxSession>
    <MaxSessionIn>10</MaxSessionIn>
    <MaxSessionOut>10</MaxSessionOut>
    <SessionTableId>1</SessionTableId>
    <TypeOfLink>T</TypeOfLink>
    <TcpipAddress>127.0.0.1</TcpipAddress>
    <TcpipPort>6677</TcpipPort>
    <TcpipHostName/>
    <SnaLuName/>
    <AppcModeName/>
    <AppcTpName/>
    <X25LocalAddress/>
    <X25RemoteAddress/>
    <X25LocalPort/>
    <X25UserDataField/>
    <X25Facilities/>
    <FtpDefaultFile/>
    <RetryNumber/>
    <SessionTimer/>
    <TransferTimer/>
    <SslparmId/>
    <Mode>replace</Mode>
  </CXPartnerRequest>
  <CXPartnerResponse>
    <ReturnCode>PARTNER_REPLACE_SUCCESSFUL</ReturnCode>
  </CXPartnerResponse>
</ProcessData>

```

Example

Executing the CXPartner service with (Mode=get) results in the following:

ProcessData

```

Process Data

Process Name: CXPartnerGetAllP      Instance ID: 286085
Service Name: CXPartnerInst

<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXPartnerRequest>

```

```

<Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
<PartnerName/>
<Mode>get</Mode>
</CXPartnerRequest>
<CXPartnerGet_1 SCIObjectID="localhost:9ed927:111a2c498f0:-4f88"/>
<CXPartnerResponse>
  <PartnerCount>3</PartnerCount>
  <ReturnCode>PARTNER_GET_SUCCESSFUL</ReturnCode>
</CXPartnerResponse>
</ProcessData>

```

Document

```

CXPartnerGet_1
Process Name: CXPartnerGetAllP      Instance ID: 286085
Service Name: CXPartnerInst
Document Name: CXPartnerGet_200703301715286085_1      Document Store: Database
Document in process data:
<CXPartnerGet>
  <Partner>
    <PartnerName>BOUCLE</PartnerName>
    <PartnerPassword>PSW</PartnerPassword>
    <LocalName>BOUCLE</LocalName>
    <LocalPassword>PSW</LocalPassword>
    <PartnerState>E</PartnerState>
    <TypeOfPartner>0</TypeOfPartner>
    <Protocol>3</Protocol>
    <MaxSession>20</MaxSession>
    <MaxSessionIn>10</MaxSessionIn>
    <MaxSessionOut>10</MaxSessionOut>
    <SessionTableId>1</SessionTableId>
    <TypeOfLink>T</TypeOfLink>
    <TcpipAddress>127.0.0.1</TcpipAddress>
    <TcpipPort>6677</TcpipPort>
    <TcpipHostName/>
    <X25LocalAddress/>
    <X25RemoteAddress/>
    <X25LocalPort/>
    <X25UserDataField/>
    <X25Facilities/>
    <FtpDefaultFile/>
    <RetryNumber>0</RetryNumber>
    <SessionTimer>0</SessionTimer>
    <TransferTimer>0</TransferTimer>
    <SslparmId/>
  </Partner>
  <Partner>
  ...
  </Partner>
</CXPartnerGet>

```

Example

Executing the CXPartner service with (Mode=list) results in the following:

ProcessData

```

Process Data
Process Name: CXPartnerListP      Instance ID: 286095
Service Name: CXPartnerInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXPartnerRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>

```

```

    <PartnerName/>
    <Mode>list</Mode>
  </CXPartnerRequest>
  <CXPartnerList_1 SCIObjectID="localhost:9ed927:111a2c498f0:-4c4b"/>
  <CXPartnerResponse>
    <PartnerCount>3</PartnerCount>
    <ReturnCode>PARTNER_LIST_SUCCESSFUL</ReturnCode>
  </CXPartnerResponse>
</ProcessData>

```

Document

```

CXPartnerList_1

Process Name: CXPartnerListP      Instance ID: 286095
Service Name: CXPartnerInst
Document Name: CXPartnerList_200703301719286095_1      Document Store: Database
Document in process data:
  <CXPartnerList>
    <PartnerList>
      <PartnerName>BOUCLE</PartnerName>
      <PartnerName>BOUCLE1</PartnerName>
      <PartnerName>BOUCLE2</PartnerName>
    </PartnerList>
  </CXPartnerList>

```

CXPresentation

The CXPresentation service enables you to manage the PeSIT and Etebac3 presentation tables of the Connect:Express Unix monitor and PeSIT presentation tables of the Connect:Express Windows monitor. An entry is identified by the parameter PresentationTableId.

On Unix the presentation tables are identified by numbers « 0 » to « 9 ». You can neither create nor delete a presentation table. On Windows presentation tables are identified by a string. You can create and delete them

Note: To manage Etebac3 presentation tables of the Connect:Express Windows monitors, use « CXEtb3Presentation » service.

CXPresentation Parameters

Parameters for this service depend on the mode.

Modes create (Windows), replace or update

Field name	Description	Win	Unix	Data Type
Mode	create (Windows only), replace, update	7	7	S
PresentationTableId	Name or identification number of the presentation table	50	1	s
TypeOfCompression	Type of compression (N: none, H: horizontal, V: vertical, M: horizontal and vertical)	C	C	C
ConcatenationUsed	PeSIT FPDU Concatenation option (true/false)	5		B
MultiArticleUsed	PeSIT fpdu Multi-article option (true/false)	5	5	B
SegmentationUsed	PeSIT fpdu Segmentation option (true/false)	5		B
TranslationUsed	Transcoding option (true/false)	5		B
TranslationToEbcDic	Name or identification number of the transcoding table from ASCII to EBCDIC	127	1	S
TranslationToAscii	Name or identification number of the transcoding table from EBCDIC to ASCII	127		S

With modes **create** and **replace** the following parameters are required:

Unix replace:

PresentationTableId, TypeOfCompression, TranslationToEbcDic.

Windows:

PresentationTableId.

With mode **update** the following parameters are required:

PresentationTableId.

Defaults:

With modes **create** et **replace**, the following non standard defaults apply, if the parameter is omitted:

TypeOfCompression=N, TranslationToEbcDic=TOMNT.ASC, TranslationToAscii=TOMNT.ASC (Windows).

Mode delete (Windows)

Field name	Description	Win	Unix	Data Type
Mode	delete (Windows uniquement)	6		S
PresentationTableId	Name or identification number of the presentation table (no wildcard)	50		s

PresentationTableId field does not support wildcard.

Modes get or list

Field name	Description	Win	Unix	Data Type
Mode	get, ou list	4	4	S
PresentationTableId	Name or identification number of the presentation table	50		s

If the PresentationTableId field is omitted, all tables are displayed or listed.

Example

Executing the CXPresentation service with (Mode=replace) results in the following:

ProcessData

```

Process Data
Process Name: CXPresentationReplaceP      Instance ID: 286109
Service Name: CXPresentationInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXPresentationRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
    <PresentationTableId>9</PresentationTableId>
    <TypeOfCompression>M</TypeOfCompression>
    <ConcatenationUsed/>
    <MultiArticleUsed>FALSE</MultiArticleUsed>
    <SegmentationUsed/>
    <TranslationUsed/>
    <TranslationToEbcDic>4</TranslationToEbcDic>
    <TranslationToAscii/>
    <Mode>replace</Mode>
  </CXPresentationRequest>
  <CXPresentationResponse>
    <ReturnCode>PRESENTATION_REPLACE_SUCCESSFUL</ReturnCode>
  </CXPresentationResponse>
</ProcessData>

```


Example

Executing the CXPresentation service with (Mode=get) results in the following:

ProcessData

```

Process Data

Process Name: CXPresentationGetAllP      Instance ID: 286106
Service Name: CXPresentationInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXPresentationRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
    <PresentationTableId/>
    <Mode>get</Mode>
  </CXPresentationRequest>
  <CXPresentationGet_1 SCIObjectID="localhost:9ed927:111a2c498f0:-49df"/>
  <CXPresentationResponse>
    <PresentationCount>9</PresentationCount>
    <ReturnCode>PRESENTATION_GET_SUCCESSFUL</ReturnCode>
  </CXPresentationResponse>
</ProcessData>

```

Document

```

CXPresentationGet_1

Process Name: CXPresentationGetAllP      Instance ID: 286106
Service Name: CXPresentationInst
Document Name: CXPresentationGet_200703301734286106_1      Document Store: Database
Document in process data:
  <CXPresentationGet>
    <Presentation>
      <PresentationTableId>1</PresentationTableId>
      <TypeOfCompression>M</TypeOfCompression>
      <MultiArticleUsed>true</MultiArticleUsed>
      <TranslationToEbcDic>0</TranslationToEbcDic>
    </Presentation>
    <Presentation>
      ...
    </Presentation>
  </CXPresentationGet>

```

CXSession

The CXSession service enables you to manage the session tables of the Connect:Express monitors. An entry is identified by the parameter SessionTableId.

On Unix the session tables are identified by numbers « 0 » to « 9 ». You can neither create nor delete a session table. On Windows session tables are identified by a string. You can create and delete them

CXSession Parameters

Parameters for this service depend on the mode.

Modes create, replace or update

Field name	Description	Win	Unix	Data Type
Mode	create, replace or update	7	7	S
SessionTableId	Name or identification number of the session table	50	1	S
BaseMessageSize	Network message size (negotiated) Windows: 256-4096, Unix: 0-6535	4	5	i
BaseSynchronizationSize	Synchronization buffer size in Kbytes (negotiated) Windows: 1-32, Unix: 0-99	2	2	i
SessionDirection	Direction (T: Transmission only, R: Reception only, *: Both)	1		C
CrcUsed	CRC option (true/false)	5	5	B
ResynchronizationNumber	Number of online retries	2		i
BaseWindowSize	Synchronization window size (negotiated) 0-16		2	i
ProtocolVersion	Protocole version (1: PeSIT-D,2: PeSIT-E)		1	C
RetryNumber	Number of retries		2	i

With modes **create** and **replace** the following parameters are required:

Unix replace: SessionTableId, TypeOfCompression, TranslationToEbcidic.

Windows: SessionTableId.

With mode **update** the following parameters are required:

SessionTableId.

Defaults:

With mode **update**, the following non standard defaults apply, if the parameter is omitted:

ProtocolVersion=2 (Unix).

Modes delete (Windows)

Field name	Description	Win	Unix	Data Type
Mode	Delete	6		S
SessionTableId	Name or identification number of the session table (no wildcard)	50		S

SessionTableId field does not support wildcard.

Modes get or list

Field name	Description	Win	Unix	Data Type
Mode	get ou list	4	4	S
SessionTableId	Name or identification number of the session table	50	1	S

If the SessionTableId field is omitted, all tables are displayed or listed.

Example

Executing the CXSession service with (Mode=replace) results in the following:

ProcessData

```

Process Data
Process Name: CXSessionReplaceP      Instance ID: 286105
Service Name: CXSessionInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXSessionRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
    <SessionTableId>9</SessionTableId>
    <BaseMessageSize>24000</BaseMessageSize>
    <BaseSynchronizationSize>80</BaseSynchronizationSize>
    <SessionDirection/>
    <CrcUsed>TRUE</CrcUsed>
    <ResynchronizationNumber/>
    <BaseWindowSize>8</BaseWindowSize>
    <ProtocolVersion>1</ProtocolVersion>
    <RetryNumber>30</RetryNumber>
    <Mode>replace</Mode>
  </CXSessionRequest>
  <CXSessionResponse>
    <ReturnCode>SESSION_REPLACE_SUCCESSFUL</ReturnCode>
  </CXSessionResponse>
</ProcessData>

```

Example

Executing the CXSession service with (Mode=get) results in the following:

ProcessData

```


```

Document

```

CXSessionGet_1
Process Name: CXSessionGetAllP      Instance ID: 286104
Service Name: CXSessionInst
Document Name: CXSessionGet_200703301732286104_1      Document Store: Database
Document in process data:
  <CXSessionGet>
    <Session>
      <SessionTableId>1</SessionTableId>
      <BaseMessageSize>4096</BaseMessageSize>
      <BaseSynchronizationSize>32</BaseSynchronizationSize>
      <CrcUsed>false</CrcUsed>
    </Session>
  </CXSessionGet>

```

```

    <BaseWindowSize>2</BaseWindowSize>
    <ProtocolVersion>2</ProtocolVersion>
    <RetryNumber>0</RetryNumber>
  </Session>
  <Session>
  ...
  </Session>
</CXSessionGet>

```

CXStatistics

If the Statistics function is enabled in the monitor configuration, the CXStatistics service enables you to display selected statistics.

Note: the amount of data that is received when requesting the statistics can be very large; you should consider this problem when setting the selection criteria.

CXStatistics Parameters

Field name	Description	Win	Unix	Data Type
Mode	Get	3	3	S
MinimumDate	Selection start date or *	18	18	D
MaximumDate	Selection end date or *	18	18	D
RequestNumber	Request number or *	12	8	S
Interval	Last events interval in number of seconds	12	12	i

Example

Executing the CXStatistics service with (Mode=get) results in the following:

ProcessData

```

Process Data
Process Name: CXStatisticsGetP      Instance ID: 286125
Service Name: CXStatisticsInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXStatisticsRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
    <Interval>3600</Interval>
    <Limit>100</Limit>
    <Mode>get</Mode>
  </CXStatisticsRequest>
  <CXStatisticsGet_1 SCIObjectID="localhost:9ed927:111a2c498f0:-448b"/>
  <CXStatisticsResponse>
    <StatisticsCount>17</StatisticsCount>
    <ReturnCode>STATISTICS_GET_SUCCESSFUL</ReturnCode>
  </CXStatisticsResponse>
</ProcessData>

```

Document

CXStatisticsGet_1

Process Name: CXStatisticsGetP Instance ID: 286125
 Service Name: CXStatisticsInst
 Document Name: CXStatisticsGet_200703301753286125_1 Document Store: Database

Document in process data:

<CXStatisticsGet>

<Statistics>

<DateOfStatisticsRecord>2007/03/3017:39:12</DateOfStatisticsRecord>

<RecordId>SB</RecordId>

<MessageId>UXOL134I</MessageId>

<MonitorId>FEDORA</MonitorId>

<OperatingSystem>Unix</OperatingSystem>

<RequestNumber>08900008</RequestNumber>

<Status/>

<Event>ConnectionStarted</Event>

<MessageText>Communication started - COMMUNICATION OPENED (I) WITH: BOUCLE
REQ: 08900008 PESIT TCPIP</MessageText>

<PartnerName>BOUCLE</PartnerName>

<LocalName>BOUCLE</LocalName>

<TypeOfPartner>0</TypeOfPartner>

<Protocol>E</Protocol>

<TypeOfLink>T</TypeOfLink>

<TcpipAddress>127.0.0.1</TcpipAddress>

<TcpipPort>06677</TcpipPort>

<RetryNumber>0</RetryNumber>

</Statistics>

<Statistics>

...

</Statistics>

</CXStatisticsGet>

CXTransferSubmit

The CXTransferSubmit service enables you to request a file transfer to a monitor.

You can check transfer completion in several ways:

- ❖ Wait for the end of transfer in the CXTransferSubmit service.
- ❖ Check the end of transfer after completion of CXTransferSubmit, using either CXTransferStatus service or CXTransferJournal service.
- ❖ Set up a http server in GIS to receive end of transfer notifications sent by the monitor.

Use the following parameters to indicate to the service how to return result:

End Transfer Condition Parameters

Field name	Description	Win	Unix	Data Type
WaitForTermination	True: The service waits for transfer completion by inquiring the monitor MaxPollCount time, every PollInterval seconds. False: The service returns immediately after submitting the request.	5	5	S
MaxPollCount	Maximum number of status inquiry before returning (if WaitForTermination=True)	3	3	i
PollInterval	Interval in second between to status inquiries (If WaitForTermination=True)	4	4	i

Use the following parameters to request the transfer to the monitor:

CXTransferSubmit Parameters

Field name	Description	Win	Unix	Data Type
FileName	Symbolic file name	8	8	S
PhysicalName	Physical file name	127	44	S
TransferDirection	Transfer direction (T: transmission, R: reception)	1	1	C
PartnerName	Symbolic partner name	8	8	S
Priority	Transfer priority (0: high, 1: normal, 2: low)	1	1	C
TypeOfRequest	Type of request (N: normal, I: inquiry, H: hold) If TransferDirection=T the type cannot be « I »	1	1	C
TypeOfLink	Network link type Unix: T: TCP/IP, X: X25, P: PAD, M: TCP/IP+X25 Windows: T: TCP/IP, S: SNA LU6.2	1	1	C
Requestor	Name of the requestor (user, process, ...)	8		S
UserRequestId	User identification of the request	16		S
LocalName	Local alias name of the monitor	8	8	S
LocalPassword	Local alias password of the monitor	8	8	S
TypeOfFile	Type of file (TF: text fixed, TV: text variable, BF: binary fixed, BU: binary undefined)		2	S
FileRecordLength	Record length If TransferDirection=T, cannot be NULL		5	I
FileApi	User description of the transfer (Etebac3 Card)	80	88	S
FileLabel	User identification of the file	80	80	S
DateOfExecution	Scheduling date of the request	18	18	D

TypeOfNotification	Type of Notification: 1 character ('0' to '7'). '0': No notification. '1': Notification at the beginning of the transfer. '2': Notification at the end of the transfer. '4': Notification if transfer error. Other possibilities are combinations with inclusive « OR » of these values. For example: '6' = '2' OR '4' for a notification at the end of transfer or in case of transfer error. Windows: This flag is used for HTTP notification only. Unix: This flag is used for HTTP notification or standard notification depending on the values of the keywords HTTPNF and NOTIFY in the sysin configuration file.	1	1	C
NotifyUsed	Notification option (true/false)	5		B
ClientToNotify	Name of the client to notify Required if NotifyUsed=true	255		S
FtpStoreUniqueUsed	FTP « store unique » option (true/false)		5	B
FtpOptions	FTP Options (Type/Structure/Mode) Type:(E:EbcDic, A:Ascii, B: Binary, *: unchanged) Structure (F: file, R: record, *: unchanged) Mode (B: bock, S: stream, *: unchanged)		3	S
Pi99Offset	Offset in Pi99Value for pi99	3		I
Pi99Length	Length in Pi99Value forPi99	3		I
Pi99Value	pi99 information	254	254	S
AdHocUser	Remote AdHoc user identification	8		S
AdHocPassword	Remote AdHoc user password	8		S
OriginPhysicalName	AdHoc Local physical name sent	44	44	S
RemotePhysicalName	AdHoc remote physical name sent	44	44	S
TransferOrigin	Transfer requestor	8	8	S
TransferDestination	Transfer addressee	8	8	S
TransferSender	File sender (Pi61)	24	24	S
TransferReceiver	File receiver (Pi62)	24	24	S
FileAgentUsed	File agent option (true/false)		5	B

The following parameters are required:

FileName, TransferDirection, TypeOfRequest.

Example 1

The business process shown below requests a file transfer. The CXTransferSubmit service waits for the transfer completion; it returns successfully if the transfer is ended or with error code after having checked for completion three times, every 15 seconds.

The screenshot displays the Service Editor for CXTransferSubmitAdapter. The configuration is as follows:

Name: CXTransferSubmitAdapter
Config: CXTransferSubInst

Message To Service: Message From Service

Output Msg: Obtain Message first, then Process Data
Message Name: CXTransferSubmitAdapterInputMessage

Name	Value	Use XPATH?	Append?
PartnerName	BOUCLE	<input type="checkbox"/>	<input type="checkbox"/>
PhysicalName	\$TOM_DIR/config/sysin.txt	<input type="checkbox"/>	<input type="checkbox"/>
Pi99Length		<input type="checkbox"/>	<input type="checkbox"/>
Pi99Offset		<input type="checkbox"/>	<input type="checkbox"/>
Pi99Value		<input type="checkbox"/>	<input type="checkbox"/>
PollInterval	15	<input type="checkbox"/>	<input type="checkbox"/>
Port	9000	<input type="checkbox"/>	<input type="checkbox"/>
Priority	[Undefined]	<input type="checkbox"/>	<input type="checkbox"/>
RemotePhysicalNa...		<input type="checkbox"/>	<input type="checkbox"/>
Requestor		<input type="checkbox"/>	<input type="checkbox"/>
TransferDestination		<input type="checkbox"/>	<input type="checkbox"/>
TransferDirection	Transmit	<input type="checkbox"/>	<input type="checkbox"/>
TransferOrigin		<input type="checkbox"/>	<input type="checkbox"/>
TransferReceiver		<input type="checkbox"/>	<input type="checkbox"/>
TransferSender		<input type="checkbox"/>	<input type="checkbox"/>
TypeOfFile	Text Variable	<input type="checkbox"/>	<input type="checkbox"/>
TypeOfLink	TCP/IP	<input type="checkbox"/>	<input type="checkbox"/>
TypeOfNotification	[Undefined]	<input type="checkbox"/>	<input type="checkbox"/>
TypeOfRequest	[Undefined]	<input type="checkbox"/>	<input type="checkbox"/>
UserName	ADMIN	<input type="checkbox"/>	<input type="checkbox"/>
UserPassword	*****	<input type="checkbox"/>	<input type="checkbox"/>
UserRequestId		<input type="checkbox"/>	<input type="checkbox"/>
WaitForTermination	TRUE	<input type="checkbox"/>	<input type="checkbox"/>

Advanced

Executing the CXTransferSubmit service results in the following:

ProcessData

```

Process Data
Process Name: CXTransferSubWaitP      Instance ID: 286111
Service Name: CXTransferSubInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXTransferSubmitRequest>
    <Serverid>localhost:9000:X:ADMIN:***:FALSE:0:30:0</Serverid>
    <FileName>FILE01</FileName>
    <PhysicalName>$TOM_DIR/config/sysin.txt</PhysicalName>
    <TransferDirection>T</TransferDirection>
    <PartnerName>BOUCLE</PartnerName>
    <TypeOfLink>T</TypeOfLink>
    <FileLabel>lab01</FileLabel>
    <LocalName>BOUCLE</LocalName>
    <LocalPassword>PSW</LocalPassword>
    <TypeOfFile>TV</TypeOfFile>
    <FileRecordLength>8192</FileRecordLength>
    <Mode>submit</Mode>
    <WaitForTermination>TRUE</WaitForTermination>
    <MaxPollCount>3</MaxPollCount>
    <PollInterval>15</PollInterval>
  </CXTransferSubmitRequest>
  <CXTransferSubmitResponse>
    <ReturnCode>TRANSFER_SUBMIT_SUCCESSFUL</ReturnCode>
    <RequestNumber>08900007</RequestNumber>
  </CXTransferSubmitResponse>
  <CXTransferStatus>
    <ReturnCode>TRANSFER_SUCCESSFUL.Request number 08900007</ReturnCode>
  </CXTransferStatus>
</ProcessData>

```

Example 2

The business process shown below requests a file transfer. The CXTransferSubmit service returns successfully with the request number, without checking for transfer completion. The end of transfer must be checked by mean of CXTransferStatus service.

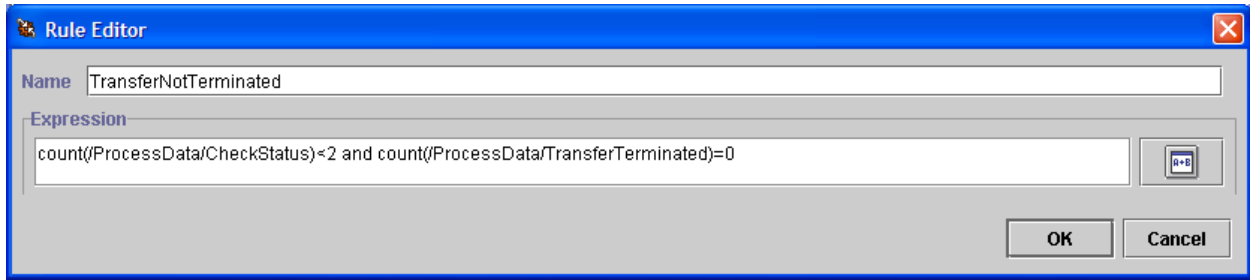
The screenshot shows a BPML editor window titled "< 10.87.15.35:10000 > (Online) CXTransferSubNoWaitP.bp". The main workspace displays a process flow diagram with nodes: Start, Sequence Start, CXTransferSubmitAdapter (highlighted with a blue box), CheckStatus, TransferNotTerminated.., GetStatus, Wait1 mn, AssignCXTransferStatusAda, RepeatCheck, Sequence End, Choice End, Sequence End, and End. The left sidebar shows BPML icons for Start, End, and OnFault Group.

The bottom pane, titled "Service Editor-CXTransferSubmitAdapter", shows configuration details for the "CXTransferSubmitAdapter" service. The "Message From Service" tab is active, showing the "Output Msg" as "Obtain Message first, then Process Data" and the "Message Name" as "CXTransferSubmitAdapterInputMessage". Below this is a table of configuration parameters:

Name	Value	Use XPATH?	Append?
Port	9000	<input type="checkbox"/>	<input type="checkbox"/>
Priority	[Undefined]	<input type="checkbox"/>	<input type="checkbox"/>
RemotePhysicalNa...		<input type="checkbox"/>	<input type="checkbox"/>
Requestor		<input type="checkbox"/>	<input type="checkbox"/>
TransferDestination		<input type="checkbox"/>	<input type="checkbox"/>
TransferDirection	Transmit	<input type="checkbox"/>	<input type="checkbox"/>
TransferOrigin		<input type="checkbox"/>	<input type="checkbox"/>
TransferReceiver		<input type="checkbox"/>	<input type="checkbox"/>
TransferSender		<input type="checkbox"/>	<input type="checkbox"/>
TypeOfFile	Text Variable	<input type="checkbox"/>	<input type="checkbox"/>
TypeOfLink	TCP/IP	<input type="checkbox"/>	<input type="checkbox"/>
TypeOfNotification	[Undefined]	<input type="checkbox"/>	<input type="checkbox"/>
TypeOfRequest	Normal	<input type="checkbox"/>	<input type="checkbox"/>
UserName	ADMIN	<input type="checkbox"/>	<input type="checkbox"/>
UserPassword	*****	<input type="checkbox"/>	<input type="checkbox"/>
UserRequestId		<input type="checkbox"/>	<input type="checkbox"/>
WaitForTermination	FALSE	<input type="checkbox"/>	<input type="checkbox"/>

An "Advanced" button is located at the bottom right of the configuration pane. The bottom status bar of the editor shows "Layers Nodes Editor" and "Open a business process".

The TransferNotTerminated condition is defined as shown below:



Executing the CXTransferSubmit service results in the following:

ProcessData

```

Process Data
Process Name: CXTransferSubNoWaitP      Instance ID: 289079
Service Name: DecisionEngineService
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXTransferSubmitRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
    <FileName>FILE01</FileName>
    <PhysicalName>$TOM_DIR/config/sysin.txt</PhysicalName>
    <TransferDirection>T</TransferDirection>
    <PartnerName>BOUCLE</PartnerName>
    <TypeOfLink>T</TypeOfLink>
    <TypeOfRequest>N</TypeOfRequest>
    <FileLabel>lab01</FileLabel>
    <LocalName>BOUCLE</LocalName>
    <LocalPassword>PSW</LocalPassword>
    <TypeOfFile>TV</TypeOfFile>
    <FileRecordLength>8192</FileRecordLength>
    <Mode>submit</Mode>
    <WaitForTermination/>
    <MaxPollCount/>
    <PollInterval/>
  </CXTransferSubmitRequest>
  <CXTransferSubmitResponse>
    <ReturnCode>TRANSFER_SUBMIT_SUCCESSFUL</ReturnCode>
    <RequestNumber>09200003</RequestNumber>
  </CXTransferSubmitResponse>
  <RequestNumber>09200003</RequestNumber>
  <CXTransferStatusRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
    <RequestNumber>09200003</RequestNumber>
    <Mode>list</Mode>
  </CXTransferStatusRequest>
  <TransferTerminated>TRANSFER_SUCCESSFUL</TransferTerminated>
</ProcessData>

```

CXTransferControl

The CXTransferControl service enables you to interrupt, restart or purge file transfers. For Connect:Express Windows you can only purge active transfers (CHK file). For Connect:Express unix you can purge any transfers because they are all recorded in the RENC file.

CXTransferControl Parameters

Parameters for this service depend on the mode.

Modes interrupt or restart

Field name	Description	Win	Unix	Data Type
Mode	Interrupt ou restart	9	9	S
RequestNumber	Request number (no wildcard)	12	8	S

Mode purge (Windows)

Field name	Description	Win	Unix	Data Type
Mode	Purge	9	9	S
RequestNumber	Request number (no wildcard)	12	8	S

Mode purge (Unix)

Field name	Description	Win	Unix	Data Type
Mode	Purge	6	6	S
FileName	Symbolic file name or *	8	8	S
PartnerName	Symbolic partner name or *	8	8	S
TransferDirection	Transfer direction (T: transmission, R: reception, *: Both)	1	1	C
RequestNumber	Request number (only * is supported)	12	8	S
Status	Transfer status or *		1	S
NotAfter	End purge date or *		18	D
DaysToKeep	Number of days to keep <i>Note: Today's date is included</i>		3	S

Example

Executing the CXTransferControl service with (Mode=purge) results in the following:

ProcessData

<pre> Process Data Process Name: CXTransferPurgeP Instance ID: 289036 Service Name: CXTransferControlInst <?xml version="1.0" encoding="UTF-8"?> <ProcessData> <CXTransferControlRequest> <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid> <DaysToKeep>1</DaysToKeep> </pre>

```

    <Mode>purge</Mode>
  </CXTransferControlRequest>
</CXTransferControlResponse>
  <ReturnCode>TRANSFERCONTROL_PURGE_SUCCESSFUL</ReturnCode>
</CXTransferControlResponse>
</ProcessData>

```

CXTransferStatus

The CXTransferStatus service enables you to show in the « process data », the status of a transfer (ended, running). You can use it in a business process as a condition.

Depending on the status of the transfer, the following information is shown in the ProcessData:

- ❖ <CheckStatus>TRANSFER_IN_PROGESS</CheckStatus>
- ❖ <TransferTerminated>TRANSFER_SUCCESSFULL</TransferTerminated>
- ❖ <TransferTerminated>TRANSFER_FAILED</TransferTerminated>

CXTransferStatus Parameters

Field name	Description	Win	Unix	Data Type
RequestNumber	Transfer request number	12	8	S

Example

Executing CXTransferStatus service after CXTransferSubmit service results in the following, in case of transfer successful completion:

ProcessData

```

Process Data

Process Name: CXTransferSubNoWaitP      Instance ID: 289037
Service Name: DecisionEngineService
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CXTransferSubmitRequest>
    ...
    <WaitForTermination/>
    <MaxPollCount/>
    <PollInterval/>
  </CXTransferSubmitRequest>
  <CXTransferSubmitResponse>
    <ReturnCode>TRANSFER_SUBMIT_SUCCESSFUL</ReturnCode>
    <RequestNumber>09200001</RequestNumber>
  </CXTransferSubmitResponse>
  <RequestNumber>09200001</RequestNumber>
  <CXTransferStatusRequest>
    <Serverid>localhost:9000:X:ADMIN:****:FALSE:0:30:0</Serverid>
    <RequestNumber>09200001</RequestNumber>
    <Mode>list</Mode>
  </CXTransferStatusRequest>
  <TransferTerminated>TRANSFER_SUCCESSFUL</TransferTerminated>
</ProcessData>

```


This chapter describes how you can receive Connect:Express notifications in GIS.

Notifications

You can configure a Connect:Express monitor to send file transfer notifications, at the beginning or at end of transfer. The monitor sends the notification via HTTP, to a GIS server that can be configured to launch a business process.

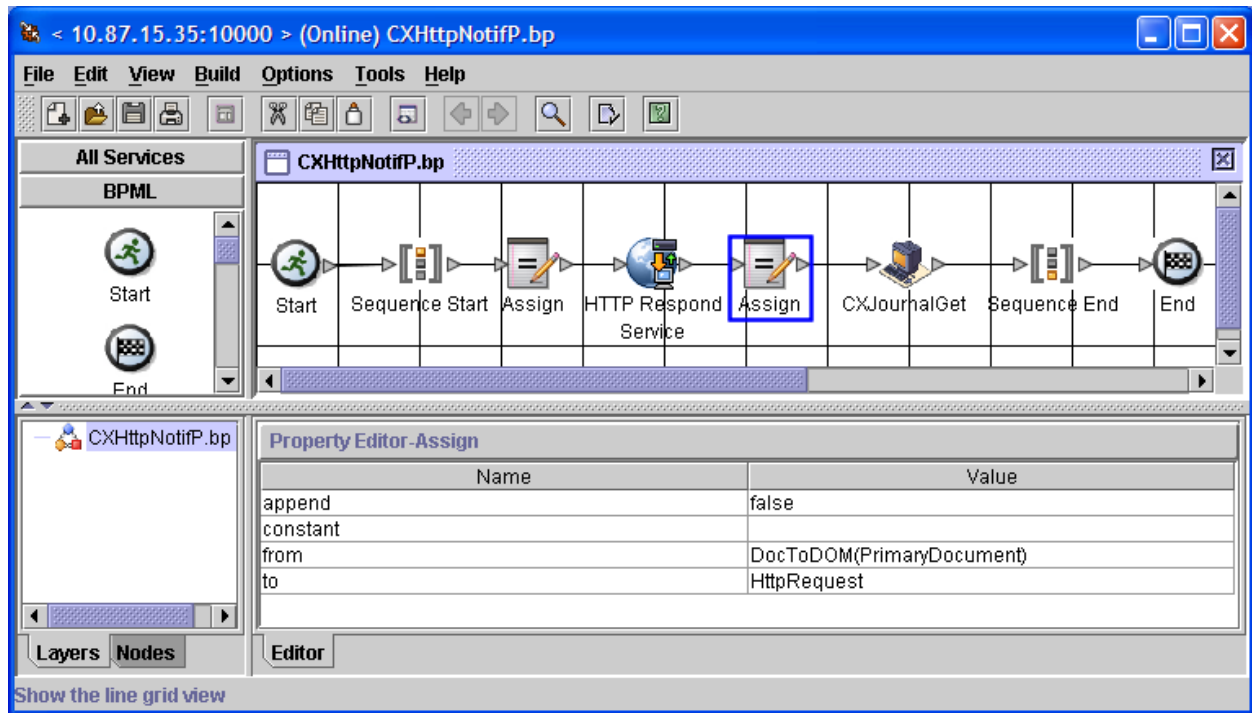
Configuring a GIS http Server to Receive Notifications

You need to create a business process that will process the notification and to configure the http server to activate the business process.

Creating the Business Process to Receive the Notification

The business process shown bellow executes like this:

- ❖ The « HTTP Respond Service » service writes the Notification (http request body) in the « primary document ». The notification contains the transfer request number.
- ❖ The « Assign » service copies the notification in <HttpRequest> element of the process data.
- ❖ Le « CXJournalGet » service uses the request number to inquire the corresponding Journal record to the monitor.



Associating the Business Process to an URI of the http Server

Connect:Express sends the notifications to port **10033** of the GIS HTTP server, to URI « /cxnotif », as shown before. You can however change these parameters (create a new HTTP server service Instance on a different port, a different URI).

Use GIS interface (Deployment/Services/Configuration) to add URI « /cxnotif » to the http server instance that is already defined, and associate to this URI the business process « CXHttpNotif » shown in the previous paragraph.

*Note: Connect:Express monitors don't implement **SSL, and user authentication** in the http request.*

Configuration is done as shown in the following:

Services Configuration

Http Server Adapter: Name

Name: Http Server Adapter

Description: An HTTPServerAdapter instance operating in lo

Select a group:

None

Create New Group

Select Group:



< Back

> Next

Cancel

Save

Services Configuration

Http Server Adapter: HTTP Connection Properties

HTTP Listen Port:

Perimeter Server Name:

Document Storage

System Default

Database

File System

User Authentication Required

Yes

No

Use SSL (Note: User Authentication without SSL will result in a weak security configuration)


























Must


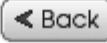



None

Add the URI /cxnotif. Select « Launch BP ».

Services Configuration

Http Server Adapter: URI

URI		
	add	New URI
	edit	/dashboard
	delete	/dashboard
	edit	/DataStore_MsgPrep_Send
	delete	/DataStore_MsgPrep_Send
	edit	/demosuite
	delete	/demosuite
	edit	/DS_Frontend_Import_BP
	delete	/DS_Frontend_Import_BP
	edit	/federation
	delete	/federation
	edit	/hello
	delete	/hello
	edit	/hello-war
	delete	/hello-war
	edit	/myaft
	delete	/myaft
	edit	/onboard
	delete	/onboard
	edit	/portlets
	delete	/portlets
	edit	/soap/SWIFTNetServerRequest
	delete	/soap/SWIFTNetServerRequest
	edit	/soap/SWIFTNetServerSnFRequest
	delete	/soap/SWIFTNetServerSnFRequest

  Back  Next  Cancel  Save

Services Configuration

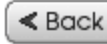
Http Server Adapter: URI: URI Config

URI:

Launch BP Or WAR

Business Process

War File

  Back  Next  Cancel  Save

Indicate the name of the business process to launch:

Services Configuration

Http Server Adapter: BP Config

Business Process:

Send Raw Messages:

No Yes

Executing the Business Process to Receive the Notification

Executing the Business process described above results in the following:

ProcessData

```

Process Data
Process Name: CXHttpNotifP      Instance ID: 289080
Service Name: CXJournalInst
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <PrimaryDocument SCIObjectID="localhost:9ed927:111b192d865:-62a9"/>
  <b2b-protocol>http</b2b-protocol>
  <transport-instance-id>HttpServerAdapter_HttpServerAdapter_node1</transport-instance-id>
  <http-request-uri>/cxnotif</http-request-uri>
  <transport-session-id>Mon Apr 02 11:15:31 CEST 2007:8</transport-session-id>
  <output>OK</output>
  <b2b-raw-message>true</b2b-raw-message>
  <HttpRequest>
    <Notification>
      <MonitorIdentification>FEDORA</MonitorIdentification>
      <NotificationType>U02</NotificationType>
      <RequestNumber>09200003</RequestNumber>
      <TransferDirection>T</TransferDirection>
      <PartnerName>BOUCLE</PartnerName>
    </Notification>
  </HttpRequest>
</ProcessData>

```

```

<FileName>FILE01</FileName>
<PhysicalName>/u1/pgs/TOM140/tom1/config/sysin.txt</PhysicalName>
<Status>E</Status>
<Trc>0000</Trc>
<Prc>0000</Prc>
<Src>0000</Src>
<Nrc>0000</Nrc>
</Notification>
</HttpRequest>
<CXJournalRequest>
  <Serverid>localhost:9000:X:ADMIN:***:FALSE:0:30:0</Serverid>
  <RequestNumber>09200003</RequestNumber>
  <Mode>GET</Mode>
</CXJournalRequest>
<CXJournalGet_4 SCIObjectID="localhost:9ed927:111b192d865:-624b"/>
<CXJournalResponse>
  <JournalCount>1</JournalCount>
  <ReturnCode>JOURNAL_GET_SUCCESSFUL</ReturnCode>
</CXJournalResponse>
</ProcessData>

```

Primary Document

```

PrimaryDocument
Process Name: CXHttpNotifP      Instance ID: 289080
Service Name: CXJournalInst
Document Name: PsHttpDocument_node1_20070402133638974      Document Store: Database
Document in process data: text/xml
<Notification>
  <MonitorIdentification>FEDORA</MonitorIdentification>
  <NotificationType>U02</NotificationType>
  <RequestNumber>09200003</RequestNumber>
  <TransferDirection>T</TransferDirection>
  <PartnerName>BOUCLE</PartnerName>
  <FileName>FILE01</FileName>
  <PhysicalName>/u1/pgs/TOM140/tom1/config/sysin.txt</PhysicalName>
  <Status>E</Status>
  <Trc>0000</Trc>
  <Prc>0000</Prc>
  <Src>0000</Src>
  <Nrc>0000</Nrc>
</Notification>

```

HTTP Notification in Connect:Express Unix

Installing the HTTP Notification

Important Notes: Using HTTP notification with Connect:Express Unix is not compatible with the TCP notification described in « *Connect:Express Unix. Agent_notification* ».

The version of Connect:Express must be 143-1 with Patch 143-106 minimum.

Perform the following operations under the user account of Connect:Express (The installation directory of Connect:Express is defined by the environment variable \$TOM_DIR):

1. Stop Connect:Express (\$stop_tom)
2. Upgrade the version of Connect:Express if necessary (See Connect:Express documentation)
3. Extract HTTPN_XXX_1.0.3.tar in a temporary directory

```
# tar xvf HTTPN_SOL_1.0.3.tar
```

4. The following files are extracted:

- ❖ tom_httpn (executable)
- ❖ .version
- ❖ httpnotcfg.xml (configuration file)
- ❖ notformat.xml (file defining the form of the notifications)
- ❖ vardef_example.txt (environment variables definition example)

5. Change to the extraction directory and start the installation script:

The following elements will be necessary:

- a. Installation directory of Connect:Express (referenced by \$TOM_DIR).
- b. GIS http server IP address or host name (localhost)
- c. GIS http server TCP port (10033).

```
# ./install.sh
```

6. Verify that the notification option has been activated in the file \$TOM_DIR/config/sysin:

```
HTTPNF=1
```

Note: If a parameter NOTIFY=1 is already defined, change it to 0:

```
NOTIFY=0
```

7. Edit the profile file defining the Connect:Express environment variables and insert the definition of the following new variables (See `vardef_example.txt`). These variables enable to start, stop and get the status of the notification process `tom_httpn`.

```
...  
# Define these variables in the shell profile of user Connect:Express  
export start_httpn=$TOM_DIR/httpn/tom_httpn  
export stop_httpn=$TOM_DIR/httpn/"tom_httpn -stop I"  
export httpn_status=$TOM_DIR/httpn/"tom_httpn -status"  
...
```

8. Execute the profile again and start the monitor (`$start_tom`)
9. Start `tom_httpn` process (`$start_httpn`)

Configuring the HTTP Notification

Tom_httpn process initialization file

The file \$TOM_DIR/httpn/httpnotcfg.xml defines the following configuration parameters for the tom_httpn process :

Tag	Description	Défaut
url	url of the http server (http://hostname:port/cxnotif or http://ip-address:port/cxnotif)	http://localhost:port/cxnotif
backurl	Optional backup http server url	None
trc	Y/N : Trace of the notifications sent (file tom_httpn.trc)	N
srvtim	Delay in seconds between 2 notification retries	20 (sec)
tim	Time-out in seconds on the tcp/ip network connection with the http server	5 (sec)
env	Y/N : Replace UNIX environment variables in the field PhysicalName of the notification.	Y

Customization

The default notification structure is shown below:

```

<MonitorIdentification>
<NotificationType>
<RequestNumber>
<TransferDirection>
<PartnerName>
<FileName>
<PhysicalName>
<Status>
<Trc>
<Prc>
<Src>
<Nrc>

```

To customize the notification edit \$TOM_DIR/httpn/notformat.xml and enable/disable elements from the list. You can also change the order of the elements. Refer to the description of CXJournal service for a description of each element.

Using Environment Variables

For Connect:Express Unix, some information depend on the environment variables of the Connect:Express user account. For example PhysicalName can be: \$TOM_DIR/in/07100017.tmp. \$TOM_DIR is not easy to manage for the GIS business process.

Use the <env> option of the \$TOM_DIR/httpn/httpnotcfg.xml file to activate/deactivate the substitution of

environment variables. The default is Y.

Configuring Transfers for HTTP Notification

To request a notification sent for a transfer, use the notification option in the file definition or the transfer request.

Symbolic File Option (STERM)

The NOT parameter can take one of the following values:

0 to 7:

0: No notification

1: Notification at the beginning of the transfer

2: Notification at the end of the transfer

4: Notification if there is a transfer error

The value x of the parameter is the sum of the values for each kind of notification desired. For example 6 = 2+4 indicates a notification at the end of the transfer or in case of error of transfer.

This is the default value for all transfers of the symbolic file: it can be changed by the transfer request parameter list.

```

C:E UNIX 143-1 ----- FILES DIRECTORY ----- tom1
OPTION ==>
SYMBOLIC NAME:          FILE03
INITIALIZATION STATUS  .:  E          E:ENABLE H:DISABLE
DIRECTION .....:      R          T:TRANSMIT R:RECEIVE *:EITHER
RECEIVING PARTNER .....:  $$ALL$$  'NAME',#LISTE, $$ALL$$
TRANSMITTING PARTNER ...:  $$ALL$$  'NAME',#LISTE, $$ALL$$
PRIORITY .....:        0          0:URGENT 1:FAST 2:NORMAL
DEFINITION TYPE .....:  D          D:DYNAMIC F:FIXED
PRESENTATION TABLE ....:  1          1 -> 9 PRESENTATION TABLE
PARAMETER CARDS FILE:   N          Y/N
SPACE TO RESERVE .....:  N          Y/N
ALLOCATION RULE .....:   0          0:INDIF., 1:PREALL., 2:TO CREATE
PHYSICAL NAME .....:   $TOM_DIR/in/&REQNUMB.tmp
RECORD FORMAT .....:   BU          TF, TV, BF, BU, T*, B*, **
RECORD LENGTH .....:   04000      1-5 NUMERIC CHARAC.
REMOTE DSN (FTP) .....:
TYPE/STRUCTURE/MODE FTP:          E/A/I/*,F/R/*,B/S/*
STORE UNIQUE (FTP) .....:        Y/N          FA: N Y/N  NOT: 2 (0/1/2/3)
OPTION: VIEW              UPD: 05/10/12 14:59 mverz1
-ENTER- NEXT FIELD      -F3- CANCEL          -F8- COMPLETION
    
```

Transfer Request (STERM)

The NOT parameter of the transfer request is used in the same way as in the file definition.

```

C:E/UNIX 143-1 ----- TRANSFER REQUEST ----- tom1
OPTION ==>
FILE .....: FILE03          DIRECTION .....: T (T/R)
PARTNER .....: PARTNER.
DPCSID ALIAS .....: MYNAME..   DPCPSW ALIAS .....: MYPASSW.
ORIGIN.....: .....           DESTINATION.....: .....
SENDER.....: .....           RECEIVER .....:
PHYSICAL NAME .....: $TOM_DIR/out/send.txt.....
REMOTE PHYSICAL NAME ..: .....
LABEL:.....: .....
RECORD FORMAT .....: BU          TF, TV, BF, BU
RECORD LENGTH .....: 04000
TYPE/STRUCTURE/MODE FTP: ***          E/A/I/*, F/R/*, B/S/*
STORE UNIQUE (FTP) ....: N          Y/N FA: Y/N      NOT: 2 (0 - 7)
TYPE .....: N          (N/I/H)
TYPE OF CONNECTION ....: T          (X/P/T)
PRIORITY .....: 0          (0/1/2)
DATE .....: 19980728101604 (YYYYMMDDHHMMSS)
API FIELD (ETEBAC3: 80 CHARACTERS FOR CARD)
1...5...0...5...0...5...0...5...0...5...0...5...0...5...0
DO YOU WANT TO GO ON ?
-ENTER- NEXT FIELD          -F3- CANCEL          -F8- COMPLETION

```

Batch Transfer Request (p1b8preq)

When you use the batch utility p1b8preq, use subparameter /NTF=x (x = 0 to 7) in the first parameter of the command.

For example:

```

$TOM_DIR/itom/p1b8preq "/SFN=FILE03/DIR=T/SPN=PARTNER/SID=MYNAME/PWD=MYPASSW/NTF=2" \ "/DSN=\
$TOM_DIR/out/send.txt"

```

Using CXTransferSubmit in GIS

When using CXTransferSubmit service in a Business process use the TypeOfNotification parameter, which can take values from '0' to '7', and works in the way described above.

Executing tom_httpn Process to Send Notifications

Tom_httpn process executes in the background and sends notifications on demand. Connect:Express writes the notifications in files located in \$TOM_DIR/ntfo directory. Tom_httpn reads the notifications and sends them from these files.

Tom_httpn process is started and stopped independently of the monitor.

Commands to Tom_httpn

You can pass the following commands:

Start the Process

```
$start_httpn
```

Immediat Stop of the Process

(preferred method)

```
$stop_httpn
```

Differed Stop of the Process

```
$ tom_httpn -stop D
```

Tom_httpn sends all pending notifications before stopping. The process stops on first sending error. If the number of notifications is large and if the monitor continues writing notifications, it may take a long time before the process stops. Unless you stop the monitor first, you should use the immediate stop.

Displaying tom_httpn Process Status and the Number of Pending Notifications

```
$ tom_httpn -status
```

If tom_httpn is running, the following displays:

```
Status          : STARTED
Message queue id: 196610
Process id      : 2545

Next notification record to write on disk
-----
Record number: 324
Current file: N20070421174034

Next notification record to send to http server
-----
Record number = 132
Current file = N20070421174034

Curent list of notification files
-----
N20070421174034
```

```
Current number of notifications waiting to be sent: 292
```

If tom_httpn is not running, the following displays:

```
Status      : NOT STARTED
Message queue id: -
Process id   : -

Next notification record to write on disk
-----
Record number: 324
Current file: N20070421174034

Next notification record to send to http server
-----
Record number = 132
Current file = N20070421174034

Current list of notification files
-----
N20070421174034
Current number of notifications waiting to be sent: 292
```

Activating/Deactivating the Trace

```
$ tom_httpn -trc Y/N
```

The trace is written in a text file: \$TOM_DIR/httpn/tom_httpn.trc.

Miscellaneous commands

The following commands are valid only if tom_httpn is stopped:

Send Notification by Batch Processing

```
$ tom_httpn -wait N
```

Tom_httpn starts, sends all pending notifications and stops.

Purge Pending Notifications

```
$ tom_httpn -purge all
$ tom_httpn -purge HH:MM
$ tom_httpn -purge AAAA/MM:JJHH:MM:SS
```

Example: purge all pending notifications older than today 10:00 AM:

```
$ tom_httpn -purge 10:00
```

Backup http server

It is possible to redirect automatically the notifications to a backup http server, when the primary http server is stopped.

In this case, define a backup url in the configuration file `httpnotcfg.xml`, as shown in the following example:

```
<trc>S</trc>
<tim>5</tim>
<srvtim>20</srvtim>
<env>Y</env>
<url>http://10.87.15.35:10033/cxnotif</url>
<backurl>http://10.87.15.34:10033/cxnotif</backurl>
```

The command `$httpn_status` displays the active url to which the notifications are currently been sent.

```
Status                : STARTED           Message queue id : 19857408
Process id            : 15074
url (inactive)       : http://10.87.15.35:10033/cxnotif
backup (active)      : http://10.87.15.34:10033/cxnotif
retry timer (srvtim) : 20 seconds      connection timer (tim): 5 seconds
trc                  : Short                env : 1

Next notification record to write on disk
-----
Record number : 31
Current file  : N20081024102139

Next notification record to send to http server
-----
Record number = 29
Current file  = N20081024102139

Current list of notification files
-----
N20081024102139
Current number of notifications waiting to be sent: 2
```

If both servers are stopped, `tom_httpn` tries alternately to send the notifications to each url until one server has been restarted.

After automatic redirection to the backup url and when the primary http server is restarted, it is necessary to use a manual command to redirect again the notifications back to the primary server:

```
tom_httpn -activate primary
```

The activation command has the following general form:

```
tom_httpn -activate primary|backup
```

It is also possible to lock the transmission of the notification to one specific url by using the command:

```
tom_httpn -lock primary|backup
```

In this case, the automatic backup is deactivated.

Managing Monitor, GIS or Httpn Stop.

All three components are running independently: no notification can be lost.

If tom_httpn stops, the monitor writes the notifications in files placed in the ntfo directory. When tom_httpn initializes, all pending notifications are sent to GIS.

If the monitor is stopped, tom_httpn sends all pending notifications and returns in wait state.

If GIS is stopped, tom_httpn retries periodically to send the notifications to GIS. The retry interval is set in the `<srvtim>20</srvtim>` parameter of httpnotcfg.xml.

Notifications Sequence

Notifications are sent in a FIFO sequence. No notification is sent before all previous notifications have been sent.

The only way to cancel notifications is to stop tom_httpn, use the purge command, and start tom_httpn again.

Should any network error occur while sending a notification to GIS, tom_httpn retries periodically to send it every 20 seconds (srvtim parameter), until the notification is successfully sent.

Troubleshooting

Use commands `tom_httpn -status` and `ps` to check the status of the http notification system.

No Notification created by the Monitor

1. Check that the HTTPNF parameter is set to 1 in `$TOM_DIR/config/sysin`
2. Check via STERM that the notification was requested for the transfer request. If it was not requested, check the symbolic file definition and/or the request parameters.

No Notification sent to GIS

1. Check that `tom_httpn` is active, using `tom_httpn -status` and `ps -ef | grep tom_httpn`
2. If `tom_httpn` is active, activate the trace with the command `tom_httpn -trc Y`. The trace is written in `$TOM_DIR/httpn/tom_httpn.trc`: analyze the trace and search for any network problem.

tom_httpn Does not Start

1. Check that `tom_httpn` is not already active using `tom_httpn -status` and `ps -ef | grep tom_httpn`
2. If the status is « active » although `ps` does not show `tom_httpn` process, `tom_httpn` might have been abnormally stopped (kill -9 or core dump for example). In this case you must purge the IPC queue that has been created during previous execution. Use `tom_httpn -status` to retrieve the identifier of the message queue. Use the Unix command: `ipcrm -q <identifier>`. Then remove all file `pid.<process-id>` from the `$TOM_DIR/httpn` directory, if any.
3. Another reason for `tom_httpn` not initializing is an invalid `httpnotcfg.xml` file.

Purging the Notification System

1. Stop the monitor.
2. Remove the `$TOM_DIR/ntfo` directory and all files.
3. Remove the trace file `$TOM_DIR/httpn/tom_httpn.trc` if any
4. Start the monitor

HTTP Notification in Connect:Express Windows

HTTP notifications generated by the monitor are sent to the remote GIS by a specific executable tom_httpn. The monitor, tom_httpn and GIS can be stopped or restarted independently, without loss of notifications.

Note: With Connect:Express Windows, the http notification can be used together with the TCP notification described in « *Connect:Express Windows. User Guide* ».

Connect:Express Windows version must be V3.0.5.001 minimum.

Installing the HTTP Notification

The HTTP notification component is not installed at Connect:Express monitor installation. It requires an additional installation on a beforehand installed monitor.

Perform the following operations:

1. Stop Connect:Express
2. Upgrade the version of Connect:Express if necessary (See Connect:Express documentation)
3. Copy HTTPN_WIN_1.0.2.zip to an empty temporary folder, for example c:\tmpdir.
4. Extract the archive (with WinZip for example) in this directory.
5. Execute setup.exe. Indicate during the installation the root directory of the monitor.

Uninstalling the HTTP Notification

Perform the following operations:

1. Select « Start / Settings / Control Panel / Add or Remove Programs » from the Windows task bar.
2. Select « Connect:Express HTTP Notifications » in the list of installed programs, the click « Remove ».

Configuring the HTTP Notification

You can manage the notification structure.

Customization

The default notification structure is shown below:

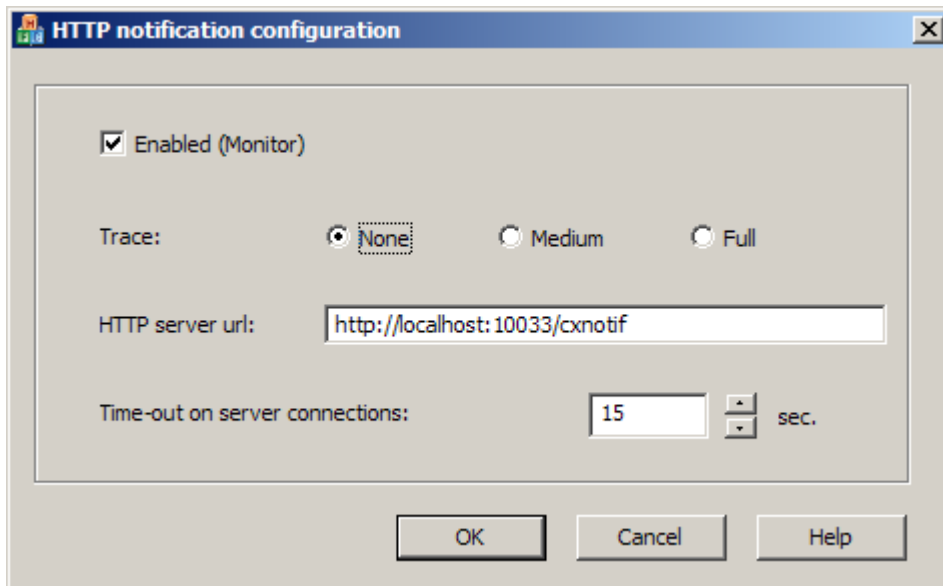
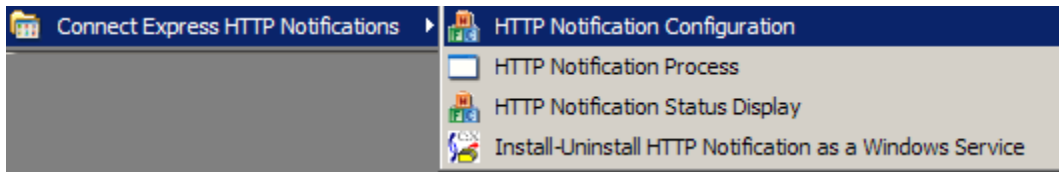
<MonitorIdentification>

<NotificationType>
 <RequestNumber>
 <TransferDirection>
 <PartnerName>
 <FileName>
 <PhysicalName>
 <Status>
 <Trc>
 <Prc>
 <Src>
 <Nrc>

To customize the notification edit the file **notformat.xml** located in the Connect:Express directory and enable/disable elements from the list. You can also change the order of the elements. Refer to the description of CXJournal service for a description of each element.

Httpn_config.exe Utility used to configure the tom_httpn Process

This utility can be started from the menu « Start / Programs »:



At installation, HTTP notifications are configured with the above settings.

The configurable settings are:

Enabled (Monitor):

Indicates if the monitor is enabled to create HTTP notifications at the beginning, end or error of transfers.

If checked, the monitor creates HTTP notifications that can be sent to the HTTP server by tom_httpn. A stop-restart of the monitor is necessary for this parameter to be effective.

Trace:

Trace level of the process tom_httpn. The trace file is trace\tom_httpn.txt.

HTTP server url:

Url of the HTTP server, to which the notifications are sent.

Time-out on server connections:

Time-out value in seconds for the connections to the server.

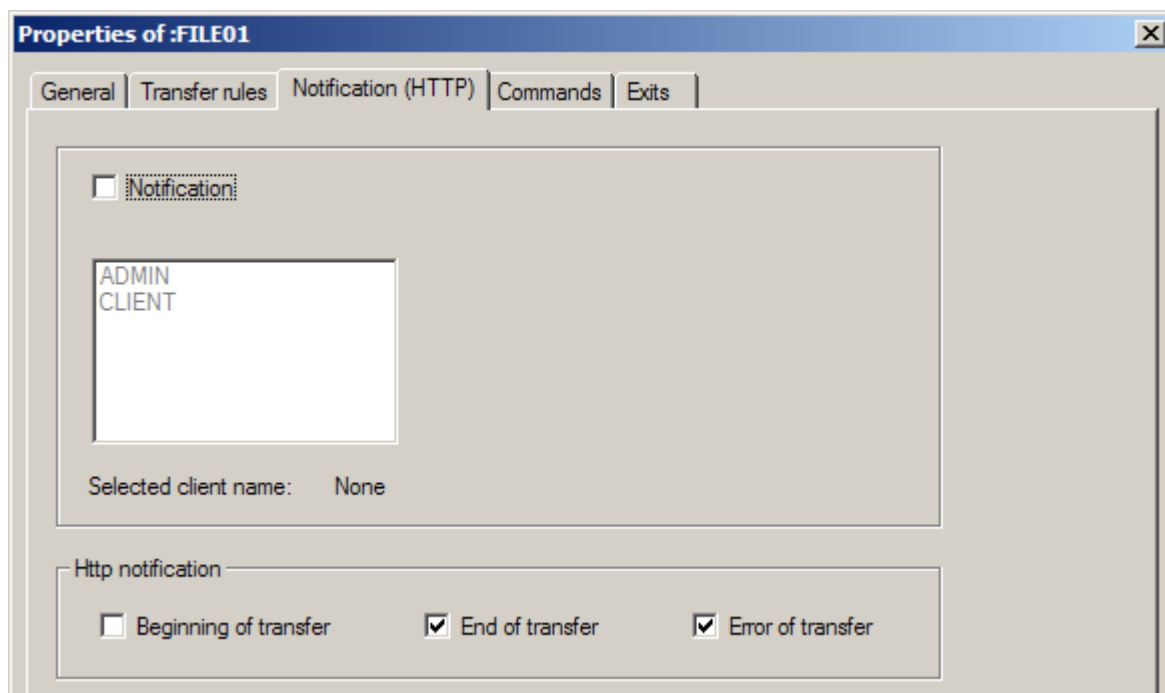
Configuring Transfers for HTTP Notification

To request a notification to be sent for a transfer, use the notification options in the symbolic file definition or in the transfer request. Setting these options in the symbolic file definition determines the notification conditions for transfers in server mode (For example server/receiver mode).

Setting these options in the parameters of a transfer request determines the notification conditions for transfers in requestor mode. (For example requestor/sender mode).

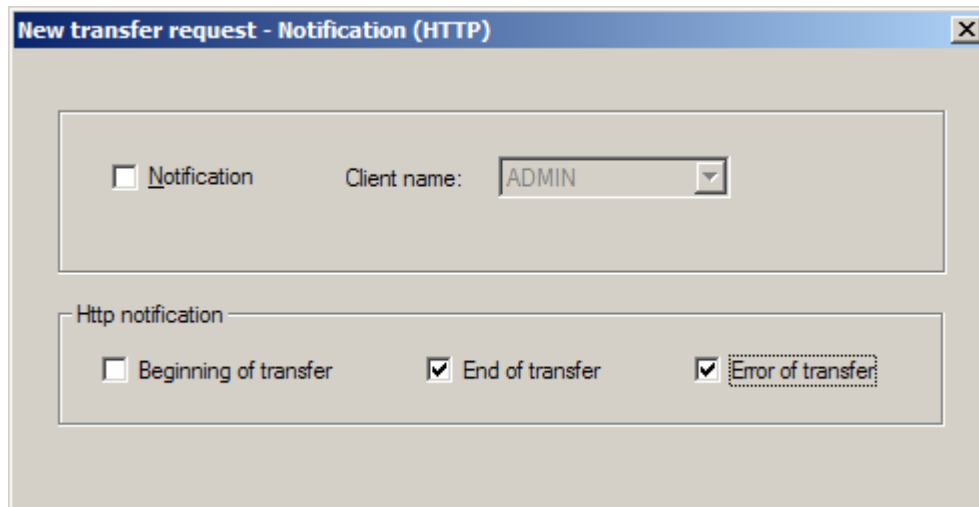
Symbolic File

The http notification options for a symbolic file are presented by the monitor's graphical interface as below:



Transfer request (Graphical interface iu_tom)

When requesting a transfer with the graphical interface, the http notification options are indicated by the following dialog of the graphical interface:



Batch Transfer Request (Tomreq.exe)

When you use the batch utility Tomreq.exe, use parameter /L:x (x = 0 to 7).

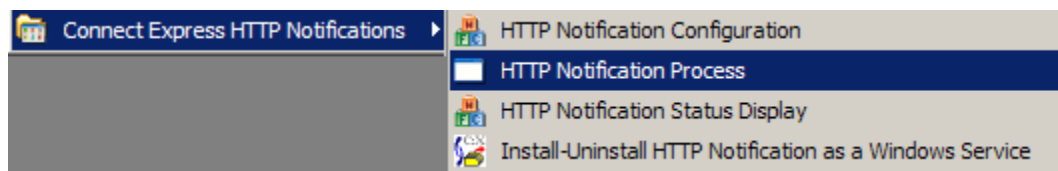
- 0: No notification
- 1: Notification at the beginning of the transfer
- 2: Notification at the end of the transfer
- 4: Notification if there is a transfer error

The value x of the parameter is the sum of the values for each kind of notification desired. For example 6 = 2+4 indicates a notification at the end of the transfer or in case of error of transfer.

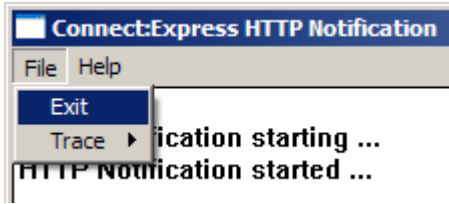
```
"c:\cexpress\Tomreq.exe" /L:6 /F:FILE01 /P:BOUCLE /S:T /T:N /D:"c:\cexpress\out\out.txt" /C:ADMIN
/M:ADMIN /K:I /H:localhost /O:7000 /G:"c:\CEXpress\Tomnt.ini" /A:BOUCLE /W:PSW
```

Starting/Stopping the tom_httpn Process

The process tom_httpn can be started from the menu « Start / Programs »:

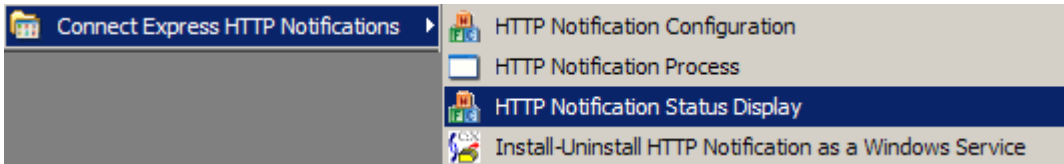


To stop, use the exit menu of the tom_httpn windows.



Httpn_status.exe Utility Showing Notifications Waiting to be Sent

This utility can be started from the menu « Start / Programs »:



Connect:Express HTTP notification status CEXP1

Enabled Service Trace: None State: Stopped

Number of notifications waiting to be sent: 0

Last notification record written on disk

Record number: 000001

File: N2008100317035101

Last notification record sent to HTTP server

Record number: 000001

File: N2008100317035101

Current list of files containing notifications to send

N2008100317035101

Url: http://localhost:10033/cxnotif

Refresh Cancel Help

Enabled:

Indicates if the monitor is enabled to create HTTP notifications at the beginning, end or error of transfers. If checked, the monitor creates HTTP notifications, which can be sent to the HTTP server by tom_httpn.

Service:

Indicates if the process tom_httpn is installed as Windows service.

Trace:

Indicates if the trace of tom_httpn is active. The trace file is trace\tom_httpn.txt

State:

State (Started or stopped) of the tom_httpn process.

Number of notifications waiting to be sent:

Indicates the number of notifications created by the monitor and waiting to be sent by tom_httpn.

Last notification record written on disk:**Record number:**

Record number, in the file below, of the last notification written by the monitor.

File:

Name of the notification file created by the monitor in the ntfo directory. Each notification file contains up to 1000 notifications written sequentially by the monitor.

Last notification record sent to HTTP server:

Record number: Record number of the last notification sent to the remote HTTP server by tom_httpn.

File:

Notification files are read by tom_httpn and purged after complete emission of all notifications.

Current list of files containing notifications to send:

List of files containing notifications waiting to be processed by tom_httpn.

Url:

HTTP server url.

If a backup URL has been configured, httpn_status displays the following dialog box:

Connect:Express HTTP notification status CEXP1

Enabled Service Trace: State:

Number of notifications waiting to be sent:

Last notification record written on disk

Record number:

File:

Last notification record sent to HTTP server

Record number:

File:

Current list of files containing notifications to send

Backup

Url1: Active Active and locked

Url2: Active Active and Locked

It is possible to manually activate or lock the transmission of the notifications to one of both servers, by clicking on the appropriate radio button and updating with the “Update Backup URL” button.

For example :

If S1 and S2 are the 2 HTTP servers, if S1 is down, the notifications are automatically redirected to S2. Even if S1 restarts, they keep on being sent to S2 while S2 is up. To redirect again towards S1, a manual operation is necessary. Set in this case the “Active” button for Url1. On the other hand, if S2 is stopped, automatic backup towards S1 is done.

The “Active and locked” buttons enable to lock the transmission of the notifications to a specific server. In this case, the backup is deactivated.

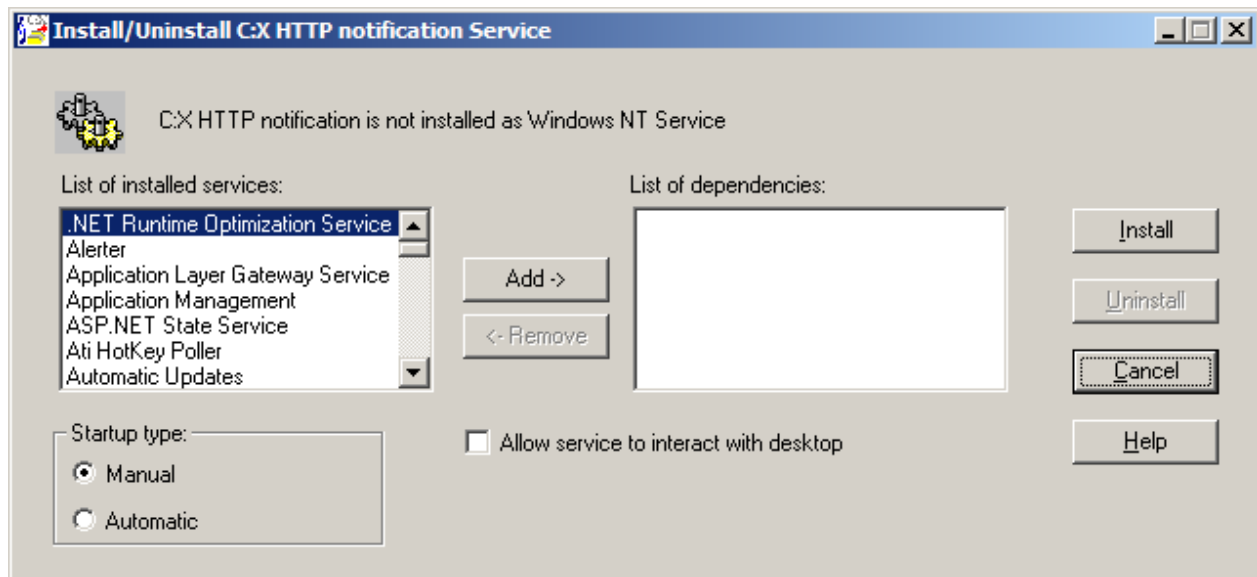
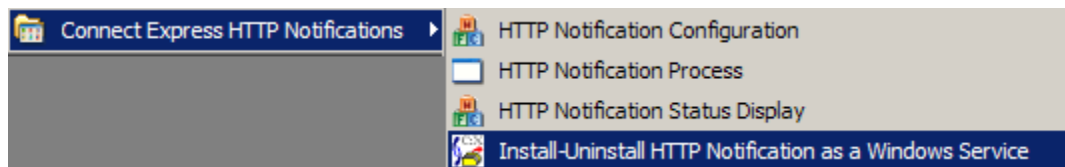
Httpn_cmd.exe utility

This utility is a batch utility enabling to stop the process tom_httpn, to activate or deactivate the trace and to update the backup flags.

```
Usage: httpn_cmd stop
Usage: httpn_cmd trace [medium|full|off]
Usage: httpn_cmd [activate|lock] [1|2]
```

Httpn_service.exe Utility for tom_httpn Installation / Uninstallation as Windows Service

This utility can be started from the menu « Start / Programs »:



This utility is used to install or uninstall the Connect:Express HTTP notification process as a Windows service.

The installation as a Windows service ensures that the HTTP notification functionality is permanently available in different ways:

- Automatically started at system startup
- Associated with other dependent services that must be started before the C:X Service
- Locally or remotely stopped/started using the Windows Service Manager
- Locally or Remotely supervised using the Windows Events Viewer
- Executed under system or user account with the associated rights

Purging the Notification System

5. Stop the monitor.
6. Delete all files in the ntfo directory of Connect:Express.
7. Start the monitor

Notification Fields

The table below provides the list of notification fields, in alphabetic order, with length. It shows that some fields are not available on all platforms.

The field *NotificationType* identifies the platform, the type of notification and the version of the notification. The type of notification is common to the three platforms (I = Initialization, E = End, R = Error). The values of the *Status* field, on the contrary, may be platform dependent (Status=E is common to z/OS, Unix and Windows).

Field	Lg max	Description	u	w	z
AppcModeName	8	Sna Lu6.2 ModeName		x	x
AppcTpName	8	Sna Lu6.2 Tp Name		x	x
ClientName	8	Name of the client (or administrator) to notify	x	x	x
Erc	4	Ctree return code		x	
ExternalRequestNumber	8	Request number on the remote side (Type Tom only, PeSIT)	x	x	x
FileBytes	12	Number of bytes of the file	x	x	x
FileName	8	Symbolic file name	x	x	x
FileNumberOfRecords	12	Number of records sent/received	x	x	x
FileOpenOption	1	Allocation rule, N = New file, R = Replace, O = Pre-allocated, U = User	x	x	x
FileOrganization	1	File organization, S = Sequential, I = Indexed, R = Relative, P = Pds, V = Vsam	x	x	x
FileRecordLength	5	Local record length	x	x	x
Label	80	File user identification or label (Pi37 PeSIT)	x	x	x
LocalName	8	Alias name of the local Connect:Express	x	x	x
MonitorIdentification	8	Name of the Connect:Express server	x	x	x
NetworkBytes	12	Number of bytes transferred	x	x	x
NetworkMessageSize	5	Network message size	x	x	x
NotificationLink	1	Type of link used for sending the notification: T = TcpIp	x	x	x
NotificationType	3	Os,Type,Version: Os = Z/os,Unix,Windows Type = Initialization,End,Reject	x	x	x

		Version = 2 Example: WE2 = Windows, End of Transfer, Version 2			
Nrc	12	Network Return code	x	x	x
OriginalPhysicalName	44	File name proposed to remote as their data set name (or Pi99)	x	x	x
PartnerName	8	Symbolic Partner name	x	x	x
PhysicalName	127	Local file physical name	x	x	x
Pi61	24	The entity that is processing the file before sending it (PeSIT)	x	x	x
Pi62	24	The entity that is processing the file after receiving it (PeSIT)	x	x	x
Prc	3	Protocol return code	x	x	x
Priority	1	Transfer priority, 0 = Urgent, 1 = Fast, 2 = Normal	x	x	x
Protocol	1	Transfer protocol, D=PesitD, E=PesitE, O=Oftp, 3=Etebac3, F=ftp	x	x	x
RealCompression	4	Compression performed (PeSIT, Odette)	x	x	
RegistrationDate	10	Date and time when the notification record is created by Connect:Express	x	x	x
RegistrationTime	8		x	x	x
RemotePhysicalName	44	Remote file physical name (Type Tom only, PeSIT)	x	x	x
RequestDate	10	Date when the request is accepted by Connect:Express	x	x	x
RequestTime	8	Time when the request is accepted by Connect:Express	x	x	x
RequestNumber	12	Request number given by Connect:Express	x	x	x
Requestor	8	The name of the entity (user, job ..) that submitted the request	x	x	x
RequestStatus	1	Status of the request after transfer: purged (Y) or not (N)	x	x	x
RetryNumber	2	Number of retries for the request	x	x	x
SendReceiveCount	12	Number of network messages moved	x	x	x
SnaLuName	8	Sna LU name		x	x
SnaRc1	4	Sna return code		x	
SnaRc2	8	Sna return code		x	
Src	8	System Return code	x	x	x
Status	1	Transfer status – this field is platform dependent z/OS: C = In progress / E = Ended / S = Selection Error / I = Interrupted / W = Connection Error / Q = Inbound request in progress Windows: A or W = Active / C = In progress / E = Ended / S = Selection Error / I = Interrupted Unix: C = In progress, O = Selection Error or Interrupted, E = Ended	x	x	x
TcpIpAddress	15	Remote TCP/IP address	x	x	x
TcpIpHost	127	Remote TCP/IP host name	x	x	x
TcpIpPort	5	Remote listening TCP/IP port	x	x	x
TcpipRc	4	TCP/IP return code	x	x	x
TransferBeginningDate	10	Beginning of transfer date and time	x	x	x
TransferBeginningTime	8		x	x	x
TransferDestination	8	The entity that is receiving the transfer request (Pi4bis PeSIT)	x	x	x
TransferDirection	1	Transmission or Reception	x	x	x
TransferEndDate	10	End of transfer date and time	x	x	x
TransferEndTime	8		x	x	x
TransferIdentifier	8	Transfer identifier exchanged with the partner (PeSIT)	x	x	x
TransferOrigin	8	The entity that is initiating the transfer (Pi3bis PeSIT)	x	x	x
Trc	4	Connect:Express Return code	x	x	x
TypeOfData	1	Type of data, A = Ascii, E = Ebcdic, B = Binary	x	x	x
TypeOfFile	2	Type of file, TF = Text fixed, TV = text variable, UF = Unix fixed, UV = Unix Variable, BF = binary fixed, BU = Binary undefined S = Sequential, V = VSAM, P = PDS, PE = PDSE, PU = PDS unload, VU = VSAM unload, SU = SYSOUT unload, UU = User unload, H = HFS, TU = Sequential+Edciconv, HU = HFS+Edciconv	x	x	x
TypeOfLink	1	Type of link, 0 = LU 6.2, 1 = X25, 2 = TCP/IP, M=mixed	x	x	x
TypeOfPartner	1	Type of Partner, Other or Tom	x	x	x
TypeOfRequest	1	Type of request, N = Normal, I = Inquiry, H = Hold	x	x	x
TypeOfUser	1	Type of user, I = Internal, E = External	x	x	x
UserDataReceived	254	User information received with the file (Pi99 PeSIT)	x	x	x

UserDataSent	254	User information sent with the file (Pi99 PeSIT)	x	x	x
UserRequestID	16	Identification of the request given by the user		x	
X25Cause	2	X25 Cause	x	x	
X25Diag	2	X25 Diagnostic	x	x	
X25Facilities	32	Remote X25 address, facilities	x	x	x
X25LocalAddress	15	Local X25 address	x	x	x
X25Localport	1	Local device	x	x	
X25MchLuName	8	Local Mch name			x
X25MchName	8	Local Mch Lu name			x
X25Rc	4	X25 Return code	x	x	
X25RemoteAddress	15	Remote X25 address	x	x	x
X25UserDataField	16	Remote X25 address, user data field	x	x	x

This chapter describes how to implement a Connect:Express Browser Interface under control of the Http server of GIS. It describes first the installation procedure and the first tests that you can perform. In a third paragraphe it shows how to integrate this Human interface in GIS environment.

Connect:Express User Interface

A browser interface is provided for integration of Connect:Express file transfer fonctionnality with GIS. This interface takes advantage of the http server of GIS : it can be integrated in an application by the use of an URI configured in the http server adapter.

This interactive facility complements the set of services described above, that you can use for automatizing of the file transfer process managed by Connect:Express, PeSIT for example. Through screens you can perform the average operations related to file transfer with Connect:Express : partners and files management, transfer request and monitoring.

Installing the Interface

First of all extract on your desktop the two files of the CXGIS_IHM_4.3.05.zip file: CXSession.war and CX_IHM_Export.xml.

Deploying the Interface

Copy the .war file in GIS environment: [*installdir*]/noapp/deploy. GIS wil deploy it during next initialization.

Installing the GIS Ressources

The .xml file includes a BP 'CXConfig', a configuration CXConfig of CXConfigurationAdapter, a configuration CXHttpserver of HttpServerAdapter .

Login to the GIS server and import the file CX_IHM_Export.xml using the menu deployment / resource manager / import. Provide the following parameters:

- File Name *CX_IHM_Export.xml*
- Passphrase *connect:express*
- *Skip Tag Name and Tag Description*
- Update Objects *Yes*
- BP Selection *select CXConfig*
- Service Configurations *select both services*

The confirmation screen displays :

Import Resources

Confirm

File Name	C:\Documents and Settings\lgcazenave\My Documents\Cazenave\CXIntegrated\CXGIS\CX_IHM_Export.xml
Tag Name	none
Tag Description	none
Business Processes	[CXConfig]
Service Configurations	[CXConfig, CXHttpServer]
Update Objects	Yes

Configure CXHttpServer using the menu *deployment / services / configuration* : update *Http Listen Port* field and the *War File Pass* field of the URI CXSession.

Services Configuration

CXHttpServer: HTTP Connection Properties

HTTP Listen Port:
 Perimeter Server Name:
 Total Business Process queue depth threshold:

Document Storage

System Default
 Database
 File System

User Authentication Required

Yes
 No

Use SSL (Note: User Authentication without SSL will result in a weak security configuration)

Must
 None

Services Configuration

CXHttpServer: URI

URI	
 add	New URI
 edit  delete	/CXSession

Services Configuration

CXHttpServer: WAR Config

Enter War File Path:

OR

Load a System Generated War File: No Generated War Files

The confirmation screen displays :

Services Configuration

CXHttpServer: Confirm

Enable Service for Business Processes

Service Settings

Service Name	CXHttpServer
Service Type	HTTP Server Adapter
Description	Http server to accept CX requests
System Name	CXHttpServer
Group	None provided
HTTP Listen Port	10000
Perimeter Server Name	node1 & local
Total Business Process queue depth threshold	5
Document Storage	System Default
User Authentication Required	No
Use SSL (Note: User Authentication without SSL will result in a weak security configuration)	None
URI	URI: CXSession War File Path: C:\SterlingCommerce\SI\noapp\deploy\CXSession.war

Description of the Interface

Before you make tests with the interface you must restart GIS after the intallation procedure and start the monitor.

Connect to the URI as shown below. The parameter *cxostype* can take two values, WINDOWS or UNIX according to the platform were the monitor executes.

<http://serveurgis:10000/CXSession?cxipaddr=xx.xxx.xxx.xxx&cxipport=nnnnn&cxostype=WINDOWS>

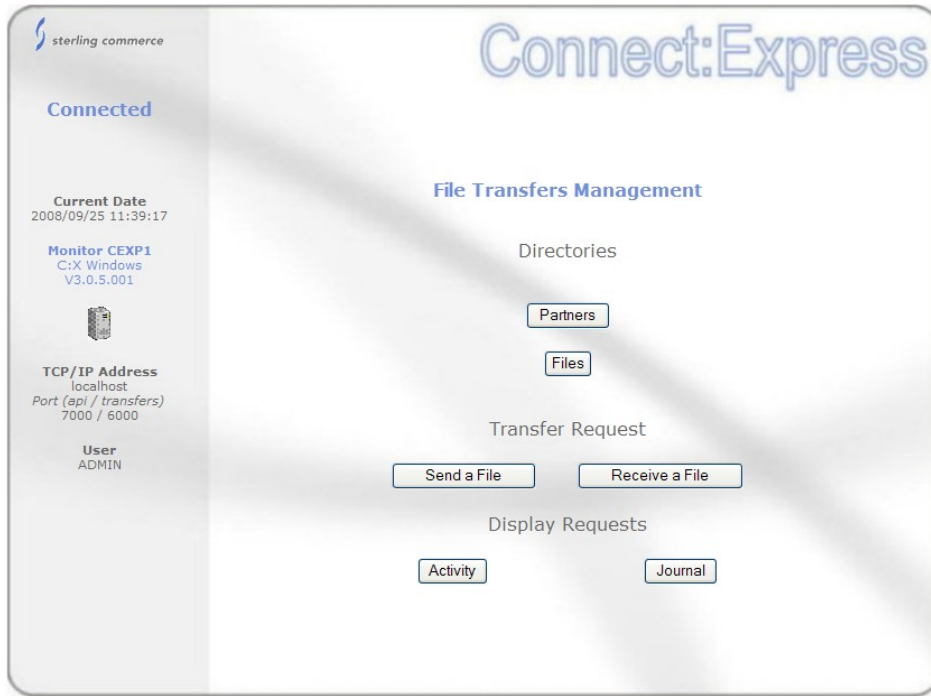
Remark : if you connect to URI <http://serveurgis:10000/CXSession>, the following default values are taken:

- cxipaddr=localhost
- cxipport=7000
- cxostype=WINDOWS

In case of a WINDOWS monitor the defaults user name and password are *ADMIN* and *ADMIN*.

This section describes some specificities of the browser interface. Refer to Connect:Express documentation for any information regarding the implementation of file transfers.

The menu displays.



On the left side some current information is shown about the work and the monitor. The workbench is on the left side.

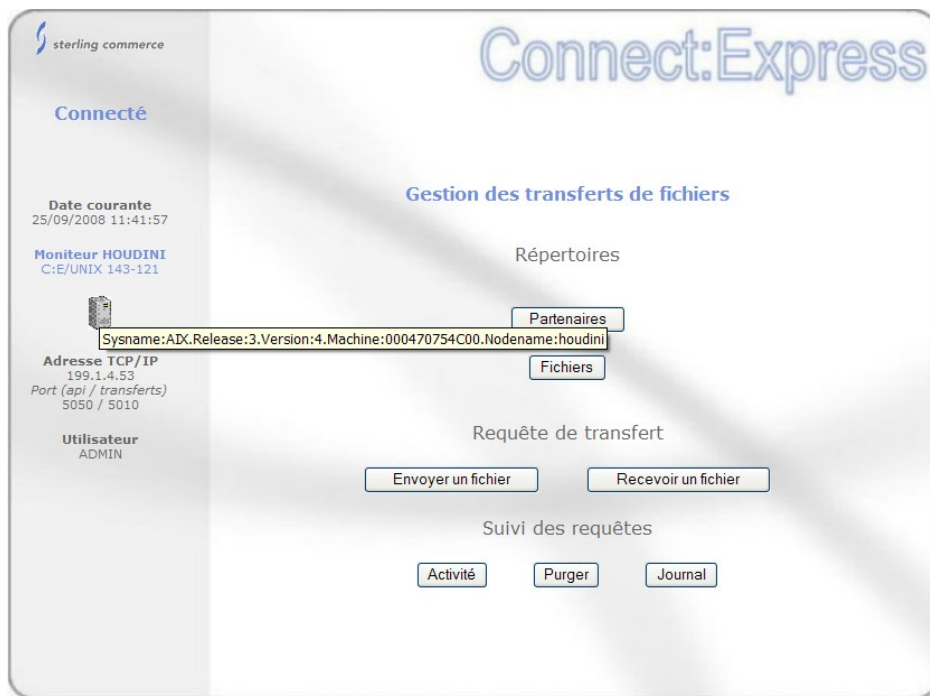
The name of the monitor, CEXP1, is shown. This is the DPCSID field for C:X Unix, or the name that you gave to C:X Windows during the installation procedure.

If you place the mouse on the icon representing a computer, you can see the operating system on which the monitor executes.



You can pass the language as parameter to the URI. The following example shows the menu for a Unix monitor. The screens are in French.

<http://gis:10000/CXSession/?cxipaddr=199.1.4.53&cxipport=5050&cxostype=UNIX&lang=FR>



In such configuration, all functions are based on the Connect:Express API, with no GIS Business Process involved.

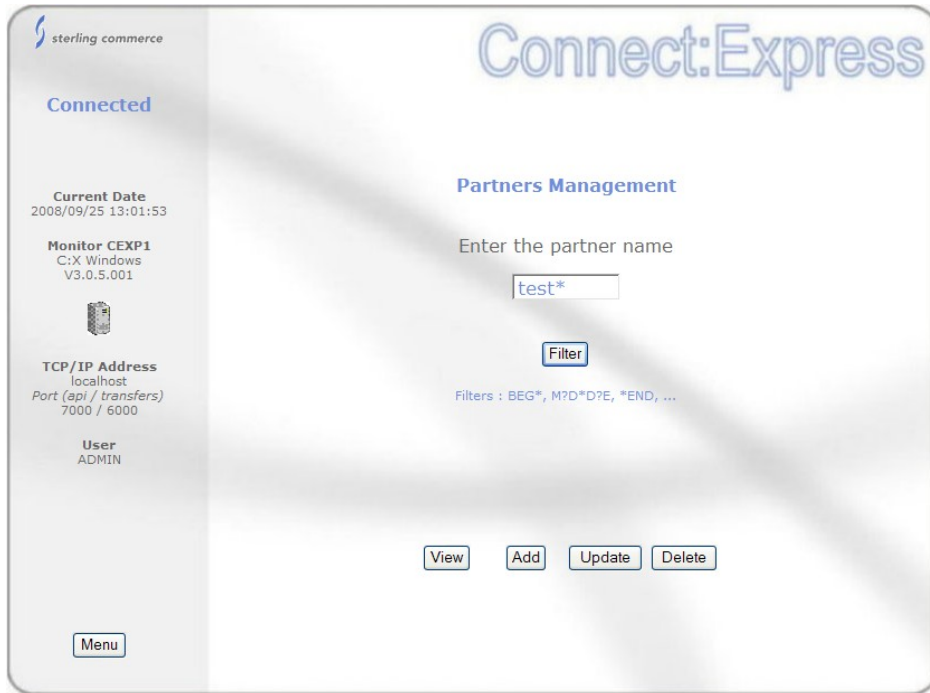
Managing Directories

You can create, update and delete Partners and Files. The interface provides a filter : you can either use the filter or fill in the name directly. The field is required, letters are set to uppercase automatically.

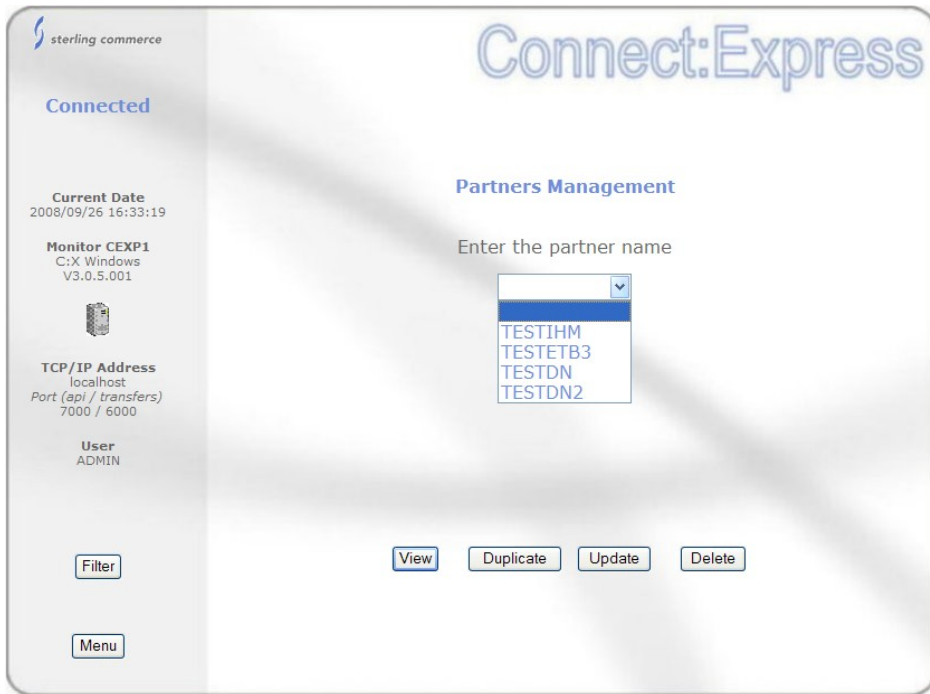
In filter mode, The field supports wild characters '*' and '?'.

Examples :

- '*' = all names
- 'RAC*' or 'RAC' = all names starting with RAC
- 'RAC ?0' = all names starting with 5 characters : 'RAC', any character, then character '0'.



Click filter.

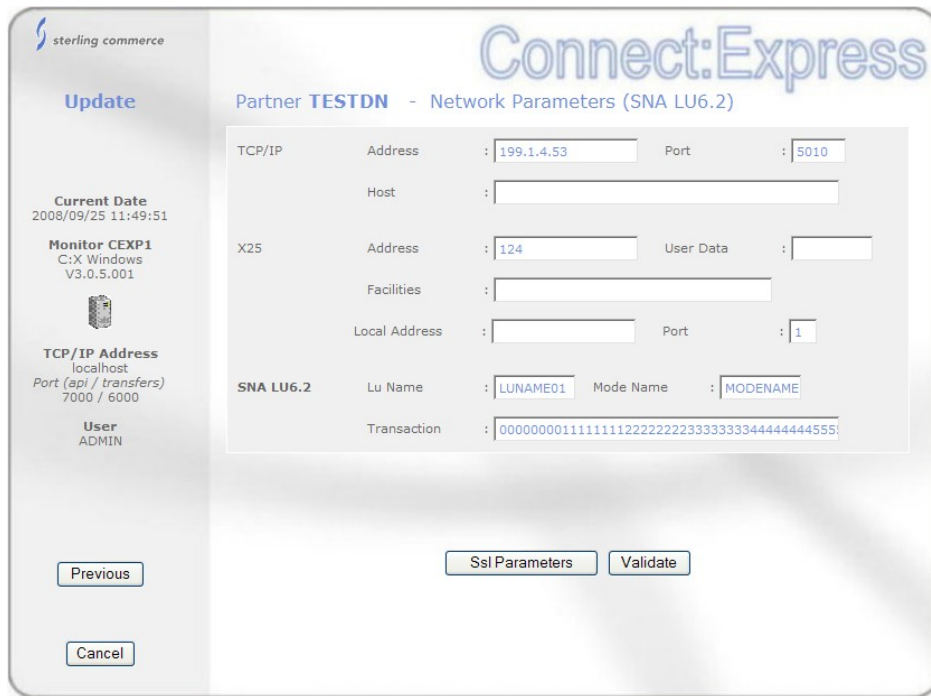


Using filter enable you to duplicate a definition. The active filter is shown under the input field. Use the *Filter* button on the left side to change filter.



Screens are structured as the following : buttons on the right part enable you to go forward, buttons on the left side enable you to go backward :

- Filter = define a new filter
- Previous = previous screen
- Return = return to the first screen of the current process
- Cancel = cancel the current process



Session and Presentation tables are not supported by this interface : use the Standard operator interface of the product.

File Transfer Request

You can send or receive a file : you are first asked for the name of the file. If the file definition matches the direction, you can provide the name of the partner. However, if the name of the partner is defined in the definition of the file, the interface skips this step and goes directly to next screen.

The screenshot shows the 'Send' step of the file transfer request process. The interface is titled 'Connect:Express' and 'Transfer Request'. On the left sidebar, the following information is displayed: 'Current Date' 2008/09/25 11:50:36, 'Monitor CEXP1' C:\X Windows V3.0.5.001, 'TCP/IP Address' localhost Port (api / transfers) 7000 / 6000, and 'User' ADMIN. A 'Menu' button is at the bottom left. The main area contains the heading 'Send' and the instruction 'Enter the file name' above a text input field. Below the input field is a 'Filter' button and the text 'Filters : BEG*, M??D*D?E, *END, ...'. A 'Next' button is located at the bottom center.

The screenshot shows the 'Send FILE to' step of the file transfer request process. The interface is titled 'Connect:Express' and 'Transfer Request'. The left sidebar information is identical to the previous screenshot. The main area contains the heading 'Send FILE to' and the instruction 'Enter the partner name' above a text input field containing an asterisk (*). Below the input field is a 'Filter' button and the text 'Filters : BEG*, M??D*D?E, *END, ...'. A 'Next' button is at the bottom center, and a 'Previous' button is at the bottom left.

Once you have provided the file and partner names, you can provide more parameters, first from the file definition, then from the partner definition, and finally parameters specific to the request.

The screenshot shows the 'Transfer Request' dialog in Connect:Express. The title is 'Send FILE to LOOP'. The left sidebar contains system information: 'Current Date' (2008/09/25 11:54:00), 'Monitor CEXP1' (C:\X Windows V3.0.5.001), 'TCP/IP Address' (localhost, Port 7000/6000), and 'User' (ADMIN). The main area displays the following parameters:

- Description: tests de définition avec GIS interface
- State: Enabled | Direction: Not Defined
- Sender: \$\$API\$\$ | Receiver: \$\$API\$\$
- Presentation Table: PeSIT presentation with horizontal compression
- Local Physical name: C:\CExpress\in\&reqnumb.txt
- Type of Allocation: Dynamic
- Notifications: No (dropdown)
- Client to Notify: (empty field)
- Begin Transfer: | End Transfer: | Transfer Error:
- Record Length: 500 | Type of File: Binary | Variable
- Open Option: Replace | Priority: Urgent (dropdown)

Buttons: 'Cancel' (bottom left), 'Next' (bottom center).

File parameters

The screenshot shows the 'Transfer Request' dialog in Connect:Express, now displaying partner parameters. The title is 'Send FILE to LOOP'. The left sidebar is identical to the previous screenshot. The main area displays the following parameters:

- LOOP: 00000000111111112222222233333333444444445555555566666666777777778888888899999999
- State: Enabled | Protocol: PeSIT E | C:X Profile: No | Link Type: TCP/IP
- SSL: No | Session Table: PeSIT session (TCP/IP)
- Local Name / Password: LOOP / LOOP (Static)
- Label (P37): RepLab:P&PARTNID-F&FILENAM-R&REQNUMB+p&&PARTNID-f&&FILENAM-r&&REQNUMB
- Origin: (empty field) | Destination: (empty field)
- Sender: (empty field) | Receiver: (empty field)
- Pi99: Offset (0) | Value: RepTP99:P&PARTNID-F&FILENAM-R&REQNUMB p&&PARTNID-f&&FILENAM-r&&REQNUMB

Buttons: 'Previous' (bottom left), 'Next' (bottom center), 'Cancel' (bottom left).

Partner parameters – depending on the protocol

sterling commerce

Transfer Request

Current Date
2008/09/25 11:55:41

Monitor CEXP1
C:\X Windows
V3.0.5.001

TCP/IP Address
localhost
Port (api / transfers)
7000 / 6000

User
ADMIN

Send **FILE** to **LOOP**

Local Physical name
C:\CEXpress\out\f80.txt

User Request ID : User Name : ADMIN

Request Type : Normal

Previous

Send the Request

Cancel

Request parameters

When the request is accepted, your request number is shown and you can access to Activity and Journal functions.

sterling commerce

Request Accepted

Current Date
2008/09/26 16:43:28

Monitor CEXP1
C:\X Windows
V3.0.5.001

TCP/IP Address
localhost
Port (api / transfers)
7000 / 6000

User
ADMIN

Send **FILE** to **LOOP**

Local Physical name
C:\CEXpress\in\&reqnumb.txt

User Request ID : User Name : ADMIN

Request Number : 200827000023

Return

Activity

Journal

Menu

Monitoring Requests

You can monitor requests in two ways : Activity or Journal. Activity consists of requests that are being processed or eligible to processing, Journal consists of requests ended successfully or not.

The list of status considered as active depends on the platform.

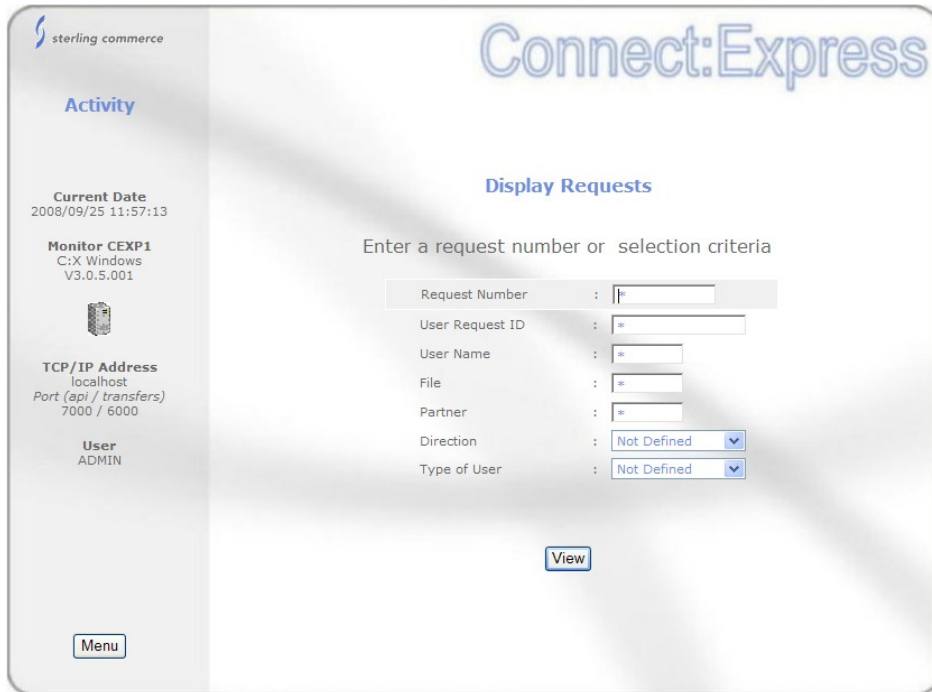
On Windows :

- W : Waiting selection
- T : Selected
- C : Running
- I : Interrupted
- S : Selection error
- R : Restarting

On Unix :

- A : Waiting selection
- C : Running
- O : Interrupted
- D : Differred
- J : Restarting
- K : Waiting restart

Activity function provide a filter as shown in the figure below. You can either provide one request number or one or several criteria.



sterling commerce

Connect:Express

Display Requests

Request: * User Name: * File: * Partner: * Dir.: *
Type of User: * User Request ID: *

Requests 1 to 5 from 5 - Detail, Purge ... : Select a Request

Request	User Name	File	Partner	Dir.	Status
<input type="radio"/> 200827000010	ADMIN	FILE	LOOP	T	W
<input type="radio"/> 200827000017	ADMIN	FILE	LOOP	T	S
<input type="radio"/> 200827000019	ADMIN	FILE	LOOP	T	S
<input type="radio"/> 200827000021	ADMIN	FILE	LOOP	T	S
<input type="radio"/> 200827000023	ADMIN	FILE	LOOP	T	S

Activity

Current Date
2008/09/26 16:44:29

Monitor CEXP1
C:\X Windows
V3.0.5.001

TCP/IP Address
localhost
Port (api / transfers)
7000 / 6000

User
ADMIN

Filter

Menu

Detail Interrupt Restart Purge

Refresh

The list screen displays the active filter in the upper part. If you want to display information of a request, select it and click on *Detail*. You can also *interrupt* a started request, *restart* an interrupted request or *purge* a request. You can *refresh* the list and update the status.

sterling commerce

Connect:Express

Request N° 200826900004

File: FILE Dir.: Transmit Partner: LOOP User Name (Internal) ADMIN Priority:
Request Type: Normal
Type of Notification: None

Status: Trc: Prc: Src: CTree: Nrc:

Local Physical name

Type of Data: Type of File: Record Length:

Statistics File Bytes: Records:
Scheduling: Beginning: End:
Network Bytes: Network Messages: Retry Number:

Activity

Current Date
2008/09/25 11:59:15

Monitor CEXP1
C:\X Windows
V3.0.5.001

TCP/IP Address
localhost
Port (api / transfers)
7000 / 6000

User
ADMIN

Filter

Back to the List

Request information is displayed in one screen.

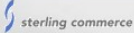
You can display journal records using a filter as shown in the following figure. You can either provide one request number or one or several criteria.

The default time interval, in the format 'AAAAMMJJ HHMMSS', is the current day, for the interface environment. The screen shows the GMT offsets in the monitor environment (C:X GmtOffset) and the GMT offsets in the interface environment (local GmtOffset) because the time interval must be considered in the monitor environment : if the two offsets are equal, just consider your time.

The list screen displays the active filter in the upper part. It shows that the list is limited to 100 requests. If the time interval corresponds to more than 100 requests, you might have to modify the beginning and end date to obtain the 100 requests you want.

If you want to display information of a request, select it and click on *Detail*. You can *Refresh* the list and update the status.


Request information is displayed in two screens: the first screen displays the results of the transfer, the second screen displays information that depend on the protocol



Journal

Current Date
2008/09/26 16:45:28

Monitor CEXP1
C:\X Windows
V3.0.5.001



TCP/IP Address
localhost
Port (api / transfers)
7000 / 6000

User
ADMIN

Connect:Express


Display Requests

Request: * User Name: * File: * Partner: * Dir.: *

Beginning Date-Time: 2008/09/2600:00:00 End Date-Time: 2008/09/2623:59:59 Limit: 100

Requests 1 to 10 from 13 - Detail, Purge ... : Select a Request


Request	User Name	File	Partner	Dir.	Status	End
<input type="radio"/> 200827000001	ADMIN	FILE	LOOP	R	S	2008/09/26 13:43:33
<input type="radio"/> 200827000004	ADMIN	FILE	LOOP	T	E	2008/09/26 14:00:23
<input type="radio"/> 200827000005		FILE	LOOP	R	E	2008/09/26 14:00:23
<input type="radio"/> 200827000007	ADMIN	FILE	LOOP	T	E	2008/09/26 14:15:41
<input type="radio"/> 200827000008		FILE	LOOP	R	E	2008/09/26 14:15:41
<input type="radio"/> 200827000011	ADMIN	FILE	LOOP	T	E	2008/09/26 16:35:57
<input type="radio"/> 200827000012		FILE	LOOP	R	E	2008/09/26 16:35:57
<input type="radio"/> 200827000014	ADMIN	FILE	LOOP	T	E	2008/09/26 16:41:12
<input type="radio"/> 200827000015		FILE	LOOP	R	E	2008/09/26 16:41:12
<input type="radio"/> 200827000017	ADMIN	FILE	LOOP	T	S	2008/09/26 16:41:47



Journal

Current Date
2008/09/25 12:01:49

Monitor CEXP1
C:\X Windows
V3.0.5.001



TCP/IP Address
localhost
Port (api / transfers)
7000 / 6000

User
ADMIN

Connect:Express

Request N° 200823500024 / testsender01

File: FILE01 Dir.: Transmit Partner: LOOP User Name (Internal) ADMIN Priority: 0

Request Type: Normal Protocol: PeSIT E C:\X Profile No SSL: No

Type of Notification:

Status Trc: Prc: Src: CTree: Nrc:

Local Physical name

Type of Data: Type of File: Windows Text Variable Record Length:

Statistics File Bytes: Records:

Scheduling: Beginning: End:

Network Bytes: Network Messages: Retry Number:

The screenshot shows the 'Journal' view in Connect:Express. The main title is 'Request N° 200823500024 / testsender01'. The interface is divided into a left sidebar and a main content area.

Left Sidebar:

- sterling commerce logo
- Journal**
- Current Date:** 2008/09/25 12:02:31
- Monitor CEXP1:** C:\X Windows V3.0.5.001
- TCP/IP Address:** localhost Port (api / transfers) 7000 / 6000
- User:** ADMIN
- Filter** button

Main Content Area:

Protocol PeSIT E C:\X Profile No Local Name LOOP Transfer ID 0200BF

Origin AIX1 Destination TESTIHM Sender LOOP Receiver LOOP

Label (P37) C:\CExpress\out\tomnt.ini

Pi99 Received Bien recu REQ00025

Pi99 Sent Ma requete &REONUMB

Network TCP/IP Address: Port: 6000 TcpIpRc: 0000

Message: 4094 Host: localhost

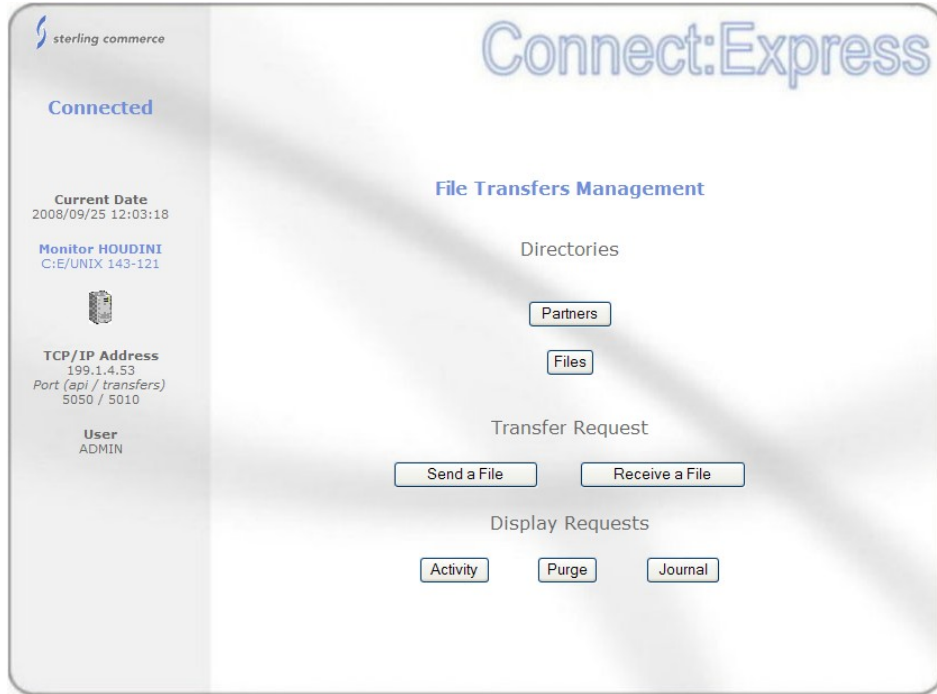
Buttons at the bottom: **Back to the List** and **Previous**

Purging Requests

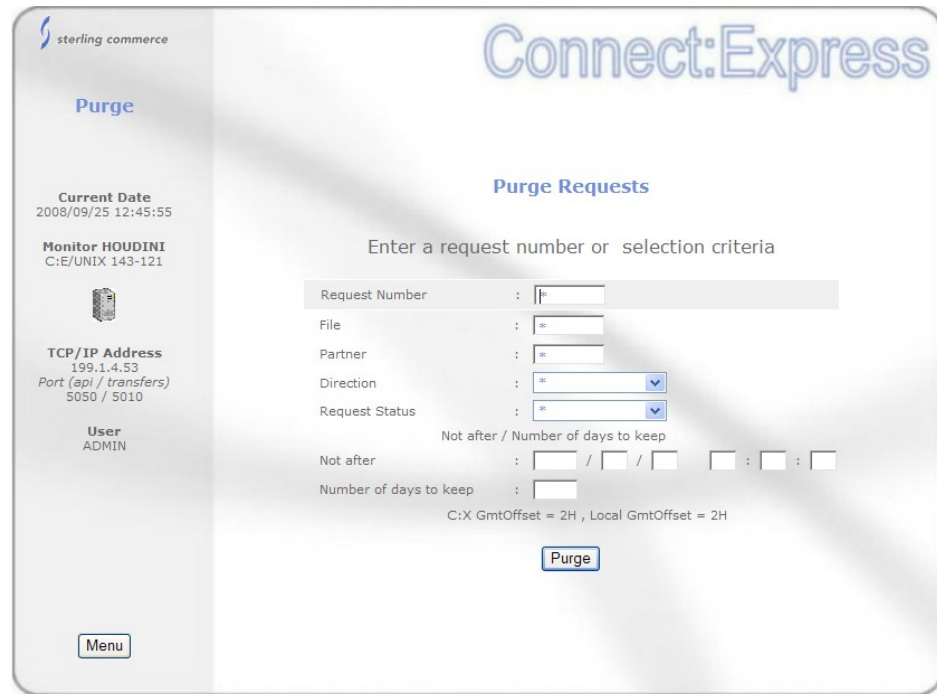
The purge request functionality depends on the platform where the monitor executes.

For Connect:Express Windows and Unix, the purge function is available in the Activity screen, along with interrupt and restart functions.

For Connect:Express Unix, the purge function is also available in the Journal screen: it works the same way as in the Activity screen. On the other hand, you are provided a purge function on the Menu screen: this function enables you to purge one request or several requests from criteria. Among the criteria, you can provide either the date after which requests must be kept or the number of days to keep. These two parameters exclude each other.



Purge function from the menu for Unix



Criteria for purge on Unix

sterling commerce

Journal
Non précisé

Date courante
26/09/2008 16:47:04

Moniteur HOUDINI
C:E/UNIX 143-121

Adresse TCP/IP
199.1.4.53
Port (api / transferts)
5050 / 5010

Utilisateur
ADMIN

Connect:Express

Suivi des requêtes

Requête: * Fichier: * Partenaire: * Sens: * Status: *

Plage horaire-début: 2008/09/2600:00:00 Plage horaire-fin: 2008/09/2623:59:59 Limite: 100

Requêtes 1 à 4 de 4 - Détail,Purger ... : sélectionnez une requête

Requête	Utilisateur	Fichier	Partenaire	Sens	Status	Fin
<input type="radio"/> 08700001	mverz1	FICMVZ	SOLARIS	T	E	2008/09/26 11:44:18
<input type="radio"/> 08700002	mverz1	FICMVZ	SOLARIS	T	E	2008/09/26 11:46:39
<input type="radio"/> 08700003	mverz1	FICMVZ	SOLARIS	T	E	2008/09/26 11:49:00
<input type="radio"/> 08700004	mverz1	FICMVZ	SOLARIS	T	E	2008/09/26 11:51:07

Filtre

Menu

Détail Purger

Rafraichir

Purge function from the journal screen for Unix

Integration with GIS

The description above is available whatever the implementation is, with or without integrating it in an application. You can integrate the interface in a GIS application passing parameters to a business process through the URI : the BP is launched during the login phase.

The default configuration of the interface works without GIS control : you can use parameters to implement controls.

Parameters of the URI

The parameters of the URI enable you to determine the way the interface will initialize and to provide all or part of the parameters to access the monitor.

There are three ways to initialize :

- Interfacing directly with Connect:Express : this is the default as described above. You can provide parameters to access the monitor. No login phase is activated, no business process is launched.
- Login to Connect:Express : only available with Connect:Express Windows, this mode of initialization requires the user to login to the monitor. A Connect:Express login is activated. No business process is activated.
- Login to GIS : in this mode, the user is required to login to GIS. The standard GIS login screen is activated and the Connect:Express configuration business process is launched.

The syntax to use is discussed below :

```
CXSession? [cxconfigbp=xxxxx/NO] [&cxlogin=YES/NO]
           [&cxuser=xxxxx/ADMIN ] [&cxpassword=xxxxx/ADMIN ]
           [&cxipaddr= xxx.xxx.xxx.xxx/localhost] [&cxipport=ppppp/7000]
           [&cxostype=WINDOWS/UNIX] [&lang=FR/EN]
```

cxconfigbp	NO (default): direct call to Connect:Express, no GIS session, input Connect:Express parameters provided. xxxxx: name of a business process to launch. An example is provided: <i>CXConfig</i> . The BP receives the Connect:Express parameters input, completes or modifies them, returns to the calling jsp page. This parameter is overridden by cxlogin=YES.
cxlogin	YES: direct call to Connect:Express, no GIS session, after login to Connect:Express Windows (user/password) NO (default): Connect:Express identification is provided in the parameters or equals to default (C:X Windows) cxlogin=YES overrides cxconfig parameter.
Cxuser Cxp assword	Identification parameters to Connect:Express Windows. Default is <i>ADMIN</i> for both parameters.
Cxipaddr Cxipport Cxostype	Parameters to access Connect:Express. Default address is <i>localhost</i> , default port is <i>7000</i> , default OS is the OS where the interface executes (Windows more generally)
lang	FR (default): screens are in French. US, EN ... screens are in English

Example 1 :

<http://gis:10000/CXSession/?cxconfigbp=CXConfig&cxipaddr=199.1.4.53&cxipport=5050&cxostype=WINDOWS>

Calling the URI CXSession this way results in the following:

- The user logs in to GIS
- The Business process CXConfig is launched: it receives input the characteristics of Connect:Express and the name of the GIS user. The Business process role is to define the identification parameters to Connect:Express WINDOWS for this GIS user.
- If this step is executed successfully, communications with Connect:Express can start. The menu is displayed and all consecutive operations are executed without launching any Business process.

Example 2 :

<http://gis:10000/CXSession/?cxlogin=YES>

Calling the URI CXSession this way results in the following:

- The user logs in to Connect:Express Windows
- The interface initializes the process by acquiring the monitor configuration. Because no Connect:Express parameters are provided with the URI, le monitor is called at address = localhost, port = 7000, OS = the OS

where the interface is executing (probably WINDOWS).

- If the login is accepted by the monitor, the menu is displayed and all consecutive operations are executed without launching any Business process.

Configuration Business Process

The Business process role is to provide all or part of the parameters to access the monitor. The example of BP provided defines all parameters : this means that only one monitor can be accessed through this Business Process, and the Connect:Express user is unique.

The monitor is defined by *CXConfig* configuration of *CXConfigurationAdapter* service : *CXConfig* 'defines' the monitor *localhost:7000*, user *ADMIN*, password *ADMIN*.

The user logged in to GIS as *admin*.

The business process inquires the monitor configuration and returns the information to the calling jsp page. This information is shown on the left part of the screen.

Current Date
2008/09/25 12:50:05

GIS User
Joe User
admin

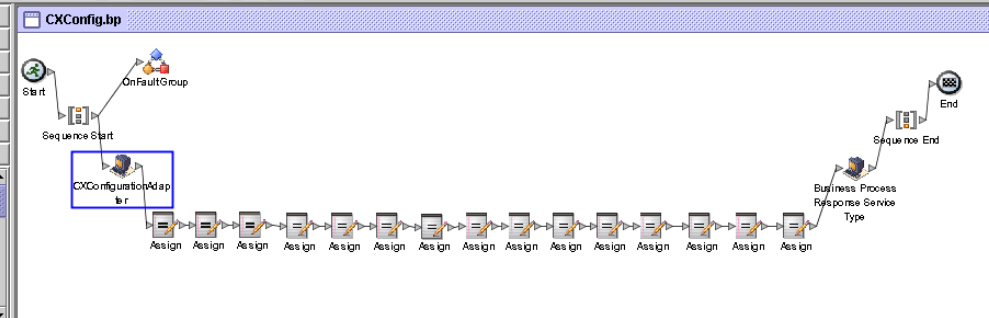
Monitor CEXP1
C:\X Windows
V3.0.5.001



TCP/IP Address
localhost
Port (api / transfers)
7000 / 6000

User
ADMIN

CXConfig.bp



Service Editor - CXConfigurationAdapter

Name: CXConfigurationAdapter
Config: CXConfig

Message To Service | Message From Service

Output Msg: Obtain Message first, then Process Data
Message Name: CXConfigurationAdapterInputMessage

Name	Value	Use XPATH?
Address	localhost	<input type="checkbox"/>
ApiTrace	FALSE	<input type="checkbox"/>
Logging	FALSE	<input type="checkbox"/>
Mode	Get	<input type="checkbox"/>
OSType	Windows	<input type="checkbox"/>
Port	7000	<input type="checkbox"/>
UserName	ADMIN	<input type="checkbox"/>
UserPassword	*****	<input type="checkbox"/>

Services Configuration

CXConfig: Connect:Express configuration display (1/1)

Connect:Express Address:

Connect:Express Api Port:

OS Type: ▼

User Name:

User Password:

Logging: ▼

Api Trace: ▼

Mode: ▼

Communication structures with the Business process are shown below.

The business process receives input the parameters provided by a jsp page.

```

Parm = CXUser=CXUser&CXPassword=CXPassword&CXIpaddr=CXIpaddr&CXIpport=CXIpport&CXOsType=CXOsType
runBP user="username" nvp=parm pridoc="" bpname="CXConfig">

```

The input structure is :

```

<ProcessData>
  <PrimaryDocument SCIObjectID="Gis:fa7e74:11c795e7d84:-6aa0" />
  <CXIpport>7000</CXIpport>
  <system-account-user-id>admin</system-account-user-id>
  <CXOsType>WINDOWS</CXOsType>
  <CXIpaddr>localhost</CXIpaddr>
  <CXUser>ADMIN</CXUser>
  <CXPassword>ADMIN</CXPassword>
  <username>admin</username>
</ProcessData>

```

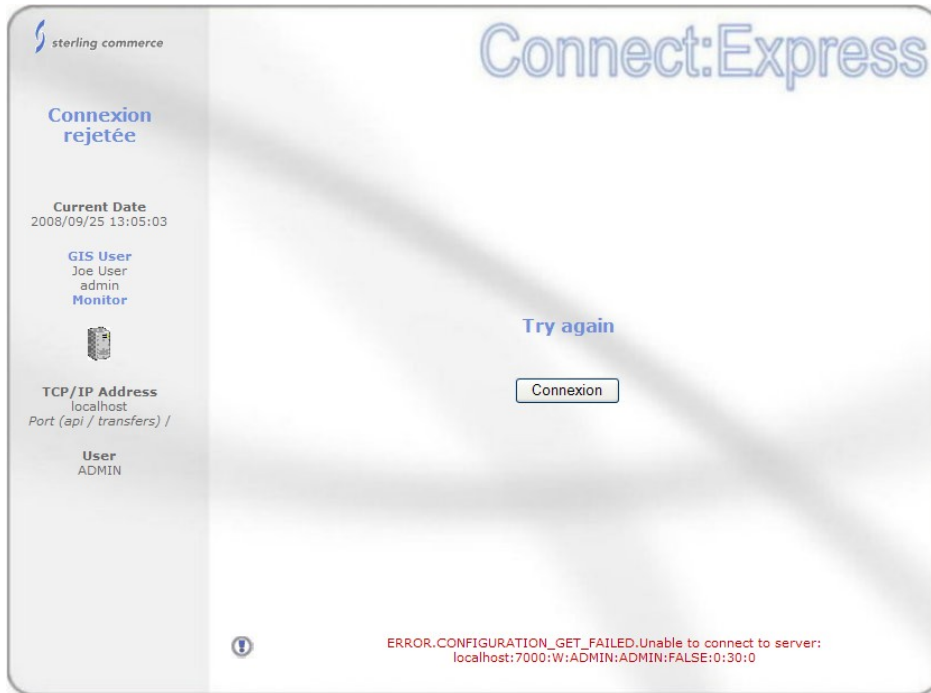
The expected output structure is :

```
<CXResult>
  <CXServerId>localhost:7000:w:ADMIN:****:FALSE:0:30:0</CXServerId>
  <Dpcsid>CEXP1</Dpcsid>
  <CXUser>ADMIN</CXUser>
  <TcpipListenAddress>localhost</TcpipListenAddress>
  <CXOSType>WINDOWS</CXOSType>
  <TcpipListenPort>6000</TcpipListenPort>
  <ApiPort>7000</ApiPort>
  <ProductInfo>C:X Windows V3.0.5.001</ProductInfo>
  <SystemInfo>Windows XP</SystemInfo>
  <BPResponse>Connected</BPResponse>
</CXResult>
```

<BPResponse> field stands for the return code : the character string "Connected" is for success. Any other string means that the connection failed.

```
<CXResult>
  <CXServerId>localhost:7000:w:ADMIN:****:FALSE:0:30:0</CXServerId>
  <CXUser>ADMIN</CXUser>
  <TcpipListenAddress>localhost</TcpipListenAddress>
  <CXResponse>ERROR.CONFIGURATION_GET_FAILED.Unable to connect to
    server: localhost:7000:w:ADMIN:ADMIN:FALSE:0:30:0</CXResponse>
  <BPResponse>Connection rejected</BPResponse>
</CXResult>
```

CXResponse fields contains the error message from Connect:Express interface : The browser interface shows this message in the bottom.



Using a Business Process enables you to limit the number of parameters you provide to the URI. For example you can define one BP for one monitor and pass no parameter in the URI. You can define one BP for one user and pass the monitor parameters through the URI.

