

INFORMATION DELIVERY PORTAL

Connectivity Overview

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DOCUMENT CONTROL

Version	Reviewer	Reason for changes	Date
1.0	Jean Erasmus	Created.	01/08/2010
2.0	Jean Erasmus	Made changes as result of testing.	22/10/2010
2.1	Siviwe Xegwana	Updated the WSDL content	11/11/2010
2.2	John Steinberg	Update filename convention in history section	29/07/2012
2.3	Riaan Boucher, Maria Dalle Ave and Sandra Borrageiro	Updated the document to include the number of concurrent connections to the JSE FTP platform. In addition, merged the equity and bond IDP connectivity documents into one as the connectivity process and procedures is consistent across the two services.	18/07/2013
2.4		Minor changes and document clean-up	20/05/2014
2.5	Maria Dalle Ave, Andrew Cliffe	Updated to include additional security controls required	20/05/2014
2.6	Vikesh Ramdhani	Update to Quick Reference Guide & Directory Structures.	03/04/2017
2.7	Client Service Centre	Minor amendments/corrections	03/04/2017
2.8	Neil Vendeiro	Included new section 8 that explains the new rule around the IDP polling interval	27/09/2018
2.9	Neil Vendeiro	Changed the destination FTPS address from 196.216.152.18 to 192.216.152.16	13/06/2022
3.0	Neil Vendeiro Cobus Olivier	Structural change to cater for introduction of test IDP server and split of content for Production and Test servers	15 August 2022
3.1	Neil Vendeiro	Changed structure of IDP folder section	15 August 2022
<u>3.2</u>	<u>Devon Simons</u>	<u>Public IP Address for BONDFTP.JSECT.co.za updated, this points to the JSE's Test environment for BONDFTP Clients from 196.216.154.175 to 196.216.154.113</u> <u>Removed Client Access Network (JSE Leased Line Access) and HTTPS (Web Service) Protocol which is only available via the JSE Production Environment – this is for both IDP and BONDFTP</u>	<u>09 January 2023</u>

INTRODUCTION

This document outlines the various connectivity requirements, which includes the delivery protocols, for the access and retrieval of data files from the Information Delivery Portal (IDP), the JSE’s primary FTP delivery server.

To assist clients with development and testing, the JSE makes a separate test IDP server available. Section 6 covers the connection and access details for the production server and section 7 covered the connection access details for the test server.

Subscribers will be able to access the data files either via the Internet or via a leased line to the JSE delivery server, IDP, in Johannesburg. The JSE provides different protocols for accessing / for connectivity to the IDP service, and these are covered in section 5.

Any problems in respect of the data in any file or in respect of connectivity must be communicated to the JSE Customer Support team for assistance. The JSE Customer Support team will conduct initial investigations and where necessary, the problem will be referred to the technical support staff of the JSE.

JSE Customer Support Contact details: CustomerSupport@jse.co.za		
Service Times	All times are in South African Standard Time (SAST)	Contact Number
JSE Business Hours:	06h30 – 19h00	+27 (0)11 520 7777
After Hours:	19h00 – 06h30	+27 (0)11 520 7900 (This number is automatically routed to the standby person) Or +27 (0)83 611 9315

AUTHENTICATION CREDENTIALS

The JSE deems the below access control measures critical to ensure that clients only access the information that they are licensed for and therefore entitled to. This structure also better protects the JSE from malicious activities.

On this basis, clients involved in the download service will be required to provide some personal information such as their email address, identification number and mobile number. This information will be kept strictly confidential and only used for the formal registration of user ID’s and password resets.

To be able to access the service, you will need to have one or more valid user ID’s and passwords as per the guidelines below.

Clients that make use of an automated routine to download the data files will be required to register for a company level service account which must only be used for the purpose of automated scripting-based downloads. This password will be changed on an annual basis. The JSE strongly recommends that this username and password be maintained in a configuration file, rather than then being embedded into the scripting code, to better accommodate password changes. Please note that this service account information must only be known by the required people that have to support the environment.

Clients that make use of manual methods to download the data files, as primary or acting as backup to the automated scripts, will be required to register an individual user account for each individual person that will be involved in doing download. These user level credentials will be personal and should therefore be treated as such i.e., no username and password sharing should be allowed. Users will be forced to change their password monthly.

PROVISION OF USER ID AND PASSWORD

A representative from the JSE Client Data team will provide clients with their Sign-on credentials with 72 hours of the initial request.

A representative from the JSE Customer Support team will contact clients to confirm receipt of the file(s), User ID and Password.

The onus is on clients to test as soon as they have received the above-mentioned information to ensure that their access to the system is correctly configured. Any issues experienced should be immediately reported to the JSE Customer Support team.

CONNECTIVITY PROTOCOLS

When connecting to the IDP portal, clients will be allowed access through the use of different protocols. Clients will be able to make use of File Transfer Protocol (FTP), File Transfer Protocol Secure (FTPS) and a Web service over a Hyper Text Transfer Protocol Secure (HTTPS) Connection. Clients can connect via the internet or via direct leased lines to the JSE or via third party telecommunications provided to the JSE.

PRODUCTION IDP SERVER

FTPS Protocol Support

FTPS is a File Transfer Protocol with enhanced security features and provides both a Secure Socket Layer (SSL) and Transport Layer Security (TLS) connection for inbound and outbound traffic. This is similar to standard FTP but performs operations over an encrypted link (SSL & TLS) and is more secure. To keep in line with industry best practice, the JSE enforces connections to only take place over TLS versions 1.1 and above, as previous versions of SSL (versions 2 & 3) and TLS (versions 1.0) are deemed vulnerable to sniffing, decryption and malicious attack. Therefore, **FTPS connections will require implicit TLS 1.1, and above, capable software clients connecting to TCP port 990 using passive mode.**

Access via the client access network (dedicated Leased Lines)

FTPS

Domain Name System (DNS) and IP Address	<p>For IDP Securely accessidp.jse.co.za (We recommend using this to protect against future IP address changes) or 196.216.152.16</p> <p><i>Or</i></p> <p>For BondFTP Securely accessbondftp.jse.co.za (We recommend using this to protect against future IP address changes) or 196.216.152.24</p>
Ports	<p>990 for FTPS 65235 to 65535 Return Port range for FTPS The revised port range for FTPS allows an increase in the number of concurrent connections to the platform.</p>
Credentials	As supplied by JSE Client Data
File Location for IDP	/IDP

FTP

Domain Name System (DNS) and IP Address	<p>For IDP (Not Secured) accessftp.jse.co.za (We recommend using this to protect against future IP address changes) or 196.216.152.16</p> <p><i>Or</i></p> <p>For BondFTP (Not Secured) accessbondftp.jse.co.za (We recommend using this to protect against future IP address changes) or 196.216.152.24</p>
Ports	<p>21 Target Port for FTP 20 Return Data Port for FTP</p>
Credentials	As supplied by JSE Client Data
File Location for IDP	/IDP

Access via the Internet

FTPS

Domain Name System (DNS) and IP Address	<p>For IDP Securely idp.jse.co.za (We recommend using this to protect against future IP address changes) or 196.216.154.143</p> <p>Or</p> <p>For BondFTP Securely bondftp.jse.co.za (We recommend using this to protect against future IP address changes) or 196.216.154.144</p>
Ports	<p>990 Target Port for FTPS 65235 to 65535 Return Port range for FTPS The revised port range for FTPS allows an increase in the number of concurrent connections to the platform.</p>
Credentials	As supplied by JSE Client Data
File Location for IDP	/IDP

HTTPS (Only available for the Internet)

HTTPS uses HTTP but additionally activates Web server security, in the form of Secure Sockets Layer (SSL). This means that the communications between the client and the (host) Web server are encrypted and, additionally, that the host Web server may be validated by the client using a Digital Certificate on the server.

Domain Name System (DNS)	https://idp.jse.co.za/IDPService.svc
Credentials	As supplied by JSE Client Data
Usage	Clients will have to request a wsdl file from the idp web service using the specified URL below or load the file using xml below. Clients can then use the wsdl to generate a proxy client that will communicate with the service.
WSDL	https://idp.jse.co.za/IDPService.svc?wsdl

```

<?xml version="1.0" encoding="utf-8" ?>
<wsdl:definitions name="IDPService" targetNamespace="https://idp.jse.co.za/"
xmlns:wSDL="http://schemas.xmlsoap.org/wSDL/" xmlns:wSA10="http://www.w3.org/2005/08/addressing"
xmlns:wSX="http://schemas.xmlsoap.org/ws/2004/09/mex" xmlns:wSOAP12="http://schemas.xmlsoap.org/wSDL/soap12/"
xmlns:wSU="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd"
xmlns:wSP="http://schemas.xmlsoap.org/ws/2004/09/policy"
xmlns:wSAP="http://schemas.xmlsoap.org/ws/2004/08/addressing/policy"
xmlns:wMSC="http://schemas.microsoft.com/ws/2005/12/wSDL/contract"
xmlns:wSA="http://schemas.xmlsoap.org/ws/2004/08/addressing"
xmlns:wSAM="http://www.w3.org/2007/05/addressing/metadata"
xmlns:wSAW="http://www.w3.org/2006/05/addressing/wSDL" xmlns:tNS="https://idp.jse.co.za/"
xmlns:wSOAP="http://schemas.xmlsoap.org/wSDL/soap/" xmlns:i0="http://tempuri.org/"
xmlns:wXSD="http://www.w3.org/2001/XMLSchema" xmlns:wSOAPENC="http://schemas.xmlsoap.org/soap/encoding/">
  <wSDL:import namespace="http://tempuri.org/" location="https://idp.jse.co.za/IDPService.svc?wSDL=wSDL0" />
  <wSDL:types>
    <xsd:schema targetNamespace="https://idp.jse.co.za/Imports">
      <xsd:import schemaLocation="https://idp.jse.co.za/IDPService.svc?xsd=xsd0" namespace="https://idp.jse.co.za/" />
      <xsd:import schemaLocation="https://idp.jse.co.za/IDPService.svc?xsd=xsd1"
namespace="http://schemas.microsoft.com/2003/10/Serialization/" />
    </xsd:schema>
  </wSDL:types>
  <wSDL:message name="IIDP_InitializeDownload_InputMessage">
    <wSDL:part name="parameters" element="tns:InitializeDownload" />
  </wSDL:message>
  <wSDL:message name="IIDP_InitializeDownload_OutputMessage">
    <wSDL:part name="parameters" element="tns:InitializeDownloadResponse" />
  </wSDL:message>
  <wSDL:message name="IIDP_GetFileList_InputMessage">
    <wSDL:part name="parameters" element="tns:GetFileList" />
  </wSDL:message>
  <wSDL:message name="IIDP_GetFileList_OutputMessage">
    <wSDL:part name="parameters" element="tns:GetFileListResponse" />
  </wSDL:message>

```



```

</wsdl:message>
<wsdl:portType name="IIDP">
<wsdl:operation name="InitializeDownload">
  <wsdl:input wsaw:Action="https://idp.jse.co.za/IIDP/InitializeDownload"
message="tns:IIDP_InitializeDownload_InputMessage" />
  <wsdl:output wsaw:Action="https://idp.jse.co.za/IIDP/InitializeDownloadResponse"
message="tns:IIDP_InitializeDownload_OutputMessage" />
</wsdl:operation>
<wsdl:operation name="GetFileList">
  <wsdl:input wsaw:Action="https://idp.jse.co.za/IIDP/GetFileList" message="tns:IIDP_GetFileList_InputMessage" />
  <wsdl:output wsaw:Action="https://idp.jse.co.za/IIDP/GetFileListResponse"
message="tns:IIDP_GetFileList_OutputMessage" />
</wsdl:operation>
</wsdl:portType>
<wsdl:service name="IDPService">
<wsdl:port name="secure" binding="i0:secure">
  <soap12:address location="https://idp.jse.co.za/IDPService.svc" />
<wsa10:EndpointReference>
  <wsa10:Address>https://idp.jse.co.za/IDPService.svc</wsa10:Address>
</wsa10:EndpointReference>
</wsdl:port>

```

TEST IDP SERVER

While the JSE did not have a test IDP server, the JSE used to accommodate test files on the production IDP server with different folder names. For now, in terms of folders and files, the test IDP server is a mirror of the production IDP server. Over time, starting from 2023, the JSE will start making folder changes to both servers, which the JSE will announce via hotlines with reasonable notice periods, to remove test folders and files from the production IDP server and to make the purpose of folder clearer.

FTPS Protocol Support

FTPS is a File Transfer Protocol with enhanced security features and provides both a Secure Socket Layer (SSL) and Transport Layer Security (TLS) connection for inbound and outbound traffic. This is similar to standard FTP but performs operations over an encrypted link (SSL & TLS) and is more secure. To keep in line with industry best practice, the JSE enforces connections to only take place over TLS versions 1.1 and above, as previous versions of SSL (versions 2 & 3) and TLS (versions 1.0) are deemed vulnerable to sniffing, decryption and malicious attack. Therefore, **FTPS connections will require implicit TLS 1.1, and above, capable software clients connecting to TCP port 990 using passive mode.**

Access via the client access network (dedicated Leased Lines)

FTPS

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Ports	<p>990 for FTPS 65235 to 65535-Return Port range for FTPS The revised port range for FTPS allows an increase in the number of concurrent connections to the platform.</p>
Credentials	As supplied by JSE Client Data
File Location for IDP	/IDP

FTP

Domain-Name System (DNS) and IP-Address	<p>For IDP (Not Secured) accessftp.jseect.co.za (We recommend using this to protect against future IP address changes)-or 196.216.152.16</p> <p><i>Or</i></p> <p>For BondFTP (Not Secured) accessbondftp.jseect.co.za (We recommend using this to protect against future IP address changes)-or 196.216.152.24</p>
Ports	<p>21-Target Port for FTP 20-Return Data Port for FTP</p>
Credentials	As supplied by JSE Client Data
File Location for IDP	/IDP

Access via the Internet

FTPS

Domain Name System (DNS) and IP Address	<p>For IDP Securely idp.jseect.co.za (We recommend using this to protect against future IP address changes) or 196.216.154.175</p> <p>Or</p> <p>For BondFTP Securely bondftp.jseect.co.za (We recommend using this to protect against future IP address changes) or 196.216.154.144196.216.154.113</p>
Ports	<p>990 Target Port for FTPS 65235 to 65535 Return Port range for FTPS The revised port range for FTPS allows an increase in the number of concurrent connections to the platform.</p>
Credentials	As supplied by JSE Client Data
File Location for IDP	/IDP

~~HTTPS (Only available for the Internet)~~

~~HTTPS uses HTTP but additionally activates Web server security, in the form of Secure Sockets Layer (SSL). This means that the communications between the client and the (host) Web server are encrypted and, additionally, that the host Web server may be validated by the client using a Digital Certificate on the server.~~

Domain Name System (DNS)	https://idp.jse.co.za/IDPService.svc https://idp.jseect.co.za/IDPService.svc
Credentials	As supplied by JSE Client Data
Usage	Clients will have to request a wsdl file from the idp web service using the specified URL below or load the file using xml below. Clients can then use the wsdl to generate a proxy client that will communicate with the service.
WSDL	https://idp.jse.co.za/IDPService.svc?wsdl

```

<?xml version="1.0" encoding="utf-8" ?>
<wsdl:definitions name="IDPService" targetNamespace="https://idp.jse.co.za/"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/" xmlns:wsa10="http://www.w3.org/2005/08/addressing"
xmlns:wsx="http://schemas.xmlsoap.org/ws/2004/09/mex" xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd"
xmlns:wsp="http://schemas.xmlsoap.org/ws/2004/09/policy"
xmlns:wsap="http://schemas.xmlsoap.org/ws/2004/08/addressing/policy"
xmlns:msec="http://schemas.microsoft.com/ws/2005/12/wsdl/contract"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
xmlns:wsam="http://www.w3.org/2007/05/addressing/metadata"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl" xmlns:tns="https://idp.jse.co.za/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:i0="http://tempuri.org/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/">
  <wsdl:import namespace="http://tempuri.org/" location="https://idp.jse.co.za/IDPService.svc?wsdl=wsdl0" />
  <wsdl:types>
    <xsd:schema targetNamespace="https://idp.jse.co.za/Imports">
      <xsd:import schemaLocation="https://idp.jse.co.za/IDPService.svc?xsd=xsd0" namespace="https://idp.jse.co.za/" />
      <xsd:import schemaLocation="https://idp.jse.co.za/IDPService.svc?xsd=xsd1"
namespace="http://schemas.microsoft.com/2003/10/Serialization/" />
    </xsd:schema>
  </wsdl:types>
  <wsdl:message name="IIDP_InitializeDownload_InputMessage">
    <wsdl:part name="parameters" element="tns:InitializeDownload" />
  </wsdl:message>
  <wsdl:message name="IIDP_InitializeDownload_OutputMessage">
    <wsdl:part name="parameters" element="tns:InitializeDownloadResponse" />
  </wsdl:message>
  <wsdl:message name="IIDP_GetFileList_InputMessage">
    <wsdl:part name="parameters" element="tns:GetFileList" />
  </wsdl:message>
  <wsdl:message name="IIDP_GetFileList_OutputMessage">
    <wsdl:part name="parameters" element="tns:GetFileListResponse" />
  </wsdl:message>

```

```

</wsdl:message>
<wsdl:portType name="IIDP">
  <wsdl:operation name="InitializeDownload">
    <wsdl:input wsaw:Action="https://idp.jse.co.za/IIDP/InitializeDownload"
message="tns:IIDP_InitializeDownload_InputMessage"/>
    <wsdl:output wsaw:Action="https://idp.jse.co.za/IIDP/InitializeDownloadResponse"
message="tns:IIDP_InitializeDownload_OutputMessage"/>
  </wsdl:operation>
  <wsdl:operation name="GetFileList">
    <wsdl:input wsaw:Action="https://idp.jse.co.za/IIDP/GetFileList" message="tns:IIDP_GetFileList_InputMessage" />
    <wsdl:output wsaw:Action="https://idp.jse.co.za/IIDP/GetFileListResponse"
message="tns:IIDP_GetFileList_OutputMessage"/>
  </wsdl:operation>
</wsdl:portType>
<wsdl:service name="IDPService">
  <wsdl:port name="secure" binding="i0:secure">
    <soap12:address location="https://idp.jse.co.za/IDPService.svc" />
    <wsa10:EndpointReference>
      <wsa10:Address>https://idp.jse.co.za/IDPService.svc</wsa10:Address>
    </wsa10:EndpointReference>
  </wsdl:port>

```

IDP POLLING INTERVAL RULE

The JSE publishes information on the times that data files are typically made available. At times however, technical problems might delay the provision of a data file. In these instances where a date file is not available, it is expected that clients only poll the IDP server for the file at 5-minute intervals. This will help ensure that the IDP server is not overloaded by high frequency polling by multiple clients at the same time.

QUICK REFERENCE GUIDE – FOLDER STRUCTURES FOR IDP SERVER

Once a Connectivity Protocol has been chosen, the below file directories may be used as a quick reference guide for specific file downloads. Please remember to have both the target and return ports open for the chosen connectivity protocol.

Once connected, clients will be prompted with multiple folders directories. Certain folders and files are only applicable to Trading Members, while others to all market data clients. For more details on the folders and files, refer to the relevant specifications document in the Technical Library on the JSE website

Common folder

- SENS TEXT and PDF Data files

Members folder

- Under sub-folder \Members\Member <Alpha Code>\IDP\
Market Data product files for the following
Commodity Derivatives (Fixed Width format)
Equity (Fixed Width format)
FTSE/JSE Equity Indices (Fixed Width format)
- Under sub-folder \Member <Alpha Code>\NLMD PROD\
Market Data product files for the following
Currency Derivatives (Fixed Width format)
Equity Derivatives (Fixed Width format)

Historical information is available for up to 30 days for all files placed in the Members folder.

These have an extension of the following format: D<YYMMDD> where

- YY is the year
 - MM is the month (from 01 – 12)
 - DD is the day of the month
- e.g., DDAP.SPRD.(alpha).l.zip.D170301

Bonds Market Prod folder

- Under sub-folder \Bonds Market Prod/Market Data\
Market data product files for the following
Bond reference and Corporate Actions (CSV and Excel formats)

Index Data folder

- Under sub-folder \Index Data/FTSEJSE Equities\
Market data product files for FTSE/JSE Equity Indices (CSV Format)
- Under sub-folder \Index Data\FTSEJSE Fixed Income\
Market data product files for FTSE/JSE Fixed Income Indices (CSV Format)
- Under sub-folder \Index Data\FTSEJSE Multi-Asset\
Market data product files for FTSE/JSE Multi-Asset Indices (CSV Format)

QUICK REFERENCE GUIDE - FOLDER STRUCTURES FOR BONDFTP SERVER

File / Report:	FTP Location
BONDDATA	BONDDATA File
CILI	CILI
CONSTITUENTS	Constituents
Index Values	Indexvalues
Daily Tri	Daily TRI
Linear Swap	Linear Swap
MTM Detailed	MTM Detailed
MTMT+1	MTMT+1
MTM Value Today	MTMVT
STRATE Data	Strate Data
TRI	TRI
Daily Turnover	Turnover Stats
UTMTM	UTMTM
UTMTMT+1	UTMTMT +1
UTMTM Value Today	UTMVtoday
Yield Curve	Yield Curve
2pm Zeros	Zerocurve 2pm
3pm Zeros	Zerocurve 3pm
Zero curve	Zerocurve Yield
Bond Market Bulletin	Turnover Stats
Instrument Detail	Turnover Stats
Member Client Position Detail	Turnover Stats
Trade Detail	Turnover Stats

The server indicates the date and time that a file has been created or modified, allowing clients to understand what is a new versus updated or historical file.