

SIF (Student Interoperability Framework)

- SIF is a standardized data model and communications protocol used for exchanging data between applications in schools/districts/states.
- The data is transmitted automatically, securely (https), and in near real-time.
- **Horizontal Implementation** – when a school district utilizes the SIF solution to integrate various applications within the district.
- **Vertical Implementation** – using SIF to satisfy data exchange requirements between many districts and a regional or State Department of Education. This is the approach of the MA DESE.

The **iPASS/iStaff SIF Agent** has been developed native to our application environment and is an additional menu option within your system. You may need to adjust your security options to gain access to the <SIF Agent> folder.

Please note:

- No additional hardware or 3rd party software required to communicate with a ZIS (zone integration server)
- Support for Horizontal & Vertical Implementations
- Designed to support student and personnel objects and is easily expandable to meet additional objects
- Support for multiple districts within a district
- Pre-configured to work with the Massachusetts DESE (i-Transport) data requirements.

iPASS SIF Agent (currently 4 menu options)



SIF Configuration Screen:

This screen allows you to register your Agent with a ZIS (Zone Integration Server). Your Agent will come with a pre-configured option of "**State**" in the drop-down box.

The agent is capable of being registered with multiple Zones, simultaneously.

>> SIF CONFIGURATION

SIF Server: T_001_iPASS_SIS_Pub

Name: T_001_iPASS_SIS_Pub

Registered: Yes

District: Everett
 Out of District Schools (excluded f
 Westford Public Schools

Local URL: https://ipass.imgsoftware.com/school/brian/sifreceive.p?Ag

Pull/ Push: Push

Zone Source Id: T_001_iPASS_SIS_Pub

Host: stagezis.edu.state.ma.us

URL: /ZIServer/Receive.aspx?ZoneName=T_001&Country=US

Port: 443

SSL: Yes

Authentication Level: 3

Encryption Level: 4

Max Buffer Size: 528000

Response Pause(in Seconds): 120

Events Pause(in Seconds): 20

Type: OpenZIS

Send Register:

Send Unregister:

Send Provide:

Access Control

| Enable Disable | Object | Provide | Publish Add | Publish Change | Publish Delete | Request | Respond | Subscribe |
|--------------------------|------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | LEAInfo | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | StudentSnapshot | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | EmployeePersonal | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | EmnlovmentRecord | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

SIF Server:

- ⇒ When Registering with MA DESE select <State> from the drop down menu. Upon selecting <State> all of the fields on this screen will automatically populate based upon iPASS values and pre-configured default values.

- ⇒ When Registering to a different Zone, select <New Zone> and move to next field

Name:

- ⇒ When Registering with MA DESE this value will automatically populate to a value of <State>
- ⇒ When creating a "New Zone" enter a meaningful description of the zone

Registered:

- ⇒ This is a display only value. A value of <Yes> indicates that the Agent is registered with the selected SIF Server. A value of <No> indicates that the Agent is not registered with the Zone.

District:

- ⇒ This table is based upon the values defined in your iPASS District Profile tab. Only select your official district. Do not select out-of-district and/or other districts that you may have defined for other non SIF purposes.

Local URL:

- ⇒ This is the URL to your iPASS application

Push/Pull:

- ⇒ These are the two methods used to deliver SIF Messages. An Agent specifies which mode it wants to use when it registers with the ZIS. An Agent and ZIS must communicate in the same mode. The DESE ZIS requires the Agent to operate in a "Push" Mode

Zone Source ID:

- ⇒ When Registering with MA DESE, this needs to be an 8 digit numeric value. The first four digits is your State defined code, as defined in your iPASS District Profile tab, plus four zero's appended.

For example, if your district State assigned code is 0107, you would enter a value of **01070000** into this field.

Host:

- ⇒ When Registering with MA DESE this value is **zis1.doemass.org**

URL:

- ⇒ When Registering with MA DESE the format is;
/Zis5-ervice/Receive.aspx?ZoneSourceId=01070000

Note that the number at the end is your Zone Source ID (see above)

Port:

- ⇒ When Registering with MA DESE this value will automatically populate to a value of 443. This is a secure port.

SSL:

- ⇒ Select value of <Yes> to communicate securely using **https**. This requires SSL (Secure Socket Layer). If you have an "s" in your iPASS URL, you are operating securely (data is encrypted) between a users browser and your iPASS server.

Example:

<https://ipass.imgosftware/school/ipass/syslogin.html>

Authentication Level:

- ⇒ There are four valid levels. The MA DESE requires level 3.
- 0 = No Authentication Required
 - 1 = A valid certificate must be presented
 - 2 = A valid certificate from a trusted authority must be presented
 - 3 = A valid certificate from a trusted authority must be presented and the certificates subject entry must match the host sending the certificate.

Encryption Level:

- ⇒ There are five valid levels. The MA DESE requires level 4
- 0 = No Encryption required
 - 1 = Symmetric key length of at least 40 bits – very weak, not recommended
 - 2 = Symmetric key length of at least 56 bits – weak, especially for sensitive data
 - 3 = Symmetric key length of at least 80 bits – moderate
 - 4 = Symmetric key length of at least 128 bits – strong, recommended for internet

Max Buffer Size:

- ⇒ Please use default value of 64000

Response Pause (in seconds):

- ⇒ This is the amount of time it may take the agent to respond Please use default value of 120

Events Pause (in seconds):

- ⇒ Please use default value of 20

Response Pause (in seconds):

- ⇒ The amount of time the Response routine checks for new requests to honor.
- ⇒ We recommend a value of 120

Events Pause (in seconds):

- ⇒ The amount of time the Event routine checks to process events that are in the queue. All Events are automatically triggered within the application/database.
- ⇒ We recommend a value of 20

Type:

- ⇒ This is for future purposes. Please accept default value of OpenZis

Send Register:

- ⇒ During initial registration process. Checking this box and clicking <Submit> will send a register request to the ZIS indicating the Objects enabled and the Access Control

Send Unregister:

- ⇒ Checking this box and clicking <Submit> will send a request to unregister the agent from the ZIS indicating to the ZIS the objects have been disabled.

Send Provide:

- ⇒ During the initial registration process. Checking this box and clicking <Submit> will send a provide request to the ZIS indicating the Objects enabled and the Access Control

SIF Data Mapping Screen:

This screen allows you to map iPASS/iStaff tables to SIF tables where and when appropriate.

Generally, it is pre-configured to meet DESE ZIS requirements.

If you need to adjust a table mapping, click on the SIF Table drop down to find the appropriate table, press your <control key>, click on your selection(s), and click <Submit> to save your changes.

» **SEARCH SIF DATA TABLES**

You may use Enter/Return or Click Search

SIF Table:

SIF Data Value:

iPass Data Value:

»» **SEARCH** »» **CLEAR**

» **SIF DATA MAPPING**

»» **SUBMIT**

♦ SIF Data Mapping ♦

| SIF Table ▼ | SIF Value | iPass Value | SIF Descr |
|-----------------------------|-----------|--|-----------|
| Grade Level | 01 | <input type="text" value="05 - 05"/> <input type="text" value="04 - 04"/> <input type="text" value="03 - 03"/> <input checked="" type="text" value="01 - 01"/> X 01 - 01 | 01 |
| Grade Level | 02 | <input type="text" value="G0 - Grad 2000"/> <input type="text" value="07 - 07"/> <input type="text" value="08 - 08"/> <input checked="" type="text" value="02 - 02"/> X 02 - 02 | 02 |
| Grade Level | 03 | <input type="text" value="PK - PK"/> <input type="text" value="05 - 05"/> <input type="text" value="04 - 04"/> <input checked="" type="text" value="03 - 03"/> X 03 - 03 | 03 |
| Grade Level | 04 | <input type="text" value="NK - NK"/> <input type="text" value="PK - PK"/> | 04 |

SIF Processors Screen:

You need to start and maintain an Event and Response background process for each Zone. In the example below, this screen is showing that there is a supporting process **running** for Events and Response (see below for explanation) for the State: 0107000 Zone.

| SIF Processes | | | | | | | | |
|---|---|-------------------|---------|----------|--------------|-----------|-------------------|-----------|
| SIF Integration is Enabled. <input type="button" value="v"/> | | | | | | | | |
| | ID PID | Start | Status | Process | Transactions | Time Outs | Cycle Date | Stop Date |
| State: 00140000 | | | | | | | | |
| <input type="checkbox"/> Shutdown | 5264 30825 | 09/11/12 12:59:25 | Running | Response | 1138 | 31635 | 10/04/12 08:06:22 | |
| <input type="checkbox"/> Shutdown | 5263 30831 | 09/11/12 12:59:25 | Running | Events | 1899 | 32655 | 10/04/12 08:06:24 | |
| Log Files | | | | | | | | |
| | X r20121004 X r20121003 X r20121002 X r20121001 X r20120930 X r20120929 X r20120928 X r20120927 X r20120926 X r20120925 X r20120924 X r20120923 X r20120922 X r20120921 X r20120920 X r20120919 X r20120918 X r20120917 X r20120916 X r20120915 X r20120914 X r20120913 X r20120912 X r20120911 X r20120905 X r20120904 X r20120720 X r20120719 X e20121003 X e20121002 X e20121001 X e20120928 X e20120927 X e20120926 X e20120925 X e20120924 X e20120922 X e20120921 X e20120920 X e20120919 X e20120918 X e20120916 X e20120915 X e20120914 X e20120913 X e20120912 X e20120911 X e20120905 X e20120904 X e20120719 | | | | | | | |
| No | <input type="button" value="v"/> Start the Response Process for State | | | | | | | |
| No | <input type="button" value="v"/> Start the Events Process for State | | | | | | | |
| <input type="checkbox"/> Purge All Log Files Except Current Day | | | | | | | | |
| <input type="checkbox"/> Delete all "Quit" Records | | | | | | | | |
| <input type="checkbox"/> Delete all "Stopped" Records | | | | | | | | |
| <input type="button" value="SUBMIT"/> <input type="button" value="CANCEL"/> | | | | | | | | |

SIF Integration is Enabled:

⇒ Select Disable SIF Integration option from the drop down if you want to quickly stop the agent.

Responses - an Agent can request or query data from Agents in a Zone.

Example, DESE can request data about your district, such as school information or enrollment, etc

Events - a notification to subscribing agents that a data object has been added, changed, or deleted in the publishing application's database.

Example, you enter a new student or modify a students data.

No - Start the Response Process – Click Yes in the drop down to start a Response process

No - Start the Event Process – Click Yes in the drop down to start an Event process

(Please Note: there should only be one Event and Response process running for each Zone)

X 20111221 – This is a log file that automatically gets created when starting Event and/or Response processes. A new log file will be automatically be created each day.

Clicking the **X** will delete the log file. Clicking the **20111221** hyperlink will open the log file and display the xml communications of that day.

From time to time it may be necessary for you to stop and restart your SIF Agent.

Steps to clear and restart Agent

To Stop and Clear

1. Click on the "Shutdown" flag for both **Response** and **Events**
2. Click on the "Purge all log files except current day"
3. Click <Submit> - this will complete above steps and you will see your Event and Response Process go into a "Quit state and all of your log files (except current day) will be gone.
4. You will then need to click on the "Delete" flag for your Response and Event process and click <Submit>
5. Click the "X" to the left of your Response and Event log files to delete the current days log files

To Start

1. Select "Yes" in the drop-down for Event and Response.
2. Click <Submit>
3. Click <Submit> a second time and you should see a green "**Running**" in the status column

SIF Zone Status Screen:

This is a view only screen designed to provide a summary of the configuration settings, objects, and actual the status of the agent via a ping function.

Ping Status:

- 0 = System Up and running
- 4 = Connection Issue
- 8 = Receiver Sleeping Condition

» SIF ZONE STATUS

SIF Server: State

Ping Status: 0 System Up

Name: State

Registered: Yes

| | | | |
|-----------|---------------------------|-----------------|----------|
| District: | Gloucester Public Schools | Zone Source Id: | 01070000 |
|-----------|---------------------------|-----------------|----------|

Host: zis1.doemass.org

URL: /Zis5-Service/Receive.aspx?ZoneSourceId=01070000

| | | | |
|-------|-----|------|-----|
| Port: | 443 | SSL: | Yes |
|-------|-----|------|-----|

Response Pause: 600 Seconds

Max Buffer Size: 64000

| | | | |
|---------------|------------|-------|---------|
| Events Pause: | 60 Seconds | Type: | OpenZIS |
|---------------|------------|-------|---------|

Access Control

| Object | Provide | Publish Add | Publish Change | Publish Delete | Request | Respond | Subscribe |
|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| CalendarSummary | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| EmployeeAssignment | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| EmployeePersonal | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| EmploymentRecord | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| LEAInfo | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| RoomInfo | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| SchoolCourseInfo | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| SchoolInfo | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| SectionInfo | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| StaffAssignment | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| StaffPersonal | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| StudentAcademicRecord | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| StudentAttendanceSummary | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| StudentContact | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| StudentParticipation | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| StudentPersonal | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| StudentSchoolEnrollment | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| StudentSectionEnrollment | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |