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16. External Communication of Data

The SPiRiT System has the ability to maintain data integrity with External Systems in a real time. When real time communication is unavailable the data that needs to be sent out to the External system is queued into tables in the SPiRiT database. An automated windows service continues to attempt to connect to the external system and send the data until the connection is available. The SPiRiT system component that performs this work is named SPiRiT External Communication Service.

16.1 External Communication Service

The Spirit External Communication Service is a windows service application, which is a set of code that runs automatically in the operating system background. The service utilizes a windows timer which triggers execution of code every two minutes. Once installed, the Microsoft Management Console Plug In component provides user management of Windows Services. It allows an administrator the ability to manually stop and start the service and to set whether or not the service begins automatically when the operating system launches. The External Communication Service records its activity into the Application Event Log. Both the Event Log and the Services management tools can be found on the SPiRiT Application Server by navigating to Settings -> Control Panel -> Administrative Tools.

The data that is being communicated externally is customized based on each state's requirements. So far, the SPiRiT External Communication Service marshals two sets of data to an external system; System User Account information and Participant Demographic information.

16.1.1 System User Account information.

The SPiRiT WIC Management Console and WIC Session Manager components provide the ability to add, modify and delete User Account information. When these User Account changes are made to the SPiRiT data and the State Business Rule [CommunicateUsersExternally](#) is set to "Y", the SPiRiT software attempts to communicate these changes to the external system. When the lines of communication are unavailable for any reason, the changed User data that needs to be communicated is placed into the QueuedUser table of the SPiRiT database. The exact source column attributes and how they map to the QueuedUser table attributes are detailed in the following data map.

QueuedUser Attribute	Source Entity	Source Attribute
Username	UserProfile	User ID
Password	UserProfile	Password
Last Name	UserProfile	Last Name
First Name	UserProfile	First Name
Active	UserProfile	Active
Queued Date	Timestamp	Datetime it was placed in Queue
Communicated Date	Timestamp	NULL specifying it needs to be sent or the Datetime it was sent.

When the SPIRIT system places the User Account data into the QueuedUser table it becomes the SPIRIT External Communication Service's responsibility to move that data externally. The table stores a full history of every change that was ever communicated and it utilizes the two date attributes to determine what needs to be sent and how long it took to be sent. On insertions into the QueuedUser table the Communicated Date column is left NULL, which indicates that it needs to be communicated externally. Once the communication of the change is made this Communicated Date column is populated with the date and time of when the communication was successful and clears it from the outgoing queue.

16.1.2 Basic Participant Information

The SPIRIT WIC Clinic Application component provides the ability to add, modify and delete participant information. When the participant information is changed to the SPIRIT data and the State Business Rule [CommunicateParticipantsExternally](#) is set to "Y", the SPIRIT software attempts to communicate these changes to the external system. When the lines of communication are unavailable for any reason, the changed Participant data that needs to be communicated is placed into the QueuedParticipant table of the SPIRIT database. The exact source column attributes and how they map to the QueuedParticipant table attributes are detailed in the following data map.

QueuedParticipant Attribute	Source Entity	Source Attribute
State WIC ID	Member	State WIC ID (Primary KEY)
User ID	UserProfile	User ID
Last Name	Member	Last Name
First Name	Member	First Name
RaceEthnicity	Member	RaceEthnicity
Language	Household	Language1 (if NULL in the Missouri Common Area, Spirit sends this value) ok
SSN	Member	SSN (if NULL in the Missouri Common Area, Spirit sends this value) ok
External ID	Member	External ID
Queued Date	Timestamp	Datetime it was placed in Queue
Communicated Date	Timestamp	NULL specifying it needs to be sent or the Datetime it was sent.
Reject Code	External System	Reject Reason

When the SPIRIT system places the Participant data into the QueuedParticipant table it becomes the SPIRIT External Communication Service's responsibility to move that data externally. The table stores a full history of every change that was ever communicated and it utilizes the two date attributes to determine what needs to be sent and how long it took to be sent. On insertions into the QueuedParticipant table the Communicated Date column is left NULL, which indicates that it needs to be communicated externally. Once the communication of the change is made the Communicated Date column is populated with the date and time of when the communication was successful and clears it from the logical outgoing queue. If the external system rejects the data, the external system reject code is stored on the QueuedParticipant table. If a reject code exists in the record, SPIRIT External Communication does not attempt to send the record to the external system.