

INTELLI-SITE



Documentation

tres RFID RTU Guide

Version 3.9

Intelli-Site

Security Management Software

tres RFID RTU Guide

PC Software RTU Interface Guide
For Windows 7 SP1, 2008 R2 SP1, XP SP3 & 2003 SP2

Version 3.9
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OSSI
W228 N727 Westmound Dr.
Waukesha, WI 53186
TEL: 262-522-1870
FAX: 262-522-1872

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Section 1 – Introduction

This section describes the following:

- Overview
- Technical Support Assistance

Overview

The tres RFID RTUs (Receiver/Transmitter Units) are the Intelli-Site software representations of the tres RFID Panels.

Technical Support Assistance

OSSI Headquarters

W228 N727 Westmound Dr.

Waukesha, WI 53186 USA

Tel: 262-522-1870 Fax: 262-522-1872

Technical Support


Technical support is available via Telephone, Fax or Email. Contact OSSI Technical Support 8:00 AM to 5:00 PM Central Standard time. If calling after hours, please leave a detailed voice mail message, and someone will return your call as soon as possible.

E-Mail: support@ossi-usa.com

Fax: 262-522-1872 (Attention Technical Support)

Local: 262-522-1870

When calling, please be at the computer prepared to provide the following information:

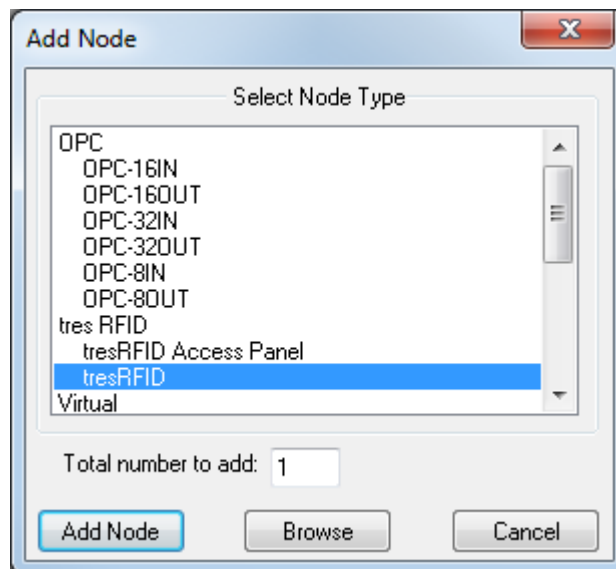
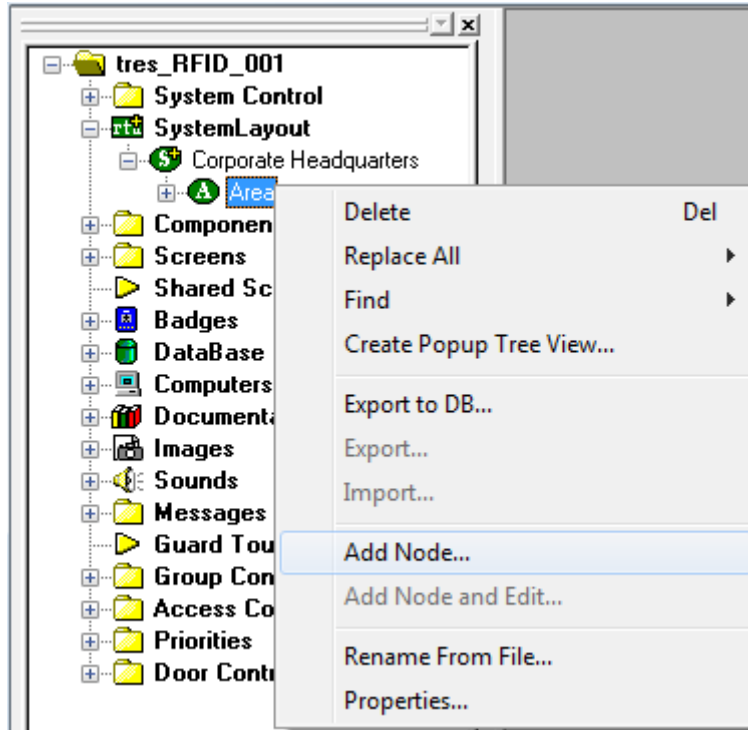
- Product version number, found by selecting the **About**  button from the Intelli-Site Menu Application Bar.
- Product serial number used for registration.
- The type of computer being used including, operating system, processor type, speed, amount of memory, type of display, etc.
- Exact wording of any messages that appear on the screen.
- What was occurring when the problem was detected?
- What steps have been taken to reproduce the problem?

Section 2 – tres RFID RTU Setup

This section discusses the setup of a tres RFID RTU in the project in Graphic Design mode.

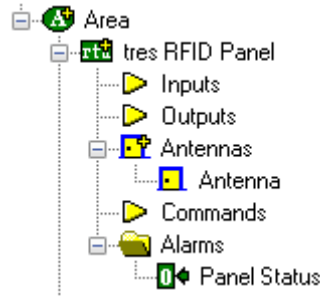
Adding tres RFID RTU Nodes

tres RFID RTU nodes are added by selecting the 'Add Node' menu option:



Notice, there are two tres RFID nodes: tres RFID Access Panel and tresRFID. Select the tres RFID Access Panel if you want to treat the tres RFID panel as an access panel. Select tresRFID otherwise. The remainder of this document is addresses the tresRFID RTU.

After selecting 'Add Node', a new tres RFID Panel node will be created:



tres RFID Antenna Node - 'Receiver' tab

tres RFID Panel - Antennas Antenna

Receiver | Event Actions | Operation | Actions | Commands | Notes/Comments

Name: ID:

Access Level:

Parking

Parked Point:

Parked Time Counter:

Parked Alarm Point:

Parking Section

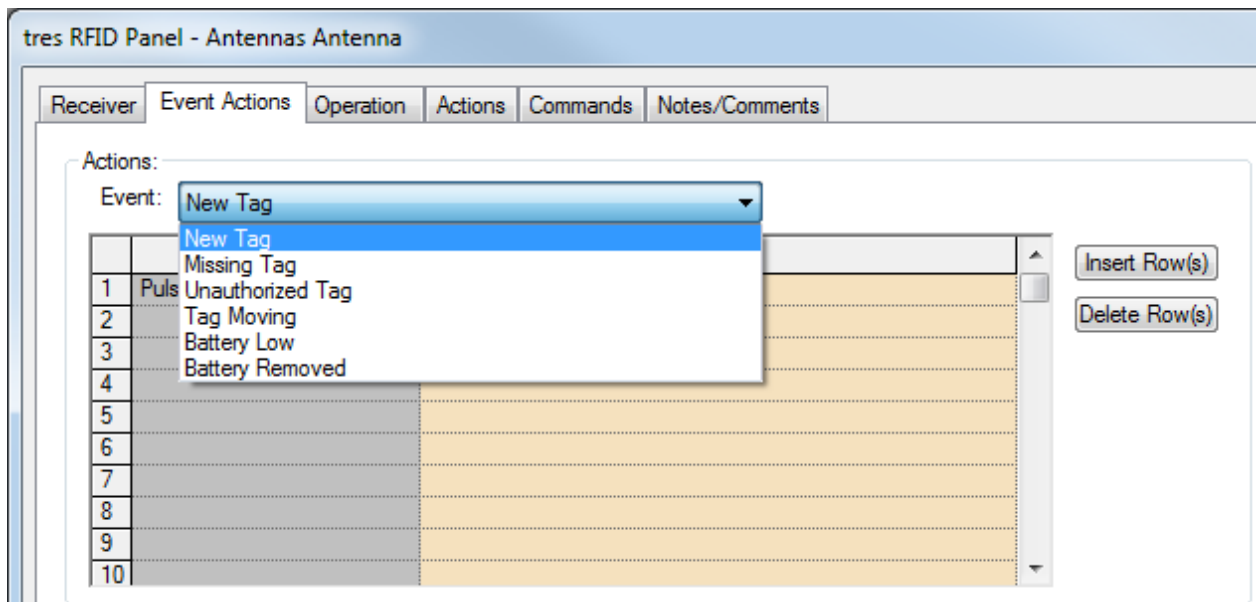
'Parking': Select this checkbox to designate this receiver as a 'Parking Receiver'. This will enable the fields in the 'Parking' section.

'Parked Point': A point can be assigned here that will be turned on when an RFID tag has been detected by this reader (i.e. someone has parked in this parking spot).

'Parked Time Counter': A Counter point can be assigned here that will be incremented every minute. This counter can be used to set other actions in motion based on the amount of time the RFID tag is located at this receiver.

'Parked Alarm Point': A point can be assigned here that will be turned on when the 'Parked Time Counter' goes into a High state (i.e. when the counter reaches its threshold value). This can be used, for example, to serve as an alarm to indicate that an RFID tag has been located at this receiver for too long (i.e. someone has been parked in this parking spot beyond a reasonable amount of time).

tres RFID Antenna Node - 'Event Actions' tab



'Event' Combo List: Each event type listed ('New Tag', 'Missing Tag', 'Invalid Tag', 'Tag Moving', 'Battery Low' and 'Battery Removed') can have specific actions assigned to it. Use the 'Action' Grid to assign actions to the selected 'Event' type.

NOTE: Under the 'Alarms' node there is only one point, 'Panel Status'. This point is used to report the 'Online' status of the panel that corresponds to this tres RFID RTU.

Section 3 – RFID Access Rights and Information Management

This section discusses the setup of User screens for the purpose of viewing and maintaining the RFID-related information in the Intelli-Site database. This information includes data related to Access Rights.

Underlying Database Tables

The following tables comprise all the RFID-related tables in the database. These tables will be displayed in the project tree and should be used in conjunction with Database grids when creating User screens. This will be detailed further below. Only the fields relevant to tres RFID are noted.

'RFIDTags': This table stores RFID Tags and their current location.

Fields:

TagID: The RFIDTag value

LastReaderUsedID: The project tree ID of the receiver where this tag was last detected, used for internal purposes.

LastReaderUsedName: The name of the receiver where this tag was last detected

LastTimeUsed: The date/time when this tag was last detected.

SignalStrength: The RSSI value for the last read of this tag

TagAge: The age of this tag. See tres RFID documentation for a description on the meanings of various values for age.

TagAssetName: The User can fill this field with a name for this tag. This can help to more easily identify a tag (by name, instead of by a long Tag ID number value).

InvalidLocation: A Boolean field whose value is set to true if a tag has been read (detected) by a reader that is not part of this tag's assigned readers.

Missing: A Boolean field whose value is set to true when the tag's last report was a 'Missing' report.

MissingEmailPoint: An integer field whose value is the ID of an I/O point. If the I/O point is high, and there is a valid ID of a distribution list in the MissingDistList field, an email will be sent when this tag goes missing.

MissingDistList: An integer field whose value is the ID of a distribution list. If the MissingEmailPoint is valid and the point it references is high, an email will be sent when this tag goes missing.

InvalidEmailPoint: An integer field whose value is the ID of an I/O point. If the I/O point is high, and there is a valid ID of a distribution list in the InvalidDistList field, an email will be sent when this tag moves to an invalid location.

InvalidDistList: An integer field whose value is the ID of a distribution list. If the InvalidEmailPoint is valid and the point it references is high, an email will be sent when this tag moves to an invalid location.

MovingEmailPoint: An integer field whose value is the ID of an I/O point. If the I/O point is high, and there is a valid ID of a distribution list in the MovingDistList field, an email will be sent when this tag starts moving.

MovingDistList: An integer field whose value is the ID of a distribution list. If the MovingEmailPoint is valid and the point it references is high, an email will be sent when this tag starts moving.

'RFIDLocation': This table stores Locations, which can be a room or other place. A location can be identified by either a ReaderID or a TagID.

Fields:

LocationID: The ID of the Location (used for internal purposes).

LocationName: The Location's name (e.g. Printer Room).

ReaderID: The Reader assigned to this location. This is the ID of the receiver node in the project tree.

TagID: The RFID Tag ID associated with this Location.

'RFIDGroup': This table stores 'Access' Groups which allows the assignment of multiple Locations to a single Group.

Fields:

GroupID: The ID of the Group (used for internal purposes).

GroupName: The Group's name (e.g. Printer Room Group).

'RFIDGroupToLocation': This table stores 'Access' Groups which allows for the assignment of multiple Locations to a single Group. There is nothing limiting the group and location association. A single Group can have many locations and a location can be found in many groups.

Fields:

GroupID: The ID of the Group.

LocationID: The ID of the Location.

'RFIDAccess': This table stores 'Access Sets' which allows for the assignment of multiple Groups to one RFID Tag.

Fields:

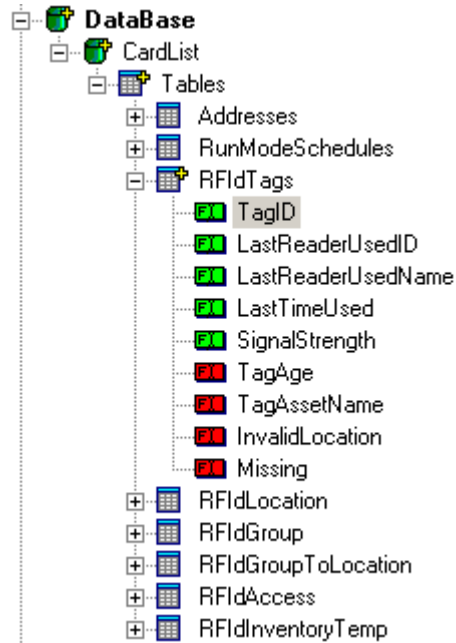
TagID: The ID of the RFID Tag.


GroupID: The ID of the Group.

Screen Design for Table Maintenance and Review

Screens need to be created in order to manage Access Rights (i.e., for Parking), viewing of Tag status in Run Mode, and general maintenance of the RFID-related data.

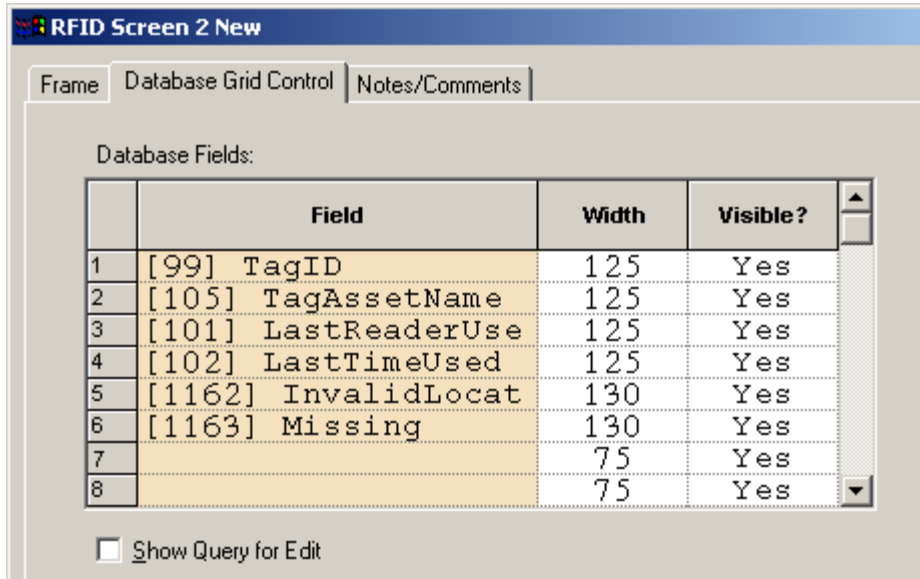
The database table and field nodes are to be used in conjunction with screen objects and controls:



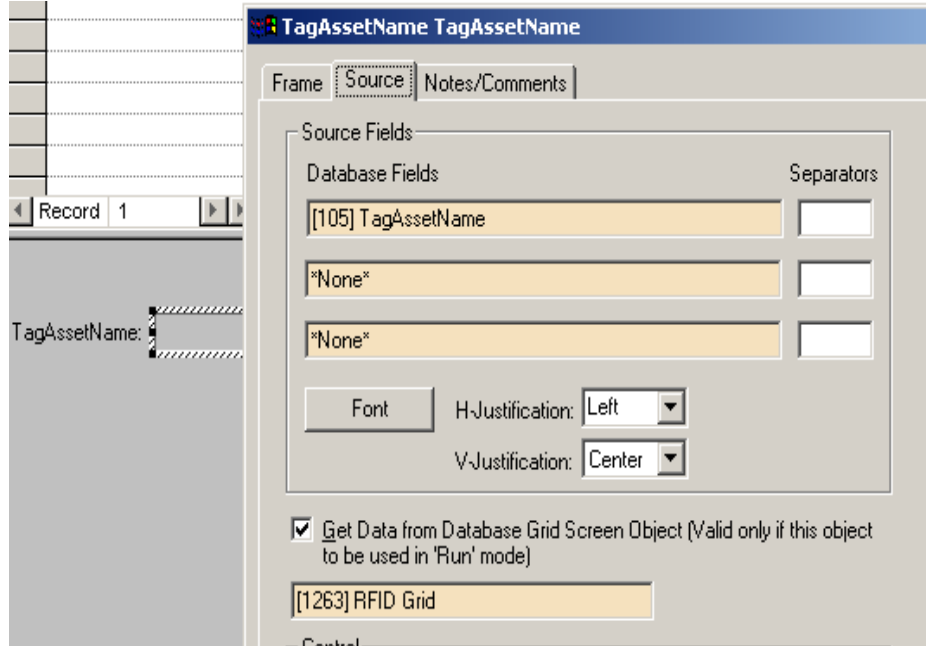
A Database Grid control is used as an interface to the data residing in the database. Click the 'Database Grid Control' button  on the Design toolbar and create a grid on the screen:



Next, drag and drop the database fields from the project tree onto the database grid's 'Database Fields' grid located on the 'Database Grid Control' tab of the Grid's properties:



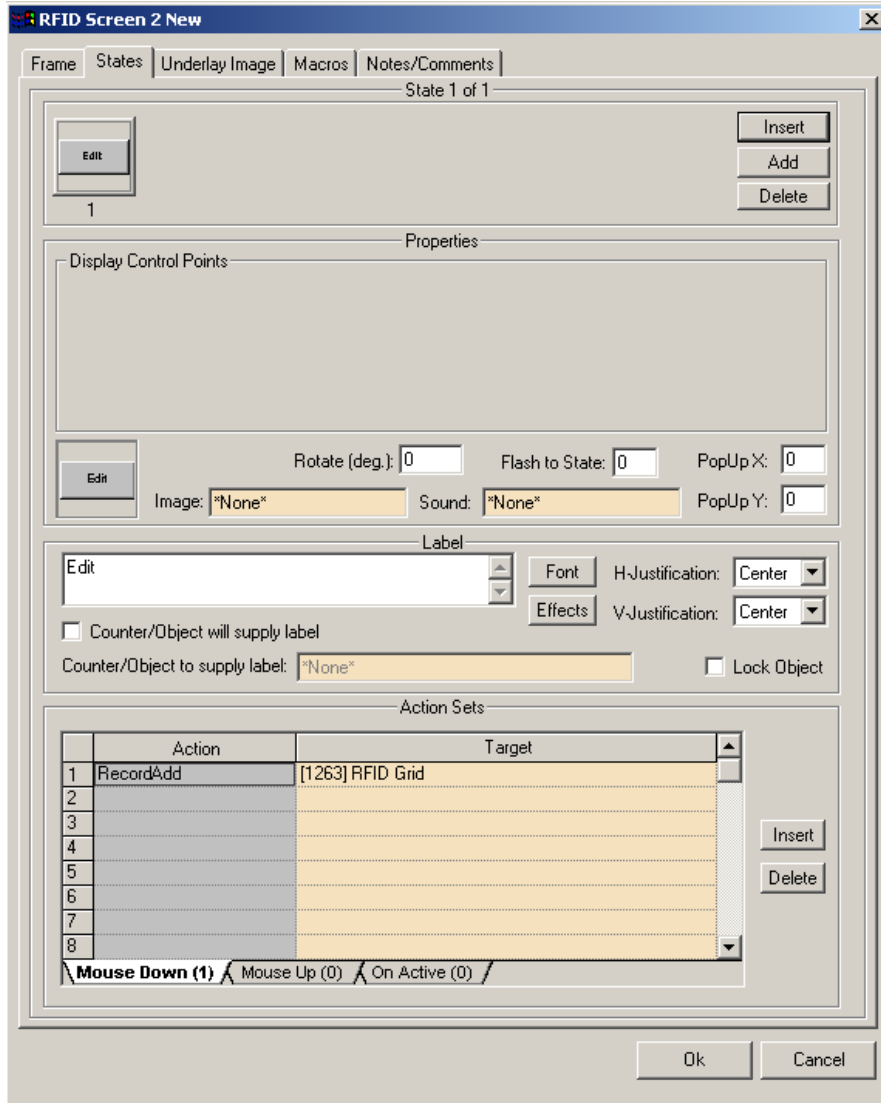
Next, drag and drop the database fields onto the screen itself. Do this for the fields you plan on editing. For example, the user may want to modify the **TagAssetName** field for purposes of reporting:



For the properties of our example field **TagAssetName**, the 'Get Data from Database Grid Screen Object...' checkbox must be selected. Also the Grid Screen object ('[1263] RFID Grid') must be dragged and dropped from the project tree into the drop edit box as shown above. These two steps associate the **TagAssetName** field with the Grid.

Finally, buttons must be created to perform the desired database operations ('Add', 'Edit', 'Cancel' etc.). These operations are located under the 'Database' column in the 'Actions' popup dialog:

Actions							
IO Control	Door Control	Screen Control	Video	Macro	Group Control	Database	
SetOn	LockDoor	PopUp	PopUpVideo	Macro	GroupSetOn	MoveFirst	Play
SetOff	UnlockDoor	PopUpDialog	PopOffVideo	RunMacro1	GroupSetOff	MovePrevious	Loa
Pulse	TempUnlockDoor	PopOff	LiveCompare	RunMacro2	GroupSet	MoveNext	Mas
TempPulse	PulseDoor	PushScreen	SwitchInputs	RunMacro3	GroupSetAll	MoveLast	Forc
Toggle	SwitchEntryCamera	PopScreen	LiveVideo	RunMacro4	GroupClearAll	RecordAdd	Pres
SetOnPush	SwitchExitCamera	Display	NetworkVideo	RunMacro5	ShuntSet	RecordChange	Rele
ForceOn	ConnEntryIntercom	CleanScreen	PlayVideo	RunMacro6		RecordBulkModify	Sen
ForceOff	DiscEntryIntercom	PopUpQueue	PauseVideo	RunMacro7		RecordDelete	Virtu
ForceNormal	ConnExitIntercom	PopOffQueue	StopVideo	RunMacro8		RecordCancel	Unvi
IncrementCounter	DiscExitIntercom		StartRecording			RecordSave	Onlir
DecrementCounter	StartEntryAlarm		StopRecording			SelectGrid	Offli
ResetCounter	StopEntryAlarm					FilterBy	Dow
StartTimer	StartExitAlarm					MatchExact	Dow
KillTimer	StopExitAlarm					MatchNotEqual	Forc
ForceTimer	ShuntDoorForced					MatchPartialStart	Loct
ShuntAlarm	UnshuntDoorForced					MatchPartialEnd	Unlo
UnShuntAlarm	ShuntDOTL					MatchPartial	Zon
RestoreTPControl	UnshuntDOTL					MatchLessThan	Mus
	ShuntDUTL					MatchLessOrEqual	Star
	UnshuntDUTL					MatchGreaterThan	Stop
	SelectCallStation					MatchGreaterOrEqual	Page
	DeselectCallStation					SortBy	Runl
	DisableCallStation					FilterSet	Print
	EnableCallStation						Auth
	AckCallIn						
	ProcessCallIn						



Above is an example 'Edit' button. Again, repeat the process to create buttons for all the database operations (actions) desired.

In this example, the final product is a screen that allows the User to edit the name of an RFID Tag (Asset):

	TagID	TagAssetName	LastReaderUsedNam	LastTimeUsed	InvalidLocation	Missing
1	5680515		Receiver 1	13/03/2007 06:12:00 a.	0	0
2	5680516		Receiver 1	08/03/2007 09:58:00 a.	0	-1
3	5680572		Receiver 1	08/03/2007 11:44:00 a.	0	-1
4	5681425		Receiver 1	08/03/2007 10:16:00 a.	0	-1
5	5681426		Receiver 2	07/03/2007 04:51:00 p.	0	0
6	5681427		Receiver 1	08/03/2007 09:49:00 a.	0	-1
7	5681468		Receiver 2	07/03/2007 04:10:00 p.	0	-1
8	5681471		Receiver 2	06/03/2007 08:04:00 a.	0	-1
9	5947667		Receiver 1	07/03/2007 11:24:00 p.	0	-1
10	6204803		Receiver 2	13/03/2007 12:10:00 a.	0	-1
11	6466947		Receiver 2	13/03/2007 06:43:00 a.	0	-1

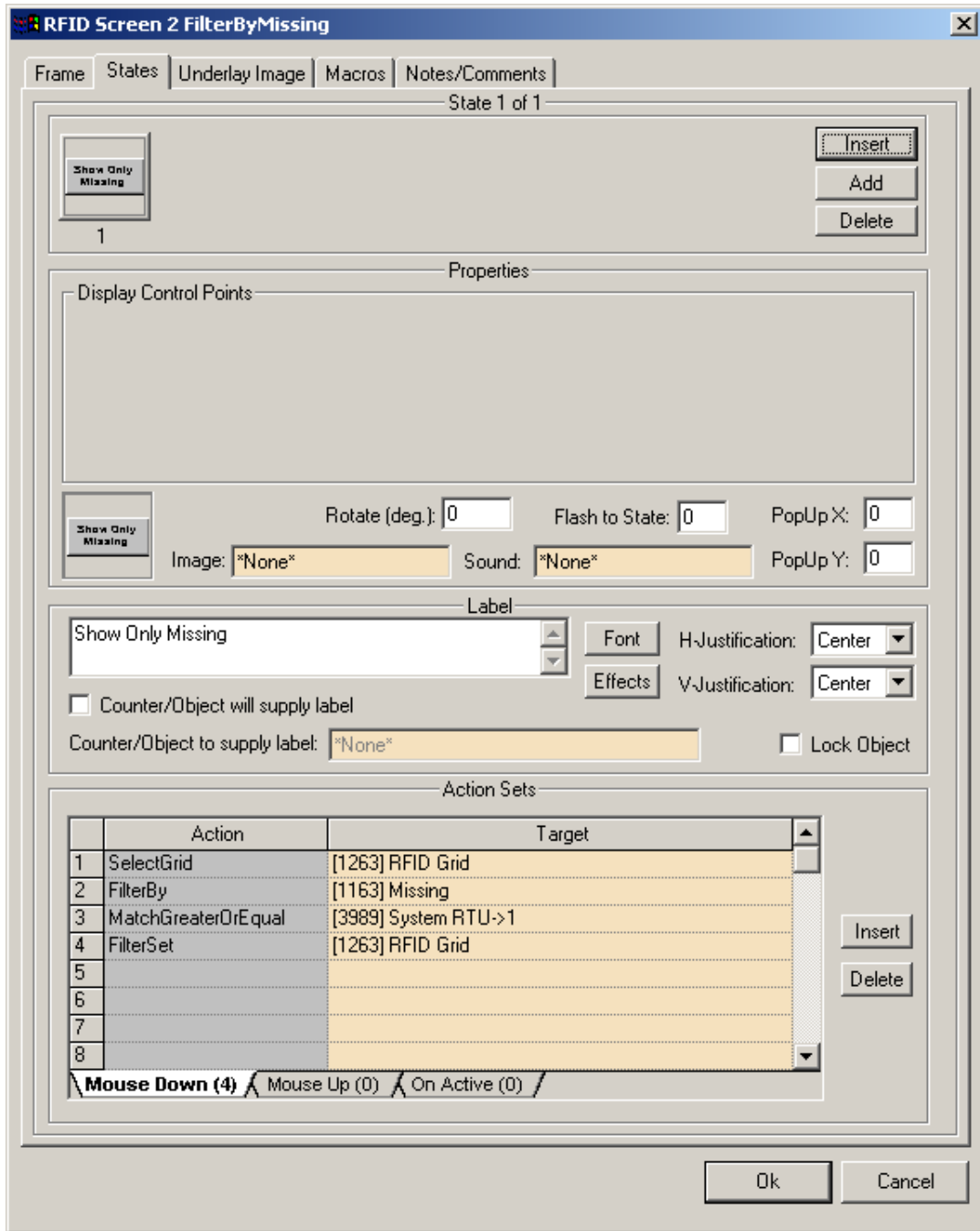
Record 1

TagAssetName:

Database Filtering Example

The User may want to filter data on a particular column in order to see only specific results that meet user-defined search criteria. In the following example, the User filters the grid created above to only show RFID Tags that are missing.

Create a button and create the following Database actions (for detailed explanations on each Action, please see the Intelli-Site Reference Guide):



Once this button is clicked, the Grid will only show Missing RFID Tags:

	TagID	TagAssetName	LastReaderUsedNam	LastTimeUsed	InvalidLocation	Missing
1	5680516		Receiver 1	08/03/2007 09:58:00 a.	0	-1
2	5680572		Receiver 1	08/03/2007 11:44:00 a.	0	-1
3	5681425		Receiver 1	08/03/2007 10:16:00 a.	0	-1
4	5681427		Receiver 1	08/03/2007 09:49:00 a.	0	-1
5	5681468		Receiver 2	07/03/2007 04:10:00 p.	0	-1
6	5681471		Receiver 2	06/03/2007 08:04:00 a.	0	-1
7	5947667		Receiver 1	07/03/2007 11:24:00 p.	0	-1
8	6204803		Receiver 2	13/03/2007 12:10:00 a.	0	-1
9	6466947		Receiver 2	13/03/2007 06:43:00 a.	0	-1

Record 1

TagAssetName: Edit Save Cancel Show Only Missing Show All

The 'Show All' button removes the filtering using the following actions:

	Action	Target
1	SelectGrid	[1263] RFID Grid
2	FilterSet	[1263] RFID Grid
3		

Grid Setup to Maintain Access Rights

It is important that a screen or screens be created to maintain the database tables that control Access Rights for RFID Tags.

In addition to the RFID Tag Table, the following tables need to have Database Grid Screen objects created for them:

'RFIDLocation': A 'Location' is a place where either an RFID Reader exists (for purposes of tracking RFID Tags) or an RFID Tag exists (for the purposes of identifying the place). A location can be, for example, a parking spot or a room.

Fields:

LocationID: The value for this field is auto-generated. Do not edit this value.

LocationName: Assign a name that aids in identifying this place.

ReaderID: The ID of the reader (from the project tree).

TagID: The ID of the tag that is assigned to this location (i.e. a tag next to the door entrance of a storage area).

Locations

	LocationID	LocationName	ReaderID	TagID
1	7	Printer Room - Storage Closet	108	5680515

Record 1

add Edit Save Cancel Delete

Location Name: ReaderID: TagID:

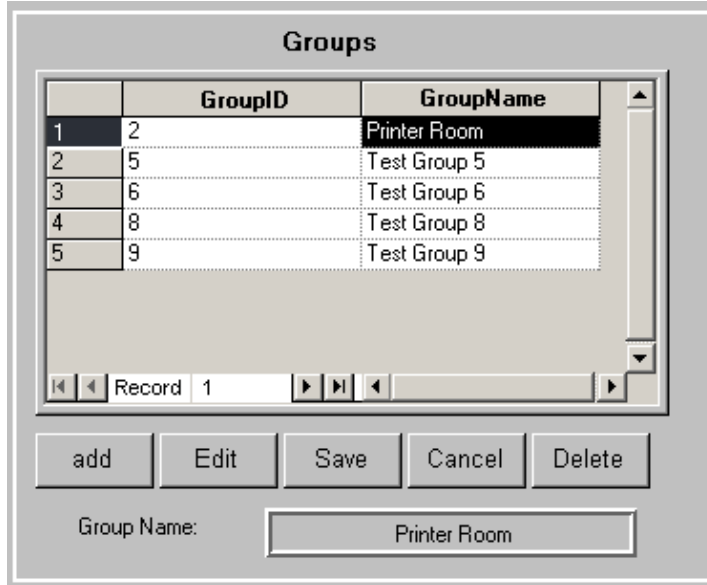
Receiver 1
Receiver 2

'RFIDGroup': A 'Group' is a collection of Locations. A Group is assigned one or more locations in the GroupToLocation table.

Fields:

GroupID: The value for this field is auto-generated. Do not edit this value.

GroupName: Assign a name that best identifies this group. For example, if this group is going to be a collection of Locations that all exist on the third floor, consider 'Third Floor' as a name.

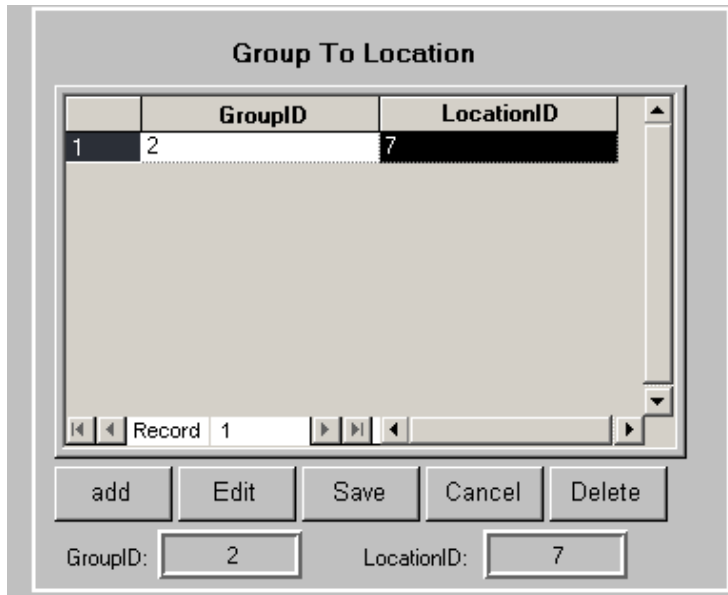


'RFIDGroupToLocation': A Group is assigned one or more locations in the GroupToLocation table.

Fields:

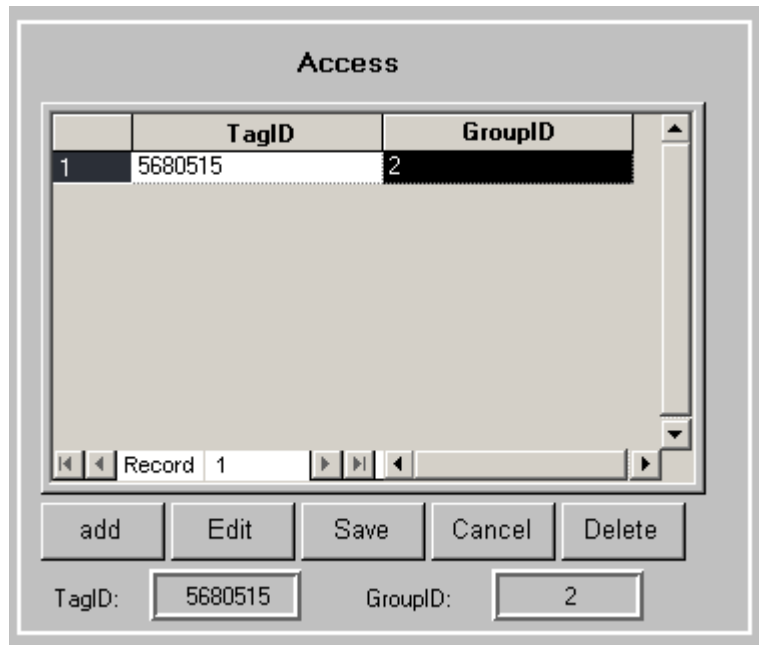
GroupID: The ID of a group from the **'RFIDGroup'** table.

LocationID: The ID of a location from the **'RFIDLocation'** table.



RFIDAccess: This is the table where a Tag is assigned one or more Groups. The TagID and GroupID values need to originate from the RFIDTags and RFIDGroup tables. An entry (or entries) in this table completes the setup of Access Rights for an RFID Tag.

Using our example tables, the entry below assigns RFID Tag '5680515' to Group 'Printer Room', which contains one Location, 'Printer Room - Storage Closet'. This Location consists of 1 reader, 'Receiver 1' (ID 108).

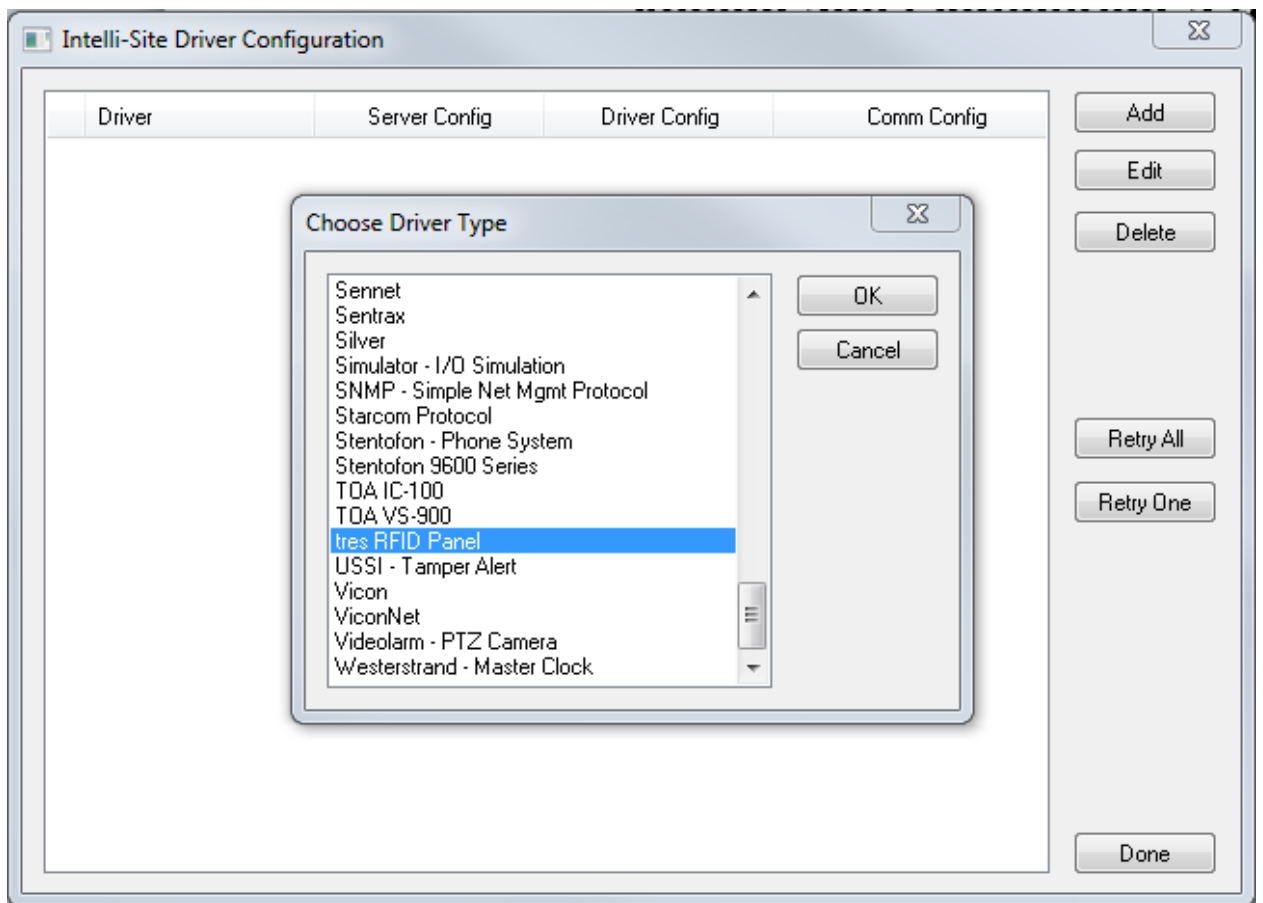


Section 4 – tres RFID Driver Setup

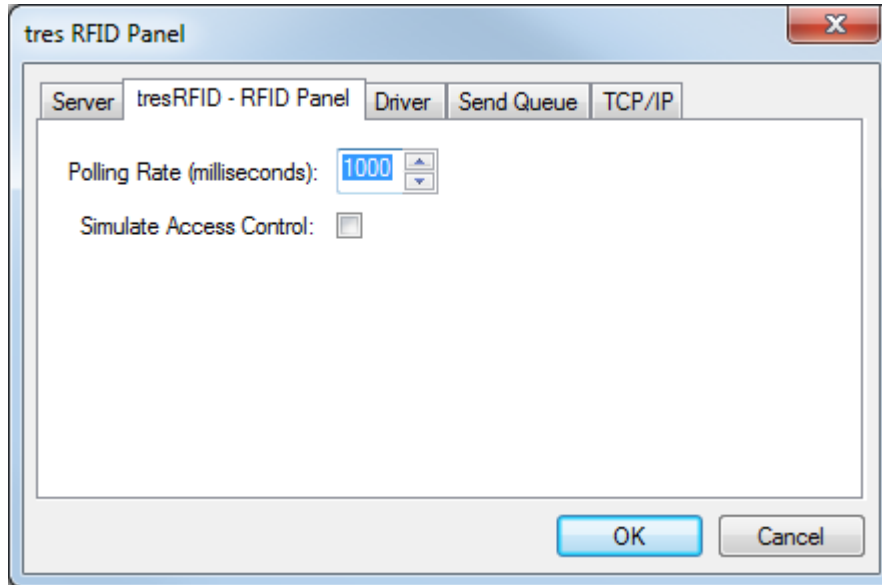
This section discusses the setup of a tres RFID driver in the Driver Service.

Adding and Configuring a tres RFID Driver

Select the 'Add' button in the main Driver Service window. From there, select 'tres RFID Panel' from the list of drivers in the 'Choose Driver Type' window:



tres RFID – RFID Panel Settings



Polling Rate (milliseconds): This is the rate at which the driver will poll the panel for its tag roster.

Simulate Access Control: This is used in conjunction with a tres RFID Access Control RTU. Instead of sending tag locations to the server, the driver will send access control reads to the server when a new tag is read at a reader.