

# **RfIP Event Publishing Architecture**

Ver. 1.0

3/06/2007

---

RfIP Event Publishing Architecture.....	1
1 Summary.....	3
2 Event Types.....	4
2.1 System Status Messages .....	4
2.2 Asset Status Messages .....	4
3 System Status Events .....	5
3.1 Asset Add .....	5
3.2 Asset Delete.....	5
3.3 Asset Update.....	5
3.4 Category Add .....	5
3.5 Category Delete.....	6
3.6 Category Update.....	6
3.7 Department Add .....	6
3.8 Department Delete .....	6
3.9 Department Update .....	7
3.10 RfIP Device Message.....	7
3.11 RFID Reader Add.....	7
3.12 RFID Reader Delete .....	7
3.13 RFID Reader Update .....	8
3.14 RFID Tag Add.....	8
3.15 RFID Tag Delete .....	8
3.16 RFID Tag Update.....	8
3.17 RFID Tag Group Add.....	9
3.18 RFID Tag Group Delete .....	9
3.19 RFID Tag Group Update .....	9
3.20 System Start .....	9
3.21 System Shutdown.....	10
3.22 System Information .....	10
3.23 Virtual Location Add.....	10
3.24 Virtual Location Delete .....	10
3.25 Virtual Location Update .....	11
3.26 World Location Add.....	11
3.27 World Location Delete .....	11
3.28 World Location Update .....	11
4 Asset Status Events .....	12
4.1 Asset Enter .....	12
4.2 Asset Exit.....	12
4.3 Asset Interzone Move.....	12
4.4 Asset Intrazone Move.....	13
4.5 Asset State Change.....	13

# 1 Summary

The RfIP framework can publish messages to 3<sup>rd</sup> party applications. These messages are formatted using XML, and can be published via any mechanism necessary. For example, messages can be published over queues, web services, and SMTP to name a few. This document details the different types of messages, their format, and how to properly consume the messages.

The RfIP framework has several components that may be interesting to 3<sup>rd</sup> party applications that are built on top of the framework. These applications may want to be notified when assets move from one location to another, change state, or disappear. 3<sup>rd</sup> party applications may also want to be notified if there are any errors in the RfIP framework. The publishing architecture is the way in which applications are notified of these changes or issues.

## 2 Event Types

There are 2 types of events that are published by the RfIP framework through XML messages.

### 2.1 System Status Messages

System status messages notify listening applications as to changes in the system. These changes may inform applications of errors or of a change in the system status. For instance, when the system is started or stopped, a message is sent to notify listening applications of the change. Messages are also sent for additions, deletions, or updates to any of the data entities in the system.

### 2.2 Asset Status Messages

As assets appear, disappear, move, or change state, messages are published. These messages can be consumed as needed by other applications. Each message contains information about the associated tag.

## 3 System Status Events

### 3.1 Asset Add

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="assetadd" >
    <assetinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.2 Asset Delete

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="assetdelete" >
    <assetinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.3 Asset Update

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="assetupdate" >
    <assetinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.4 Category Add

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="categoryadd" >
    <categoryinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.5 Category Delete

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="categorydelete" >
    <categoryinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.6 Category Update

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="categoryupdate" >
    <categoryinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.7 Department Add

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="deptadd" >
    <deptinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.8 Department Delete

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="deptdelete" >
    <deptinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.9 Department Update

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="deptupdate" >
    <deptinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.10 RfIP Device Message

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="deviceinfo" >
    <message id="1">
      <deviceid>206B8911-3F87-4657-B9CC-EE47F458859D</deviceid>
      <msg>Here is some information.</msg>
      <detail>Here is the detail.</detail>
    </message>
  </systemevent>
</event>
```

### 3.11 RFID Reader Add

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="readeradd" >
    <readerinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.12 RFID Reader Delete

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="readerdelete" >
    <readerinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

```
</systemevent>  
</event>
```

### 3.13 RFID Reader Update

```
<?xml version="1.0" encoding="utf-8"?>  
<event type="system" timestamp="2006-09-29T12:49:56" >  
  <systemevent type="readerupdate" >  
    <readerinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />  
  </systemevent>  
</event>
```

### 3.14 RFID Tag Add

```
<?xml version="1.0" encoding="utf-8"?>  
<event type="system" timestamp="2006-09-29T12:49:56" >  
  <systemevent type="rfidtagadd" >  
    <rfidtaginfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />  
  </systemevent>  
</event>
```

### 3.15 RFID Tag Delete

```
<?xml version="1.0" encoding="utf-8"?>  
<event type="system" timestamp="2006-09-29T12:49:56" >  
  <systemevent type="rfidtagdelete" >  
    <rfidtaginfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />  
  </systemevent>  
</event>
```

### 3.16 RFID Tag Update

```
<?xml version="1.0" encoding="utf-8"?>  
<event type="system" timestamp="2006-09-29T12:49:56" >  
  <systemevent type="rfidtagupdate" >  
    <rfidtaginfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />  
  </systemevent>
```



```
</event>
```

### 3.17 RFID Tag Group Add

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="rfidtaggroupadd" >
    <rfidtaggroupinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.18 RFID Tag Group Delete

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="rfidtaggroupdelete" >
    <rfidtaggroupinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.19 RFID Tag Group Update

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="rfidtagupdate" >
    <rfidtaggroupinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.20 System Start

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="start" />
</event>
```

### 3.21 System Shutdown

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="shutdown" />
</event>
```

### 3.22 System Information

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="systeminfo" >
    <message id="1">
      <msg>Here is some information.</msg>
      <detail>Here is the detail.</detail>
    </message>
  </systemevent>
</event>
```

### 3.23 Virtual Location Add

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="vlocationadd" >
    <vlocationinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.24 Virtual Location Delete

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="vlocationdelete" >
    <vlocationinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.25 Virtual Location Update

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="vlocationupdate" >
    <vlocationinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.26 World Location Add

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="wlocationadd" >
    <wlocationinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.27 World Location Delete

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="wlocationdelete" >
    <wlocationinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

### 3.28 World Location Update

```
<?xml version="1.0" encoding="utf-8"?>
<event type="system" timestamp="2006-09-29T12:49:56" >
  <systemevent type="wlocationupdate" >
    <wlocationinfo uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
  </systemevent>
</event>
```

## 4 Asset Status Events

### 4.1 Asset Enter

```
<?xml version="1.0" encoding="utf-8"?>
<event type="asset" timestamp="2006-09-29T12:49:56" >
  <asasetevent type="enter">
    <tag uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
    <asset uid="ADAE42B9-ABEF-4751-92B7-4684D068FB10" />
    <location uid="0B920085-A65F-47cb-9962-96984CDDA51F" />
    <secondarylocation uid="0B920085-A65F-47cb-9962-96984CDDA51F" />
  </asasetevent>
</event>
```

### 4.2 Asset Exit

```
<?xml version="1.0" encoding="utf-8"?>
<event type="asset" timestamp="2006-09-29T12:49:56" >
  <asasetevent type="exit">
    <tag uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
    <asset uid="ADAE42B9-ABEF-4751-92B7-4684D068FB10" />
    <location uid="0B920085-A65F-47cb-9962-96984CDDA51F" />
  </asasetevent>
</event>
```

### 4.3 Asset Interzone Move

```
<?xml version="1.0" encoding="utf-8"?>
<event type="asset" timestamp="2006-09-29T12:49:56" >
  <asasetevent type="interzone">
    <tag uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
    <asset uid="ADAE42B9-ABEF-4751-92B7-4684D068FB10" />
    <beginlocation uid="0B920085-A65F-47cb-9962-96984CDDA51F" />
    <endlocation uid="24ABFB53-402D-4449-9EA6-D8E1AF0A8B1C" />
    <secondarylocation uid="ABEFF87D-70F4-45a8-B215-3E7037D6E424" />
  </asasetevent>
</event>
```

---

## 4.4 Asset Intrazone Move

```
<?xml version="1.0" encoding="utf-8"?>
<event type="asset" timestamp="2006-09-29T12:49:56" >
  <asstevent type="intrazone">
    <tag uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
    <asset uid="ADAE42B9-ABEF-4751-92B7-4684D068FB10" />
    <location uid="0B920085-A65F-47cb-9962-96984CDDA51F" />
    <secondarylocation uid="ABEFF87D-70F4-45a8-B215-3E7037D6E424" />
  </asstevent>
</event>
```

## 4.5 Asset State Change

```
<?xml version="1.0" encoding="utf-8"?>
<event type="asset" timestamp="2006-09-29T12:49:56" >
  <asstevent type="intrazone">
    <tag uid="206B8911-3F87-4657-B9CC-EE47F458859D" />
    <asset uid="ADAE42B9-ABEF-4751-92B7-4684D068FB10" />
    <location uid="0B920085-A65F-47cb-9962-96984CDDA51F" />
    <stateinfo>
      <data name="key1" value="TEST" />
      <data name="key2" value="A@#F$ADFE#DA" />
      <data name="key3" value="123456" />
    </stateinfo>
  </asstevent>
</event>
```