

**Third Generation Mobilizing System  
for  
Hong Kong Fire Services Department**

**Computerized Fire Alarm Transmission System  
Interface Specifications  
(Draft Ver 1.4.2)**

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## 1. Introduction

### 1.1 Purpose

The purpose of the CFATS interface specification is to describe the interface from a CFATS operator to the Third Generation Mobilizing System (TGMS) system. This version of this paper will be published for industry consultation and based on the result of the consultation a finalized version of this CFATS interface specification will be published.

### 1.2 Scope

This document is applicable to the Third Generation Mobilizing System project, for Hong Kong Fire Services Department.

### 1.3 Responsibilities

The System Analyst is responsible for this document.

### 1.4 Definitions, Acronyms and Abbreviations

Not applicable.

### 1.5 Overview of this Document

This document gives a specification of the interface between TGMS and CFATS operators.

### 1.6 References

Nil.

## 2. Interface

The CFATS operator should have 2 leased circuit connections to TGMS, one to TGFSCC and one to IT-SEAM. The interface to TGMS will be Ethernet compliant with IEEE 802.3 on 10BaseT physical connection. The communication protocol shall be TCP/IPv4 compliant with RFC 793.

This interface specification describes the usage of one interface. Each interface should be used according to this specification and be independent of any other connected interfaces. The leased circuits are recommended to be 64Kbps, but higher bit rates can be used after consultations with FSD and the TGMS maintenance contractor. The B-end (CFATS operator side) of the leased circuits should be a V.35 interface or others as agreed by the CFATS operator with the carrier while the A-end (TGMS side) can be a V.35 interface or a channelized T1 interface to be determined by TGMS.

The messages are sent using XML as the data container. XML version 1.0 as of 6 October 2000 is used; see <http://www.w3.org/TR/2000/REC-xml-20001006> for the specification of XML.

XML Schema, which is used to describe the syntax of the data in this document, is not needed; it is only used as a way of describing the format of many elements in the XML data structure. A CFATS operator can use this specification without using Schema and make a fully functional system, but the use of the enclosed Schema will make it easier for a CFATS operator to verify that his interface is

correct; it will become easier to integrate new CFATS operators and to make the interface correct between the new operator and TGMS. Schema is defined at the following URLs <http://www.w3.org/TR/2001/REC-xmlschema-0-20010502>, <http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/> and <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/>.

DTD will also be used to describe the syntax of the XML data. Due to the fact that schema can describe more things, it is recommended to use Schema. But it is better to use DTD than not to use anything at all. If there are inconsistencies between the schema and DTD definitions, schema is the one with priority.

The TCP/IP port that the data is transferred on is port 1234.

The port number might be confirmed to each CFATS operator at the time of installation.

### 3. Interface function

#### 3.1 Message flow

This section will describe in which order the XML messages can be sent and how the TCP/IP connection is set up.

##### 3.1.1 Connection process

The following table describes the order in which TGMS and the CFATS operator connects to each other and sends messages. TGMS must open its CFATS port first, i.e. TGMS is the server and the CFATS provider connects to TGMS. So when the physical connection between TGMS and the CFATS provider has been established, the CFATS provider is free to connect to TGMS. The IP address of TGMS will be disclosed to the CFATS provider at the time of the setup of the leased circuits.

When a CFATS operator first installs the leased circuits in TGMS, the TGMS CFATS server will already have its listen port open. After the CFATS operator has been given the IP address of the TGMS CFATS server it can start the process below by connecting to TGMS.

TGMS	3.1.1.1.1 CFATS operator
TGMS does listen on the TCP/IP port.	
	CFATS operator connects successfully.
TGMS does accept on the connection	
TCP/IP connection established	TCP/IP connection established.
	Send OPEN message.
Reply with OPEN message, alternatively if the message is not understood a ACKNOWLEDGE message with OK = false can be sent and the TCP connection closed.	
	Send ACKNOWLEDGE for OPEN message, if the ACKNOWLEDGE is negative the TCP

	connection should be closed.
CFATS session established.	CFATS session established.

If the session is successfully established, these steps will not be repeated until after the connection is closed or broken and reopened again. None of the steps above can be performed twice for one connection.

### 3.1.2 Health checking

Both sides can now send ALIVE messages to the other side and shall receive a ACKNOWLEDGE message immediately from the other party after doing so.

The CFATS operator shall send ALIVE messages every 30 seconds and if TGFSCC/IT-SEAM does not receive any ALIVE message within twice the specified time, i.e. 60 seconds, it will consider the link to be down and send a ALIVE message to the CFATS operator to verify that the connection is up.

If no reply (or the received ACKNOWLEDGE message without the Message Id) is received within a user defined timeout period (UDP:OperTimeout), the CFATSIS will send a CLOSE message to the CFATS operator.

If the received ACK = FALSE, CFATSIS will carry on to close the connection. When ACK =TRUE, CFATSIS will just carry on with its normal operations and this flow ends.

The ALIVE message shall be sent at each 30 seconds no matter if ALARM messages have been sent and acknowledged during the last 30 seconds.

If a CFATS operator establishes a new connection to the same center, the old connection will be disconnected.

### 3.1.3 Alarm transfer

Once the CFATS session is established the CFATS operator can send ALARM messages. The ALARM message will be acknowledged when TGMS has received and decoded the messages.

The CFATS operator and TGMS will be connected using 2 leased circuits. The CFATS operator shall send messages on both connections and TGMS will reply on both connections independently. Both parties will consider both connections independent of each other. I.e. if a message on one connection is acknowledge but the same message on the other connection is not, the message should be resent on the failing connection.

### 3.1.4 Disconnecting process

When any party needs to disconnect the connection it sends a CLOSE message and then the TCP/IP connection can be disconnected and no more data is expected on the connection.

## 3.2 Error handling

All messages sent should be acknowledged, except the OPEN message from the CFATS operator. This message has the reply attribute set to true and is acknowledged by an OPEN message from the TGMS which will have the reply attribute set to false and be acknowledged in the normal way.

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If a received message cannot be understood by the recipient a not OK ACKNOWLEDGE message shall be sent. If the message id of the received message cannot be detected then the AckMessageId shall be omitted from the ACKNOWLEDGE message. Except for this case, the AckMessageId must always be set. If a not OK ACKNOWLEDGE message is received, i.e. a ACKNOWLEDGE message with the OK data set to false, and if the AckMessageId attribute is set then resend the message. If still not properly acknowledged the interface handling is wrong, log the error; if the message was an ALARM then send the ALARM by other means. If the AckMessageId attribute was not set, resend all ALARM messages that have not been acknowledged within the last 60 seconds. However, this is not applicable for the error handling related to the sending of Send ALIVE messages described in section 3.1.2.

If no ACKNOWLEDGE is received at all within a timeout period of 3 seconds, resend at least 3 times. If still no response try to send ALIVE message to see if the other side is alive. However, this is not applicable for the error handling related to the sending of Send ALIVE messages described in section 3.1.2 and the error handling related to the CLOSE messages described in section 3.1.4

If nothing helps, send a CLOSE message and wait for reply. But if no reply is received then close the connection anyway and try to reconnect again and try to resend everything again at least one time. However, this is not applicable for the error handling related to the CLOSE messages described in section 3.1.4

The reconnection process will be following the flow in section 3.1.1 in this document

(The 3 second value should be a parameter that can be changed without recompiling the CFATS application)

Acknowledgements are sent for each message, i.e. if the provider sends 2 ALARMS just after each other, TGMS must acknowledge both with 2 ACKNOWLEDGE messages respectively.

If a ACKNOWLEDGE is not received and one side decides to resend, it must use a new message id for each resend, i.e. the same message id can never be used again (unless the counter wraps around).

TGMS is allowed to send ALIVE messages at any time. The situation is when the CFATS operator has not sent his ALIVE message on time, TGMS will send ALIVE message to the operator.

If a OPEN message is sent at anytime after the session has been opened, it is considered an illegal message. A not OK ACKNOWLEDGE shall be sent with a comment describing that the OPEN message was out of order.

## 4. Messages

### 4.1 Alarm

The ALARM message is sent for each alarm that the CFATS operator wishes to report to TGMS. It contains address and other information about the alarm.

#### 4.1.1 Test

This attribute is set to false by default. If set to true, the ALARM is NOT a real ALARM and TGMS should not handle this message other than testing that the data is correct, a normal ACKNOWLEDGE will be sent.

*Note: For testing of the interface it is better to set the test flag in the OPEN message, then all data in the session will be considered as test data and no action will be taken for any of the ALARM messages in the whole session.*



### **4.1.2 MessageId**

See type definition below.

This field is mandatory.

### **4.1.3 AlarmNumber**

This is the alarm number specifying the identity of the ALARM. It is an integer from 0 to 999999. The valid number series for each CFATS operator will be handed over to the respective CFATS operators from FSD.

This field is mandatory.

Field length maximum 6 digits.

### **4.1.4 Alarm Sending Time**

This is the time and date of the sending of the ALARM. Format: YYYY-MM-DDTHH:MM:SS[.NNN]. The T is a fixed character T, the other fields are year, month, day, hour, minute, second and an optional parts of a second.

This field is mandatory.

### **4.1.5 Alarm Detection Time**

This is the time and date of the detection of the ALARM. Format: YYYY-MM-DDTHH:MM:SS[.NNN]. The T is a fixed character T, the other fields are year, month, day, hour, minute, second and an optional parts of a second.

This field should be the same each time a ALARM is resent, either because no acknowledgement was received or if the ALARM is reported on multiple CFATS interfaces.

This field is mandatory.

### **4.1.6 Address**

Some of the address elements can be given twice, that is to give parts of the address in both English and Chinese. The first field must always be in English, and the English address is mandatory. The Chinese part is optional and if specified must always be in the second field and must always have the language attribute of the element set to ZH. The Chinese part shall be in Traditional Chinese characters and support Unicode codeset. If the language is specified (since the language is defaulted to English it need not be specified) for the English part, the English language code is EN.

#### **4.1.6.1 Street**

This is the name of the street. This field is optional.

This field has a maximum length of 40 characters.

**4.1.6.2 Building**

This is the name of the building. This field is optional.

This field has a maximum length of 80 characters.

**4.1.6.3 HouseNumberStart**

This is the first number of the address or if only one number then the number of the house.

This field is optional.

This field has a maximum length of 5 digits.

**4.1.6.4 HouseNumberEnd**

If the house number is in a range, i.e. 10-12 this field should be set to 12, this field is optional.

This field has a maximum length of 5 digits.

**4.1.6.5 AlphaHouseNumberStart**

This is the alpha part of the start house number if any.

This field is optional.

This field has a maximum length of 3 characters.

**4.1.6.6 AlphaHouseNumberEnd**

This is the alpha part of the end house number if any.

This field is optional.

This field has a maximum length of 3 characters.

**4.1.6.7 FloorEnglish**

This is the floor of the ALARM in English.

This field is optional.

This field has a maximum length of 4 characters.

**4.1.6.8 FloorChinese**

This is the floor of the ALARM in Chinese.

This field is optional.

This field has a maximum length of 4 characters.

**4.1.6.9 Unit**

This is the unit of the ALARM.

This field is optional.

This field has a maximum length of 5 characters.

**4.1.6.10 Estate**

This is the estate name of the ALARM.

The field is optional.

This field has a maximum length of 80 characters.

**4.1.6.11 Village**

This is the village name of the ALARM.

The field is optional.

This field has a maximum length of 80 characters.

**4.1.6.12 Landmark**

This is the landmark name of the ALARM.

The field is optional.

This field has a maximum length of 80 characters.

**4.1.6.13 District**

This is the district of the address.

This field is optional.

This field has a maximum length of 30 characters.

**4.1.6.14 LotCode**

This is the Lotcode of the address.

This field is optional.

This field has a maximum of 5 characters.

**4.1.6.15 LotNumber**

This is the lotnumber of the address.

This field is optional.

This field has a maximum of 5 characters.

**4.1.6.16 LotAlpha**

This is the is the alpha part of the lot.

This field is optional.

This field has a maximum of 5 characters.

**4.1.6.17 SectionCode**

This is the section code of the lot.

This field is optional.

This field has a maximum of 5 characters.

**4.1.6.18 Remark**

This is a remark for the address.

This field is optional.

This field has a maximum of 80 characters.

**4.1.7 Default Incident Type**

This is the default incident type specified by FSD for this ALARM.

This field is optional, but should always be used as soon as the CFATS operator has received this data from FSD.

This field has a maximum of 10 characters.

**4.1.8 Alarm Panel Location**

This is the position of the alarm panel.

This field is mandatory.

This field has a maximum length of 64 characters.

**4.1.9 AlarmType**

This is the definition on the type of ALARM.

This field is mandatory.

This field has a maximum length of 40 characters.

**4.1.10 ContactNo**

This is the contact telephone number of the responsible person for the ALARM.

This field is mandatory. There can be a maximum of 2 ContactNo elements in one alarm message.

This field has a maximum of 50 characters.

#### **4.1.11 FPNumber**

This is the Fire Protection (FP) reference number specified by FSD for this ALARM.

This field is optional, but should always be used as soon as the CFATS operator has received this data from FSD.

This field has a maximum length of 16 characters.

#### **4.1.12 PremisesDetails**

This is the premises details specified by FSD for this ALARM.

This field is optional, but should always be used as soon as the CFATS operator has received this data from FSD.

This field has a maximum length of 255 characters.

#### **4.1.13 TypeOfFSI**

This is the type of Fire Service Installation (FSI) specified by FSD for this ALARM.

This field is optional, but should always be used as soon as the CFATS operator has received this data from FSD.

This field has a maximum length of 1024 characters.

#### **4.1.14 Attendance**

This is the attendance specified by FSD for this ALARM.

This field is optional, but should always be used as soon as the CFATS operator has received this data from FSD.

This field has a maximum length of 1024 characters.

#### **4.1.15 SpecialRisk**

This describes the special risk of the premises.

This field is optional.

This field has a maximum length of 1024 characters.

#### **4.1.16 Business Details**

This is the description of the building, number of floors, residential/commercial.

This field is optional.

This field has a maximum length of 80 characters.

#### **4.1.17 Hydrant**

This is the hydrants specified by FSD for this ALARM. There can be a maximum of 4 entries.

This field is mandatory if information has been received from FSD.

This field has a maximum length of 256 characters each.

#### **4.1.18 Access**

This is the information from FSD on where the access to this ALARM is.

This field is mandatory if information has been received from FSD.

This field has a maximum length of 1024 characters.

#### **4.1.19 ZoneInfo**

The Zone Info field is the information about the zone(s), i.e. floors, area, etc., of the automatic fire alarm system that is/are being covered by the Alarm Number.

This field is optional.

This field has a maximum length of 1024 characters.

#### **4.1.20 Extra 1-4**

Extra fields for information that the CFATS operator thinks are important. The usage of these fields must be described to and agree with FSD and ST.

These fields are optional.

These fields have a maximum length of 80 characters each.

### **4.2 Alive**

ALIVE message is sent to show that the system is alive. Each received ALIVE message should be replied to with a ACKNOWLEDGE message. Both sides can send this message. The CFATS operator should send this message every 30 seconds.

#### **4.2.1 MessageId**

See type definition.

This field is mandatory.

### **4.3 Acknowledge**

#### **4.3.1 AckMessageId**

The message id of the received message to be acknowledged.

This field is mandatory, unless the message id of the received message is not present or the receiver is unable to decode the message. It is an illegal message without specifying this field if the OK field is set to true.

This field has a maximum length of 6digits.

### 4.3.2 OK

The OK field will be set to true if the acknowledgment is good, to false if the received message is not understood. This field is true by default so if the field is not used the ACKNOWLEDGE message will be sent as a OK acknowledgment. To specify a negative acknowledgment, the OK field must be specified as false.

This field is optional.

### 4.3.3 Comment

A comment is where error message can be sent, i.e. wrong version, cannot understand.

This field is optional.

This field has a maximum length of 80 characters.

## 4.4 Open

The Reply attribute is set to true when send from a CFATS operator and false when send from TGMS. I.e. when the reply attribute is set, no normal acknowledge will be sent; the message shall be acknowledged or replied by a new OPEN message sent from the TGMS side which shall have reply attribute set to false and will be acknowledged in a normal way. The test argument can be set, if so none of the ALARMS will trigger any ALARM in TGMS, but they will be processed and acknowledged in the correct way.

### 4.4.1 MessageId

Set to a first message id, can be any in the valid range. See type definition below.

This field is mandatory.

### 4.4.2 ProviderName

This is the unique CFATS operator identification string received from FSD.

This field is mandatory.

This field has a maximum length of 20 characters.

### 4.4.3 ProviderId

This is a short version of the Provider name.

This field is mandatory.

This field is 3 characters long and must contain 3 characters.

### 4.4.4 ProtocolVersion

The version number of the protocol is used mostly as information when debugging.

This specification has the version of "0.1".

If the version of the protocol mismatches between TGMS and the CFATS operator, both parties shall write a log stating the 2 different versions but the OPEN shall still be accepted.

This field is mandatory.

This field has a maximum length of 10 characters.

#### 4.4.5 Test

This field has a default value of false. If it is set to true the whole session will be considered a test session and no ALARMS will be processed, the messages will just be checked that they are correct and normal acknowledgments and health checking will be done. This mode is used to test a new CFATS operator and verify that the interface is OK.

This field is optional.

### 4.5 Close

#### 4.5.1 MessageId

See type definition.

This field is mandatory.

#### 4.5.2 ProviderId

The unique CFATS operator identification string received from FSD.

This field is mandatory.

This field is 3 characters long and must contain 3 characters.

## 5. Type definitions

The type definitions are done with XML schema.

**MessageId** is a string of 0 to 999999, can use any legal start value but must increase with an increment of one for each message until 999999 is reached, after that restart at 0. I.e. the same MessageId cannot be sent in 2 messages unless the message counter has been restarted and all the other valid MessageIds have been used.

The fields that have the language options can exist in one or two copies with either language or , the language parameter is used to specify if the string is in Chinese or English. If available the address can be sent in both languages at the same time. The code to specify the languages is ISO 639. The valid language codes are; EN for English and ZH for Chinese, English is default.

## 6. Examples

Please see details in Annex A.



## 7. Schema definition

This is a definition of the schema used for validation the CFATS messages. This schema is not necessary to implement a correct and working CFATS interface, but it is strongly recommended that it be used to verify all CFATS messages to improve the quality of the interface implementation and to increase success of the usage of the interface. The text definition in the document has the highest priority, e.g. the language field can have all languages according to the schema definition, but today the CFATS application only supports English and Chinese.

Please see details in Annex B.

## 8. DTD definition

Since schema is a newer and better way of defining XML messages, the recommended way of describing the CFATS interface is to use schema. However to help companies that are currently using DTD we will supply a DTD definition. This DTD definition is just a help. Just because a XML messages 'passes' the DTD does not mean that it is a correct CFATS message. The DTD and schema is only a help to implement the interface in a correct way. If there are any discrepancies between the DTD and the schema, the schema definition has priority.

Please see details in Annex C.

## 9. Performance

The interface will be implemented on 2 leased circuits of 64 kbps but in the future higher speed leased circuits can be used with authorization from FSD. To avoid overflowing TGMS, it is recommended that not more than 4 ALARMS per second should be sent on the CFATS interface.

## 10. Non interface considerations

### 10.1 Connection plan for new CFATS operator

The plan to connect a new CFATS operator is to have the new CFATS operator set up the leased circuits to FSD, and then to test the ALARM data from that operator until FSD decides that the interface is tested enough for live data to be sent to FSD. Then the CFATS operator will be allowed to turn the interface live. Time must also be allowed for updating the CFATS database in TGMS with the new operators address data, which will be done manually by FSD,

To start with, a new CFATS operator must hand in a test plan with dates of the tests, a description of how the interface has been tested and a CD with sample CFATS messages. This plan should be handed in to FSD at least 1 month before the testing will start. FSD will then accept or reject this proposal.

The testing will be done at least on the following issues:

- Connection.
- Error handling
- Data consistency

The data consistency test will be performed by having the CFATS operator send all ALARMS in its current database and a number of predefined ALARMS one after another in test mode. The CFATS operator must have a testmode in their system to be able to perform this test.

**10.2 Maintenance plan**

The CFATS operator is responsible for maintaining the leased circuits and any other equipment that are needed to send the ALARMS for FSD. Maintenance should never be done on both circuits at the same time and be scheduled on low activity periods. FSD shall always be informed in advance when any of the leased circuits or equipment used to send the ALARMS are turned off. The CFATS provider should also notify FSD when updates are made to their system, which might make the system unstable, so that FSD is forewarned about such activities.

FSD have the right to change IP address and port number of the CFATS connection at anytime, but if the change is a planned change, FSD will give the CFATS operators at least 1 weeks written notice.

**10.3 Security consideration**

The CFATS contractor should responsible for their system security. The CFATS Client at contractor side should connect to CFATSIS only and security system should be setup to protect the system against any unauthorized access.

**10.4 Audit trail**

The CFATS operator and CFATS server must keep an audit trail of all communication both sent and received on the connection as well as the corresponding results and steps taken for at least 1 week's time.

**10.5 OSI model layer mapping**

The mapping of this interface to the OSI model is as follows.

<b>10.5.1.1.1.1 OSI Model</b>	<b>10.5.1.1.1.2 CF ATS interface</b>
Application layer	CFATS/XML
Presentation layer	CFATS/XML
Session Layer	CFATS/XML
Transport Layer	TCP
Network Layer	IP
Data link Layer	Ethernet
Physical Layer	Cabling

## Annex A

### Examples

This section contains examples of valid messages.

#### Open

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XML Spy v4.0 U beta 3.1 build Aug 27 2001 (http://www.xmlspy.com) by Stefan Sarin (Singapore Engineering Software) -->
<Open xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance" xsi:noNamespaceSchemaLocation="alarm.xsd">
  <MessageId>1</MessageId>
  <ProviderName>Singapore Tech.</ProviderName>
  <ProviderId>SES</ProviderId>
  <ProtocolVersion>0.1</ProtocolVersion>
</Open>
```

#### Acknowledge

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XML Spy v4.0 U beta 3.1 build Aug 27 2001 (http://www.xmlspy.com) by Stefan Sarin (Singapore Engineering Software) -->
<Acknowledge xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="alarm.xsd">
  <AckMessageId>12345</AckMessageId>
</Acknowledge>
```

#### Alive

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XML Spy v4.0 U beta 3.1 build Aug 27 2001 (http://www.xmlspy.com) by Stefan Sarin (Singapore Engineering Software) -->
<Alive xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance" xsi:noNamespaceSchemaLocation="alarm.xsd">
  <MessageId>2</MessageId>
</Alive>
```

#### Alarm

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XML Spy v4.0 U beta 3.1 build Aug 27 2001 (http://www.xmlspy.com) by Stefan Sarin (Singapore Engineering Software) -->
<Alarm xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance" xsi:noNamespaceSchemaLocation="alarm.xsd"
Test="true">
  <MessageId>1234</MessageId>
  <AlarmNumber>1</AlarmNumber>
  <Time>2001-09-12T12:02:00.043</Time>
  <DetectionTime>2001-09-12T12:01:02.321</DetectionTime>
  <Address>
    <Street>Canton Road</Street>
    <HouseNumberStart>30</HouseNumberStart>
    <Building>Silvercord</Building>
    <FloorEnglish>15</FloorEnglish>
    <Unit>06</Unit>
    <District>TST</District>
  </Address>
  <DefaultIncidentType>1AFA</DefaultIncidentType>
  <AlarmLocation>G/F, switch room</AlarmLocation>
  <AlarmType>H & S-DET B/G SPKR & FLOW SWTH</AlarmType>
  <ContactNo>3101 0390</ContactNo>
```

```
<Attendance>HP MP LRU TL 5/STNO</Attendance>  
<SpecialRisk>Gas tubes in unit</SpecialRisk>  
<Access>Canton Road</Access>  
</Alarm>
```

## Close

```
<?xml version="1.0" encoding="UTF-8"?>  
<!-- edited with XML Spy v4.0 U beta 3.1 build Aug 27 2001 (http://www.xmlspy.com) by Stefan Sarin (Singapore  
Engineering Software) -->  
<Close xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance" xsi:noNamespaceSchemaLocation="alarm.xsd">  
  <MessageId>3</MessageId>  
  <ProviderId>SES</ProviderId>  
</Close>
```

*Annex B*

**Definition**

element **Acknowledge**

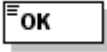
<p>diagram</p>	
<p>children</p>	<p><a href="#">AckMessageId</a> <a href="#">OK</a> <a href="#">Comment</a></p>
<p>source</p>	<pre>&lt;xsd:element name="Acknowledge"&gt;   &lt;xsd:complexType&gt;     &lt;xsd:sequence&gt;       &lt;xsd:element name="AckMessageId" minOccurs="0"&gt;         &lt;xsd:simpleType&gt;           &lt;xsd:restriction base="Id"&gt;             &lt;xsd:totalDigits value="6"/&gt;           &lt;/xsd:restriction&gt;         &lt;/xsd:simpleType&gt;       &lt;/xsd:element&gt;       &lt;xsd:element name="OK" type="xsd:boolean" default="TRUE" minOccurs="0"/&gt;       &lt;xsd:element name="Comment" minOccurs="0"&gt;         &lt;xsd:simpleType&gt;           &lt;xsd:restriction base="xsd:string"&gt;             &lt;xsd:maxLength value="80"/&gt;           &lt;/xsd:restriction&gt;         &lt;/xsd:simpleType&gt;       &lt;/xsd:element&gt;     &lt;/xsd:sequence&gt;   &lt;/xsd:complexType&gt; &lt;/xsd:element&gt;</pre>

element **Acknowledge/AckMessageId**

<p>diagram</p>	
<p>type</p>	<p>restriction of <a href="#">Id</a></p>
<p>facets</p>	<p>minInclusive 0</p> <p>maxInclusive 999999</p>

	totalDigits 6
source	<pre>&lt;xsd:element name="AckMessageId" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="Id"&gt;       &lt;xsd:totalDigits value="6"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **Acknowledge/OK**

diagram	
type	<b>xsd:boolean</b>
source	<pre>&lt;xsd:element name="OK" type="xsd:boolean" default="TRUE" minOccurs="0"/&gt;</pre>

element **Acknowledge/Comment**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 80
source	<pre>&lt;xsd:element name="Comment" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="80"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **Alarm**

<p>diagram</p>	
<p>children</p>	<p><a href="#">MessageId</a> <a href="#">AlarmNumber</a> <a href="#">Time</a> <a href="#">DetectionTime</a> <a href="#">Address</a> <a href="#">DefaultIncidentType</a> <a href="#">AlarmLocation</a> <a href="#">AlarmType</a> <a href="#">ContactNo</a> <a href="#">Attendance</a> <a href="#">SpecialRisk</a> <a href="#">TradeBusiness</a> <a href="#">Hydrant</a> <a href="#">Access</a> <a href="#">ZoneInfo</a> <a href="#">Extra1</a> <a href="#">Extra2</a> <a href="#">Extra3</a> <a href="#">Extra4</a></p>
<p>attributes</p>	<p>Name Type Use Default Fixed</p> <p>Test xsd:boolean</p>

	false
source	<pre> &lt;xsd:element name="Alarm"&gt;   &lt;xsd:complexType&gt;     &lt;xsd:sequence&gt;       &lt;xsd:element name="MessageId"&gt;         &lt;xsd:simpleType&gt;           &lt;xsd:restriction base="Id"&gt;             &lt;xsd:totalDigits value="6"/&gt;           &lt;/xsd:restriction&gt;         &lt;/xsd:simpleType&gt;       &lt;/xsd:element&gt;       &lt;xsd:element name="AlarmNumber"&gt;         &lt;xsd:simpleType&gt;           &lt;xsd:restriction base="xsd:nonNegativeInteger"&gt;             &lt;xsd:maxInclusive value="999999"/&gt;             &lt;xsd:totalDigits value="6"/&gt;           &lt;/xsd:restriction&gt;         &lt;/xsd:simpleType&gt;       &lt;/xsd:element&gt;       &lt;xsd:element name="Time"/&gt;       &lt;xsd:element name="DetectionTime" type="xsd:dateTime"/&gt;       &lt;xsd:element name="Address" type="AddressType"/&gt;       &lt;xsd:element name="DefaultIncidentType" minOccurs="0"&gt;         &lt;xsd:simpleType&gt;           &lt;xsd:restriction base="xsd:string"&gt;             &lt;xsd:maxLength value="10"/&gt;           &lt;/xsd:restriction&gt;         &lt;/xsd:simpleType&gt;       &lt;/xsd:element&gt;       &lt;xsd:element name="AlarmLocation"&gt;         &lt;xsd:simpleType&gt;           &lt;xsd:restriction base="xsd:string"&gt;             &lt;xsd:maxLength value="64"/&gt;           &lt;/xsd:restriction&gt;         &lt;/xsd:simpleType&gt;       &lt;/xsd:element&gt;       &lt;xsd:element name="AlarmType"&gt;         &lt;xsd:simpleType&gt;           &lt;xsd:restriction base="xsd:string"&gt;             &lt;xsd:maxLength value="40"/&gt;           &lt;/xsd:restriction&gt;         &lt;/xsd:simpleType&gt;       &lt;/xsd:element&gt;       &lt;xsd:element name="ContactNo" maxOccurs="2"&gt; </pre>

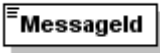


```
<xsd:simpleType>
  <xsd:restriction base="xsd:string">
    <xsd:maxLength value="50"/>
  </xsd:restriction>
</xsd:simpleType>
</xsd:element>
<xsd:element name="FPNumber" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="16"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="PremisesDetails" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="255"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="TypeOfFSI" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="1024"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Attendance" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="1024"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="SpecialRisk" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="1024"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="TradeBusiness" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="80"/>
    </xsd:restriction>
  </xsd:simpleType>
```


```
</xsd:element>
<xsd:element name="Hydrant" minOccurs="0" maxOccurs="4">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="256"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Access" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="1024"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="ZoneInfo" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="1024"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Extra1" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="80"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Extra2" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="80"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Extra3" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="80"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Extra4" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="80"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
```

	<pre> &lt;/xsd:restriction&gt; &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt; &lt;/xsd:sequence&gt; &lt;xsd:attribute name="Test" type="xsd:boolean" default="false"/&gt; &lt;/xsd:complexType&gt; &lt;/xsd:element&gt; </pre>
--	--

element Alarm/MessageId


diagram	
type	restriction of <a href="#">Id</a>
facets	<p>minInclusive 0</p> <p>maxInclusive 999999</p> <p>totalDigits 6</p>
source	<pre> &lt;xsd:element name="MessageId"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="Id"&gt;       &lt;xsd:totalDigits value="6"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt; </pre>

element Alarm/AlarmNumber


diagram	
type	restriction of <code>xsd:nonNegativeInteger</code>
facets	<p>maxInclusive 999999</p> <p>totalDigits 6</p>
source	<pre> &lt;xsd:element name="AlarmNumber"&gt; </pre>

	<pre> &lt;xsd:simpleType&gt;   &lt;xsd:restriction base="xsd:nonNegativeInteger"&gt;     &lt;xsd:maxInclusive value="999999"/&gt;     &lt;xsd:totalDigits value="6"/&gt;   &lt;/xsd:restriction&gt; &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt; </pre>
--	---

**element Alarm/Time**

diagram	
source	<code>&lt;xsd:element name="Time"/&gt;</code>

**element Alarm/DetectionTime**

diagram	
type	<code>xsd:dateTime</code>
source	<code>&lt;xsd:element name="DetectionTime" type="xsd:dateTime"/&gt;</code>

element **Alarm/Address**

<p>diagram</p>	
<p>type</p>	<p><a href="#">AddressType</a></p>
<p>children</p>	<p><a href="#">Street</a> <a href="#">HouseNumberStart</a> <a href="#">HouseNumberEnd</a> <a href="#">AlphaHouseNumberStart</a> <a href="#">AlphaHouseNumberEnd</a> <a href="#">Building</a> <a href="#">FloorEnglish</a> <a href="#">FloorChinese</a> <a href="#">Unit</a> <a href="#">Estate</a> <a href="#">Village</a> <a href="#">Landmark</a> <a href="#">District</a> <a href="#">LotCode</a> <a href="#">LotNumber</a> <a href="#">LotAlpha</a> <a href="#">SectionCode</a> <a href="#">Remark</a></p>
<p>source</p>	<p>&lt;xsd:element name="Address" type="AddressType"/&gt;</p>

element **Alarm/DefaultIncidentType**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 10
source	<pre>&lt;xsd:element name="DefaultIncidentType" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="10"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **Alarm/AlarmLocation**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 64
source	<pre>&lt;xsd:element name="AlarmLocation"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="64"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **Alarm/AlarmType**


diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 40

source	<pre>&lt;xsd:element name="AlarmType"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="40"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>
--------	--

element **Alarm/ContactNo**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 50
source	<pre>&lt;xsd:element name="ContactNo" maxOccurs="2"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="50"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **Alarm/FPNumber**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 16
source	<pre>&lt;xsd:element name="FPNumber" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="16"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **Alarm/PremisesDetails**



type restriction of **xsd:string**

facets  
maxLength  
255

```
source <xsd:element name="PremisesDetails" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="255"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
```

element **Alarm/TypeOfFSI**




type restriction of **xsd:string**

facets  
maxLength  
1024

```
source <xsd:element name="TypeOfFSI" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="1024"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
```

element **Alarm/Attendance**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 1024
source	<code>&lt;xsd:element name="Attendance" minOccurs="0"&gt;</code>



	<pre> &lt;xsd:simpleType&gt;   &lt;xsd:restriction base="xsd:string"&gt;     &lt;xsd:maxLength value="1024"/&gt;   &lt;/xsd:restriction&gt; &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt; </pre>
--	---

element **Alarm/SpecialRisk**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 1024
source	<pre> &lt;xsd:element name="SpecialRisk" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="1024"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt; </pre>

element **Alarm/TradeBusiness**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 80
source	<pre> &lt;xsd:element name="TradeBusiness" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="80"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt; </pre>


element **Alarm/Hydrant**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 256
source	<pre>&lt;xsd:element name="Hydrant" minOccurs="0" maxOccurs="4"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="256"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **Alarm/Access**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 1024
source	<pre>&lt;xsd:element name="Access" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="1024"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **Alarm/ZoneInfo**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 1024

source	<pre>&lt;xsd:element name="ZoneInfo" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="1024"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>
--------	---

element **Alarm/Extra1**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 80
source	<pre>&lt;xsd:element name="Extra1" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="80"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **Alarm/Extra2**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 80
source	<pre>&lt;xsd:element name="Extra2" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="80"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **Alarm/Extra3**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 80
source	<pre>&lt;xsd:element name="Extra3" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="80"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **Alarm/Extra4**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 80
source	<pre>&lt;xsd:element name="Extra4" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="80"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **Alive**

diagram	
children	<a href="#">MessageId</a>
source	<pre>&lt;xsd:element name="Alive"&gt;   &lt;xsd:complexType&gt;     &lt;xsd:sequence&gt;       &lt;xsd:element name="MessageId" type="Id"/&gt;     &lt;/xsd:sequence&gt;   &lt;/xsd:complexType&gt; &lt;/xsd:element&gt;</pre>

	<pre> &lt;/xsd:sequence&gt; &lt;/xsd:complexType&gt; &lt;/xsd:element&gt;                 </pre>
--	--

**element Alive/MessageId**


diagram	
type	<a href="#">Id</a>
facets	minInclusive 0  maxInclusive 999999
source	<code>&lt;xsd:element name="MessageId" type="Id"/&gt;</code>

**element Close**

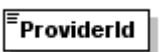
diagram	
children	<a href="#">MessageId</a> <a href="#">ProviderId</a>
source	<pre> &lt;xsd:element name="Close"&gt;   &lt;xsd:complexType&gt;     &lt;xsd:sequence&gt;       &lt;xsd:element name="MessageId"&gt;         &lt;xsd:simpleType&gt;           &lt;xsd:restriction base="Id"&gt;             &lt;xsd:totalDigits value="6"/&gt;           &lt;/xsd:restriction&gt;         &lt;/xsd:simpleType&gt;       &lt;/xsd:element&gt;       &lt;xsd:element name="ProviderId"&gt;         &lt;xsd:simpleType&gt;           &lt;xsd:restriction base="xsd:string"&gt;             &lt;xsd:maxLength value="3"/&gt;             &lt;xsd:minLength value="3"/&gt;           &lt;/xsd:restriction&gt;         &lt;/xsd:simpleType&gt;       &lt;/xsd:element&gt;     &lt;/xsd:sequence&gt;   &lt;/xsd:complexType&gt;                 </pre>

	</xsd:element>
--	----------------

**element Close/MessageId**

diagram	
type	restriction of <a href="#">Id</a>
facets	<p>minInclusive 0</p> <p>maxInclusive 999999</p> <p>totalDigits 6</p>
source	<pre>&lt;xsd:element name="MessageId"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="Id"&gt;       &lt;xsd:totalDigits value="6"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

**element Close/ProviderId**

diagram	
type	restriction of <code>xsd:string</code>
facets	<p>minLength 3</p> <p>maxLength 3</p>
source	<pre>&lt;xsd:element name="ProviderId"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="3"/&gt;       &lt;xsd:minLength value="3"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

	</xsd:element>
--	----------------

element **Open**


diagram	
children	<a href="#">MessageId</a> <a href="#">ProviderName</a> <a href="#">ProviderId</a> <a href="#">ProtocolVersion</a> <a href="#">Test</a>
attributes	<p>Name</p> <p>Type</p> <p>Use</p> <p>Default</p> <p>Fixed</p> <p>Reply</p> <p>xsd:boolean</p> <p>FALSE</p>
source	<pre> &lt;xsd:element name="Open"&gt;   &lt;xsd:complexType&gt;     &lt;xsd:sequence&gt;       &lt;xsd:element name="MessageId" type="Id"/&gt;       &lt;xsd:element name="ProviderName"&gt;         &lt;xsd:simpleType&gt;           &lt;xsd:restriction base="xsd:string"&gt;             &lt;xsd:maxLength value="20"/&gt;           &lt;/xsd:restriction&gt;         &lt;/xsd:simpleType&gt;       &lt;/xsd:element&gt;       &lt;xsd:element name="ProviderId"&gt;         &lt;xsd:simpleType&gt;           &lt;xsd:restriction base="xsd:string"&gt;             &lt;xsd:minLength value="3"/&gt;             &lt;xsd:maxLength value="3"/&gt;           &lt;/xsd:restriction&gt;         &lt;/xsd:simpleType&gt;       &lt;/xsd:element&gt;     &lt;/xsd:sequence&gt;   &lt;/xsd:complexType&gt; &lt;/xsd:element&gt; </pre>

	<pre> &lt;xsd:element name="ProtocolVersion"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="10"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt; &lt;xsd:element name="Test" type="xsd:boolean" default="False" minOccurs="0"/&gt; &lt;/xsd:sequence&gt; &lt;xsd:attribute name="Reply" type="xsd:boolean" default="FALSE"/&gt; &lt;/xsd:complexType&gt; &lt;/xsd:element&gt; </pre>
--	---

**element Open/MessageId**

diagram	
type	<a href="#">Id</a>
facets	minInclusive 0  maxInclusive 999999
source	<code>&lt;xsd:element name="MessageId" type="Id"/&gt;</code>

**element Open/ProviderName**


diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 20
source	<pre> &lt;xsd:element name="ProviderName"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="20"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt; </pre>



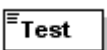
**element Open/ProviderId**

diagram	
type	restriction of <b>xsd:string</b>
facets	<p>minLength 3</p> <p>maxLength 3</p>
source	<pre>&lt;xsd:element name="ProviderId"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:minLength value="3"/&gt;       &lt;xsd:maxLength value="3"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

**element Open/ProtocolVersion**

diagram	
type	restriction of <b>xsd:string</b>
facets	<p>maxLength 10</p>
source	<pre>&lt;xsd:element name="ProtocolVersion"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="10"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

**element Open/Test**

diagram	
type	<b>xsd:boolean</b>

source	<xsd:element name="Test" type="xsd:boolean" default="False" minOccurs="0"/>
--------	---

complexType **AddressType**

diagram		
children	<a href="#">Street</a> <a href="#">HouseNumberStart</a> <a href="#">HouseNumberEnd</a> <a href="#">AlphaHouseNumberStart</a> <a href="#">AlphaHouseNumberEnd</a> <a href="#">Building</a> <a href="#">FloorEnglish</a> <a href="#">FloorChinese</a> <a href="#">Unit</a> <a href="#">Estate</a> <a href="#">Village</a> <a href="#">Landmark</a> <a href="#">District</a> <a href="#">LotCode</a> <a href="#">LotNumber</a> <a href="#">LotAlpha</a> <a href="#">SectionCode</a> <a href="#">Remark</a>	
used by	<a href="#">Alarm/Address</a>	element
source	<xsd:complexType name="AddressType">	

```
<xsd:sequence>
  <xsd:element name="Street" minOccurs="0" maxOccurs="2">
    <xsd:simpleType>
      <xsd:restriction base="xsd:string">
        <xsd:maxLength value="40"/>
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:element>
  <xsd:element name="HouseNumberStart" minOccurs="0">
    <xsd:simpleType>
      <xsd:restriction base="xsd:integer">
        <xsd:minExclusive value="0"/>
        <xsd:totalDigits value="5"/>
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:element>
  <xsd:element name="HouseNumberEnd" minOccurs="0">
    <xsd:simpleType>
      <xsd:restriction base="xsd:integer">
        <xsd:minExclusive value="0"/>
        <xsd:totalDigits value="5"/>
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:element>
  <xsd:element name="AlphaHouseNumberStart" minOccurs="0">
    <xsd:simpleType>
      <xsd:restriction base="xsd:string">
        <xsd:maxLength value="3"/>
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:element>
  <xsd:element name="AlphaHouseNumberEnd" minOccurs="0">
    <xsd:simpleType>
      <xsd:restriction base="xsd:string">
        <xsd:maxLength value="3"/>
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:element>
  <xsd:element name="Building" form="qualified" minOccurs="0" maxOccurs="2">
    <xsd:complexType>
      <xsd:simpleContent>
        <xsd:extension base="xsd:string">
          <xsd:attribute name="Language" type="xsd:language" default="EN"/>
        </xsd:extension>
      </xsd:simpleContent>
    </xsd:complexType>
  </xsd:element>
```

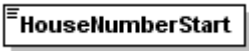
```
<xsd:element name="FloorEnglish" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:integer">
      <xsd:totalDigits value="3"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="FloorChinese" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:integer">
      <xsd:totalDigits value="3"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Unit" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="5"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Estate" minOccurs="0" maxOccurs="2">
  <xsd:complexType>
    <xsd:simpleContent>
      <xsd:extension base="xsd:string">
        <xsd:attribute name="Language" type="xsd:language" default="EN"/>
      </xsd:extension>
    </xsd:simpleContent>
  </xsd:complexType>
</xsd:element>
<xsd:element name="Village" minOccurs="0" maxOccurs="2">
  <xsd:complexType>
    <xsd:simpleContent>
      <xsd:extension base="xsd:string">
        <xsd:attribute name="Language" type="xsd:language" default="EN"/>
      </xsd:extension>
    </xsd:simpleContent>
  </xsd:complexType>
</xsd:element>
<xsd:element name="Landmark" minOccurs="0" maxOccurs="2">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="80"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="District" minOccurs="0">
```

```
<xsd:simpleType>
  <xsd:restriction base="xsd:string">
    <xsd:maxLength value="30"/>
  </xsd:restriction>
</xsd:simpleType>
</xsd:element>
<xsd:element name="LotCode" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="5"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="LotNumber" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="5"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="LotAlpha" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="5"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="SectionCode" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="5"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Remark" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="80"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
```

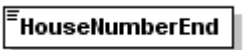
element **AddressType/Street**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 40
source	<pre> &lt;xsd:element name="Street" minOccurs="0" maxOccurs="2"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="40"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt; </pre>

element **AddressType/HouseNumberStart**

diagram	
type	restriction of <b>xsd:integer</b>
facets	minExclusive 0  totalDigits 5
source	<pre> &lt;xsd:element name="HouseNumberStart" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:integer"&gt;       &lt;xsd:minExclusive value="0"/&gt;       &lt;xsd:totalDigits value="5"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt; </pre>

element **AddressType/HouseNumberEnd**


diagram	
type	restriction of <b>xsd:integer</b>
facets	minExclusive 0

	totalDigits 5
source	<pre>&lt;xsd:element name="HouseNumberEnd" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:integer"&gt;       &lt;xsd:minExclusive value="0"/&gt;       &lt;xsd:totalDigits value="5"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **AddressType/AlphaHouseNumberStart**


diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 3
source	<pre>&lt;xsd:element name="AlphaHouseNumberStart" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="3"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **AddressType/AlphaHouseNumberEnd**


diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 3
source	<pre>&lt;xsd:element name="AlphaHouseNumberEnd" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="3"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

	<pre>&lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>
--	---

element **AddressType/Building**

diagram	
type	extension of <b>xsd:string</b>
attributes	<p>Name</p> <p>Type</p> <p>Use</p> <p>Default</p> <p>Fixed</p> <p>Language</p> <p>xsd:language</p> <p>EN</p>
source	<pre>&lt;xsd:element name="Building" form="qualified" minOccurs="0" maxOccurs="2"&gt;   &lt;xsd:complexType&gt;     &lt;xsd:simpleContent&gt;       &lt;xsd:extension base="xsd:string"&gt;         &lt;xsd:attribute name="Language" type="xsd:language" default="EN"/&gt;       &lt;/xsd:extension&gt;     &lt;/xsd:simpleContent&gt;   &lt;/xsd:complexType&gt; &lt;/xsd:element&gt;</pre>

element **AddressType/FloorEnglish**

diagram	
type	restriction of <b>xsd:integer</b>
facets	<p>totalDigits</p> <p>3</p>
source	<pre>&lt;xsd:element name="FloorEnglish" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:integer"&gt;       &lt;xsd:totalDigits value="3"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>



	<pre> &lt;/xsd:restriction&gt; &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt; </pre>
--	--

**element AddressType/FloorChinese**

diagram	
type	restriction of <b>xsd:integer</b>
facets	totalDigits 3
source	<pre> &lt;xsd:element name="FloorChinese" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:integer"&gt;       &lt;xsd:totalDigits value="3"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt; </pre>

**element AddressType/Unit**


diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 5
source	<pre> &lt;xsd:element name="Unit" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="5"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt; </pre>

**element AddressType/Estate**

diagram	
type	extension of <b>xsd:string</b>

attributes	<p>Name</p> <p>Type</p> <p>Use</p> <p>Default</p> <p>Fixed</p> <p>Language</p> <p>xsd:language</p> <p>EN</p>
source	<pre>&lt;xsd:element name="Estate" minOccurs="0" maxOccurs="2"&gt;   &lt;xsd:complexType&gt;     &lt;xsd:simpleContent&gt;       &lt;xsd:extension base="xsd:string"&gt;         &lt;xsd:attribute name="Language" type="xsd:language" default="EN"/&gt;       &lt;/xsd:extension&gt;     &lt;/xsd:simpleContent&gt;   &lt;/xsd:complexType&gt; &lt;/xsd:element&gt;</pre>

element **AddressType/Village**

diagram	
type	extension of <b>xsd:string</b>
attributes	<p>Name</p> <p>Type</p> <p>Use</p> <p>Default</p> <p>Fixed</p> <p>Language</p> <p>xsd:language</p> <p>EN</p>
source	<pre>&lt;xsd:element name="Village" minOccurs="0" maxOccurs="2"&gt;   &lt;xsd:complexType&gt;     &lt;xsd:simpleContent&gt;       &lt;xsd:extension base="xsd:string"&gt;</pre>

	<pre> &lt;xsd:attribute name="Language" type="xsd:language" default="EN"/&gt; &lt;/xsd:extension&gt; &lt;/xsd:simpleContent&gt; &lt;/xsd:complexType&gt; &lt;/xsd:element&gt;                 </pre>
--	--

**element AddressType/Landmark**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 80
source	<pre> &lt;xsd:element name="Landmark" minOccurs="0" maxOccurs="2"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="80"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;                 </pre>

**element AddressType/District**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 30
source	<pre> &lt;xsd:element name="District" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="30"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;                 </pre>


element **AddressType/LotCode**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 5
source	<pre>&lt;xsd:element name="LotCode" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="5"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **AddressType/LotNumber**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 5
source	<pre>&lt;xsd:element name="LotNumber" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="5"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **AddressType/LotAlpha**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 5

source	<pre>&lt;xsd:element name="LotAlpha" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="5"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>
--------	--

element **AddressType/SectionCode**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 5
source	<pre>&lt;xsd:element name="SectionCode" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="5"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

element **AddressType/Remark**

diagram	
type	restriction of <b>xsd:string</b>
facets	maxLength 80
source	<pre>&lt;xsd:element name="Remark" minOccurs="0"&gt;   &lt;xsd:simpleType&gt;     &lt;xsd:restriction base="xsd:string"&gt;       &lt;xsd:maxLength value="80"/&gt;     &lt;/xsd:restriction&gt;   &lt;/xsd:simpleType&gt; &lt;/xsd:element&gt;</pre>

simpleType **Id**

type	restriction of <b>xsd:integer</b>
used by	elements <a href="#">Acknowledge/AckMessageId</a> <a href="#">Alarm/MessageId</a> <a href="#">Open/MessageId</a> <a href="#">Close/MessageId</a> <a href="#">Alive/MessageId</a>
facets	minInclusive 0  maxInclusive 999999
source	<pre>&lt;xsd:simpleType name="Id"&gt;   &lt;xsd:restriction base="xsd:integer"&gt;     &lt;xsd:maxInclusive value="999999"/&gt;     &lt;xsd:minInclusive value="0"/&gt;   &lt;/xsd:restriction&gt; &lt;/xsd:simpleType&gt;</pre>

## XML definition of the schema

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XML Spy v4.0 U beta 3.1 build Aug 27 2001 (http://www.xmlspy.com) by Stefan Sarin (Singapore Engineering Software) -->
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified"
attributeFormDefault="unqualified" version="1.0">
  <xsd:element name="Alarm">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element name="MessageId">
          <xsd:simpleType>
            <xsd:restriction base="Id">
              <xsd:totalDigits value="6"/>
            </xsd:restriction>
          </xsd:simpleType>
        </xsd:element>
        <xsd:element name="AlarmNumber">
          <xsd:simpleType>
            <xsd:restriction base="xsd:nonNegativeInteger">
              <xsd:maxInclusive value="999999"/>
              <xsd:totalDigits value="6"/>
            </xsd:restriction>
          </xsd:simpleType>
        </xsd:element>
        <xsd:element name="Time"/>
        <xsd:element name="DetectionTime" type="xsd:dateTime"/>
        <xsd:element name="Address" type="AddressType"/>
        <xsd:element name="DefaultIncidentType" minOccurs="0">
          <xsd:simpleType>
            <xsd:restriction base="xsd:string">
              <xsd:maxLength value="10"/>
            </xsd:restriction>
          </xsd:simpleType>
        </xsd:element>
        <xsd:element name="AlarmLocation">
          <xsd:simpleType>
            <xsd:restriction base="xsd:string">
              <xsd:maxLength value="64"/>
            </xsd:restriction>
          </xsd:simpleType>
        </xsd:element>
        <xsd:element name="AlarmType">
          <xsd:simpleType>
            <xsd:restriction base="xsd:string">
              <xsd:maxLength value="40"/>
            </xsd:restriction>
          </xsd:simpleType>
        </xsd:element>
        <xsd:element name="ContactNo" maxOccurs="2">
          <xsd:simpleType>
            <xsd:restriction base="xsd:string">
              <xsd:maxLength value="10"/>
            </xsd:restriction>
          </xsd:simpleType>
        </xsd:element>
        <xsd:element name="FPNumber" minOccurs="0">
          <xsd:simpleType>
            <xsd:restriction base="xsd:string">
              <xsd:maxLength value="1024"/>
            </xsd:restriction>
          </xsd:simpleType>
        </xsd:element>
        <xsd:element name="PremisesDetails" minOccurs="0">
          <xsd:simpleType>
            <xsd:restriction base="xsd:string">
              <xsd:maxLength value="1024"/>
            </xsd:restriction>
          </xsd:simpleType>
        </xsd:element>
        <xsd:element name="TypeOfFSI" minOccurs="0">
```

```
<xsd:simpleType>
  <xsd:restriction base="xsd:string">
    <xsd:maxLength value="1024"/>
  </xsd:restriction>
</xsd:simpleType>
</xsd:element>
<xsd:element name="Attendance" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="1024"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="SpecialRisk" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="1024"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="TradeBusiness" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="80"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Hydrant" minOccurs="0" maxOccurs="4">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="256"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Access" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="1024"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="ZoneInfo" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="1024"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Extra1" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="80"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Extra2" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="80"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Extra3" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="80"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
<xsd:element name="Extra4" minOccurs="0">
  <xsd:simpleType>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="80"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:element>
```



```

        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
  </xsd:sequence>
  <xsd:attribute name="Test" type="xsd:boolean" default="false"/>
</xsd:complexType>
</xsd:element>
<xsd:element name="Open">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="MessageId" type="Id"/>
      <xsd:element name="ProviderName">
        <xsd:simpleType>
          <xsd:restriction base="xsd:string">
            <xsd:maxLength value="20"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
      <xsd:element name="ProviderId">
        <xsd:simpleType>
          <xsd:restriction base="xsd:string">
            <xsd:minLength value="3"/>
            <xsd:maxLength value="3"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
      <xsd:element name="ProtocolVersion">
        <xsd:simpleType>
          <xsd:restriction base="xsd:string">
            <xsd:maxLength value="10"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
      <xsd:element name="Test" type="xsd:boolean" default="False" minOccurs="0"/>
    </xsd:sequence>
    <xsd:attribute name="Reply" type="xsd:boolean" default="FALSE"/>
  </xsd:complexType>
</xsd:element>
<xsd:element name="Close">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="MessageId">
        <xsd:simpleType>
          <xsd:restriction base="Id">
            <xsd:totalDigits value="6"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
      <xsd:element name="ProviderId">
        <xsd:simpleType>
          <xsd:restriction base="xsd:string">
            <xsd:maxLength value="3"/>
            <xsd:minLength value="3"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="Alive">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="MessageId" type="Id"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="Acknowledge">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="AckMessageId" minOccurs="0">
        <xsd:simpleType>
          <xsd:restriction base="Id">
            <xsd:totalDigits value="6"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

```

```

        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="OK" type="xsd:boolean" default="TRUE" minOccurs="0"/>
    <xsd:element name="Comment" minOccurs="0">
      <xsd:simpleType>
        <xsd:restriction base="xsd:string">
          <xsd:maxLength value="80"/>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:complexType name="AddressType">
  <xsd:sequence>
    <xsd:element name="Street" minOccurs="0" maxOccurs="2">
      <xsd:simpleType>
        <xsd:restriction base="xsd:string">
          <xsd:maxLength value="40"/>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="HouseNumberStart" minOccurs="0">
      <xsd:simpleType>
        <xsd:restriction base="xsd:integer">
          <xsd:minExclusive value="0"/>
          <xsd:totalDigits value="5"/>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="HouseNumberEnd" minOccurs="0">
      <xsd:simpleType>
        <xsd:restriction base="xsd:integer">
          <xsd:minExclusive value="0"/>
          <xsd:totalDigits value="5"/>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="AlphaHouseNumberStart" minOccurs="0">
      <xsd:simpleType>
        <xsd:restriction base="xsd:string">
          <xsd:maxLength value="3"/>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="AlphaHouseNumberEnd" minOccurs="0">
      <xsd:simpleType>
        <xsd:restriction base="xsd:string">
          <xsd:maxLength value="3"/>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="Building" form="qualified" minOccurs="0" maxOccurs="2">
      <xsd:complexType>
        <xsd:simpleContent>
          <xsd:extension base="xsd:string">
            <xsd:attribute name="Language" type="xsd:language" default="EN"/>
          </xsd:extension>
        </xsd:simpleContent>
      </xsd:complexType>
    </xsd:element>
    <xsd:element name="FloorEnglish" minOccurs="0">
      <xsd:simpleType>
        <xsd:restriction base="xsd:integer">
          <xsd:totalDigits value="3"/>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
    <xsd:element name="FloorChinese" minOccurs="0">
      <xsd:simpleType>
        <xsd:restriction base="xsd:integer">
          <xsd:totalDigits value="3"/>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>

```

```

        </xsd:restriction>
    </xsd:simpleType>
</xsd:element>
<xsd:element name="Unit" minOccurs="0">
    <xsd:simpleType>
        <xsd:restriction base="xsd:string">
            <xsd:maxLength value="5"/>
        </xsd:restriction>
    </xsd:simpleType>
</xsd:element>
<xsd:element name="Estate" minOccurs="0" maxOccurs="2">
    <xsd:complexType>
        <xsd:simpleContent>
            <xsd:extension base="xsd:string">
                <xsd:attribute name="Language" type="xsd:language" default="EN"/>
            </xsd:extension>
        </xsd:simpleContent>
    </xsd:complexType>
</xsd:element>
<xsd:element name="Village" minOccurs="0" maxOccurs="2">
    <xsd:complexType>
        <xsd:simpleContent>
            <xsd:extension base="xsd:string">
                <xsd:attribute name="Language" type="xsd:language" default="EN"/>
            </xsd:extension>
        </xsd:simpleContent>
    </xsd:complexType>
</xsd:element>
<xsd:element name="Landmark" minOccurs="0" maxOccurs="2">
    <xsd:simpleType>
        <xsd:restriction base="xsd:string">
            <xsd:maxLength value="80"/>
        </xsd:restriction>
    </xsd:simpleType>
</xsd:element>
<xsd:element name="District" minOccurs="0">
    <xsd:simpleType>
        <xsd:restriction base="xsd:string">
            <xsd:maxLength value="30"/>
        </xsd:restriction>
    </xsd:simpleType>
</xsd:element>
<xsd:element name="LotCode" minOccurs="0">
    <xsd:simpleType>
        <xsd:restriction base="xsd:string">
            <xsd:maxLength value="5"/>
        </xsd:restriction>
    </xsd:simpleType>
</xsd:element>
<xsd:element name="LotNumber" minOccurs="0">
    <xsd:simpleType>
        <xsd:restriction base="xsd:string">
            <xsd:maxLength value="5"/>
        </xsd:restriction>
    </xsd:simpleType>
</xsd:element>
<xsd:element name="LotAlpha" minOccurs="0">
    <xsd:simpleType>
        <xsd:restriction base="xsd:string">
            <xsd:maxLength value="5"/>
        </xsd:restriction>
    </xsd:simpleType>
</xsd:element>
<xsd:element name="SectionCode" minOccurs="0">
    <xsd:simpleType>
        <xsd:restriction base="xsd:string">
            <xsd:maxLength value="5"/>
        </xsd:restriction>
    </xsd:simpleType>
</xsd:element>
<xsd:element name="Remark" minOccurs="0">
    <xsd:simpleType>
        <xsd:restriction base="xsd:string">

```

```
        <xsd:maxLength value="80"/>
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:simpleType name="Id">
  <xsd:restriction base="xsd:integer">
    <xsd:maxInclusive value="999999"/>
    <xsd:minInclusive value="0"/>
  </xsd:restriction>
</xsd:simpleType>
</xsd:schema>
```

*Annex C***DTD Definition**

```

<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XML Spy v4.0 U beta 3.1 build Aug 27 2001 (http://www.xmlspy.com) by Stefan Sarin (Singapore Engineering Software) -->
<!-- DTD generated by XML Spy v4.0 U beta 3.1 build Aug 27 2001 (http://www.xmlspy.com)-->
<!ELEMENT Acknowledge (AckMessageld?, OK?, Comment?)>
<!ELEMENT Alarm (Messageld, AlarmNumber, Time, DetectionTime, Address, DefaultIncidentType?, AlarmLocation, AlarmType, ContactNo+, FPNNumber?, PremisesDetails?, TypeOfFSI?, Attendance?, SpecialRisk?, TradeBusiness?, Hydrant*, Access?, ZonelInfo?, Extra1?, Extra2?, Extra3?, Extra4?)>
<!ATTLIST Alarm
    Test CDATA #IMPLIED
>
<!ELEMENT Alive (Messageld)>
<!ELEMENT Close (Messageld, ProviderId)>
<!ELEMENT Open (Messageld, ProviderName, ProviderId, ProtocolVersion, Test?)>
<!ATTLIST Open
    Reply CDATA #IMPLIED
>
<!ELEMENT AckMessageld (#PCDATA)>
<!ELEMENT OK (#PCDATA)>
<!ELEMENT Comment (#PCDATA)>
<!ELEMENT Messageld (#PCDATA)>
<!ELEMENT AlarmNumber (#PCDATA)>
<!ELEMENT Time (#PCDATA)>
<!ELEMENT DetectionTime (#PCDATA)>
<!ELEMENT Address (Street*, HouseNumberStart?, HouseNumberEnd?, AlphaHouseNumberStart?, AlphaHouseNumberEnd?, Building*, FloorEnglish?, FloorChinese?, Unit?, Estate*, Village*, Landmark*, District?, LotCode?, LotNumber?, LotAlpha?, SectionCode?, Remark?)>
<!ELEMENT DefaultIncidentType (#PCDATA)>
<!ELEMENT AlarmLocation (#PCDATA)>
<!ELEMENT AlarmType (#PCDATA)>
<!ELEMENT ContactNo (#PCDATA)>
<!ELEMENT FPNNumber (#PCDATA)>
<!ELEMENT PremisesDetails (#PCDATA)>
<!ELEMENT TypeOfFSI (#PCDATA)>
<!ELEMENT Attendance (#PCDATA)>
<!ELEMENT SpecialRisk (#PCDATA)>
<!ELEMENT TradeBusiness (#PCDATA)>
<!ELEMENT Hydrant (#PCDATA)>
<!ELEMENT Access (#PCDATA)>
<!ELEMENT ZonelInfo (#PCDATA)>
<!ELEMENT Extra1 (#PCDATA)>
<!ELEMENT Extra2 (#PCDATA)>
<!ELEMENT Extra3 (#PCDATA)>
<!ELEMENT Extra4 (#PCDATA)>
<!ELEMENT ProviderId (#PCDATA)>
<!ELEMENT ProviderName (#PCDATA)>
<!ELEMENT ProtocolVersion (#PCDATA)>
<!ELEMENT Test (#PCDATA)>
<!ELEMENT Street (#PCDATA)>
<!ELEMENT HouseNumberStart (#PCDATA)>
<!ELEMENT HouseNumberEnd (#PCDATA)>
<!ELEMENT AlphaHouseNumberStart (#PCDATA)>
<!ELEMENT AlphaHouseNumberEnd (#PCDATA)>
<!ELEMENT Building (#PCDATA)>
<!ATTLIST Building
    Language CDATA #IMPLIED
>
<!ELEMENT FloorEnglish (#PCDATA)>
<!ELEMENT FloorChinese (#PCDATA)>
<!ELEMENT Unit (#PCDATA)>
<!ELEMENT Estate (#PCDATA)>
<!ATTLIST Estate
    Language CDATA #IMPLIED
>
<!ELEMENT Village (#PCDATA)>
<!ATTLIST Village

```

Language CDATA #IMPLIED  
>  
<!ELEMENT Landmark (#PCDATA)>  
<!ELEMENT District (#PCDATA)>  
<!ELEMENT LotCode (#PCDATA)>  
<!ELEMENT LotNumber (#PCDATA)>  
<!ELEMENT LotAlpha (#PCDATA)>  
<!ELEMENT SectionCode (#PCDATA)>  
<!ELEMENT Remark (#PCDATA)>