Johnson Controls

P2000

Security Management System

RMS-XML

Application Programming Interface

Version 3.11 and higher, April, 2012
24-10618-104 Revision A

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Acknowledgment

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P2000 RMS-XML INTERFACE

This document describes the Application Programming Interface (API) for the P2000 Remote Messaging Service (RMS) XML Interface. This API details the data and interface requirements for both P2000 applications and third-party applications to receive messages from the P2000 RMS-XML Interface. This API does not cover remote servers receiving messages in P2000 Binary format. This API is correct for P2000 version 3.6 and later 3.x versions. This API does not apply to P2000 4.x versions.

NOTE

This document is intended to be used by programmers or other qualified professionals who posses a reasonable level of experience with application program writing.

OVERVIEW

The P2000 RMS-XML is a P2000 interface that allows a remote server or external application to receive real-time messages from the P2000 system. This interface "pushes" messages to computers that are defined as a Remote Server in the P2000 system and that are configured to receive the XML protocol. An external application needs to open an IP socket (at the configured port number) and listen for incoming connections. When the P2000 system has messages to send, it connects to the external computer and sends the data to the port. P2000 messages are sent encoded in XML format using HTTP Post type mechanism.

This interface enables applications to receive access grant and deny messages, hardware status change messages, alarm messages, and audit messages. A message filter can optionally be configured to limit the type of messages transmitted. The RMS-XML interface is an extension of the existing Remote Messaging Service (RMS) Interface that was designed to send P2000 real-time messages to other P2000 systems.

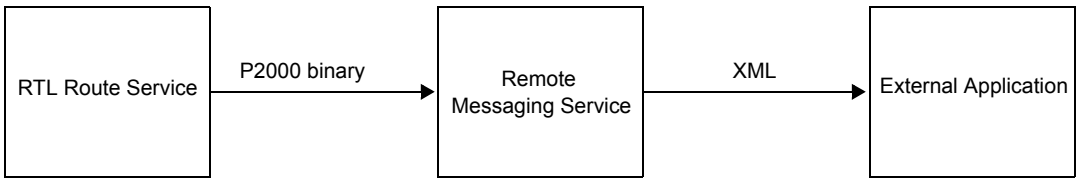


Figure 1: RMS-XML Interface Operation

DETAILS

Communication

The Remote Message Service receives all real-time messages from the RTL Route Service. For each configured remote server, RMS places messages to be sent into a queue for each remote server. If the message does not pass the configured message filter (if any), the message is not queued for that server. If RMS has messages in the queue for a remote server, it will open a TCP/IP socket to the configured remote server computer name or IP address. The message will then be written to the socket and RMS will wait for a valid response. When a valid response is received, the message will be removed from the queue. If a connection cannot be made to the remote server or a valid response is not received, the message remains in the queue and RMS will continue to attempt to send it.

Message Protocol

When a remote server entry is configured in P2000, the operator can select "XML Protocol" or "HTTP Post XML Protocol" ("Binary Protocol" is not covered by this document). If you select the "XML Protocol," the XML document containing the message will be written to the TCP/IP socket as an ASCII string. If you select the "HTTP Post XML Protocol," the XML document will be prefixed by a standard HTTP Post header similar to the following:

```
POST //computername HTTP/1.1<CR>
User-Agent: P2000/3.6.0<CR>
Host: remoteserver:39160<CR>
Server: remotesitename<CR>
Content-Type: text/xml<CR>
Content-Length: 340<CR>
<CR>
```

The XML document will be written to the socket as an ASCII string. A partial sample is shown below:

```
<?xml version="1.0"?><CR>
<P2000Message>
     <MessageBase>
          .
          .
     </MessageBase>
     <MessageDecode>
          .
          .
     </MessageDecode>
     <MessageDetails>
          .
          .
     </MessageDetails>
</P2000Message><CR>
```

Expected Response

The remote server must respond to every received message by transmitting a valid HTTP response. An example response is shown below:

```
HTTP/1.1 200 OK<CR>
```

IMPORTANT NOTE

The reply must be terminated with a <CR> (decimal value 13). The <CR> marks the end of the reply. The P2000 will not process your reply until it receives the <CR>.

The RMS will verify that the response contains the string "200 OK." Any other responses will be considered a transmission failure and the message will remain in the queue to be transmitted again.

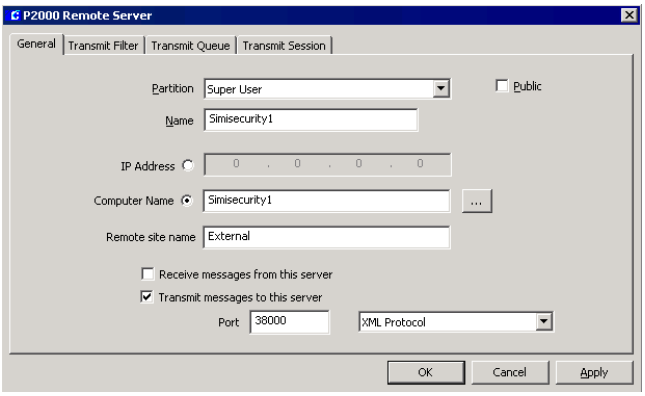
Socket Handling

When the P2000 has messages to send, it will open a socket connection to the remote server. After sending the message and receiving the reply, the P2000 will keep the socket connection open. New messages will be sent on the same open socket connection. If the P2000 has not transmitted a new message for 10 seconds, the socket connection will be closed. The socket connection will also be closed upon certain socket communication errors. The next new message to be sent will cause a new socket connection to be created.

This behavior implies that the remote server should continue attempting to read and process P2000 messages on a socket connection until it receives a notification or error that indicates the socket has been closed by the P2000.

Configuration

In order to receive P2000 RMS XML messages, a new remote server entry must be added to the P2000 configuration. This configuration is located in the Remote Server branch of the System Configuration tree. The important configuration items on the General tab are the *Computer Name* (or IP Address), the *Transmit messages to this server* check box, the *Port* number, and the *Protocol*. The options on the Transmit Queue tab control the queue for storing messages to be transmitted. Below is a screen shot of the Remote Server configuration window:



Troubleshooting

The P2000 Remote Messaging Service can be run in "debug" mode to see additional information about messages that are being processed. You must first stop the RMS service using Windows or P2000 Service Control. Then open a command prompt in the P2000 "bin" directory and start the RMS service in debug mode with the following command:

```
RemoteMessageService -d
```

The RMS service will now operate as a console application and will output information to its console window. The RMS service can be stopped when running in debug mode by entering **<Ctrl> C** in its console window.

MESSAGE DATA

All P2000 messages contain at least 3 sections:

Message Base	The Message Base section includes data items that are common to all messages. This section contains all information needed to effectively filter messages.
Message Decode	The Message Decode section includes data items that contain text strings that summarize the message. These data items are the same strings that P2000 uses to populate the list of the Real Time List application.
Message Details	The Message Details section includes the data items that are specific to the message.

Message Versions

The Message Base and Message Details sections both contain a "MessageVersion" data item. When messages are modified in P2000, the version of that message is changed. These version numbers will enable an external application to change processing based upon the message version if necessary.

MESSAGE REFERENCE

The P2000 RMS-XML interface currently supports three different P2000 message types: Audit Messages, Alarm Messages, and Real Time Data Messages. Real Time Data messages include most all of the messages that come from controllers such as Access Grant and Deny, Output State Change, Input State Change, etc. This interface will be extended in future versions of P2000 to include other message types.

Message Base

The Message Base section includes data items that are common to all messages. This section contains all information needed to effectively filter messages. The Message Base section contains the following data items:

BaseVersion	integer version number of the Message Base
MessageType	integer message type number (see below)
MessageSubType	integer message sub-type number (message type specific, see below)
SiteName	site generating message
PartitionName	partition that owns message
Public	flag to indicate if message is public
ItemName	item name associated with message
QueryString	query string from message item
Category	alarm category of message (only valid for alarm messages)
Escalation	alarm escalation level of message (only valid for alarm messages)
Priority	alarm priority level of message (only valid for alarm messages)
OperatorName	operator username for message (only valid for alarm and audit messages)

Message Types

The MessageType values in the Message Base section of a message will be one of the following:

Alarm Message	3
Real Time Data Message	28673
Audit Message	28675

Message Decode

The Message Decode section includes data items that contain text strings that summarize the message. These data items are the same strings that P2000 uses to populate the list in the Real Time List application. The Message Decode section contains the following data items:

MessageDateTime	the data and time of the message
MessageTypeText	a text string of the message type
MessageText	a short text string summary of the message
DetailsText	a text string of the important message details

Message Details

The Message Details section includes the data items that are specific to the message.

Audit Message

An Audit Message contains the following data items:

MessageVersion	the version of the Audit message
LocalTimestamp	the local date and time of the audit message
UTCTimestamp	the UTC date and time of the audit message
Username	the username of the operator causing the action
ItemType	the type of item being changed
Action	the type of action being taken on the item
ItemID	the database ID of the item
ItemName	the name of the item

Audit Item Types

The ItemType data item of an audit message indicates what type of item is being changed. The ItemType data member of an audit message contains the same value as the MessageSubType data member of the MessageBase section. The following list details the value for ItemType data items for Audit messages:

User	1	MenuPermissionGroup	37
Badge	2	PanelRelay	38
BadgeLayout	3	Report	39
BadgeLayoutFields	4	MIS	40
BadgeEncode	5	ImageRecallFilter	41
IDBadge	6	Counter	42
Cardholder	7	ActionInterlock	43
Panel	8	ExternalIP	44
Terminal	9	GuardTourDefinition	45
Partition	10	GuardTourStation	46
TerminalGroup	11	Loop	47
AccessGroup	12	Elevator	48
Holiday	13	ElevatorFloorMask	49
Timezone	14	ElevatorFloorGroup	50
Input	15	ElevatorFloorName	51
InputGroup	16	Cabinet	52
PanelHoliday	17	CabinetDoorGroup	53
AccessTemplate	18	CabinetDoorMask	54
AlarmResponseText	19	CabinetDoorName	55
AlarmInstruction	20	Area	56
Company	21	Zone	57
Output	22	AreaLayout	58
OutputGroup	23	Connections	59
Department	24	CCTVServer	60
PanelTimezone	25	CCTVSwitch	61
SoftAlarms	26	CCTVTour	62
Site	27	CCTVAlarm	63
Station	28	CCTVMacro	64
RealTimeMap	29	CCTVAuxSystem	65
IconImageSet	30	CCTVMonitor	66
UDFConfiguration	31	CCTVSequence	67
Event	32	CCTVCamera	68
PanelCardEvent	33	CCTVPreset	69
AlarmFilter	34	CCTVPattern	70
MessageForwarding	35	CCTVAuxCamera	71

EnableCode	72	DataImportFields	103
P900Flag	73	IntercomExchange	104
P900Counter	74	IntercomStation	105
P900Event	75	AVSite	106
P900Link	76	AVChannel	107
P900SysParam	77	AVMonitor	108
AutoBadge	78	AVPreset	109
AirCrewPin	79	AVInputtoCamera	110
P900SeqFile	80	EnterpriseSite	112
RemoteServer	81	EnterpriseParameters	113
MessageFilter	82	AVDryContact	114
MessageFilterGroup	83	AlarmColors	115
LocalSite	84	BadgeSetup	116
Service	85	RequestApprover	117
Application	86	FASCNCCC	118
PanelCardFormat	87	BadgePurpose	119
Reason	88	AlarmOptions	120
SecurityLevelRange	89	Intrusion	121
ImportFile	90	AlarmReceiverDevice	122
ImportConsolidation	91	AlarmCategory	123
ImportBadgeFormat	92	MSEAGraphic	124
ImportTCP/IP	93	OSIFacility	125
Audit	94	MSEAAdx Map	173
AlarmHistory	95	MSEAPartitionMap	174
Alarm	96	MifareEncode	175
GenericText	97	WebAccessConfig	176
MusterHistory	98	FireAlarm	177
GuardTourHistory	99	SoftwareUpdate	178
Transaction	100	BadgeReason	179
Redundancy	101	RequiredFields	180
DataImportMapping	102		

Audit Actions

The Action data member of an audit message indicates what action the operator is taking on the item. The following list details the value for Action data items for Audit messages:

Exec	0	ZoneReady	21
Logon	1	StartMusterDrill	22
Logoff	2	PrintGroup	25
Add	3	RemoveBadge	26
Edit	4	ExpandZone	27
Delete	5	EnablePrint	28
Print	6	DisablePrint	29
Download	7	SaveData	30
Set	8	Pulse	31
Reset	9	Enable	32
Lock	10	Clear	33
Unlock	11	Disable	34
TimedOverride	12	Force	35
LockAll	13	Calibrate	36
UnlockAll	14	Uncalibrate	37
Update	15	SetInUse	38
WriteFlash	16	SetAvailable	39
StartMuster	17	ManualTrigger	40
StopMuster	18	StoreDefault	41
Demuster	19	SecurityLevel	42

LoginInvalid	43	ResyncUndefined	64
LogonDisabled	44	Suppress	65
FDABackup	45	EmergencyDisable	66
FDAViolation	46	IntrusionAreaArm	67
FDAChecksumCalc	47	IntrusionAreaForcedArm	68
RedundancyFailover	48	IntrusionAreaDisarm	69
RedundancyOffline	49	IntrusionZoneBypassOn	70
RedundancyOnline	50	IntrusionZoneBypassOff	71
RedundancyMirron	51	IntrusionZoneReset	72
RedundancyMonitor	52	IntrusionzoneResetAck	73
RedundancyAdminstrate	53	IntrusionAnnunciatorActivate	74
RedundancyReboot	54	IntrusionAnnunciatorDeactivate	75
RedundancyConfigExport	55	Lockou	76
RedundancyConfigImport	56	FireZoneDisable	77
DownloadFirmware	57	FireZoneEnable	78
VerifyFirmware	58	FireDetectorDisable	79
ApplyFirmware	59	FireDetectorEnable	80
EraseDatabase	60	FireModuleDisable	81
Reboot	61	FireModuleEnable	82
ResyncIn	62	FireModuleActivate	83
ResyncOut	63	FireModuleDeactivate	84

Alarm Message

An Alarm Data Message contains the following data items:

MessageVersion	the version of the Alarm message
AlarmGuid	the database Guid of this alarm
AlarmID	the database ID of the alarm
AlarmType	the alarm type (see below)
AlarmOptionsGuid	the database Guid for the alarm options
AlarmTypeName	the alarm type name
AlarmTypeID	the database ID of the item for this alarm
AlarmTypeGuid	the database Guid of the item for this alarm
AckRequired	flag to indicate if this alarm requires an ack before it can be completed
ResponseRequired	flag to indicate it this alarm requires a response before it can be completed
InstructionText	the instruction text for this alarm
AlarmState	the state of the alarm (See below)
AlarmTimestamp	the timestamp of the alarm state
ConditionState	the state of the triggering condition (dependent upon the triggering item)
ConditionSequenceNumber	incremented every time the triggering item changes state
ConditionCompletionState	the state that the triggering item must be in before the alarm can be completed
ConditionTimestamp	the timestamp of the condition state
Popup	flag to indicate if Alarm Monitor should pop to the foreground
Description	the text description of this alarm
AlarmSiteName	the site that generated this alarm

In addition, some alarm types add additional data items. The alarm types that add additional data are detailed next.

Alarm Types

The following list details the possible Alarm Type values:

Generic	1
Input Point	2
Area	3
Guard Tour	4
Muster Running	5
Muster Zone Status	6
Muster When Disabled	7
Muster Aborted	8
Loop Tamper	9
Event	10
MSEA Event	11
AV Motion	12
AV Behavior	13
AV Video Loss	14
AV Dry Contact	15
AV System	16
Intrusion Zone	17
Fire Alarm Zone	18

Alarm States

The following list details the possible Alarm State values:

Complete	1
Responding	2
Acknowledged	3
Pending	4

Area Alarms

An Area Alarm adds the following data items under the node "/P2000Message/MessageDetails/AreaDetails":

AreaAlarmVersion	the version of the Area Alarm message
AreaName	the name of the area
AreaAlarmSubtype	the area alarm subtype

AV Behavior Alarms

An AV Behavior Alarm adds the following data items under the node "/P2000Message/MessageDetails/AVDetails":

AVBehaviorAlarmVersion	the version of the AV Behavior Alarm message
AVChannelID	the AV Channel database ID
AVSiteID	the AV Site database ID

AV Dry Contact Alarms

An AV Dry Contact Alarm adds the following data items under the node "/P2000Message/MessageDetails/AVDetails":

AVDryContactAlarmVersion	the version of the AV Dry Contact Alarm message
AVChannelID	the AV Channel database ID
AVSiteID	the AV Site database ID

AV Motion Alarms

An AV Motion Alarm adds the following data items under the node "/P2000Message/MessageDetails/AVDetails":

AVMotionAlarmVersion	the version of the AV Motion Alarm message
AVChannelID	the AV Channel database ID
AVSiteID	the AV Site database ID

AV System Alarms

An AV System Alarm adds the following data items under the node "/P2000Message/MessageDetails/AVDetails":

AVSystemAlarmVersion	the version of the AV System Alarm message
AVSystemID	the AV System database ID
AVSiteID	the AV Site database ID
AlarmDescription	the text alarm description

AV Video Loss Alarms

An AV Video Loss Alarm adds the following data items under the node "/P2000Message/MessageDetails/AVDetails":

AVVideoLossAlarmVersion	the version of the AV Video Loss Alarm message
AVChannelID	the AV Channel database ID
AVSiteID	the AV Site database ID

Guard Tour Alarms

A Guard Tour Alarm adds the following data items under the node "/P2000Message/MessageDetails/GuardTourDetails":

GuardTourAlarmVersion	the version of the Guard Tour Alarm message
TourName	the Guard Tour name
StationName	the Station name
GuardTourAlarmSubtype	the Guard Tour Alarm subtype

Input Point Alarms

An Input Point Alarm adds the following data items under the node "/P2000Message/MessageDetails/InputDetails":

InputPointAlarmVersion	the version of the Input Point Alarm message
PointStateChange	flag to indicate a point state change
PanelID	the Panel database ID
PanelGuid	the database Guid of the Panel
PanelName	the Panel name
TerminalID	the Terminal database ID
TerminalGuid	the database Guid of the Terminal
TerminalIndex	the Terminal index
TerminalName	the Terminal name
PointGuid	the database Guid of the Point
PointNumber	the Point number
PointName	the Point name
PrevPointState	the previous Point state
PointState	the current Point state

Intrusion Alarms

An Intrusion Alarm adds the following data items under the node "/P2000Message/MessageDetails/IntrusionDetails":

IntrusionAlarmVersion	the version of the Intrusion Alarm message
IntrusionAlarmSubtype	the Intrusion Alarm subtype

Loop Tamper Alarms

A Loop Tamper Alarm adds the following data items under the node "/P2000Message/MessageDetails/LoopTamperDetails":

LoopTamperAlarmVersion	the version of the Loop Tamper Alarm message
LoopID	the Loop database ID
LoopNumber	the Loop number
TamperAlarm	flag to indicate if it is a tamper alarm

Muster Alarms

A Muster Alarm adds the following data items under the node "/P2000Message/MessageDetails/MusterDetails":

MusterAlarmVersion	the version of the Muster Alarm message
ZoneName	the Zone name
HardwareStatus	the status of the hardware causing the alarm

Fire Alarms

A Fire Alarm adds the following data items under the node "/P2000Message/MessageDetails/FireAlarmDetails":

FireAlarmVersion	the version of the Fire Alarm message
FireAlarmSubtype	the Fire Alarm subtype

Real Time Data Message

The data items of a Real Time Data message vary depending upon the History Type of the message. Some data items will not contain valid data for all History Types. For example, an Access Grant message will contain panel and terminal data but will not contain point data. A Real Time Data Message may contain the following data items:

MessageVersion	the version of the Real Time Data message
HistoryType	the history type (see below)
LocalTimestamp	the local date and time of the message
PanelID	the Panel database ID (if applicable)
PanelGuid	the database Guid of the Panel (V3.8 and later)
PanelName	the Panel name (if applicable)
TerminalID	the Terminal database ID (if applicable)
TerminalGuid	the database Guid of the Terminal (V3.8 and later)
TerminalIndex	the Terminal index (if applicable)
TerminalName	the Terminal name (if applicable)
PointID	the Point database ID (if applicable)
PointGuid	the database Guid of the Point (V3.8 and later)
PointNumber	the Point number (if applicable)
PointName	the Point name (if applicable)
BadgeNumber	the Badge number (if applicable)
FacilityCode	the Facility Code of the badge (if applicable)
EventName	the Event name (if applicable)
SecurityLevel	the Security Level (if applicable)
RTLDataGuid	the database Guid of the transaction record in the "xaction" table

Badge Data

If the Real Time Data message contains badge data (for messages such as Access Grant), the following data items will be added:

Direction	the direction of the access (0 = undefined, 1 = IN, 2 = OUT)
BadgeTrace	flag to indicate if this is a badge trace message
IssueLevel	issue level of the badge
CardholderID	the Cardholder database ID that owns the badge
CardholderGuid	the database Guid of the Cardholder (V3.8 and later)
CardholderFirstName	the Cardholder first name that owns the badge
CardholderLastName	the Cardholder last name that owns the badge
CardholderEmployeeID	the Cardholder Employee ID that owns the badge (V3.8 and later)
ActionInterlockID1	the database ID of the first Action Interlock of this badge
ActionInterlockValue1	the floating point value of the first Action Interlock of this badge
ActionInterlockID2	the database ID of the second Action Interlock of this badge
ActionInterlockValue2	the floating point value of the second Action Interlock of this badge

Elevator Data

If the Real Time Data message contains badge data (for messages such as Invalid Floor), the following data items will be added:

ElevatorType	the Elevator type (1 = Elevator, 2 = Cabinet)
ElevatorID	the Elevator database ID
ElevatorName	the Elevator name
ElevatorFloor	the Elevator floor number
ElevatorFloorName	the Elevator floor name

Timed Override Data

TimedOverride	the duration of the timed override

History Types

The following list details the possible History Type values. Note that many of these History Types are generated by different models of controllers and no one model of controller will generate all of them. History Types that include Badge Data are marked with a “B.” History Types that include Elevator Data are marked with an “E.” History Types that include Timed Override Data are marked with an “O.”

Reader Up		1
Reader Down		5
Code Image Download Success		8
Code Image Download Fail		9
System Facility Code Error		10
System Event Activated	(B)	11
System Event De-activated	(B)	12
Unlock All Doors		15
Lock All Doors		16
Output Set		17
Output Reset		18
Reader Locked		19
Reader Unlocked		20
Reader Held Open		21
Reader Forced Open		22
Reader Valid & Unauthorized		23
Invalid Card	(B)	33
Anti Passback On	(B)	34
Invalid Reader	(B)	35
Invalid In-X Status	(B)	36
Invalid Card Timezone	(B)	37
Invalid Pin	(B)	38
Invalid Issue Level	(B)	39
Host Deny	(B)	40
Invalid Security Level	(B)	41
Invalid Reader Timezone	(B)	42
Timed Override Expire		43
Invalid Event	(B)	44
Invalid Event Privilege	(B)	45
Biometric Mismatch	(B)	46
Deny Door Open	(B)	47
Elevator Invalid Floor	(B,E)	48
Elevator Invalid Timezone	(B,E)	49
Elevator Invalid Card	(B,E)	50
Host Grant	(B)	65
Executive Privilege	(B)	67
Local Grant	(B)	68
Timed Override Enabled	(O)	69
Timed Override Disabled		70
Timed Override Enabled Host	(O)	71
Timed Override Disabled Host		72
User Event Activated	(B)	73
User Event De-activated	(B)	74
Soft In-X-It	(B)	75
Assisted Access	(B)	76
Assisted Access Host	(B)	77
Manual Reader	(B)	78
Elevator	(B,E)	79
Reader Egress	(B)	80
Duress Grant	(B)	81
Duress Grant Host	(B)	82
Input Set		96
Input Reset		97
D620 Tamper Set		99
D620 Tamper Reset		100
Door Open		101
Duress		102
Pin Retry		103
Forced Door		104
Card Parity		105
Card Low Battery		106
D620 AC Power Set		107
D620 AC Power Reset		108
D620 Low Battery Set		109
D620 Low Battery Reset		110
Reader Low Battery Set		111
Reader Low Battery Reset		112
Reader AC Set		113
Reader AC Reset		114
Reader Tamper Set		115
Reader Tamper Reset		116
Input Open		117
Input Short		118
Calibrated		123
Input Suppressed		125
Node Up		224
Switch		225
Converter Tamper Set		226
Converter Tamper Reset		227
Node Down		228
Host Grant In	(B)	266
Host Grant Out	(B)	267
Host Duress Grant In	(B)	268
Host Duress Grant Out	(B)	269
Input Terminal Up		292
Output Terminal Up		293
Input Terminal Down		294
Output Terminal Down		295
Node Up Duplicate		20481
Reader Terminal Unknown		20482
Input Terminal Unknown		20483
Output Terminal Unknown		20484
Node Disconnected		20485
Node Misconfigured		20486
Node Flash Reset		20487
Reader Override		20488
Reader Lockout		20489
Reader Cleared		20490
Reader Motor Fault		20491
Reader Remote Entry		20492
Reader Key Bypass		20493
Reader Lost Data		20494
Reader Exit Request		20495
Reader Low Battery		20496
Reader Config Updated		20498
Reader Firmware Updated		20499
Panel Firmware Updated		20500
Panel Login Success		20501
Panel Login Failed		20502
Panel Badge DB Ful		20503
Panel Msg Buffer Overflow		20504
Panel Msg Buffer Cleared		20505
Panel Fault Msg		20506
Panel Firmware Upgrade Init		20507
Panel Firmware Upgrade Failed		20508
Badge No Override Priv		20509
Timed Override Time Invalid		20510
Reader Status Input Fault		20511

Input History Set	20576	Intr Zone Open	40977
Input History Reset	20577	Intr Zone Bypassed	40978
Input History Open	20597	Intr Zone Open Bypassed	40979
Input History Short	20598	Intr Zone Tamper	40980
Input History Suppressed	20599	Intr Zone Tamper Open	40981
Event Triggered	24577	Intr Zone Tamper Bypassed	40982
Event Triggered Manual	24578	Intr Zone Tamper Bypassed Open	40983
Guard Tour Duress	28673	Intr Zone Alarm	40984
Guard Tour Start	28674	Intr Zone Alarm Open	40985
Guard Tour Running	28675	Intr Area Disarmed Nobypass Sealed	40992
Guard Tour Early	28676	Intr Area Disarmed Nobypass Unsealed	40993
Guard Tour Late	28677	Intr Area Disarmed Bypassed Sealed	40994
Guard Tour Out Of Order	28678	Intr Area Disarmed Bypassed Unsealed	40995
Guard Tour Stopped	28679	Intr Area Armed Nobypass Sealed	40996
Guard Tour Restarted	28680	Intr Area Armed Nobypass Unsealed	40997
Guard Tour Aborted	28681	Intr Area Armed Bypassed Sealed	40998
Guard Tour Completed	28682	Intr Area Armed Bypassed Unsealed	40999
Guard Tour Late Timer	28683	Intr Area Alarm Disarmed Nobypass Sealed	41000
Guard Tour Terminated	28684	Intr Area Alarm Disarmed Nobypass Unsealed	41001
Area Reader Out	32769	Intr Area Alarm Disarmed Bypassed Sealed	41002
Area Reader In	32770	Intr Area Alarm Disarmed Bypassed Unsealed	41003
Area Input Out	32771	Intr Area Alarm Armed Nobypass_Sealed	41004
Area Input In	32772	Intr Area Alarm Armed Nobypass_Unsealed	41005
Area Manual Out	32773	Intr Area Alarm Armed Bypassed Sealed	41006
Area Manual In	32774	Intr Area Alarm Armed Bypassed_Unsealed	41007
AV Motion	36865	Intr Annunciator Deactivated	41024
AV Behavior	36866	Intr Annunciator Activated	41025
AV Video Loss	36867	Intrusion Up	41040
AV Dry Contact	36868	Intrusion Down	41041
AV System	36869	Fire Alarm Up	41296
Intr Device Normal	40961	Fire Alarm Down	41297
Intr Device Fault	40962	Otis Elevator Device Up	41472
Intr Device Down	40963	Otis Elevator Device Down	41473
Intr Zone Normal	40976		

SAMPLE MESSAGES

Sample Audit Message

The following is an audit message generated by an operator editing a badge:

```
<?xml version="1.0"?>
<P2000Message>
    <MessageBase>
        <BaseVersion>300</BaseVersion>
        <MessageType>28675</MessageType>
        <MessageSubType>2</MessageSubType>
        <SiteName>SEATAC</SiteName>
        <PartitionName>Super User</PartitionName>
        <Public>0</Public>
        <ItemName>99955522</ItemName>
        <QueryString></QueryString>
        <Category></Category>
        <Escalation>0</Escalation>
```

```
        <Priority>0</Priority>
        <OperatorName>cplatts</OperatorName>
    </MessageBase>
    <MessageDecode>
        <MessageDateTime>2/28/2006 11:28:03 AM</MessageDateTime>
        <MessageTypeText>Audit</MessageTypeText>
        <MessageText>Edit Badge</MessageText>
        <DetailsText>99955522 (ID 182027)</DetailsText>
    </MessageDecode>
    <MessageDetails>
        <MessageVersion>100</MessageVersion>
        <LocalTimestamp>2006-2-28T11:28:3</LocalTimestamp>
        <UTCTimestamp>2006-2-28T19:28:3</UTCTimestamp>
        <Username>cplatts</Username>
        <ItemType>2</ItemType>
        <Action>4</Action>
        <ItemID>182027</ItemID>
        <ItemName>99955522</ItemName>
    </MessageDetails>
</P2000Message>
```

Sample Alarm Message

The following is an input alarm message generated by an input point going into the set state:

```
<?xml version="1.0"?>
<P2000Message>
    <MessageBase>
        <BaseVersion>300</BaseVersion>
        <MessageType>3</MessageType>
        <MessageSubType>2</MessageSubType>
        <SiteName>SEATAC</SiteName>
        <PartitionName>Super User</PartitionName>
        <Public>0</Public>
        <ItemName>In 2A</ItemName>
        <QueryString></QueryString>
        <Category>P2000</Category>
        <Escalation>0</Escalation>
        <Priority>0</Priority>
        <OperatorName></OperatorName>
    </MessageBase>
    <MessageDecode>
        <MessageDateTime>2/28/2006 11:45:01 AM</MessageDateTime>
        <MessageTypeText>Alarm</MessageTypeText>
        <MessageText>Pending Set</MessageText>
        <DetailsText>In 2A IO8 A Test CK720</DetailsText>
    </MessageDecode>
    <MessageDetails>
        <MessageVersion>200</MessageVersion>
        <AlarmGuid>AAF23A5D-81C7-4ED6-B34B-A4E88D2A35D1</AlarmGuid>
        <AlarmID>1061</AlarmID>
        <AlarmType>2</AlarmType>
        <AlarmOptionsGuid>211C2A42-F455-44A1-AFDF-52502A6F6108</AlarmOptionsGuid>
```

```
        <AlarmTypeName>Input Point</AlarmTypeName>
        <AlarmTypeID>4332</AlarmTypeID>
        <AlarmTypeGuid></AlarmTypeGuid>
        <AckRequired>1</AckRequired>
        <InstructionText>Notify police at 911</InstructionText>
        <AlarmState>4</AlarmState>
        <AlarmTimestamp>2006-2-28T11:45:1</AlarmTimestamp>
        <ConditionState>1</ConditionState>
        <ConditionSequenceNumber>1</ConditionSequenceNumber>
        <ConditionCompletionState>0</ConditionCompletionState>
        <ConditionTimestamp>2006-2-28T11:45:1</ConditionTimestamp>
        <Popup>0</Popup>
        <Description>In 2A IO8 A Test CK720</Description>
        <AlarmSiteName>SEATAC</AlarmSiteName>
        <InputDetails>
            <InputPointAlarmVersion>300</InputPointAlarmVersion>
            <PointStateChange>1</PointStateChange>
            <PanelID>89</PanelID>
            <PanelGuid>D5B8CB64-5009-4A4F-A967-8B75AED1BDC1</PanelGuid>
            <PanelName>A Test CK720</PanelName>
            <TerminalID>715</TerminalID>
            <TerminalGuid>72B7C8D8-9EA0-4928-8294-611D6BFD13F9</TerminalGuid>
            <TerminalIndex>2</TerminalIndex>
            <TerminalName>IO8</TerminalName>
            <PointGuid>2D28AA28-B0AD-47C7-AB9F-360363567EBA</PointGuid>
            <PointNumber>2</PointNumber>
            <PointName>In 2A</PointName>
            <PrevPointState>0</PrevPointState>
            <PointState>1</PointState>
        </InputDetails>
    </MessageDetails>
</P2000Message>
```

Sample Access Grant Message

The following is a real time data arm message generated by an access grant at a reader:

```
<?xml version="1.0"?>
<P2000Message>
    <MessageBase>
        <BaseVersion>300</BaseVersion>
        <MessageType>28673</MessageType>
        <MessageSubType>68</MessageSubType>
        <SiteName>SEATAC</SiteName>
        <PartitionName>Super User</PartitionName>
        <Public>0</Public>
        <ItemName>A Test CK720 1 Door</ItemName>
        <QueryString>Building 1</QueryString>
        <Category></Category>
        <Escalation>0</Escalation>
        <Priority>0</Priority>
        <OperatorName></OperatorName>
    </MessageBase>
    <MessageDecode>
        <MessageDateTime>2/28/2006 12:16:20 PM</MessageDateTime>
```

```
        <MessageTypeText>Access Grant</MessageTypeText>
        <MessageText>Access Granted Local</MessageText>
        <DetailsText>A Test CK720 1 Door 33 Charles Johnson</DetailsText>
    </MessageDecode>
    <MessageDetails>
        <MessageVersion>101</MessageVersion>
        <HistoryType>68</HistoryType>
        <LocalTimestamp>2006-2-28T12:16:20</LocalTimestamp>
        <PanelID>89</PanelID>
        <PanelGuid>D5B8CB64-5009-4A4F-A967-8B75AED1BDC1</PanelGuid>
        <PanelName>A Test CK720</PanelName>
        <TerminalID>670</TerminalID>
        <TerminalGuid>72B7C8D8-9EA0-4928-8294-611D6BFD13F9</TerminalGuid>
        <TerminalIndex>0</TerminalIndex>
        <TerminalName>A Test CK720 1 Door</TerminalName>
        <PointID>0</PointID>
        <PointGuid></PointGuid>
        <PointNumber>0</PointNumber>
        <PointName></PointName>
        <BadgeNumber>33</BadgeNumber>
        <Direction>0</Direction>
        <BadgeTrace>0</BadgeTrace>
        <IssueLevel>0</IssueLevel>
        <CardholderID>182025</CardholderID>
        <CardholderGuid>B7C82099-03C6-4C0C-8F32-BA1AEBAFDAF1</CardholderGuid>
        <CardholderFirstName>Charles</CardholderFirstName>
        <CardholderLastName>Johnson</CardholderLastName>
        <CardholderEmployeeID>548-73-4256</CardholderEmployeeID>
        <ActionInterlockID1>0</ActionInterlockID1>
        <ActionInterlockValue1>0</ActionInterlockValue1>
        <ActionInterlockID2>0</ActionInterlockID2>
        <ActionInterlockValue2>0</ActionInterlockValue2>
        <EventName></EventName>
        <SecurityLevel>0</SecurityLevel>
        <RTLDataGuid>3E31A95E-FCA3-4BC5-8653-159DF07044E3</RTLDataGuid>
    </MessageDetails>
</P2000Message>
```

Sample Input Point State Change Message

The following is a real time data arm message generated by an input point going into the set (alarm) state:

```
<?xml version="1.0"?>
<P2000Message>
    <MessageBase>
        <BaseVersion>300</BaseVersion>
        <MessageType>28673</MessageType>
        <MessageSubType>20576</MessageSubType>
        <SiteName>SEATAC</SiteName>
        <PartitionName>Super User</PartitionName>
        <Public>0</Public>
        <ItemName>In 2A</ItemName>
        <QueryString></QueryString>
        <Category></Category>
```

```
        <Escalation>0</Escalation>
        <Priority>0</Priority>
        <OperatorName></OperatorName>
    </MessageBase>
    <MessageDecode>
        <MessageDateTime>2/28/2006 11:45:01 AM</MessageDateTime>
        <MessageTypeText>Input Point State Change</MessageTypeText>
        <MessageText>Alarm</MessageText>
        <DetailsText>In 2A</DetailsText>
    </MessageDecode>
    <MessageDetails>
        <MessageVersion>101</MessageVersion>
        <HistoryType>20576</HistoryType>
        <LocalTimestamp>2006-2-28T11:45:1</LocalTimestamp>
        <PanelID>89</PanelID>
        <PanelGuid>D5B8CB64-5009-4A4F-A967-8B75AED1BDC1</PanelGuid>
        <PanelName>A Test CK720</PanelName>
        <TerminalID>715</TerminalID>
        <TerminalGuid>72B7C8D8-9EA0-4928-8294-611D6BFD13F9</TerminalGuid>
        <TerminalIndex>2</TerminalIndex>
        <TerminalName>IO8</TerminalName>
        <PointID>4332</PointID>
        <PointGuid>2D28AA28-B0AD-47C7-AB9F-360363567EBA</PointGuid>
        <PointNumber>2</PointNumber>
        <PointName>In 2A</PointName>
        <BadgeNumber></BadgeNumber>
        <EventName></EventName>
        <SecurityLevel>0</SecurityLevel>
        <RTLDataGuid>783E6AD2-7AA3-4C82-BB1B-6B5BD109D1B2</RTLDataGuid>
    </MessageDetails>
</P2000Message>
```

Sample Output Point State Change Message

The following is a real time data arm message generated by an output point going into the set state:

```
<?xml version="1.0"?>
<P2000Message>
    <MessageBase>
        <BaseVersion>300</BaseVersion>
        <MessageType>28673</MessageType>
        <MessageSubType>17</MessageSubType>
        <SiteName>SEATAC</SiteName>
        <PartitionName>Super User</PartitionName>
        <Public>0</Public>
        <ItemName>Out 2</ItemName>
        <QueryString></QueryString>
        <Category></Category>
        <Escalation>0</Escalation>
        <Priority>0</Priority>
        <OperatorName></OperatorName>
    </MessageBase>
    <MessageDecode>
        <MessageDateTime>2/28/2006 11:58:16 AM</MessageDateTime>
```

```
            <MessageTypeText>Panel</MessageTypeText>
            <MessageText>Output Set</MessageText>
            <DetailsText>A Test CK720 IO8 Out 2</DetailsText>
        </MessageDecode>
        <MessageDetails>
            <MessageVersion>101</MessageVersion>
            <HistoryType>17</HistoryType>
            <LocalTimestamp>2006-2-28T11:58:16</LocalTimestamp>
            <PanelID>89</PanelID>
            <PanelGuid>D5B8CB64-5009-4A4F-A967-8B75AED1BDC1</PanelGuid>
            <PanelName>A Test CK720</PanelName>
            <TerminalID>715</TerminalID>
            <TerminalGuid>72B7C8D8-9EA0-4928-8294-611D6BFD13F9</TerminalGuid>
            <TerminalIndex>2</TerminalIndex>
            <TerminalName>IO8</TerminalName>
            <PointID>439</PointID>
            <PointGuid>C1217F4B-CAD6-4F21-BFF1-4C39C09837FE</PointGuid>
            <PointNumber>2</PointNumber>
            <PointName>Out 2</PointName>
            <BadgeNumber></BadgeNumber>
            <EventName></EventName>
            <SecurityLevel>0</SecurityLevel>
            <RTLDataGuid>8FFAB3A4-F3EF-449F-BEEF-EDC52E42A4BF</RTLDataGuid>
        </MessageDetails>
    </P2000Message>
```