

## ELI InfoHub Specification

A guide for vendors of Student Management Systems in the transmission of data from ECE services to the Ministry

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# 1 Document Information

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## 1.1 Document History

This document is only valid on the day it was printed.

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## 1.2 Final Approval

This document requires the following approval:

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The following persons have been provided the opportunity to provide feedback on the draft versions.

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## Table of Contents

<b>1</b>	<b>Document Information</b>	<b>2</b>
1.1	Document History	2
1.2	Final Approval	3
1.3	Reviewers	4
<b>2</b>	<b>Introduction</b>	<b>7</b>
2.1	Document Purpose	7
2.2	Intended Audience	7
2.3	Contacts	7
2.4	Glossary	8
<b>3</b>	<b>Scope</b>	<b>10</b>
3.1	In Scope	10
	Out of Scope	10
<b>4</b>	<b>ELI Background</b>	<b>11</b>
4.1	What is the ELI system?	11
4.2	What is an Event?	11
<b>5</b>	<b>Message transmission</b>	<b>12</b>
5.1	What is ESAA?	12
5.2	What is InfoHub?	12
5.3	What is ELI core?	13
<b>6</b>	<b>Configuration</b>	<b>14</b>
<b>7</b>	<b>Sending Events to InfoHub</b>	<b>15</b>
7.1	Determine if Authentication required	16
7.2	Request Authentication	16
7.3	Provides Access Token	16
7.4	If Error	16
7.5	Send Data to InfoHub	16
7.6	Validate Message	16
7.7	If invalid_grant error	16
7.8	If other error	17
7.9	Raise error & retry	17
7.10	Finish	18
<b>8</b>	<b>Technical Specifications</b>	<b>18</b>
8.1	POST access_token request	18
8.1.1	Prerequisites	18
8.1.2	HTTP request	18
8.1.3	Parameters	18
8.1.4	HTTP Headers	18

8.1.5	Sample POST access_token request	19
8.1.6	Successful POST access_token request response	19
8.1.7	Unsuccessful POST access_token request - message errors	20
8.1.8	Unsuccessful POST access_token request - server errors	20
8.1.9	Sample POST access_token request	21
8.2	POST Event Request	22
8.2.1	Prerequisites	22
8.2.2	Resource URL	22
8.2.3	Parameters	22
8.2.4	Http headers for event collection service	22
8.2.5	Response Codes	22
8.2.6	Successful POST event request	23
8.2.7	Unsuccessful POST event request - message errors	23
8.2.8	Unsuccessful POST event request - server errors	23
8.2.9	Sample event message	24
<b>9</b>	<b>Appendix A Example transmissions</b>	<b>25</b>
9.1.1	Sample ESAA Authentication	25
9.1.2	Sample POST Event Message to InfoHub	26
<b>10</b>	<b>Appendix B Alternative transmission process diagrams</b>	<b>28</b>

## 2 Introduction

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### 2.1 Document Purpose

This purpose of this document is to provide:

1. an overview of the role of InfoHub in the automated process of ELI data collection from ECE services
2. a description of InfoHub prerequisite requirements
3. details and examples of InfoHub engagement protocols

The information described within the document is required in order for ECE services to provide the data necessary to support the ECE business and reporting requirements for the ELI system.

### 2.2 Intended Audience

This document is intended for the following audience:

- ECE SMS vendors
- Fronde development team
- ELI Project Team

### 2.3 Contacts

Any queries relating to this document should be made to: [ELI.Queries@minedu.govt.nz](mailto:ELI.Queries@minedu.govt.nz)

## 2.4 Glossary

Table 1 defines the following terms used within this document.

Table 1: Terminology

Term	Definition
<b>API:</b>	API, an abbreviation of application program interface, is a set of routines, protocols, and tools for building software applications. A good API makes it easier to develop a program by providing all the building blocks. A programmer then puts the blocks together.
<b>ECE:</b>	Early Childhood Education
<b>ELI:</b>	Early Learning Information The ELI project will establish a new information system for early childhood education (ECE), increasing the quality and volume of information on participation in ECE.
<b>ELI core</b>	The destination database that will receive all messages transmitted by Services
<b>ESSA:</b>	Education Services Authentication and Authorisation service
<b>InfoHub:</b>	The Ministry of Education's external web service interface for the receipt of event data from sector organisations.
<b>JSON:</b>	JSON (JavaScript Object Notation) is a lightweight data-interchange format. It is easy for developers to read and write and for machines to parse and generate. JSON is a text format that is completely language independent but uses conventions that are familiar to programmers of the C-family of languages, including C, C++, C#, Java, JavaScript, Perl, Python, and many others. These properties make JSON an ideal data-interchange language.  InfoHub can accept both xml and json formats however the ELI system has been designed to accept only xml. <b>SMS vendors should use only xml</b> for data transmission.
<b>MoE:</b> Ministry of Education/Ministry	The MoE is the Government's lead advisor on the education system, shaping direction for education agencies and providers and contributing to the government's goals of economic transformation, national identity, and families, young and old and sustainable development.



Term	Definition
<b>NSI:</b>	National Student Index – the system that allocates national student numbers.
<b>RESTful web services</b>	<p>REST (Representation State Transfer) is the architecture that the web is built on – a distributed architecture. See <a href="http://en.wikipedia.org/wiki/Representational_state_transfer">http://en.wikipedia.org/wiki/Representational_state_transfer</a>.</p> <p>RESTful web services are now the predominant web API design model, as they are considerably simpler than using SOAP and WSDL that were more commonly used in the past.</p>
<b>SMS:</b> Student Management System	<p>A system maintained and held by education services/organisations to maintain learner information. In the context of this interface specification it includes the ELI Service Portal (ESP).</p>
<b>UTF-8:</b> Unicode transformation format 8-bit encoding form	UTF-8 is the Unicode Transformation Format that serializes a Unicode scalar value (code point) as a sequence of one to four bytes.
<b>XML:</b> Extensible mark up language	<p>XML is a flexible way to create common information formats and share both the format and the data on the World Wide Web, intranets, and elsewhere. For example, computer makers might agree on a standard or common way to describe the information about a computer product (processor speed, memory size, and so forth) and then describe the product information format with XML. Such a standard way of describing data would enable a user to send an intelligent agent (a program) to each computer maker's Web site, gather data, and then make a valid comparison. XML can be used by any individual or group of individuals or companies that wants to share information in a consistent way.</p>

## 3 Scope

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### 3.1 In Scope

The scope of this document covers the use of InfoHub to facilitate the transmission of ELI event data relating to the following topics from an SMS (or ELI Service Portal) to the Ministry:

- Child Data
- Child Attendance Data
- Child Booking Data
- Confirmation Data
- Child Enrolment Data
- Child Demographic Data
- Staff Information Data
- Service Data
- Triannual Data
  - Staff
  - Teacher Contact
  - Service

### Out of Scope

The following items are out of scope for this document:

- Event message format and content (see the ELI Data Collection Specification)
- ELI functional requirements

## 4 ELI Background

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### 4.1 What is the ELI system?

The Early Learning Information (ELI) system is a database system maintained by the Ministry of Education (Ministry). This system is used to help manage the children enrolled in early childhood education.

The ELI system will collect and store identity and participation information for approximately 190,000 children in ECE for the first time. The ELI system will collect a range of data from 4,500 ECE providers on a regular basis, including kindergartens, home-based services, Playcentres and childcare centres.

Information collected will include:

- each child's name, date of birth, address;
- each child's daily attendance at ECE.

The Ministry maintains the ELI system centrally and performs ongoing checks to ensure the integrity of the data stored in the ELI system. They are also available to give advice to organisations and SMS vendors who are putting in place systems to integrate with ELI, and ongoing advice once they are integrated to the system.

The system will also allocate a national student number, via the NSI, to each child enrolled in ECE. This number will stay with the learner into primary, secondary and tertiary education.

There is no fee for recording students on the ELI system.

### 4.2 What is an Event?

An event is something that happens, resulting in a change in status or information. Events occur as the result of business processes. Events are not visible to users, events are created behind the scenes as normal activity occurs.

Event data collection is the sending of information relating to a single event at, or close to, the time the event occurs.

The depth and timeliness of this information allows for considerable insights to be made into how education is delivered and used, and forms the basis for lifelong learning longitudinal analysis.

## 5 Message transmission

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The transmission of ELI messages to the Ministry is managed by three components:

- ESAA
- InfoHub
- ELI Core

Each component is described below.

The functionality provided by the components will allow message transmission between SMS providers, Service Providers and ECE Services and the Ministry (depending on the SMS hosting solution in place). For ease of readability, the term ‘Service’ will be used throughout this document to refer to the **source** of ELI messages.

### 5.1 What is ESAA?

ESAA (Education Sector Authentication & Authorization) is the Education sector’s Identity and Access Management (IAM) system. An IAM facilitates the management of electronic identities used to initiate, capture, record and manage user identities and their related access permissions e.g. it will manage individual user accounts, and machine accounts.

ESAA acts as the Ministry’s gatekeeper for Services requesting access to InfoHub even though the access is on a machine-to-machine basis. If ESAA does not recognize the Service credentials or the Service is deemed not to have authority to access InfoHub, then ESAA will return an error message. SMS solutions will be required to monitor and manage such errors.

Only when ESAA is satisfied the Service has correctly requested access to InfoHub and has the requisite level of authority to interact with InfoHub, will the message be passed to ELI core.

### 5.2 What is InfoHub?

The purpose of InfoHub is to provide a technology framework for information transfer.

In the context of an SMS, InfoHub provides an interface to send data into the Ministry, fulfilling the following business needs:

- Provide a means to send data to the Ministry in a timely and efficient manner
- Integrate data using a consistent set of standards
- Provide a secure means to exchange data

It is not intended to:

- incorporate business rules (e.g. for validation or routing)
- enforce business processes or business rules in agencies
- provide workflow

InfoHub will provide the mechanism for the transmission of messages from Services to the Ministry.

Message transmission will be arranged on a machine-to machine basis (commonly referred to

as B2B: business-to-business) with no human intervention. The transmission of messages according to an agreed frequency will be managed as an automated process.

Once a Service transmission request has been verified by ESAA), InfoHub will dispatch the message on to ELI core. If, for some reason e.g. server outage, InfoHub cannot deliver the message then it will re-try transmission on a periodic basis. This re-try process is not a Service responsibility; it is managed entirely by InfoHub. If, after successive re-tries message delivery is still not achieved, then the message will be added to a 'dead letter' queue for the attention of the InfoHub administrator.

### **5.3 What is ELI core?**

Within the ELI system, ELI core is the 'landing' database that will receive all messages transmitted by Services. Upon delivery of a message, ELI core will evaluate the message xml structure for compliance.

Should the xml be incorrect, the message will not be returned or a request to resend automatically issued. System administrators at the Ministry will monitor ELI core population and will contact the appropriate nominee e.g. SMS vendor, to resolve the issue.

## 6 Configuration

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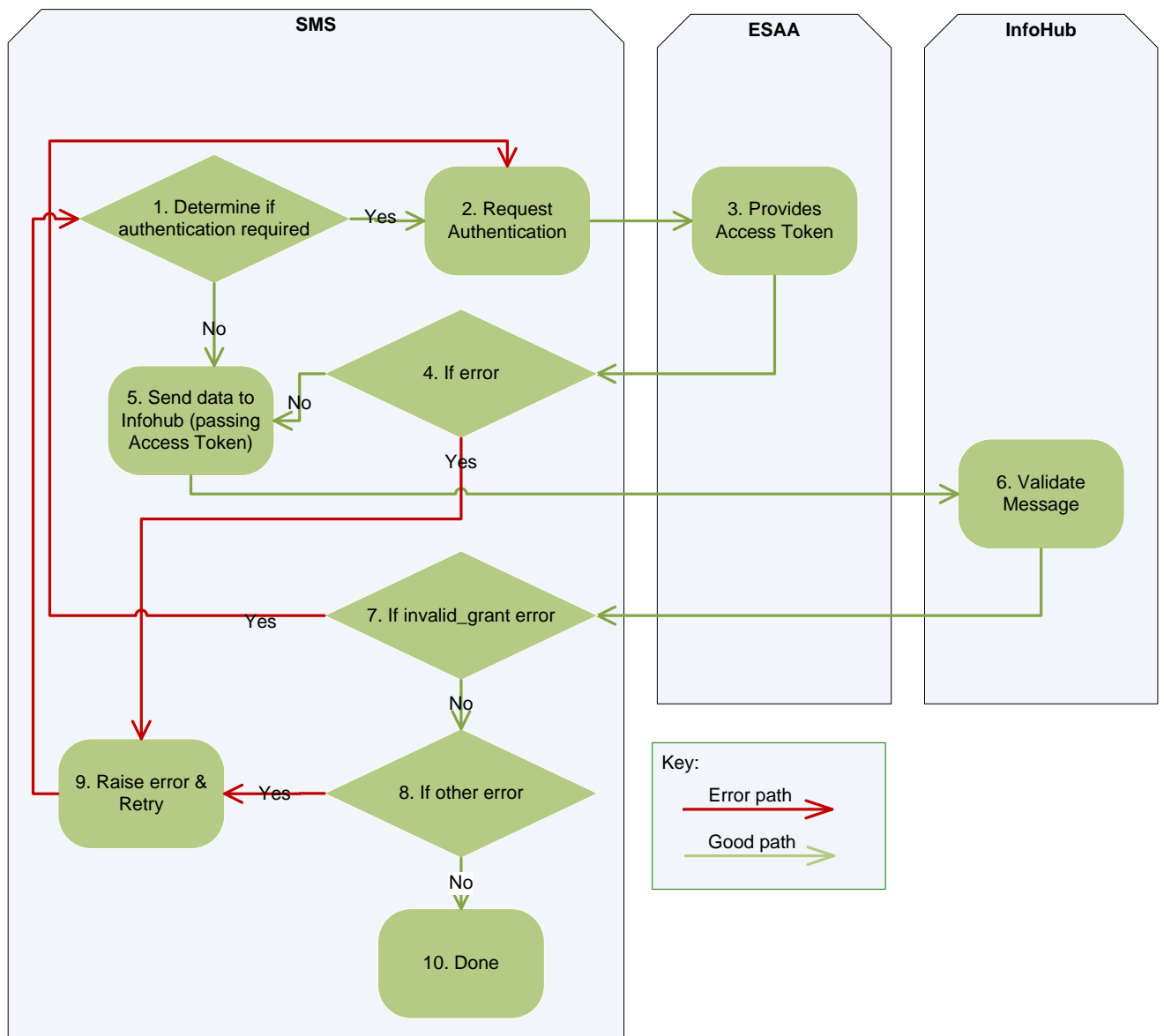
As an SMS using InfoHub you will need an ESAA Machine account to be setup in advance in order to access InfoHub successfully on a B2B basis. A Machine Account setup form will be supplied as part of the Ministry engagement process. This process will give your SMS a “machine” name and a client secret that will be used to authenticate against ESAA.

The SMS must provide a suitable space where these strings can be stored.

## 7 Sending Events to InfoHub

When an event occurs in the SMS that results in data that needs to be sent to the Ministry then the following process is followed to send that event to ELI (via InfoHub). Technical details are provided in the [Technical Specifications](#) section.

An alternative representation of the transmission process can be found in [Appendix B Alternative transmission process diagrams](#). The diagrams provided were used to graphically illustrate the transmission process at the vendor workshop held on 2<sup>nd</sup> July 2013 and may act as an aide memoir for attendees.



## 7.1 Determine if Authentication required

If you have an “*access token*”, *i.e. have already been authenticated* (see step 3) then you can skip to step 5, otherwise move to step 2.

## 7.2 Request Authentication

The SMS makes a request to ESAA to authenticate/authorise access to InfoHub. The following data is sent through in this request:

- grant\_type = “client\_credentials”
- scope = “infohub”
- user & password (from ESAA)

## 7.3 Provides Access Token

If your ESAA account has been set up properly and your request is formatted correctly, then an *access\_token* will be returned by the ESAA service. An *access\_token* is a text encoded string that the SMS does not need to understand, it just needs to pass it onto InfoHub in order for InfoHub to verify the SMS’s log in credentials.

## 7.4 If Error

If you receive an HTTP response of 200 then you have been authenticated by ESAA, and ESAA has sent the SMS an *access\_token* that can be used for subsequent requests. If this is the case, go to step 5, otherwise you need to handle the error that has occurred, see step 9.

## 7.5 Send Data to InfoHub

Now you can send your event to InfoHub. To make this call you will need to send:

- The *access\_token*
- Content\_Type = “application/xml; charset=utf-8”
- MinEdu-InfoHub-Destination = “InfoHub-ELI”
- MinEdu-InfoHub-MessageType = <Name of the Event (see the ELI Data Collection Specification)>
- MinEdu-OrgId = <The organization id that the event represents>
- The XML event = the data you wish to send to ELI (see the ELI Data Collection Specification)

## 7.6 Validate Message

InfoHub validates the information sent in step 5 and responds to the SMS accordingly.

## 7.7 If invalid\_grant error

An *invalid\_grant* error occurs either because:

1. The *access\_token* provided was not issued by ESSA. Review and amend the



access\_token value and resubmit the POST access\_token request (return to step 2)  
or

2. Your access to InfoHub is no longer current. Ministry security policy dictates that an access\_token lasts for only 20 minutes. If the access\_token has expired, the SMS needs to request a new access\_token (return to step 2)

If no invalid\_grant error has been issued, move to step 8.

## 7.8 If other error

If InfoHub has returned an error other than 'invalid\_grant' then go to step 9, otherwise go to step 10.

## 7.9 Raise error & retry

The other error types that may be returned from an InfoHub web service call are:

- Irresolvable errors - these series 400 errors are caused due to an SMS mis-configuration. All such errors should be resolved during testing (should not occur in production). As the end user cannot do anything about these error they should just be logged, and resolved as a new release.

The errors, detailed in [Technical Specifications](#), are:

- invalid\_request
  - invalid\_auth
  - invalid\_destination
  - invalid\_orgid
  - unavailable\_destination
  - invalid\_scope
  - invalid\_content
  - invalid\_grant
- Resolvable errors - these series 5xx errors occur due to unforeseen circumstances (e.g. server outages). Only one such error message is detailed in the [Technical Specifications](#) section. Error codes covered by the 5xx catch-all in [Technical Specifications](#) can be viewed at [http://en.wikipedia.org/wiki/List\\_of\\_HTTP\\_status\\_codes](http://en.wikipedia.org/wiki/List_of_HTTP_status_codes) .

All resolvable errors need to be retried at a later time, as these errors usually will occur due to outages and connectivity issues the Ministry will have no record of these failed attempts.

Irresolvable errors, on the other hand, will be logged by InfoHub. A Ministry administrator will therefore have visibility of any configuration (4xx) errors. It is the Ministry's responsibility to contact the SMS vendor if these errors occur.

## 7.10 Finish

Once the SMS has received confirmation from InfoHub that the message has been received successfully, the process is complete. The SMS may then send another event using the `access_token` that has already been provided by ESAA.

## 8 Technical Specifications

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### 8.1 POST `access_token` request

This request gives the client application a 'token' that indicates it is authorised to use an ESAA protected service or resource. Once the application acquires a token it can then make requests to InfoHub (an ESAA protected services).

The token will continue to be valid for 20 minutes after it has been assigned, at which point the application will have to re-authenticate (re-submit the request)

#### 8.1.1 Prerequisites

In order to use ESAA, an account needs to be set up for each application. Once completed the vendor should receive a client id (or username) and a client secret (or password). Also as part of this process the application will be associated with one or many education providers.

#### 8.1.2 HTTP request

POST `/OAuth2/access_token`

#### 8.1.3 Parameters

Table 2: ESAA POST `access_token` parameters

Parameter	Mandatory/ optional	Acceptable value
<code>grant_type</code>	Mandatory	Value MUST be set to "client_credentials".
<code>scope</code>	Mandatory	Value MUST be set to "app_InfoHub" The Scope refers to the application or service name as defined in ESAA. This is checked to confirm the client application has rights to access this resource.

#### 8.1.4 HTTP Headers

An authorisation header must be supplied in order to make this request. This is basic authentication (which means a client id and client secret are encoded into base64 for transport)

Table 3: Http header format

Parameter	Description	Acceptable value
Authorization	OAuth 2.0 Token	Basic czZCaGRSa3F0Mzo3RmpmcDBaQnlxS3REUmJuZIZkbUI3

### 8.1.5 Sample POST access\_token request

Table 4: C# Example of Base64 Encoding

```
//Encode to Base 64
Static public string EncodeTo64(string toEncode)
{
    byte[] toEncodeAsBytes = System.Text.ASCIIEncoding.ASCII.GetBytes(toEncode);
    string returnValue = System.Convert.ToBase64String(toEncodeAsBytes);
    return returnValue;
}

//Add Following to wherever you are making the call
string userNamePassword = username + ":" + password;
string myEncodedUserNamePassword = EncodeTo64(userNamePassword);
```

### 8.1.6 Successful POST access\_token request response

On a successful request the result of this request will be a token and a token type, as follows:

Table 5: POST access\_token response – successful receipt

Code/Attribute	Status	Description
200	OK	Standard response for successful HTTP request
access_token	n/a	This is the token that must be passed to the ESAA protected API
token_type	n/a	The token type (in this case 'bearer')

Table 6: Sample POST access\_token response

```
HTTP/1.1 200 OK
...
{
  "access_token": "2YotnFZFEjr1zCsicMWpAA",
  "token_type": "Bearer",
}
```

### 8.1.7 Unsuccessful POST access\_token request - message errors

Message errors occur because a message cannot be processed. Usually the error is due to a fault on the calling application.

**Table 7: POST access\_token response – unsuccessful receipt due to an error relating to the message**

Code	Error	Description
400	Invalid_request (Bad Request)	The request is missing a required parameter, includes an unsupported parameter value (other than grant type), repeats a parameter, includes multiple credentials, utilizes more than one mechanism for authenticating the client, or is otherwise malformed.
400	unsupported_grant_type (Bad Request)	The authorization grant type is not supported by the authorization server.
401	Invalid_client	Client authentication failed (e.g., unknown client, no client authentication included, or unsupported authentication method).
404 <sup>1</sup>	Not found	Unable to connect to ESAA

**Table 8: Sample POST access\_token response relating to the message error**

```
HTTP/1.1 400 Bad Request
...
{
  "error": "invalid_request"
}
```

### 8.1.8 Unsuccessful POST access\_token request - server errors

**Table 9: POST response – unsuccessful receipt due to an error relating to a receiving server error**

Code	Error	Description
5xx	Any server error	Server errors are sanitised and as such the service will only see the generic error message as well as a unique identifier that can be used for service desk calls.  An unexpected error has occurred. For support please contact <a href="mailto:MOE.ContactCentre@minedu.govt.nz">MOE.ContactCentre@minedu.govt.nz</a> and quote the following unique identifier: 6bd68ed6-2aa8-4457-b7df-8190ff2e4121

**Table 10: Sample POST access\_token response relating to a server error**

```
HTTP/1.1 5<xx>
...
```

<sup>1</sup> This is part of the HTTP standard, it is not a direct implementation of ESAA/InfoHub. It could both be a client error (as in the client is try to access a resource that does not exist), or a server error (as in the resource has moved). The HTTP standard has this as a 404 in either case.

```
{  
  "error" : "An unexpected error has occurred. For support please contact MOE.ContactCentre@minedu.govt.nz and quote  
  the following unique identifier: 6bd68ed6-2aa8-4457-b7df-8190ff2e4121"  
}
```

### 8.1.9 Sample POST access\_token request

**Table 11: Sample POST access\_token request:**

```
POST /oauth2/access_token HTTP/1.1  
Host: security.education.govt.nz  
Authorization: Basic czZCaGRSa3F0MzpnWDFmQmF0M2JW  
Content-Type: application/x-www-form-urlencoded  
  
grant_type=client_credentials& scope=app_InfoHub
```

## 8.2 POST Event Request

### 8.2.1 Prerequisites

The client application must have authenticated with ESAA and obtained an access token.

### 8.2.2 Resource URL

https:// <InfoHub url>../api/v1.0/Events

### 8.2.3 Parameters

None

### 8.2.4 Http headers for event collection service

Table 12: Http header format

Http Header	Description	Acceptable Values
Authorization	OAuth 2.0 Token	Bearer <token returned from ESAA>
Content-Type	The content Type to be sent to InfoHub.	application/xml; charset=utf-8 <b>or</b> application/json; charset=utf-8
MinEdu-InfoHub-Destination	This is the “Destination” or grouping of an event.	Each destination must be registered with InfoHub before submission e.g. InfoHub-ELI
MinEdu-InfoHub-MessageType	This header relates is a unique string that represents the xml/json schema.	Any ASCII value (no validation) InfoHub-ELI.Enrolment.v02
MinEdu-OrgId	This header identifies the organisation that access is being granted to (context)	Any organisation or provider code that the provider has been provisioned for e.g. 1237

All HTTP Headers use the US-ASCII coded character set, which basically means characters from a keyboard, with no diacritics. See <http://www.columbia.edu/kermit/ascii.html> for details.

### 8.2.5 Response Codes

The codes specified within this document detail “common” responses that may arise due to interactions with InfoHub.

## 8.2.6 Successful POST event request

Under normal conditions the following response should occur. A custom header MinEdu-InfoHub-EventId is returned that gives a unique identifier for the message that has been received.

**Table 13: POST response – successful receipt**

Code	Status	Description
202	Accepted	Event has been accepted for processing

**Table 14: Sample successful POST event request:**

```
HTTP/1.1 202 Accepted
MinEdu-InfoHub-EventId: 6bd68ed6-2aa8-4457-b7df-8190ff2e4121
```

## 8.2.7 Unsuccessful POST event request - message errors

These are errors that occur because the message can't be processed; usually due to a fault on the calling application

**Table 15: POST response – unsuccessful receipt due to an error relating to the message**

Code	Error	Description
400	invalid_auth	Authorization header incorrect or missing
400	invalid_destination	MinEdu-InfoHub-Destination header incorrect or missing
400	invalid_orgid	MinEdu-OrgId header incorrect or missing
400	invalid_grant	Authentication token has expired. Re-authentication is required in order to continue
400	unavailable_destination	Currently unable to accept message for this destination
400	invalid_scope	You are not authorized to access InfoHub on behalf of the organisation specified
415	invalid_content	Content-Type must be XML or json

**Table 16: Sample unsuccessful POST event request due to message error:**

```
HTTP/1.1 415 Unsupported Media Type
...
<Error>
  <Message>Content-Type must be XML or json</Message>
  <Code>invalid_content</Code>
</Error>
```

## 8.2.8 Unsuccessful POST event request - server errors

Server errors are sanitised and as such the user will only see the generic error message as well as a unique identifier that can be used for service desk calls.

**Table 17: POST response – unsuccessful receipt due to an error relating to the receiving server**

Code	Status	Description
500	Maximum request length exceeded	Maximum request length exceeded
5xx	various	A server error has occurred

**Table 18: Sample unsuccessful POST event request due to server error:**

```
HTTP/1.1 500 Internal Server Error
```

```
...
```

```
<Error>
```

```
<Message>An unexpected error has occurred. For support please contact MOE.ContactCentre@minedu.govt.nz and quote the following unique identifier: 6bd68ed6-2aa8-4457-b7df-8190ff2e4121</Message>
```

```
<ExceptionId>6bd68ed6-2aa8-4457-b7df-8190ff2e4121</ExceptionId>
```

```
</Error>
```

## 8.2.9 Sample event message

**Table 19: Sample event with associated headers**

```
POST /api/v1.0/events HTTP/1.1
```

```
MinEdu-InfoHub-Destination: InfoHub-ELI
```

```
MinEdu-InfoHub-MessageType: InfoHub-ELI.Enrolment.v02
```

```
MinEdu-OrgId: 001
```

```
Authorization: Bearer 2YotnFZFEjr1zCsicMWpAA
```

```
Content-Type: application/xml; charset=utf-8
```

```
<ChildAttendance xmlns:i="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://eli.test/ELI.xsd">
```

```
<ServiceId>1</ServiceId>
```

```
<EventSource>eventsource</EventSource>
```

```
<EventDateTime>2012-11-01T09:00:00</EventDateTime>
```

```
<ChildAttendanceEntityId>1</ChildAttendanceEntityId>
```

```
<ChildEntityId>123</ChildEntityId>
```

```
<AttendanceTime>
```

```
<Start>2013-01-01T09:00:00</Start>
```

```
<End>2013-01-01T12:00:00</End>
```

```
</AttendanceTime>
```

```
<IsAbsent>0</IsAbsent>
```

```
<ChildAttendanceAddress>
```

```
<Address1Line>123 Cool dude street</Address1Line>
```

```
<Address2Line>Suburb Bay</Address2Line>
```

```
<AddressCity>Citytown</AddressCity>
```

```
</ChildAttendanceAddress>
```

```
</ChildAttendance>
```



## 9 Appendix A Example transmissions

### 9.1.1 Sample ESAA Authentication

**Table 20: Sample ESAA Authentication request/response**

<p><u>Request:</u></p> <pre>POST /oauth2/access_token HTTP/1.1 Host: security.education.govt.nz Authorization: Basic czZCaGRSa3F0MzpnWDFmQmF0M2JW Content-Type: application/x-www-form-urlencoded  grant_type=client_credentials&amp; scope=app_InfoHub</pre> <p><u>Success Response:</u></p> <pre>HTTP/1.1 200 OK  {   "token_type": "Bearer",   "access_token": "MEUyRUI0MEltRjQzMC0zOTgyLTc0QjYtMjY0QzhFNjcxNTgx" }</pre> <p><u>Possible Fail Responses:</u></p> <pre>HTTP/1.1 500 Internal Server Error  {   "error": "invalid_request"   "error_description": "The request is missing a required parameter, includes an unsupported parameter value (other than grant type), repeats a parameter, includes multiple credentials, utilizes more than one mechanism for authenticating the client, or is otherwise malformed." }</pre> <pre>HTTP/1.1 400 Bad Request {   "error": "unsupported_grant_type"   "error_description": "The authorization grant type is not supported by the authorization server." }</pre> <pre>HTTP/1.1 401 Unauthorized {   "error": "invalid_client"   "error_description": "Client authentication failed (e.g., unknown client, no client authentication included, or unsupported authentication method)." }</pre>
---

## 9.1.2 Sample POST Event Message to InfoHub

**Table 21: Sample POST Event Message to InfoHub request/response**

<p><u>Request:</u></p> <p>POST /api/v1.0/events HTTP/1.1  Host: infohub.minedu.govt.nz  Authorization: Bearer MEUyRUI0MEItRjQzMC0zOTgyLTc0QjYtMjY0QzhFNjcxNTgx  Content-Type: application/xml; charset=UTF-8  Accept: application/xml; charset=utf-8  MinEdu-OrgId: 237  MinEdu-InfoHub-MessageType: ELI.Enrolment.v02  MinEdu-InfoHub-Destination: InfoHub-ELI</p> <p>&lt;ELIEvent&gt;  &lt;ActiveIndicator&gt;true&lt;/ActiveIndicator&gt;  &lt;/ELIEvent&gt;</p> <p><u>Success Response:</u></p> <p>HTTP/1.1 202 Accepted</p> <p><u>Possible Fail Responses:</u></p> <p>HTTP/1.1 400 Bad Request  &lt;Error&gt;  &lt;Message&gt;Authorization header incorrect or missing&lt;/Message&gt;  &lt;Code&gt;invalid_auth&lt;/Code&gt;  &lt;/Error&gt;</p> <p>HTTP/1.1 400 Bad Request  &lt;Error&gt;  &lt;Message&gt;MinEdu-InfoHub-Destination header incorrect or missing&lt;/Message&gt;  &lt;Code&gt;invalid_destination&lt;/Code&gt;  &lt;/Error&gt;</p> <p>HTTP/1.1 400 Bad Request  &lt;Error&gt;  &lt;Message&gt;MinEdu-OrgId header incorrect or missing&lt;/Message&gt;  &lt;Code&gt;invalid_orgid&lt;/Code&gt;  &lt;/Error&gt;</p> <p>HTTP/1.1 400 Bad Request  &lt;Error&gt;  &lt;Message&gt;Authentication token has expired! Re-authentication is required in order to continue&lt;/Message&gt;  &lt;Code&gt;invalid_grant&lt;/Code&gt;  &lt;/Error&gt;</p> <p>HTTP/1.1 400 Bad Request  &lt;Error&gt;  &lt;Message&gt;Currently unable to accept message for this destination&lt;/Message&gt;  &lt;Code&gt;unavailable_destination&lt;/Code&gt;  &lt;/Error&gt;</p> <p>HTTP/1.1 400 Bad Request  &lt;Error&gt;  &lt;Message&gt;You are not authorised to access InfoHub on behalf of the organisation specified&lt;/Message&gt;  &lt;Code&gt;invalid_scope&lt;/Code&gt;  &lt;/Error&gt;</p> <p>HTTP/1.1 415 Unsupported Media Type</p>
---

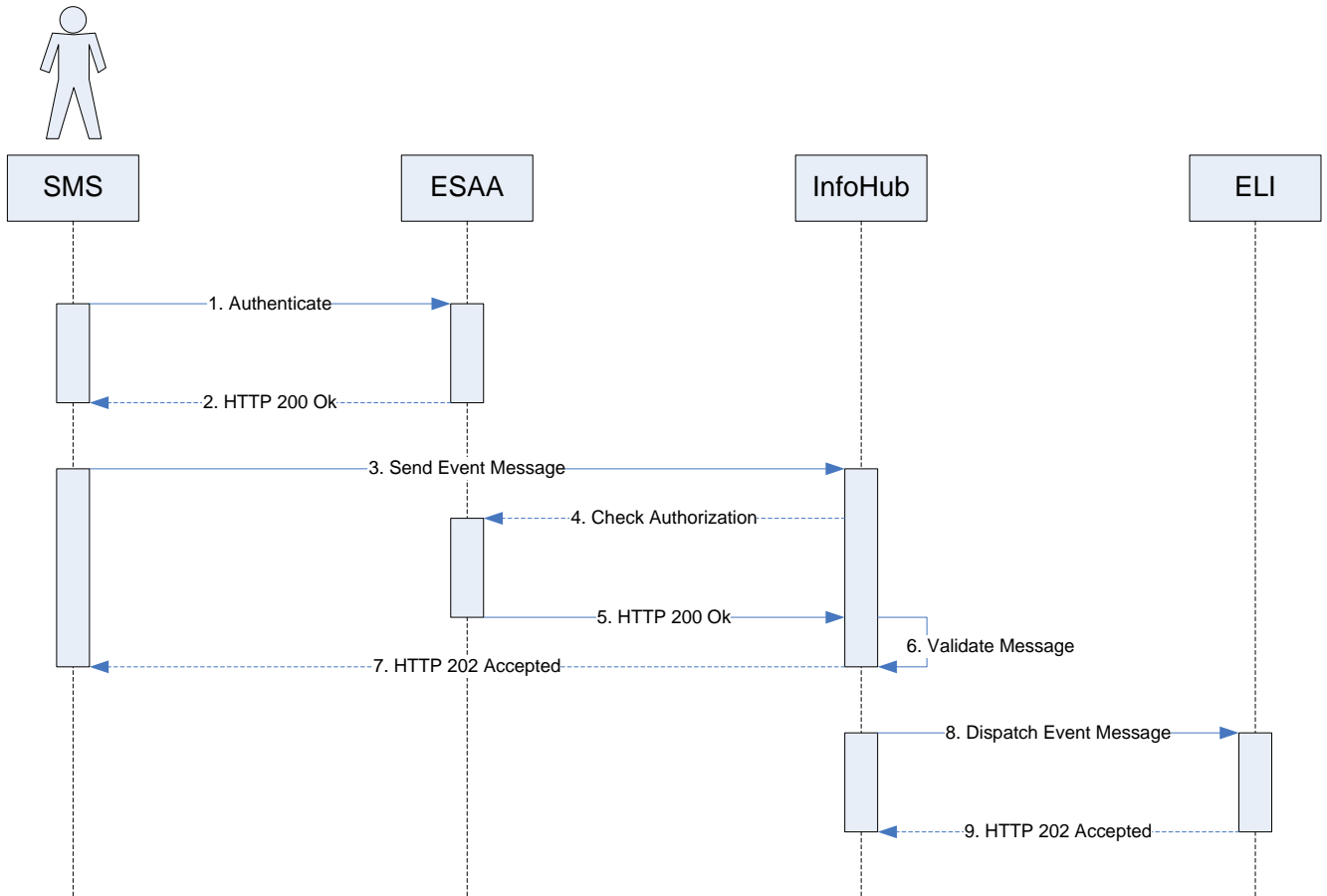
```
<Error>  
<Message>Content-Type must be XML or JSON</Message>  
<Code>invalid_content</Code>  
</Error>
```

HTTP/1.1 500 Internal Server Error

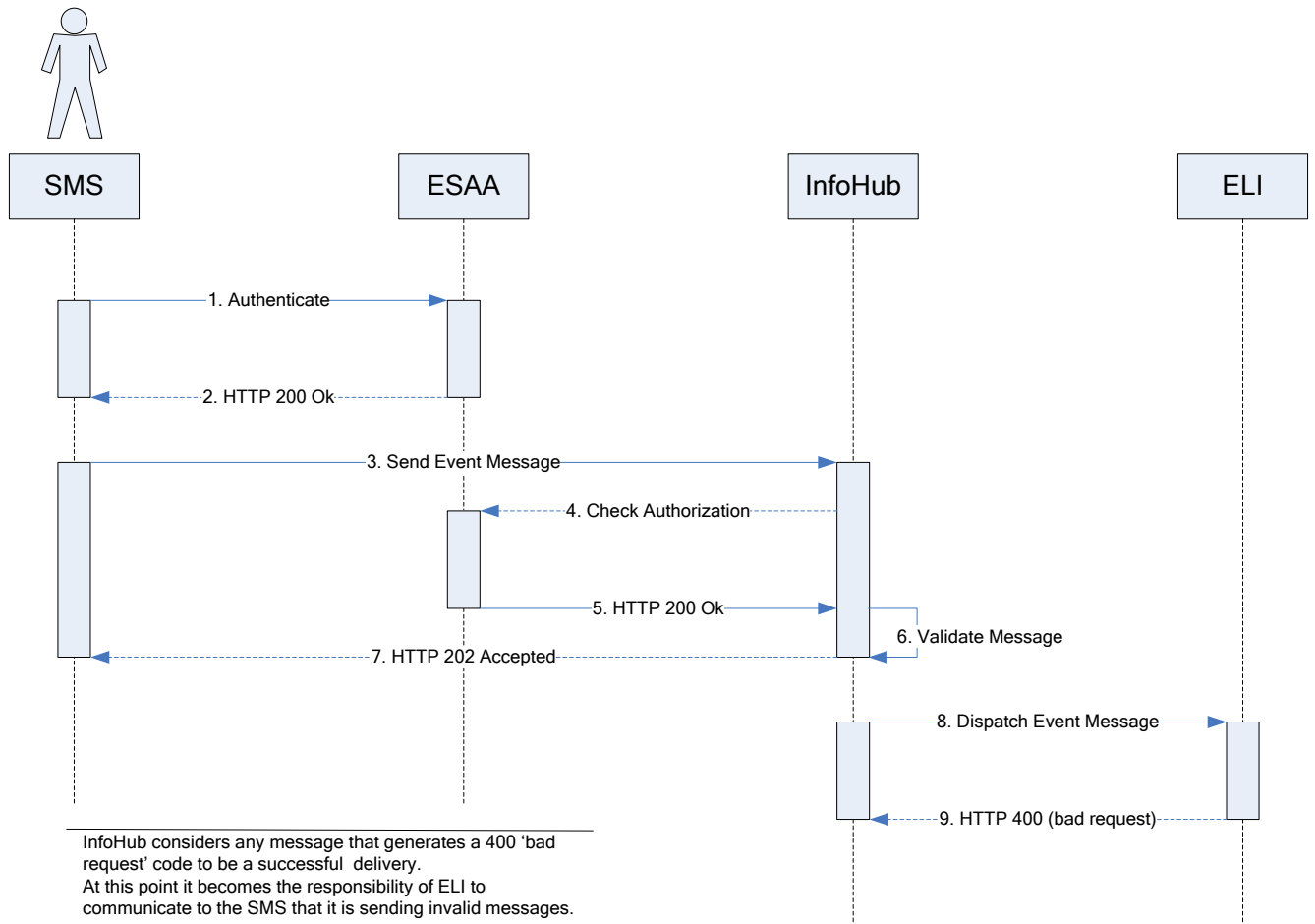
```
<Error>  
<Message>An unexpected error has occurred. For support please contact MOE.ContactCentre@minedu.govt.nz and  
quote the following unique identifier: 6bd68ed6-2aa8-4457-b7df-8190ff2e4121</Message>  
<ExceptionId>6bd68ed6-2aa8-4457-b7df-8190ff2e4121</ExceptionId>  
</Error>
```

## 10 Appendix B Alternative transmission process diagrams

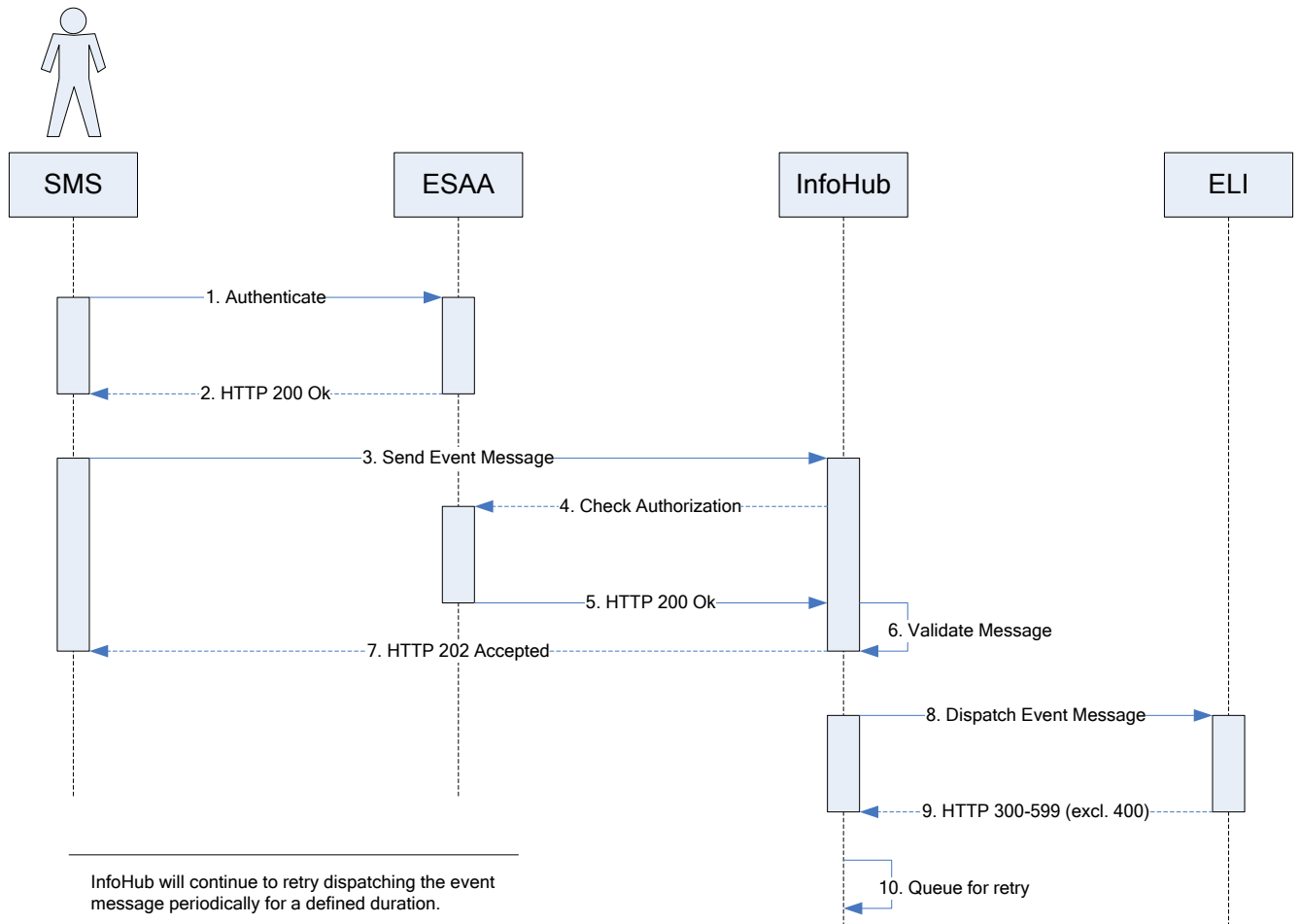
Flow 1 – Accepted, dispatched and accepted



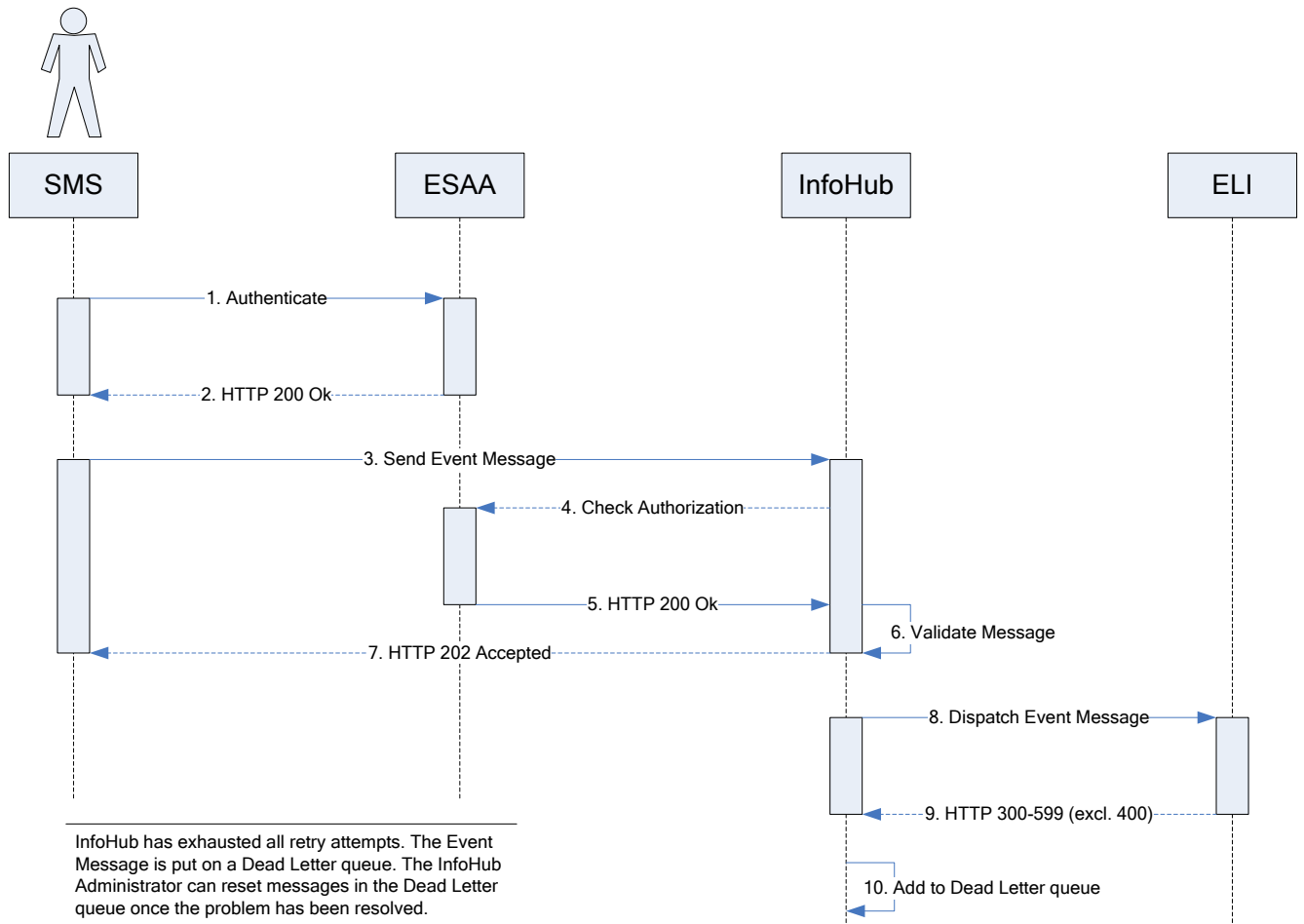
### Flow 2 – Accepted, dispatched and rejected



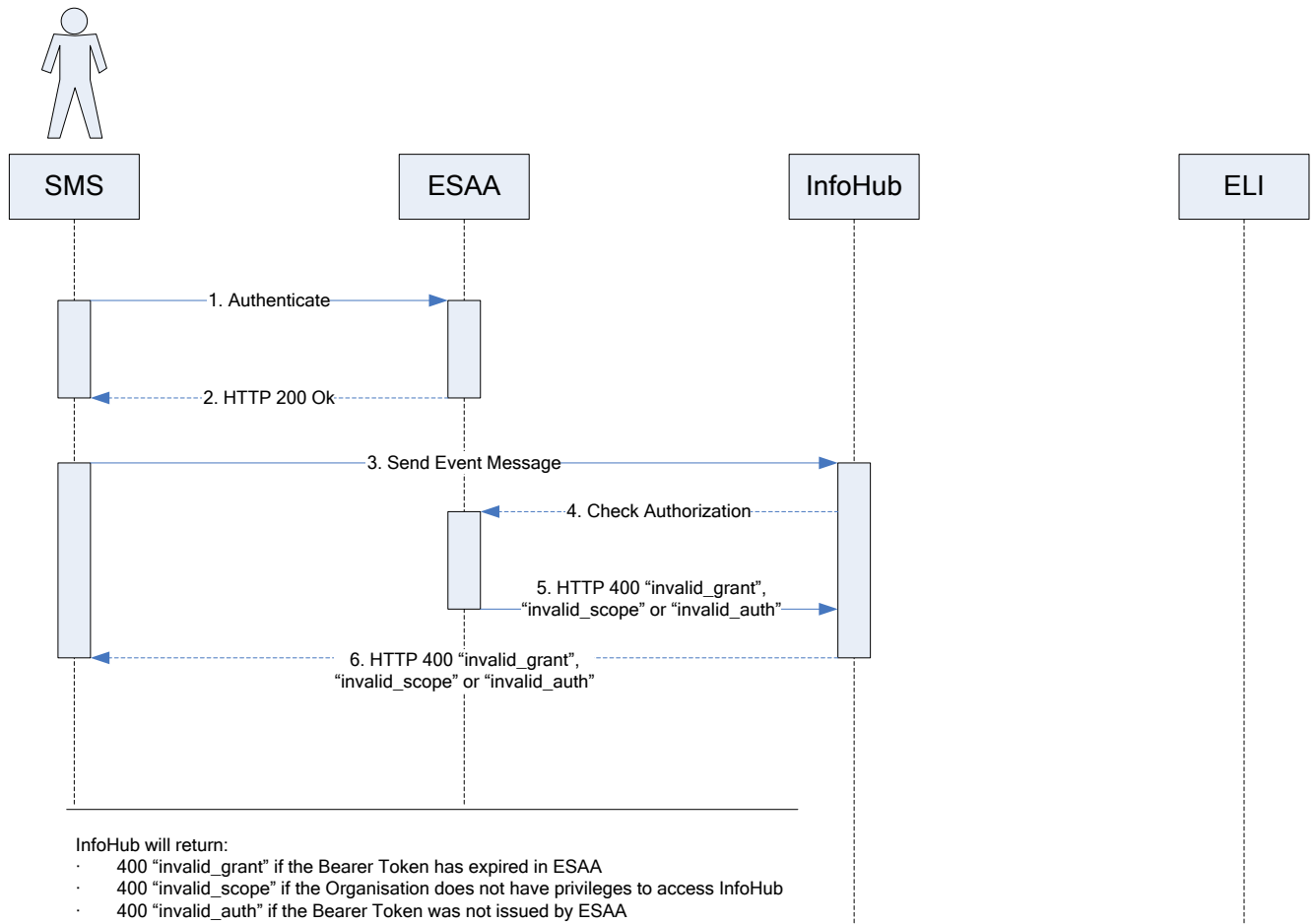
Flow 3 – Accepted, dispatched and retry



Flow 4 – Accepted, dispatched and failed delivery

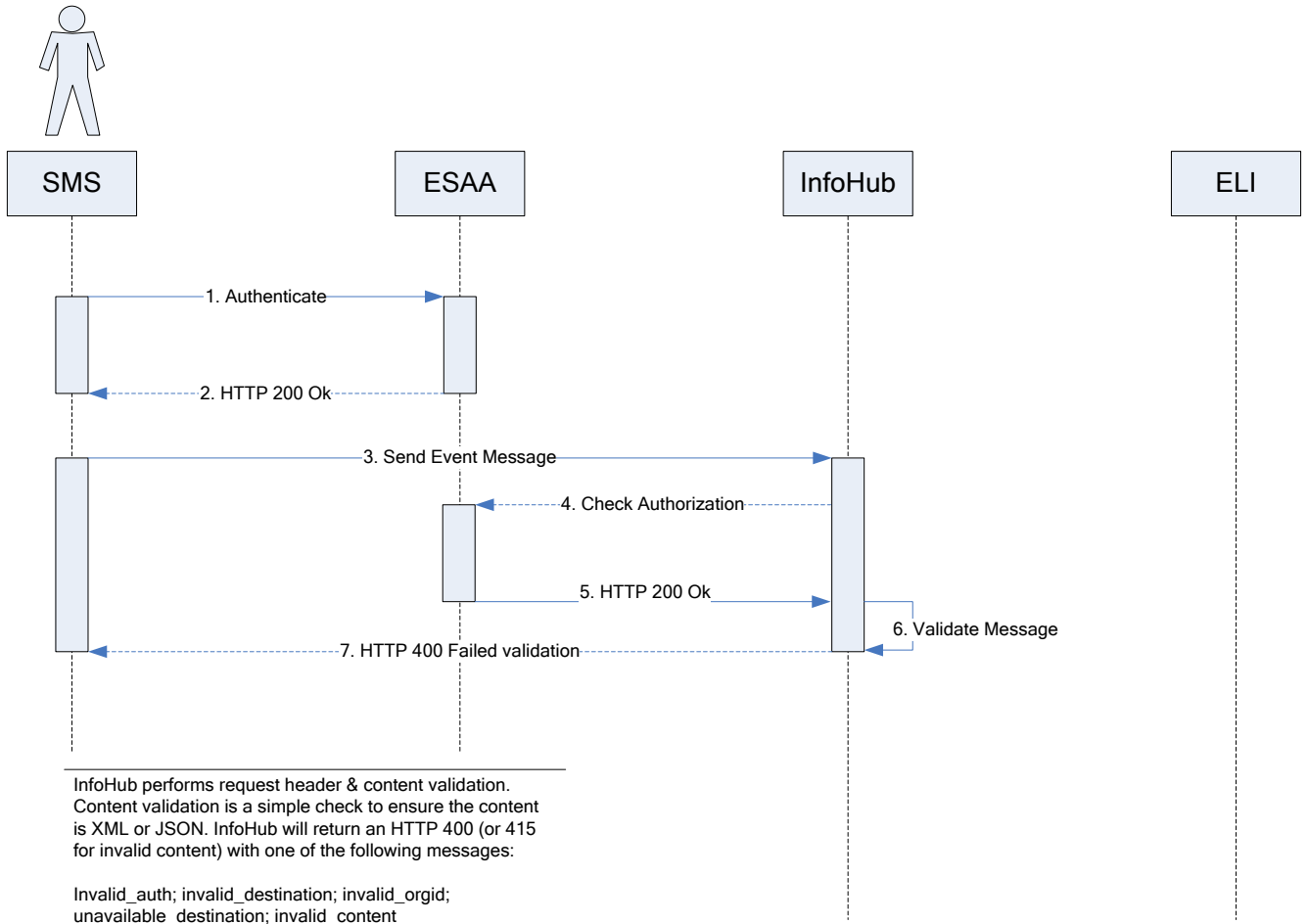


### Flow 5 – Rejected, failed authorisation

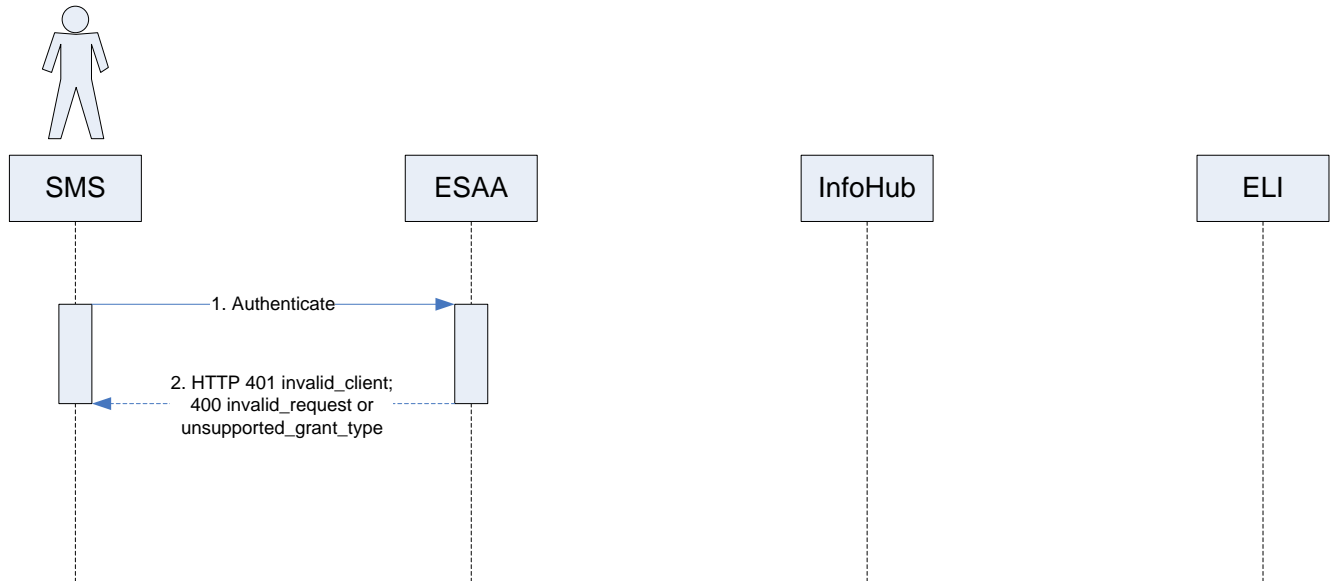




### Flow 6 – Rejected, failed header or content validation



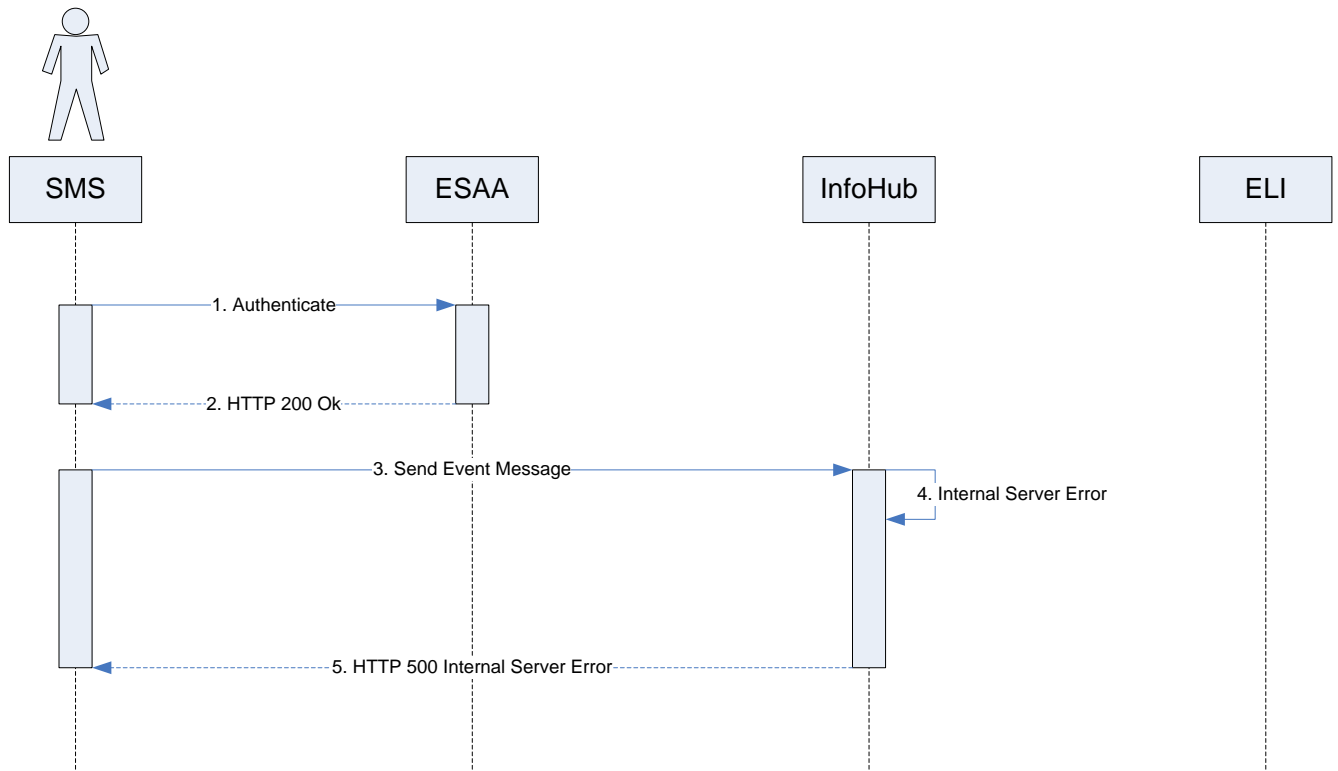
### Flow 7 – Rejected, failed authentication



ESAA will reject the SMS authentication request if the request is malformed, the authentication credentials are incorrect or the client grant type is incorrect.

- 400 – invalid\_request
- 400 – unsupported\_grant\_type
- 401 - invalid\_client

### Flow 8 – InfoHub: Server error



InfoHub will return a generic HTTP 500 Internal Server error response if an unexpected error occurs during the processing of the event message request. An exception will be logged within InfoHub and a sanitized message is returned containing an Exception\_ID identifying the exception.