


x-banner-events-v1 (Banner Events Experience API)

 Table of Contents

- Revision History
- C4E Approval
- Projects
- Decision Registry (Optional)
- Risk Registry (Optional)
- API Details
 - Consumer Specific Requirements(Optional)
 - Recommended API Policies (Optional)
- API Endpoint Catalogue
- API Endpoint Details
 - POST /events/unit-of-learning-availabilities
 - POST /events/student-addresses
 - POST /events/staged-study-applications
- Messaging Publish/Subscribe Details
- Additional references (optional)

Revision History

SI No	Description	Author	Version	Date	Sign-off
1	Initial Version	@Nisha Roshan	1.0	Jul 7, 2025	DIARG
2	Updated C4E recommendati ons	@Nisha Roshan	1.1	Jul 14, 2025	DIARG
3	Added POST /events/stude nt-addresses	@Adnan Khan	1.2	Jul 22, 2025	
4	Added POST /events/stage d-study- applications	@Hemanjali Sood	1.3	Aug 11, 2025	

C4E Approval

SI No	Item	Details
1	DIARG Ticket Number	

Projects

SI No	Project Name	Link to Project Confluence Page
1	SMST	

Decision Registry (Optional)

SI No	Decision Item	Options	Chosen Option and Reasoning	Status	Sign Off By

<<If the Decision Registry is a big list, it can be a child page and referenced here>>

Risk Registry (Optional)

SI No	Risk Item	Description	Mitigation	Status	Sign Off By

<<If the Risk Registry is a big list, it can be a child page and referenced here>>

API Details

Attribute	Details
-----------	---------

Description	Event API to retrieve modified Banner details
Consumer	
Exchange Page	
RAML Design	
Inbound Security	IP Allowlist (Static IPs: 13.55.189.178 and 13.236.97.14) Client ID Enforcement
vCore Size and number	

Consumer Specific Requirements(Optional)

<<Any Consumer specific limitations/Specific requirements need to be captured here >>

Recommended API Policies (Optional)

API Endpoint Catalogue

	Flow Name	Request	Response
1	POST /events/unitOfLearningAvailability	<pre> 1 [2 { 3 "id": "8", 4 "published": "2025-03-27 01:19:40.651268+00", 5 "resource": { 6 "name": "course-section- information", 7 "id": "113ffb41-bcd7-4dbf- 9c44-268010f1ce49", 8 "version": "application/vnd.hedtech.integrat ion.v16.1.0+json" 9 }, 10 "operation": "replaced", 11 "contentType": "resource- representation", 12 "messageType": "change- notification", 13 "content": { 14 "crn": "1", 15 "termCode": "202430", 16 "id": "113ffb41-bcd7-4dbf- 9c44-268010f1ce49", 17 }, 18 "publisher": { </pre>	<pre> 1 { 2 "correlationId": "9d2dee33-7803- 485a-a2b1- 2c7538e597ee", 3 "message": "Success" 4 } </pre>

		<pre> 20 "id": "30a25dd7-35c9-439b- bad5-2ce662da3c38", 21 "applicationName": "Student API TEST", 22 "tenant": { 23 "id": "4b09dbf7-056d- 4985-81d8-f58aac95cc0b", 24 "alias": "matest", 25 "name": "Monash University (AUS)", 26 "environment": "Test" 27 } 28 } 29 } 30] </pre>	
2	POST: /events/student- addresses	<pre> 1 { 2 "eventId": "evt-20250704- 00123", 3 "eventType": "studentAddress", 4 "operation": "UPDATE", 5 "timestamp": "2025-07- 04T10:15:30Z", 6 "content": { 7 "studentAddress": { 8 "studentId": "25996991", 9 "lastModifiedDate": "2021- 11-09T11:39:05Z" 10 } 11 } 12 } </pre>	<pre> 1 { 2 "correlationId": "e370a0390-42b090- 1109ec-9fe19- 803f90095d04a406", 3 "message": "Event Received" 4 } </pre>
3	POST : /events/staged- study- applications	<pre> 1 { 2 "eventId": "evt-20250807- 12345", 3 "eventType": "stagedStudyApplication", 4 "operation": "UPDATE", 5 "timestamp": "2025-08- 08T12:18:30Z", 6 "content": { 7 "studyApplications": { 8 "applicationStagingId": "7cadm64d-f5bf-4829-b433- 6e100287edfe", 9 "applicationExternalId": "10085", 10 "smsApplicationId" : "23bf2d5c-7968-42ab-9455- a71eeb79420d" , 11 "smsApplicationNumber" : "1", 12 "personManagerId" : "45bf2d8c-7968-42ab-9455- a71eeb74570d", 13 "bannerId" : "A1000085", 14 "templateCode" : "MONASHIMPORTTEMPLATEV8", 15 } 16 } 17 } </pre>	<pre> 1 { 2 "correlationId": "9d2dee33-7803- 485a-a2b1- 2c7538e597ee", 3 "message": "Event Received" 4 } 5 </pre>

```

18     "submissionConfirmationCode":
19     "my.app",
20     "transferStatus" : "ERROR"
21 OR
22 "COMPLETE" ,
23     "Error" : [{
24         "code" :
25         "Global.SchemaValidation.Error",
26         "description" :
27         "Errors parsing input JSON.",
28         "message" :
29         "Another user has updated this
30         Admissions Application Details
31         Extended Properties while you
32         were editing"
33     } ],
34     "lastModifiedDate" : "2023-
35     05-08T15:39:09Z"
36 }
37 }
38 }

```

API Endpoint Details

POST /events/unit-of-learning-availabilities

Type	Description
Description	Experience API to retrieve modified Unit OF Learning Availability (UnitOfferingOptions) Entity events in Banner
Request Attributes/Payload	<pre> 1 [2 { 3 "id": "8", 4 "published": "2025-03-27 5 01:19:40.651268+00", 6 "resource": { 7 "name": "course-section- 8 information", 9 "id": "113ffb41-bcd7-4dbf-9c44- 10 268010f1ce49", 11 "version": 12 "application/vnd.hedtech.integration.v16.1 13 .0+json" 14 }, 15 "operation": "replaced", 16 "contentType": "resource- 17 representation", 18 "messageType": "change-notification", 19 "content": { 20 "crn": "1", </pre>

	<pre> 15 "termCode": "202430", 16 "id": "113ffb41-bcd7-4dbf-9c44- 268010f1ce49", 17 18 }, 19 "publisher": { 20 "id": "30a25dd7-35c9-439b-bad5- 2ce662da3c38", 21 "applicationName": "Student API TEST", 22 "tenant": { 23 "id": "4b09dbf7-056d-4985-81d8- f58aac95cc0b", 24 "alias": "matest", 25 "name": "Monash University (AUS)", 26 "environment": "Test" 27 } 28 } 29 30 } 31] </pre>
Response Entities	<pre> 1 { 2 "correlationId": "9d2dee33-7803-485a-a2b1- 2c7538e597ee", 3 "message": "Success" 4 } </pre>
Connectors Used	<p>HTTP Listener</p> <p>HTTP Connector</p> <p>Anypoint MQ Publish (For Outbound)</p>
Assumptions	
Integration Pattern	Reliability Pattern
Mule API endpoints to invoke	
Queue/Topic to publish	<p>Publish to below Topic:</p> <p><env>-x-banner-events-ula-p-curriculum-mgmt-events-v2-q</p>
Implementation Guidelines	<ol style="list-style-type: none"> Transform Banner data to UnitOfLearningAvailability event payload. <ol style="list-style-type: none"> The only field in the content will be <code>unitOfLearningAvailabilityId</code> which will be derived by in this format

	<pre>payload.content.termCode + “-“ + payload.content.crn .</pre> <p>b. metadata sample is given below and will be as per MIX standards</p> <p>2. Publish the message to queue - "<env>-x-banner-events-ula-p-curriculum-mgmt-events-v2-q"</p>
Data Translation Requirements	N/A
Error Handling	<p>Error should be transformed to the standard error object and passed back to the caller.</p> <p>Error logging should be logged to trace in Log Consolidation tool</p>
Outbound Security	Client ID Enforcement
Complexity	Simple
Sizing Calculation	<p>The following assumptions have been made to estimate the memory used by this flow:</p> <ul style="list-style-type: none"> • Concurrent Transactions: ?? • Latency (ms): ? • Payload size

Link to Field Mapping	<p>Sample Event Payload:</p> <pre> 1 { 2 "metadata": { 3 "eventId": "cea5073e-e9c8-4964-8ccb- c3b1afadc3a2", 4 "correlationId": "ea767e72-d088-4d62- b327-78ea324ef1a1", 5 "eventType": "<env>-x-banner-events- ula-p-curriculum-mgmt-events-v2-q", 6 "source": "x-banner-events-v1", 7 "type": "unit-of-learning- availability-event" 8 }, 9 "content": { 10 "unitOfLearningAvailabilityId": "202430-1" 11 } 12 } 13 </pre>
Approved Integration Pattern	ASYNC-02

POST /events/student-addresses

Type	Description
Description	Experience API endpoint which gets the student Address update notification from banner
Request Attributes/Payload	<pre> 1 { 2 "eventId": "evt-20250704-00123", 3 "eventType": "studentAddress", 4 "operation": "UPDATE", 5 "timestamp": "2025-07-04T10:15:30Z", 6 "content": { 7 "studentAddress": { 8 "studentId": "25996991", 9 "lastModifiedDate": "2021-11-09T11:39:05Z" 10 } 11 } 12 } </pre>
Response Entities	<pre> 1 { 2 "correlationId": "e370a0390-42b090-1109ec-9fe19- 803f90095d04a406", 3 "message": "Event Received" 4 } </pre>
Connectors Used	HTTP Listener

HTTP Connector

Anypoint MQ Publish (For Outbound)

Queue configurations

- 1. Queues should be created in **Asia Pacific (Sydney)**
- 2. Message TTL: 14 Days
- 3. Acknowledgment timeout: 2 Minutes
- 4. Encryption: yes
- 5. Dlq: yes
- 6. Delivery attempts: 3

[📖 Event Messaging - Format & Naming Standards](#)

MQ connector configurations

Configuration Key	Value
<code>anypoint.mq.url</code>	<code>https://mq-ap-southeast-2.anypoint.mulesoft.com/api/v1</code>
<code>anypoint.mq.path</code>	<code>organizations/XXX/environments/XXX</code>
<code>anypoint.mq.reconnection.attempts</code>	2
<code>anypoint.mq.frequency</code>	2000
<code>anypoint.mq.studentAddressQueue.name</code>	<code><<env>>-x-banner-events-v1-student-address-p-student-admin-events-v2-q</code>
<code>anypoint.mq.studentAddressQueue.name.prefetchMaxLocalMessages</code>	30

	<div> <div>anypoint.mq.client.id</div> <div>XXX</div> </div> <div> <div>anypoint.mq.client.secret</div> <div>XXX</div> </div>
Assumptions	
Integration Pattern	Reliability Pattern
Mule API endpoints to invoke	
Queue/Topic to publish	Publish to below queue: <env>-x-banner-events-v1-student-address-p-student-admin-events-v2-q
Implementation Guidelines	<div> <div> <div> <div>▼ Sample Request</div> <div> <pre> 1 { 2 "eventId": "evt-20250704-00123", 3 "eventType": "studentAddress", 4 "operation": "UPDATE", 5 "timestamp": "2025-07-04T10:15:30Z", 6 "content": { 7 "studentAddress": { 8 "studentId": "25996991", 9 "lastModifiedDate": "2021-11-09T11:39:05Z" 10 } 11 } 12 }</pre> </div> </div> </div> </div> <ol style="list-style-type: none"> 1. Try to log valuable information like eventId, event type, operation and studentId for better trackability 2. Do the following validation and raise custom error <div> <div>“ APP:BAD_REQUEST “ with 400 HTTP Status code</div> <div>a. Incoming eventType must be "studentAddress" , If any other value is received, raise error with the message: <div> <div>"Invalid eventType received. Expected: studentAddress, but received: <eventType>"</div> </div> </div> </div>

- b. Incoming operation must be from [CREATE, UPDATE, DELETE], if not then raise the error with message

```
"Invalid operation value. Allowed
values are: CREATE, UPDATE, DELETE.
Received: <operation>"
```

✓ Sample error message for bad request

```
1 {
2   "correlationId": "945e4740-6795-11f0-8f9f-dc4546dcaff0",
3   "description": "Invalid eventType received. Expected:
studentAddress, but received: <eventType>",
4   "errorType": "APP:BAD_REQUEST",
5   "additionalDetails": "Invalid eventType received.
Expected: studentAddress, but received: <eventType>"
6 }
```

3. Transform the incoming payload from **Banner** into the required **event format**.

- Publish the transformed payload to the following queue:

```
"<env>-x-banner-events-v1-student-
address-p-student-admin-events-v2-q"
```

- This message will be consumed by the target API:

```
"p-student-admin-events-v2"
```

✓ Sample event payload

```
1 {
2   "metadata": {
3     "eventId": "evt-20250704-00123",
4     "correlationId": "e370a0390-42b090-1109ec-9fe19-
803f90095d04a406",
5     "source": "x-banner-events-v1",
6     "receivedOn": "2025-08-27T09:02:15Z"
7   },
8   "content": {
9     "eventType": "<env>-x-banner-events-v1-student-
address-p-student-admin-events-v2-q",
10    "objectType": "studentAddress"
11    "studentAddress": {
12      "studentId": "25996991",
13      "lastModifiedDate": "2021-11-09T11:39:05Z",
14      "event": "UPDATE"
15    }
16  }
17 }
```

4. Give the following response back to the banner API with **202** status

✓ Sample 202 Response

```

1 {
2   "correlationId": "e370a0390-42b090-1109ec-9fe19-
   803f90095d04a406",
3   "message": "Event Received"
4 }

```

Data Translation Requirements

N/A

Error Handling

1. Error should be transformed to the standard error object and passed back to the caller.
2. Error logging should be logged to trace in Log Consolidation tool

Outbound Security

Client ID Enforcement

Complexity

Simple

Sizing Calculation

N/A

Link to Field Mapping

Event payload	Banner request	Data type	Comments
metadata.eventId	eventId	string	
metadata.correlationId		string	correlationId
metadata.source	x-banner-events-v1	string	Api name, we can refer app.name
metadata.receivedOn		Datetime	now() >> "UTC"
content.eventType		string	Queue name

				<env>-x- banner-events- v1-student- address-p- student-admin- events-v2-q
	content.object Type		string	"studentAdd ress"
	content.studentAddress.studentId	content.studentAddress.studentId	string	
	content.studentAddress.lastModifiedDate	content.studentAddress.lastModifiedDate	dateTime	DateTime in UTC
	content.studentAddress.event	operation	string	
Approved Integration Pattern	ASync-02			

POST /events/staged-study-applications

Type	Description
------	-------------

Description	Experience API endpoint to update the study Applications records from Ellucian APS to unicrm
Request Attributes/Payload	<div data-bbox="812 281 1472 1312"> <p>Sample input payload with transferStatus="COMPLETE"</p> <pre> 1 { 2 "eventId": "evt-20250807-12345", 3 "eventType": "stagedStudyApplication", 4 "operation": "UPDATE", 5 "timestamp": "2025-08-08T12:18:30Z", 6 "content": { 7 "studyApplication": { 8 "applicationStagingId": "7cadm64d-f5bf-4829-b433-6e100287edfe", 9 "applicationExternalId": "10085", 10 "smsApplicationId" : 11 "23bf2d5c-7968-42ab-9455-a71eeb79420d" , 12 "smsApplicationNumber" : "1", 13 "personManagerId" : "45bf2d8c-7968-42ab-9455-a71eeb74570d" , 14 "bannerId" : "A1000085", 15 "templateCode" : 16 "MONASHIMPORTTEMPLATEV8", 17 "submissionConfirmationCode": 18 "my.app", 19 "transferStatus" : "COMPLETE" , 20 "errors" : [] , 21 "lastModifiedDate" : "2023-05-08T15:39:09Z" 22 } 23 } 24 }</pre> </div> <div data-bbox="812 1386 1472 1999"> <p>Sample Input Payload for transferStatus = "ERROR" :</p> <pre> 1 { 2 "eventId": "evt-20250807-12345", 3 "eventType": "stagedStudyApplication", 4 "operation": "UPDATE", 5 "timestamp": "2025-08-08T12:18:30Z", 6 "content": { 7 "studyApplication": { 8 "applicationStagingId": "7cadm64d-f5bf-4829-b433-6e100287edfe" , 9 "applicationExternalId": "10085", 10 "smsApplicationId" : 11 "23bf2d5c-7968-42ab-9455-a71eeb79420d" , 12 "smsApplicationNumber" : "1" , 13 "personManagerId" : "45bf2d8c-7968-42ab-9455-a71eeb74570d",</pre> </div>

	<pre> 14 "bannerId" : "A1000085", 15 "templateCode" : 16 "MONASHIMPORTTEMPLATEV8", 17 "submissionConfirmationCode": 18 "my.app", 19 "transferStatus" : "ERROR", 20 "errors" : [21 { 22 "code" : 23 "Global.SchemaValidation.Error", 24 "description" : 25 "Errors parsing input JSON.", 26 "message" : 27 "Another user has updated this Admissions 28 Application Details Extended Properties 29 while you were editing" 30 } 31], 32 "lastModifiedDate": 33 "2023-05-08T15:39:09Z" 34 } </pre>
Response Entities	<p>Sample Success Response with HTTP Status Code : 202</p> <pre> 1 { 2 "correlationId": "9d2dee33-7803-485a-a2b1- 3 2c7538e597ee", 4 "message": "Event Received" 5 } </pre>
Connectors Used	<p>HTTP Listener</p> <p>HTTP Connector</p> <p>Anypoint MQ Publish (For Outbound)</p>
Assumptions	
Integration Pattern	Reliability Pattern
Mule API endpoints to invoke	
Queue/Topic to publish	<p>Publish to below Topic:</p> <p><env>-x-banner-events-v1-study-applications-t</p>
Queue configurations	<ol style="list-style-type: none"> Queues should be created in Asia Pacific (Sydney) Message TTL: 14 Days

- 3. Acknowledgment timeout: 2 Minutes
- 4. Encryption: yes
- 5. Dlq: yes
- 6. Delivery attempts: 3

[📖 Event Messaging - Format & Naming Standards](#)

MQ connector configurations

Configuration Key	Value
<code>anypoint.mq.url</code>	<code>https://mq-ap-southeast-2.anypoint.mulesoft.com/api/v1</code>
<code>anypoint.mq.path</code>	<code>organizations/XXX/environments/XXX</code>
<code>anypoint.mq.reconnection.attempts</code>	<code>2</code>
<code>anypoint.mq.frequency</code>	<code>2000</code>
<code>anypoint.mq.studyApplication.name</code>	<code><<env>>-x-banner-events-v1-study-application-t</code>
<code>anypoint.mq.studyApplication.name.prefetchMaxLocalMessages</code>	<code>30</code>

<code>anypoint.mq.</code> <code>client.id</code>	XXX
---	-----

<code>anypoint.mq.</code> <code>client.secret</code>	XXX
---	-----

Implementation Guidelines

1. Do the following validation and raise custom error “ APP:BAD_REQUEST “ with **400** HTTP Status code

a. Incoming `eventType` must be `"stagedStudyApplication"`, If any other value is received, raise error with the message:

`"Invalid eventType received. Expected: stagedStudyApplication, but received: <eventType>"`

b. Incoming operation must be from [UPDATE], if not then raise the error with message

`"Invalid operation value. Allowed value is: UPDATE. Received: <operation>"`

✓ Sample error message for bad request

```
1 {
2   "correlationId": "945e4740-6795-11f0-8f9f-dc4546dcaff0",
3   "description": "Invalid eventType received. Expected: stagedStudyApplication, but received: <eventType>",
4   "errorType": "APP:BAD_REQUEST",
5   "additionalDetails": "Invalid eventType received. Expected:
```

```

    stagedStudyApplication, but received:
    <eventType>"
6 }

```

2. Transform the data received from Ellucian APS to Study Applications event payload.
3. Publish the event payload to queue “<env>-x-banner-events-v1-study-applications-t”

Sample Event payload :

```

1 {
2   "metadata": {
3     "eventId": "91216a66-328b-4c09-b1c7-f689e6f71d4a",
4     "correlationId": "91216a66-328b-4c09-b1c7-f689e6f71d4a",
5     "source": "x-banner-events-v1",
6     "receivedOn": "2025-07-04T10:15:30Z"
7   },
8   "content": {
9     "eventType": "UPDATE",
10    "objectType": "studyApplication",
11    "studyApplication": {
12      "studyApplicationId": "10085",
13      "studyApplicationUniqueIds": [ {
14        "smsApplicationId": "7cadb64d-f5bf-4829-b433-6e100287edfe",
15        "smsApplicationNumber": "1",
16        "applicationStagingId": "7cada4fd-f5bf-4829-b433-6e100287edbk"
17      } ],
18      "applicantUniqueIds": [ {
19        "smsPersonId": "45bf2d8c-7968-42ab-9455-a71eeb74570d"
20      } ],
21      "applicantId": "A00013477",
22      "templateCode": "MONASHIMPORTTEMPLATEV8",
23      "transferStatus": "ERROR",
24      "applicationSource": "my.app",
25      "errors": [
26        {
27          "code": "Global.SchemaValidation.Error",
28          "description": "Errors parsing input JSON.",
29          "message": "Another user has updated this Admissions Application Details Extended Properties while you were editing"
30        }
31      ],
32      "lastModifiedDate": "2021-11-09T11:39:05Z"
33    }

```

	<pre> 34 } 35 } 36 </pre> <p>Sample Success Response with HTTP Status Code : 202</p> <pre> 1 { 2 "correlationId": "9d2dee33-7803-485a-a2b1-2c7538e597ee", 3 "message": "Event Received" 4 } 5 </pre>
Data Translation Requirements	N/A
Error Handling	<p>Error should be transformed to the standard error object and passed back to the caller.</p> <p>Error logging should be logged to trace in Log Consolidation tool</p>
Outbound Security	Client ID Enforcement
Complexity	Simple
Sizing Calculation	<p>The following assumptions have been made to estimate the memory used by this flow:</p> <ul style="list-style-type: none"> • Concurrent Transactions: ?? • Latency (ms): ? • Payload size
Link to Field Mapping	See Mapping Details in the below table
Approved Integration Pattern	ASYNC-02

Mapping Details:

Event payload	Banner request	Data type	Comments
metadata.eventId		string	correlationId
metadata.correlationId	eventId	string	if eventId != correlationId then

			eventId else correlationId
metadata.source	x-banner-events-v1	string	Api name
metadata.receivedOn		Datetime	now() >> "UTC"
content.eventType		string	Operation performed: Hardcode as "UPDATE"
content.objectType		string	"studyApplication"
content.studyApplication.studyApplicationId	content.studyApplication.applicationExternalId	string	
content.studyApplication.studyApplicationUniqueIds.smsApplicationId	content.studyApplication.smsApplicationId	string	
content.studyApplication.studyApplicationUniqueIds.applicationStagingId	content.studyApplication.applicationStagingId	string	
content.studyApplication.studyApplicationUniqueIds.smsApplicationNumber	content.studyApplication.smsApplicationNumber	number	

<code>content.studyApplication.applicantUniqueId.smsPersonId</code>	<code>content.studyApplication.personManagerId</code>	string	
<code>content.studyApplications.applicantId</code>	<code>content.bannerId</code>	string	
<code>content.studyApplication.templateCode</code>	<code>content.studyApplication.templateCode</code>	string	
<code>content.studyApplication.transferStatus</code>	<code>content.studyApplication.transferStatus</code>	string	
<code>content.studyApplication.applicationSource</code>	<code>content.studyApplication.submissionConfirmationCode</code>	string	
<code>content.studyApplication.errors[].code</code>	<code>content.studyApplication.errors[].code</code>	string	
<code>content.studyApplication.errors[].description</code>	<code>content.studyApplication.errors[].description</code>	string	

<code>content.studyApplication.errors[].message</code>	<code>content.studyApplication.errors[].message</code>	string	
<code>content.studyApplication.lastModifiedDate</code>	<code>content.studyApplication.lastModifiedDate</code>	datetime	

Messaging Publish/Subscribe Details

SI No	Queue/Topic Name	Queue/Topic Type	Publish/Subscribe Type	MQ Interaction reason
1	<code><env>-x-banner-events-v1-ula-p-curriculum-mgmt-events-v2-q</code>	Queue	Publish	Publish Unit of Learning Availability Event to Queue
2	<code><env>-x-banner-events-v1-student-address-p-student-admin-events-v2-q</code>	Queue	Publish	Publish Student Address Event to Queue
3	<code><env>-x-banner-events-v1-study-applications-t</code>	Topic	Publish	Publish Study Applications Event to Topic

Additional references (optional)

Documentat ion	Link	Comments
Lucid Folder		
Lucid Page		