



Joint Council for  
Qualifications<sup>CIC</sup>



# JCQ<sup>CIC</sup> A2C Data Standards Specification

## Section 3

### Business Processes

### Product Catalogue

2022 Version

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# 1 Process Summary

This section describes the process of an awarding organisation making a product catalogue available for use by centre Management Information Systems (MIS).

Product catalogue is the new term for basedata and has been used to harmonise terminology across all awarding organisations.

There are two transaction types which will result in the provision of product catalogue data to centres; Centre Setup Notification (CSN) and Request Product Catalogue (RPC). These processes are described in Section 2.

If the centre intends to commence A2C compliant operation they should use the CSN; successful completion of this transaction will both indicate their A2C compliance and provide them with a product catalogue. Subsequent polling for A2C messages by the centre will allow them to collect future updates to product catalogue information reflecting changes or addition of new products.

If the centre requires product catalogue information but does not intend to commence A2C compliant operation immediately, they should use the Request Product Catalogue (RPC) transaction type. This will provide them with a full product catalogue, featuring static and instance data, but will not initiate any further A2C transactions; the centre will not become A2C compliant at this point.

If the centre is ready to commence A2C compliant operation they should submit the CSN transaction.

Some AOs send product catalogue updates after an RPC but some not until the CSN has been processed. The AO\_Preference 'Product catalogue updates pushed after RPC' determines which approach each AO takes.

If the AO\_Preference 'Product catalogue updates pushed after RPC' is 'not supported' and the centre requires an up-to-date version of the product catalogue and they are still not ready to commence A2C operations they should submit the RPC transaction again; this process can be repeated until they are ready to commence A2C compliant operation.

Even if the AO\_Preference 'Product catalogue updates pushed after RPC' is 'supported' the AO will send a full product catalogue on receipt of a CSN.

It is also acceptable to use the RPC transaction type after the centre is A2C compliant. Please refer to Section 2 for further information.

These alternative routes to request a product catalogue, ie CSN and RPC, both result in provision of the same content.

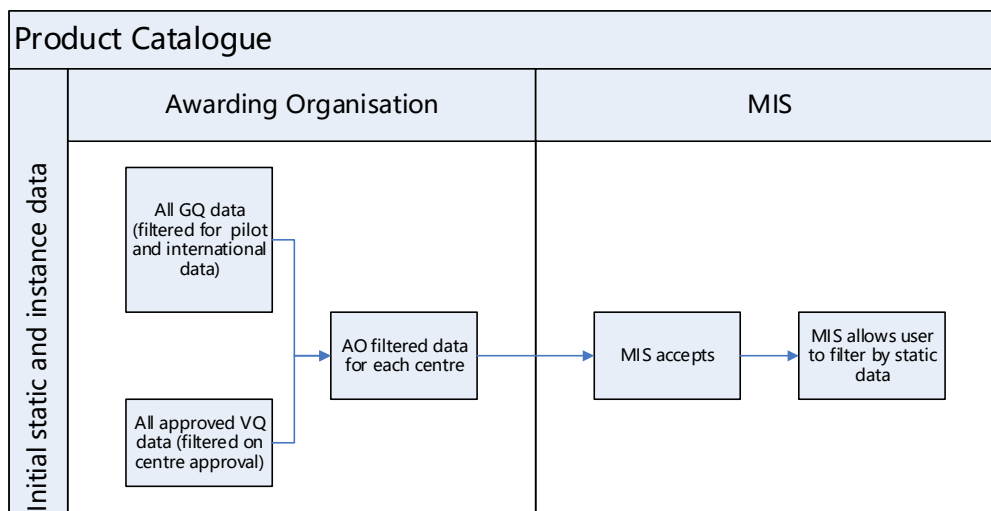
The product catalogue will be divided into 'static' and 'instance' to categorise respectively data that will remain for the most part unchanged over the lifetime of a product; and data that will change regularly throughout the year, or from year to year. Static data contains qualification data that does not change over a long period of time (such as accreditation numbers). Only when data, such as the accreditation number, changes will revised static data be issued as an update. Instance data, which can be created after static data, only applies to a specific period of time and includes data such as fees and examination dates. Awarding organisations will issue instance data for products which are available to order; data for ordering periods which are closed will not be issued. After initial product catalogue data is published, all data will be issued as an update, whether it is an amendment to a product or a new product. The exception will be where a RPC message is sent: this will always result in provision of a full set of product catalogue data, ie static and instance data.

Product catalogue data is far more enriched than basedata. Additional information about a qualification or assessment will be provided including fees information and process dates, as well as qualification standards and guidelines.

All available product catalogue data will be filtered by an awarding organisation to provide all approved qualifications for that centre. This means all General Qualification (GQ) data (except specific international and pilot data) and centre-approved Vocational Qualification (VQ) data (based on which qualifications a centre has approval for) will be available to a centre upon setting up as an A2C user.

Separate CSN or RPC messages must be sent to each awarding organisation from which a product catalogue is required.

This is the initial set of published data which contains both static and instance data:



Product catalogue data will automatically be made available for polling by the MIS once a CSN has been processed. This product catalogue will therefore be picked up the next time the MIS polls for it.

## 1.1 Product Catalogue Updates

Following publication of the initial data, any new or amended products will be made available as updates; as will new qualification approvals for the centre. When an expiry date for a product is set, appropriate updates will be sent to set an 'end date' to close the product in the centre's product catalogue on the appropriate date. If a centre's approval changes and they are no longer eligible to use certain products, no further instance updates will be issued by the awarding organisation. This will allow the MIS to prevent transactions for those products being made after the expiry date shown. Similarly, for products that are expiring for all centres, an 'end date' will be used to close the product.

Product catalogue updates will consist only of new or amended records. For example, if there is a new QE\_Availability for a particular Qualification\_Element, but the Qualification\_Element itself has not changed, the product catalogue update will contain the old QE\_Availability (to set the effective to date) and the new QE\_Availability record, but not the Qualification\_Element record.

Where there is a hierarchy of entities within a data block, the full parent records will be provided even if they have not changed. This applies to:

- For QE sub-types (Assessable, Award, Learning Unit, Pathway, Scheme) the entire Qualification\_Element record will be provided
- For QE\_Availability\_Key\_Event, the parent QE\_Availability record will be provided

- For QE\_Availability\_Key\_Event\_Fee, the parent QE\_Availability\_Key\_Event and its parent QE\_Availability record will be provided
- For QEA\_Max\_Mark\_Grade\_Boundary, the parent QE\_Availability\_Maximum\_Mark will be provided
- For QE\_Grade\_Performance\_Point, the parent Qual\_Performance\_Table\_QE will be provided

Unchanged siblings do not need to be included. For example, if a QEA has 3 key events but only one of the key events has changed, the QEA and the changed key event must be included but not the two unchanged key events.

The following entities share datablocks but parents do not need to be provided as they do not share the attributes of the primary key in the schema hierarchy. In both cases they have two parents.

- QE\_Relationship records can be changed without including the parent Qualification\_Element records (identified as Parent and Child attributes in the QE\_Relationship record).
- QE\_Objective\_Statement\_Hierarchy records can be changed without including the parent QE\_Objective\_Statement records (identified as First and Second attributes in the QE\_Objective\_Statement\_Hierarchy record)

MIS can identify new records to insert as they will not have an existing record with the same primary key.

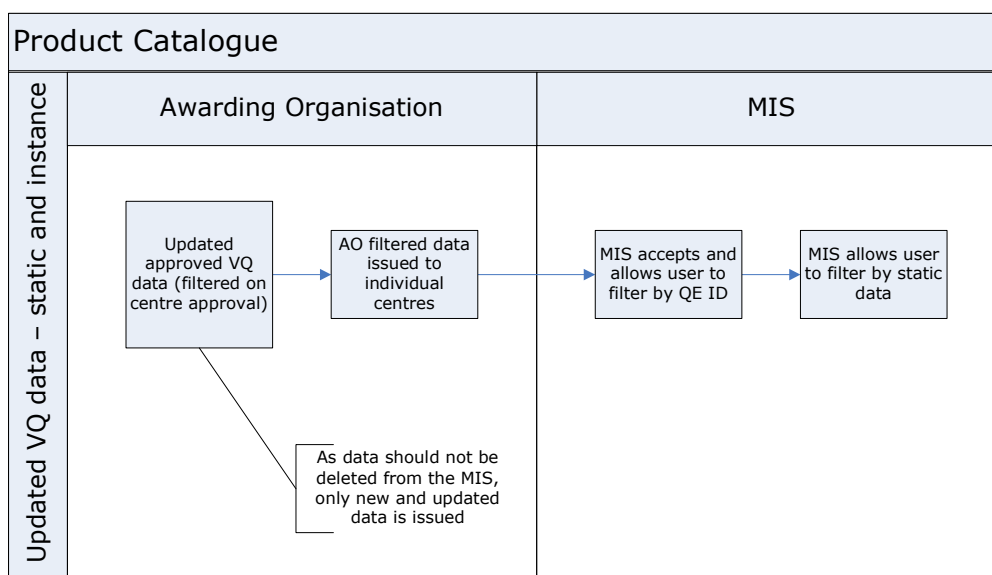
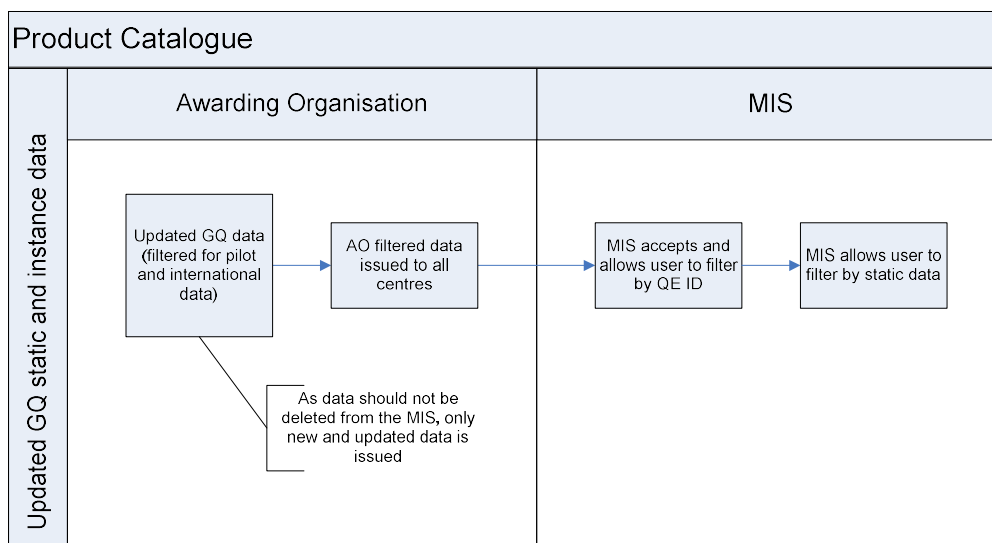
Where an entity has been updated, AOs will send the entire record. MIS can recognise that this is an update as they will already have a record for the primary key. If a previously supplied attribute is absent or empty, the MIS should nullify the value.

There is no mechanism to delete product catalogue data. If records are no longer effective, AOs will set an 'effective to date' and send the entire record. If the record has not been referenced by the centre it *could* be deleted by the MIS.

Updated product catalogue data will be automatically made available for polling. This product catalogue update will therefore be picked up the next time the MIS polls for it.

Updates will most likely contain a certain type of product such as a new set of GCSE or BTEC instances. There will not be a restriction on how updates are provided as these could include general changes to any other products. These updates are meant to be flexible and 'light' to avoid large volumes of product catalogue data being exchanged. By providing product catalogue data in this manner it will help to significantly reduce the potential size of the XML files that will be transferred.

This is the updated GQ data and centre approved VQ data:



The centre MIS will be able to further filter the product catalogue against static data to suit users' needs.

The product catalogue will drive all the subsequent processes: Orders, Centre Assessed Outcomes, Award Claims, Attendance and Results.

To facilitate MIS suppliers supporting their customers, awarding organisations will make the same customised product catalogue data available to suppliers where it would usually be issued only to centres. Where appropriate, use of the RPC messages should be used by centres or MIS suppliers with a testing centre identifier.

Some of the advantages of the new process include:

- The static data available contains qualification data that are not regularly updated and therefore can be released earlier.
- Because of the nature of static data it is likely to be sent only once.

- The lifetime of the product catalogue is longer.
- The enriched data includes fee dates, deadline dates and qualification data required for reporting purposes within the MIS and to aid the examinations officer in managing administrative tasks.
- Qualification Element preferences within the product catalogue will advise the MIS user of the awarding organisation's requirements and preferences to support the administration for particular products (such as whether Registrations are required). These preferences will be explicitly stated against the specific Qualification Elements to which they apply; the full list of preferences is included in Appendix 2 (see QE\_Preference).
- Learner Identifier preferences will indicate the learner identifiers required for specific products. These preferences will be provided using the QE Learner Identifier entity and will be stated at the level of the Scheme and all lower levels of the Qualification Element hierarchy will inherit; this avoids repetitively defining preferences against all other QE sub types.
- VQ data will be centre approved and will allow centres, where appropriate, to meet local needs and receive customised qualification data.
- The awarding organisation filter process, in conjunction with further MIS filters, will avoid qualification data being displayed to the user which they could not use.

Unlike the current JCQ<sup>CIC</sup> formats, awarding organisations will not publish the product catalogue as A2C data messages on their websites or extranets. Legacy basedata will remain available for download on awarding organisation websites and extranets until the legacy formats are no longer supported.

If a centre uses an awarding organisation extranet to submit orders or to report Centre Assessed Outcomes, the extranet will be pre-populated with the relevant approved data (such as qualifications data). Centres will still be able to browse awarding organisation websites for specifications and key administrative documents. Awarding organisations will also support centres with qualification data through non-A2C processes.

## 2 Process Diagram – Product Catalogue

This process diagram shows the end-to-end business process, and is designed for use with end-users eg examinations officers.

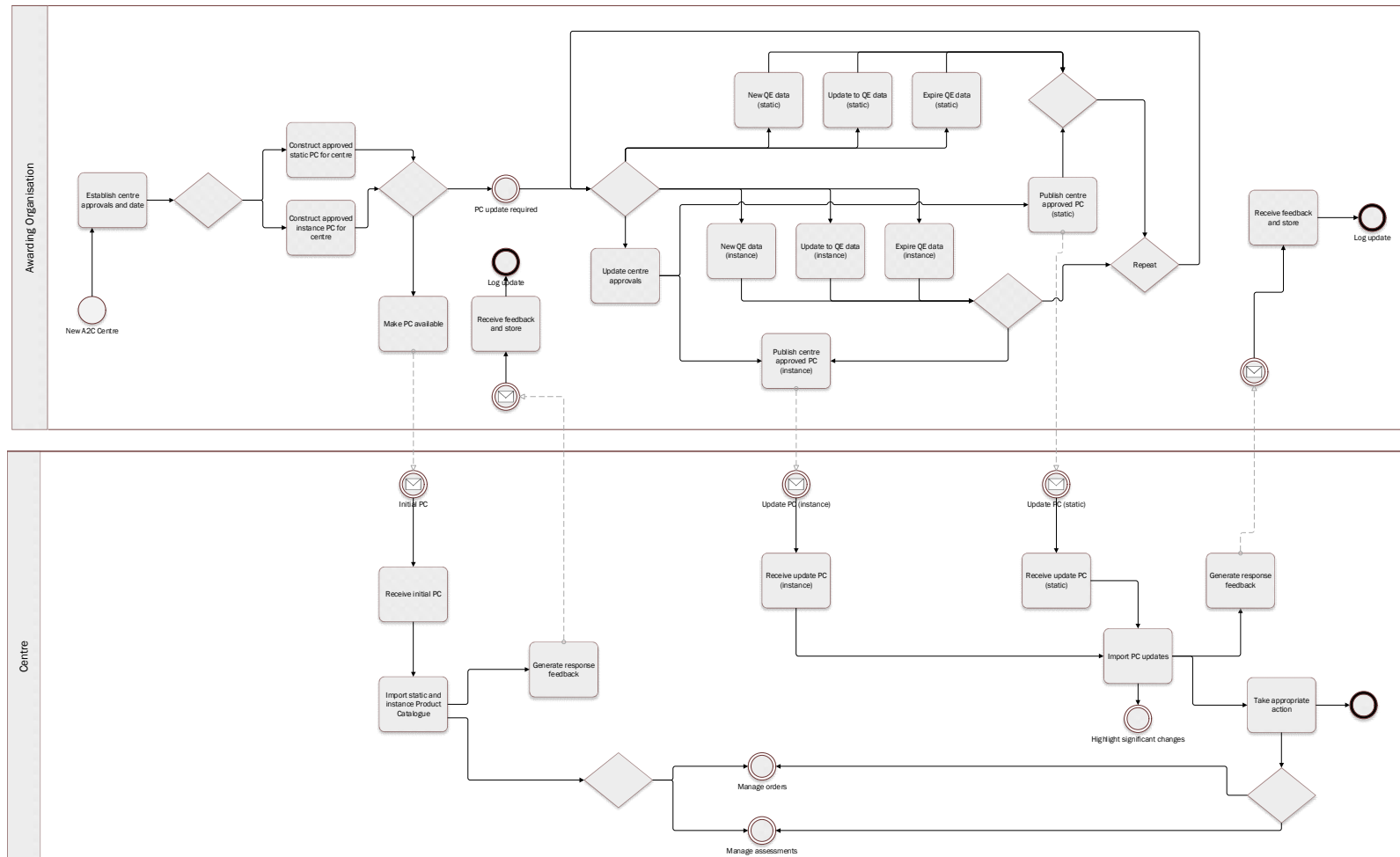


Figure 1 Product Catalogue Process Diagram

### 3 User Stories

The user stories listed here provide contextual information about how the business process has been designed.

#### User story 1 / Set up as A2C users

<b>As a:</b>	centre
<b>I want to:</b>	be set up as an A2C user
<b>So that:</b>	I can receive product catalogue data in my MIS.

#### User story 2 / Prepare Product Catalogue

<b>As an:</b>	awarding organisation
<b>I want to:</b>	construct tailored, product catalogue data for each of my centres
<b>So that:</b>	each centre receives information for the products that they are approved to deliver.

#### User story 3 / Publish Product Catalogue (Static and Instance)

<b>As an:</b>	awarding organisation
<b>I want to:</b>	make product catalogue data available to centres
<b>So that:</b>	the centre can accept this data into their MIS and view their approved products.

#### User story 4 / Accept Product Catalogue (Static and Instance)

<b>As a:</b>	centre
<b>I want to:</b>	accept product catalogue data into my MIS that reflects the qualifications I am approved for
<b>So that:</b>	I have all of the products I am interested in displaying in my MIS.

#### User story 5 / Filter Product Catalogue - Static

<b>As a:</b>	centre
<b>I want to:</b>	further filter the static product catalogue in my MIS
<b>So that:</b>	I can view only the products I am interested in.

#### User story 6 / Prepare updated Product Catalogue

<b>As an:</b>	awarding organisation
<b>I want to:</b>	construct tailored, updated product catalogue data for all centres
<b>So that:</b>	each centre receives information on the products that they are approved to deliver.

**User story 7 / Publish updated Product Catalogue - Static**

<b>As an:</b>	awarding organisation
<b>I want to:</b>	make updated static product catalogue data available to centres
<b>So that:</b>	the centre can accept this data into their MIS and view their approved products.

**User story 8 / Publish updated Product Catalogue - Instance**

<b>As an:</b>	awarding organisation
<b>I want to:</b>	make updated instance product catalogue data available to centres
<b>So that:</b>	the centre can accept this data into their MIS and view their approved products.

**User story 9 / Accept updated Product Catalogue - Static**

<b>As a:</b>	centre
<b>I want to:</b>	accept static product catalogue data into my MIS that reflects the qualifications I am approved for
<b>So that:</b>	I have all of the products I am interested in displaying in my MIS.

**User story 10 / Accept updated Product Catalogue - Instance**

<b>As a:</b>	centre
<b>I want to:</b>	accept instance product catalogue data into my MIS that reflects the qualifications I am approved for
<b>So that:</b>	I have all of the products I am interested in displaying in my MIS.

**User story 11 / Filter Product Catalogue - Instance**

<b>As a:</b>	centre
<b>I want to:</b>	further filter the instance product catalogue in my MIS
<b>So that:</b>	I can view only the products I am interested in.

## 4 Assumptions

Product Catalogue	
PCA1	The processes (including timing and volume issues) for release of updates to the product catalogue to support centre staff (mark grade boundaries) has been detailed in the business rules for the issue of product catalogue data.
PCA2	JCQ <sup>CIC</sup> will continue to create common publication dates for the instance product catalogue as they do now for EDI basedata. Dates will be required for publication of the product catalogue prior to the start of the series, and also for the publication of grade boundary data (this should be the 'results to candidates' date as per current practice).
PCA3	Product Catalogue Structure: It is not essential for all Qualification Elements (QE) to have associated Qualification Element Availability (QEA) records. Where QE preferences indicate that transactions will need to take place in relation to the QE, such as placing of registrations or entries submission of CAOs/ACs and issue of results, this indicates that QEA records will be created by the AO in due course. Those QEAs, when provided, will state the key events associated with the QE which state the periods during which those transactions may take place.
PCA4	Any changes to the structure of a Qualification Element (QE) over the QE's life ie new or deleted assessable, pathway, etc are managed by the start and end dates on the QER record. Each new assessable or pathway etc must have a new QE identifier to support this capability.
PCA5	It is recognised that product catalogue data issued by awarding organisations is likely to be used in downstream processes within centres soon after issue. It is therefore assumed that any awarding organisation correcting previously issued product catalogue data will not rely solely on the A2C message to communicate the problem to centres; direct contact with affected centres or notices on awarding organisation websites may be appropriate.

## Business Rules

The business rules listed here outline key features and behaviours which must be adhered to by awarding organisations and MIS software suppliers when developing systems and designing in-house business processes. Some of these rules will feature in the compatibility testing of the data and messaging standards.

### 4.1 Common Business Rules

The following common business rules are applicable to this process:

Rule ID	Process Flow Reference	Party affected	Rule title and description
C1	All	All	Data and messaging will comply with the JCQ <sup>CIC</sup> A2C Data Standards and Schema, sending only the data required or permitted by the appropriate product catalogue.
C2	All	All	<p>The JCQ “Instructions for Conducting Examinations – 2017-18” sections 2.9 and 2.10 explains the rules for candidates taking two or more examinations in a session.</p> <p>Since the ICE guidance allows centres to:</p> <ul style="list-style-type: none"> <li>choose the order for papers and</li> <li>does not specify the exact length of the break allowed and</li> <li>allows variation of up to 30 minutes in the start of the morning and afternoon sessions</li> </ul> <p>...it is not feasible to pre-define the exact start time for each of the papers. AOs will therefore use the standard session start time for both papers.</p> <p>An example is AQA’s French Reading and Listening papers. 46551F (Listening) and 46552F (Reading) are timetabled in the morning session of 17/05/16. The Product Catalogue shows these with concurrent timing i.e. both have a Key_Event_Start_Date_Time for Awarding Organisation Scheduled Assessment of 17/05/2016 08:00:00 (9am adjusted for BST).</p> <p>See also:</p> <ul style="list-style-type: none"> <li>A2C Usage Notes for the Key_Event_Name ‘Awarding Organisation Scheduled Assessment’ in Appendix 2.</li> <li>A2C Attribute Notes for the Party_Role_Type_ADT_Decider attribute in Appendix 1.</li> </ul>

## 4.2 Process-Specific Business Rules

The following rules have been identified specifically in relation to the process for product catalogue:

Rule ID	Process Flow Reference	Party affected	Rule title and description
PC1	<i>New A2C user</i>	AO and Centre	<p><b>New centres to A2C</b></p> <p>When a centre notifies an awarding organisation that their MIS is now A2C compliant or where an RPC message is processed, awarding organisations will initiate the construction of static and instance product catalogue data for the centre.</p> <p>This product catalogue may include data for qualifications where orders have been submitted via non-A2C methods to support the centre. The product catalogue will be filtered to include all approved GQ and centre-approved VQ data. Awarding organisations will still hold approval data at centre level for VQ products. The approval will apply at centre sub-site levels to assist with administration of learners and subsequent processes.</p>
PC2	<i>Make product catalogue available</i>	AO	<p><b>AO publishes Product Catalogue (Static and Instance)</b> This will be as per A2C Service Level Recommendations (SLRs).</p>
PC3	<i>Product catalogue accepted</i>	Centre	<p><b>Centre accepts Product Catalogue (Static and Instance)</b> Centre MIS will advise user of product catalogue updates.</p>
PC4	<i>Make product catalogue updates available</i>	AO	<p><b>AO publishes updated Product Catalogue - Static</b></p> <p>Only new and amended data is published.</p> <p>This will be as per A2C SLRs.</p>
PC5	<i>Make product catalogue updates available</i>	AO	<p><b>AO publishes updated Product Catalogue - Instance</b></p> <p>Only new and amended data is published. This requires relevant static data to be present in the MIS. This will be as per A2C SLRs.</p>
PC6	<i>Updated product catalogue accepted</i>	Centre	<p><b>Centre accepts updated Product Catalogue - Static</b> Centre MIS will advise user of product catalogue updates.</p>
PC7	<i>Updated product catalogue accepted</i>	Centre	<p><b>Centre accepts updated Product Catalogue - Instance</b> Centre MIS will advise user of product catalogue updates.</p>
PC8	<i>Product catalogue notification</i>	All	<p>In order to support the transition from EDI to A2C, awarding organisations will also notify centres of product catalogue updates via their website and e-mails (until a phased withdrawal of these notifications agreed with customers and MIS suppliers).</p>

## 5 Service Level Recommendations

These Service Level Recommendations (SLRs) reflect realistic targets for all awarding organisations migrating to A2C messages. Awarding organisations aspire to process messages within a shorter time frame. They are subject to UK public holidays and UK standard working days (Monday to Friday). These SLRs will remain under review by the JCQ<sup>CIC</sup> during the early years of A2C adoption.

The following SLRs are applicable to this business process:

Service	Description
Make initial static and instance product catalogue data available.	Initial product catalogue data made available within two working days, assuming centre is approved.
Make updated static product catalogue data available.	Updates to product catalogue made available within two working days when updated and new data is available to publish.
Make updated instance product catalogue data available.	
Return of instance and static product catalogue feedback.	The MIS will transmit feedback message to the appropriate awarding organisation within two working days of acknowledgement of the product catalogue data by the transport mechanism.
Return of updated static product catalogue feedback.	
Return of updated instance product catalogue feedback.	

## 6 Transaction Types

This section provides business descriptions and contextual information for each of the transactions that support this business process.

### 6.1 Centre-to-Awarding Organisation Transaction Types

The MIS will transmit appropriate feedback messages to the awarding organisation for the following transactions:

- Publish Feedback – Product Catalogue
- Publish Feedback – Product Catalogue - Static
- Publish Feedback – Product Catalogue – Instance

### 6.2 Awarding Organisation-to-Centre Transaction Types

#### 6.2.1 Product Catalogue

A set of static and instance data will be published upon successful receipt and processing of a Centre Setup Notification (CSN) or Request Product Catalogue (RPC) message.

#### 6.2.2 Product Catalogue – Static

This transaction type will be used to provide updates to the initial product catalogue data. Updates will only commence when provision of the product catalogue data was initiated by a CSN; they will not apply after an RPC. For General Qualifications, updated data may become available on a particular date to coincide with the academic year. For Vocational Qualifications, updated data may become available on a more *ad hoc* basis, as and when it is ready.

#### 6.2.3 Product Catalogue – Instance

This transaction type will be used to provide updates to the initial product catalogue data. Updates will only commence when provision of the product catalogue data was initiated by a CSN; they will not apply after an RPC. Throughout the academic year there are likely to be changes to existing products, sometimes in the static data but for the most part it will be instance data that will change with regard to data such as fees and new examination dates. For General Qualifications, updated data may become available on a particular date to coincide with the start of the academic year and the issue of updates at results periods. For Vocational Qualifications, updated data may become available on a more *ad hoc* basis, as and when it is ready.

## 6.3 New to Old Transaction Type Mapping Table

This table provides a mapping from the transaction types described above back to the related file types in the JCQ EDI format, the Pearson EDIFACT format and City & Guilds' format. For data level information see the *New to Old Mapping* section in Appendix 1.

A2C Transaction Type	JCQ EDI Pearson EDIFACT City & Guilds Walled Garden File	Additional information
Publish Product Catalogue Publish updated Product Catalogue – Static Publish updated Product Catalogue - Instance	JCQ Basedata Files <ul style="list-style-type: none"> <li>• Component Definition</li> <li>• Disallowed Combinations Definition</li> <li>• Option Definition</li> <li>• Option/Component Link</li> <li>• Syllabus Definition</li> </ul> JCQ Gradeset File Pearson EDIFACT <ul style="list-style-type: none"> <li>• BDEDEX</li> <li>• BDNCVQ</li> <li>• BDMASD</li> </ul>	For GQ products this was published on agreed dates across awarding organisations.