

Electronic Invoicing Information Pack

Disabled Students Allowances



Student Loans Company

Version Control

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	14/01/2015	Jonathan Oakley	0.3	Updated: Contact details Updated: Path to Live
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Contents

Version Control	2
Contents	2
Overview	3
Path to Live	3
Specifications	5
Technical Specification	13

Overview

In 2013 an eight week project was begun with the objective to create a digital route for invoice submission which could be piloted by Student Finance England (SFE) and suppliers alike. The solution arrived at also provides a digital channel for processing the invoices and reduces the opportunity for manual error during processing.

This solution is open to any supplier who has the capacity and ability to link with the SFE Digital Invoice Application Programming Interface (API).

For those suppliers who are unable to link to the current Digital Invoice API, the Transformation Programme will be looking at a more inclusive solution in future developments. This is very much an on-going project.

Invoices received over the API need to be of a standard that allows invoice processors here at SFE to correctly make payment or place the invoice under query with the supplier. There are a number of essential pieces of information we require in order to do this.

There are also some processes which will need to be implemented and followed to ensure that invoices reach us and are then processed efficiently.

Path to Live

In order to submit invoices electronically there are several stages of technical and business testing which are there to ensure that invoices can be received on the API and the data is both sufficient and in the correct format for SFE to use.

Step 1 – Information Sharing

This pack contains the guidance and specification documents needed in order to proceed with the project. We have a dedicated inbox for any queries associated with Electronic Invoices which you can find at dsa_electronic_queries@slc.co.uk.

If you wish to discuss the guidance further a call or meeting can be arranged to talk through the project, the process for coming on board, as well as business and technical requirements.

Step 2 – Proposal

If you are proceeding with the project, we require a proposal to outline your preferred solution. That way we can help with any advice or experiences other suppliers have had if they used similar methods.

You should submit the proposal to dsa_electronic_queries@slc.co.uk.

We will share our thoughts and feedback on the proposal and once all parties are happy, you can then proceed with building solution.

Step 3 – Building a Solution

Using the specification documents as a guide, you should be able to move forward with building a solution that can send invoices and supporting documentation to our API.

We're on hand to help with advice and guidance throughout. A dedicated email channel has been set-up for this part of the process at dsa_supplier_support@slc.co.uk. Email received to this address will be picked up by the project team. The most appropriate person to answer the query will respond either to the email or by phone. This contact channel is available at any stage of the Path to Live.

When you believe the solution is ready for use, and your business is in a position to switch to the new system as soon as go ahead is given, please contact us to begin the testing phases.

Step 4 – Integration (Testing Phase 1)

The first testing phase is 'integration'. In this phase invoices are sent to a testing system. All the information relating to a student and their support should be 'dummy' information. There should never be any 'real' data sent to this system (including attached documents). Full details of integration testing can be found in the technical specification.

We anticipate that once integration testing is completed and passed there should be no further development work required.

Step 5 – Beta (Testing Phase 2)

The final testing phase is 'beta'. This is a two stage test involving a **format test** and a **batch test**.

The **format test** involves the submission of a small batch of around 20 real invoices. Invoices submitted at this stage need real student data, for support that has actually taken place. We will also require the appropriate attachments needed for the invoice to be acceptable. There should only ever be actual invoice/student/supplier information sent to the live API.

These invoices will be given to one of our invoice teams for processing. The invoices will be processed under business test conditions. This means we will make payments and if we raise any queries these will be live queries that will require action from you or the student to resolve.

Our invoice team will be testing the invoices to ensure the following:

All information is presented in the correct fields,

That the student and supplier details are correct and,

That any attached documents relate to the correct student/invoice.

In summary we are testing that we are able to successfully process the invoice through to payment or raise a standard query.

The **batch test** is conducted once the format test has been passed. It involves the submission of a 'full batch' of invoices – typically one week's or one month's worth. Depending on current invoice processing resource and timescales, the batch may be expedited to give feedback as soon as possible but this can't be guaranteed. The aim of the batch test is to see how a typical submission will perform, to identify any format issues across a larger sample and identify any query trends that may cause issue at the next submission.

Before commencing this phase of testing, we advise that you conduct a data check of student information such as full names, customer reference numbers and dates of birth. The testing which we have conducted with pilot suppliers has highlighted a common issue where inaccurate student information has been fed into the e-invoices submitted. This has led to some beta testing fails and can also increase the number of invoice queries after 'Go Live'.

Step 6 – Live

Following a successful beta test you will be asked to confirm the date from which you can switch to sending all invoices via the electronic route.

Once the date is confirmed an official communication will be sent confirming you are 'Live' for electronic invoicing. Confirmation of the 'Go Live' date will be sent to our invoice team managers to cascade to our invoice teams ready for the first submission.

Any post 'Go Live' any queries relating to the invoice and/or submission documents will fall into our business as usual processes.

Specifications

Business Process Specification

The information detailed below outlines current processes which have not been affected by the electronic invoicing option.

Consent to Share

No payment can be made on supplier invoices where the student has not given permission for Student Finance England to pay suppliers directly.

For academic years prior to 16/17, this permission is given only when the student completes option three of the Consent to Share section on their DSA application form.

For academic years from 16/17 onwards invoices can be paid provided the student has signed an application for that academic year. Signed declarations for tuition and maintenance support are acceptable.

Where an invoice cannot be paid Student Finance England will notify suppliers that we do not have the necessary student permission to pay the invoice and the appropriate request will be reissued to the student.

Suppliers can seek payment directly from the student where consent to pay directly has not been given. Student Finance England can reimburse the student upon receipt of a Student Claim Form and the invoice which has clearly been noted as paid.

Student Information

We are unable to accept invoices which relate to more than one individual student.

Our systems are student centric and invoices received will be linked to the student to whom they relate.

Under current legislation students are entitled to request copies or details of any information which is held by SLC relating directly to them. If we accepted invoices containing multiple student details we would breach our data protection responsibilities.

Student Application Requirements

Some students are required to apply for DSA funding each academic year they study (Students who are not in receipt of tuition fee loans, maintenance loans or grants and students who are studying a post-graduate course). These students must apply on a DSA1F (full form) so that their course provider can complete section 5 and confirm their course attendance. There is no requirement to resubmit medical evidence after their initial application unless the student wishes to be reassessed for a new or worsening condition.

Invoices raised where these forms have not been received will not be paid unless the student applies on the correct form.

Without the necessary application and attendance confirmation there will be no funding available for goods or services in the particular academic year affected. This supersedes any entitlement letter (DSA2) that has been issued as basic eligibility criteria will not have been met for that academic year.

Students become ineligible for any DSA support when they are no longer in attendance on their course.

Invoices raised for support given after a student withdraws or suspends a course will not be paid. The date of withdrawal or suspension provided by the course provider will be the date that support will be paid up until.

DSAs Funding

Supplier travel, administration costs or other expenses cannot be paid as a stand-alone charge on an invoice. It is expected that these costs are factored into the applicable hourly rate charged for undertaking the support.

In exceptional circumstances these costs may be payable as a stand-alone charge however this is only applicable with prior agreement to do so and where it is clearly stated on the student's funding agreement letter (DSA2).

Students can exercise their right to choose a supplier other than the one stated on their funding agreement letter. We ask that we are informed before a student requests services through another supplier to that stated on the funding agreement letter so that this agreement can be updated. This helps to ensure that there are no instances of support being provided by two suppliers or confusion over the amount of remaining support available.

Funding is only available for services and equipment up to the amount stated on the funding agreement letter. Should the cost of services or equipment from this second supplier exceed that stated on the funding agreement letter, Student Finance England cannot fund this additional cost and the student would be responsible.

Please inform us as soon as possible regarding any price increases in relation to equipment or support. Invoices received for amounts higher than that stated on the student's funding agreement letter will be held for further investigation if there is no notification of or agreement to the price increase. We reserve the right to re-assess the student's funding agreement upon notification of a price increase.

Supplier Ledger

Student Finance England has no ledger for suppliers of Disabled Student Allowance goods and services. Electronic Invoicing has not affected this.

Payments are made from the account of the individual student. All supplier details are manually entered against each payment. The system does not hold any supplier information and there is no automation or pre-population of details.

Supplier details, such as BACS, remittance advice address, query contact instructions, price lists, cancellation policies, partner suppliers etc... are not held on any system. We rely solely on the information provided on an invoice.

We are unable to investigate the status of any invoice without full student details as the student's account must be accessed for every invoice.

Similarly we are unable to give information as to the position of any supplier's current outstanding debt as we do not run any system based upon supplier accounts. We have established the Debt Response process for this. For further details please contact the team via email on invoice_team@slc.co.uk.

Processing Timescales

The processing of payments takes up to 20 working days from receipt of an invoice into our Darlington Office. Payments may be subject to a random quality check.

Payments may take a further 5 - 7 working days to go through the BACS payment system.

We advise to allow a full 30 working days, from the date an invoice could reasonably have been received by us, for a payment to reach your bank account. Payment by cheque may take longer as there is no automation of this system.

Remittance advice slips are generated upon payment and sent by second class post. As such remittance slips may arrive after the payment has hit your bank account. Unfortunately we have no means of sending remittance slips via email at this time. We are also unable to re-print or re-send remittance slips.

If you require information such as payment dates, invoice numbers or GPR reference numbers then please contact our DSA Response Team or Invoice Team Mailbox. Details are supplied below.

Communication

Our invoice team has a dedicated mailbox to receive any queries at invoice_team@slc.co.uk; they are unable to take phone calls as many of our staff work outside of standard office hours.

Processing staff are not generally contactable by telephone.

The DSA Response team remains available. The team can be contacted on 01325 215194 between 9:30am and 4:30pm, Monday - Friday.

The information detailed below outlines the business specification for e-invoices.

Detail	Basic Invoice Requirements	Comments/Actions
1	<p>E-Invoices must have the following basic information; otherwise they may fail validation or be rejected by SFE</p> <ul style="list-style-type: none"> <input type="checkbox"/> Supplier name <input type="checkbox"/> Supplier address or specific address for remittance advice <input type="checkbox"/> Supplier contact information <input type="checkbox"/> A request to pay to the following account <ul style="list-style-type: none"> <input type="checkbox"/> account name <input type="checkbox"/> account sort-code <input type="checkbox"/> account number <input type="checkbox"/> Student's full name <input type="checkbox"/> Student's CRN * <input type="checkbox"/> Student's date of birth * <input type="checkbox"/> Invoice number <input type="checkbox"/> Invoice date <input type="checkbox"/> Balance to pay in £ for the Invoice <input type="checkbox"/> Details of support, training or equipment provided <input type="checkbox"/> Supporting documentations, in relation to the specific invoice/student which have been verified in an appropriate, agreed manner by the student <input type="checkbox"/> Taxi Invoices must give a full breakdown of the journeys undertaken <input type="checkbox"/> Taxi Invoices must state if Public Transport Costs have been deducted from the invoice total. 	<p>A Data Dictionary has been produced to detail the specific requirements for each invoice type. The information to the left is a guide only.</p> <p>Supplier to adhere to all elements required as detailed in the Data Dictionary.</p> <p>Any deviance from the requirements could result in additional work for both the Supplier and SFE. Where additional work is required to process, due to a deviance from these requirements, SFE may request that the Supplier returns to postal invoices.</p> <p>We're aware that the format to the line item information may not exactly match current invoice layouts. It is important that we have sufficient information to understand what is being charged and the associated costs. The Data Dictionary provides detailed guidance around this.</p> <p>We're happy to work with suppliers on finding solutions to any issues that arise due to this and typically this is resolved during testing phases. Supporting documents (typically timesheets) should be signed in ink by the student. The student signature will be regarded as the student accepting the information detailed and that these incurred costs will be charged to their DSAs.</p> <p>Electronic signature verification should only be used where this has been specifically agreed by SFE.</p> <p>It is essential that student information is stated on the invoice. We require the student's full name and their CRN or date of birth. This information must be correct to that student. There is no detailed validation that would highlight if the CRN entered on the invoice was invalid or for the incorrect student.</p> <p><i>*Require either/or both to ensure allocated to correct account/matching</i></p>

Detail	Requirements Invoice Submission	Comments/Actions
2	<ul style="list-style-type: none"> <input type="checkbox"/> Post 'Go Live' invoices may be submitted at any time, in any volume. <input type="checkbox"/> It is expected that the supplier develops the capability to submit all applicable invoice types. 	<p>Suppliers using electronic invoicing are free to submit invoices at any time, in any volume. If the supplier would typically submit more than one invoice type, so as an example NMH and NAR invoices, then it is expected that the supplier develops the capability to submit all applicable invoice types.</p> <p>We're unable to accept electronic invoices until all invoice types to be submitted can come through the electronic route. This is because to do otherwise poses operational challenges which would risk the loss of documents.</p>
Detail	Submission In Error	Comments/Actions
3	<ul style="list-style-type: none"> <input type="checkbox"/> The supplier is responsible for ensuring only correct invoices are submitted to SFE. <input type="checkbox"/> The supplier is responsible for ensuring only correct supporting documents are attached to invoices submitted to SFE. <input type="checkbox"/> The supplier is responsible for ensuring SFE are immediately made aware of incorrect invoices being submitted. 	<p>There may be occasions when invoices are submitted and then later an error is identified such as incorrect bank details being stated on the invoice, or the invoice gives no usable student information.</p> <p>Although we can't remove these invoices from our database, we can try to remove them from our workflow queues and prevent the invoices from being processed. We can only do this if you inform us as soon as possible.</p> <p>We would expect that all precautions are taken to prevent volumes of, or regular instances of, incorrect invoices from being submitted.</p> <p>Where high volumes of incorrect invoices result in frequent requests remove incorrect submission from our workflow, due to a deviance from these requirements, SFE may request that the Supplier returns to postal invoices.</p>

Detail	Requirements for Amended or Copy Invoices	Comments/Actions
4	<ul style="list-style-type: none"> <input type="checkbox"/> Amended or copy invoices should not be submitted through e-invoices <input type="checkbox"/> The supplier is responsible for notifying SFE immediately if a copy or amended invoice is submitted in error. 	<p>There may be occasions when we request an amended or copy invoice. Examples would include where an invoice charges for some goods or services which are eligible for payment through DSAs, but also includes items which are not eligible, and so the invoice cannot be paid in full.</p> <p>We continue to accept amended or copy invoices via email to our team mailbox provided the subject line clearly indicates the attached invoice is an amended or copy invoice. New invoice submissions via the mailbox will be rejected. A 'new submission' is regarded as an invoice which has not previously been submitted to SFE in any format.</p> <p>We ask that amended and copy invoices are not sent through the electronic invoicing portal. This is because the amended or copy invoice is likely to come into the workflow queues and will be reviewed in the same timescale as a brand new invoice submission. It could also cause confusion and potentially lead the invoice being refused on the grounds of being a duplicate.</p> <p>If amended or copy invoices must be submitted electronically then please inform us as soon as possible so that we can remove them from the workflow queues and work the invoices as exceptions.</p>
Detail	Duplicate Submissions	Comments/Actions
5	<ul style="list-style-type: none"> <input type="checkbox"/> Duplicate invoices should not be submitted through e-invoices <input type="checkbox"/> The supplier is responsible for notifying SFE immediately if a duplicated invoice is submitted in error. 	<p>We would expect that all precautions are taken to prevent duplicate invoice submissions. If duplicate invoices are submitted then please inform us as soon as possible.</p> <p>Although we can't remove these invoices from our database, we can try to remove them from our workflow queues and prevent the invoices from being processed.</p> <p>Where high volumes of duplicate invoices result in frequent requests remove submissions from our workflow, due to a deviance from these requirements, SFE may request that the Supplier returns to postal invoices.</p>

Detail	Paper Submissions	Comments/Actions
6	<ul style="list-style-type: none"> <input type="checkbox"/> 'Paper' submissions to be superseded by electronic post 'Go Live' <input type="checkbox"/> The supplier is responsible for notifying SFE immediately if a paper invoice has been posted to us in error 	<p>Once we have agreed a 'Go Live' date with a supplier we expect that paper invoicing will be 'turned off'.</p> <p>We inform our post rooms to highlight, and in some cases even return, paper invoices from suppliers with a 'Live' electronic invoice status.</p> <p>Any requirement to submit via paper should be discussed and agreed with SFE in advance of action being taken.</p>
Detail	Statements of Account	Comments/Actions
7	<ul style="list-style-type: none"> <input type="checkbox"/> Statements of account should not be submitted through e-invoices <input type="checkbox"/> The supplier is responsible for notifying SFE immediately if a statement of account is successfully submitted in error. 	<p>There remains no facility for SLC to provide a statement of account. Statements of account should fail validation at submission.</p> <p>We continue to accept supplier statements via email to our team mailbox provided the subject line clearly indicates the attached is a statement and not a new invoice submission. We will continue to accept statements via post also.</p> <p>We ask that statements of account are not sent through the electronic invoicing portal. There are some basic validations in the system which identifies specific pieces of data received and the format of that data. Statements are likely to fail validation and will not be received into the database.</p>
Detail	System Down Time	Comments/Actions
8	<ul style="list-style-type: none"> <input type="checkbox"/> The API has a maintenance window which is 12 noon – 2pm on Thursdays. <input type="checkbox"/> The API may not be available for the duration of this window <input type="checkbox"/> The API may not require this maintenance window each week <input type="checkbox"/> The API may not require the entirety of this window for each piece of maintenance or updating 	<p>There is some scheduled system down time for essential maintenance. This is currently scheduled between 12 noon and 2pm on Thursdays. The down-time is typically for only 15 minutes and can occur at any point during this window. Some updates or maintenance work may require longer downtime periods. We will inform the named contact provided by suppliers to advise if we require any extensions to this down-time window on an as needed basis.</p> <p>If you are unable to submit invoices at any point between 12 noon and 2pm on Thursdays</p>

	<ul style="list-style-type: none"> <input type="checkbox"/> The API may require a longer window for a particular piece of maintenance or updating. SFE will inform suppliers of the required window with as much notice as possible. <input type="checkbox"/> SFE will issue a communication to suppliers if unscheduled down-time is required. This will be done with as much notice as possible, circumstances permitting. <input type="checkbox"/> The supplier is not required to inform SFE of any ad-hoc or regular down-time for their solution <input type="checkbox"/> The supplier should inform SFE of any unscheduled down time that has been for a sufficient duration to cause one large volume submission (or a number large volume submissions in a short time period) once the issue is resolved. 	<p>then please try to submit at a later point. If you continue to experience issues, or are experiencing issues outside of this window, then please contact dsa_supplier_support@slc.co.uk.</p> <p>We may not be aware of service interruptions and so please contact us if you are experiencing any submission issues such as 500 Internal Server Error or connection time-outs.</p> <p>The exception would be if the down-time was of such duration that the volume of invoices submitted immediately after would have a significant impact on SLCs ability to process those invoices, and the invoices of other suppliers, in their usual timescales.</p> <p>It would be helpful if you could inform us of any unscheduled down time that has impacted your ability to submit correct invoices.</p> <p>We can work with you to help resolve the issue or to put in place contingency plans for handling invoices that come through incorrectly, or require an alternative submission route.</p>
Detail	Contingency	Comments/Actions
9	<ul style="list-style-type: none"> <input type="checkbox"/> The supplier must ensure there is appropriate system back up in place <input type="checkbox"/> The supplier must ensure that contingency plans are in place in the event of system failures 	<p>We would expect that contingency plans are in place in the event of a systems failure. Contingency plans should cover areas such as (but not exclusively) communications with SFE, submission routes preventing duplicate and incorrect submissions and the backing-up of records.</p>
Detail	Material Changes to Supplier Information	Comments/Actions
10	<ul style="list-style-type: none"> <input type="checkbox"/> Suppliers are responsible for the information stated on an invoice and for informing SFE of any changes to this information. 	<p>We're aware that supplier details change from time to time. We ask that you contact us in the event of a material change, such as banking details, remittance address or contact information. This is so we can inform the teams and ensure they use the correct information when processing invoices.</p>
Detail	Audit	

- Regular audits should be conducted by the Supplier.
- SFE reserve the right to conduct ad-hoc audits.
- If SFE asks it to do so, the Supplier will immediately make available to SFE any file, correspondence, document or information relating to the performance of the Supplier's obligations under this Agreement.
- Supplier is required to enable SFE to monitor or appraise the Services or the Supplier's ongoing ability to perform its obligations.
- In addition, the Supplier will make available any other information which is needed to enable SFE to comply fully and effectively with the requirements of any Regulatory Body.
- SFE or any representative of a Crown body or Regulatory Body may enter, and the Supplier will procure such entry to, the Supplier's premises or those of its agents, suppliers and subcontractors at all reasonable times to review all files, correspondence, documents or information and other things relating to the performance of the Services and to audit and inspect the Supplier's security arrangements and its compliance with the terms of this Agreement.
- SFE will give the Supplier a minimum of 48 hours notice where possible and except where access is required sooner as a result of the requirement of any Regulatory Body.
- Additionally the Supplier will give SFE and any representative of a Regulatory Body reasonable help to understand the information provided by the Supplier, and SFE and any representative of a Regulatory Body will be allowed to have access to the Personnel.
- Following any audit or inspection carried out in accordance with Schedule, the Supplier will implement, as soon as reasonably practicable, any additional measures requested in writing by SFE.
- Where the additional measures affect the Supplier's subcontractors, suppliers and agents, the Supplier shall procure that those measures are implemented by the relevant subcontractors, suppliers and agents.
- Any file, correspondence, document or information provided by the Supplier pursuant to this Schedule will be treated as Confidential Information except to the extent it relates to the business or affairs of SFE.
- In addition to using its own employees, SFE may exercise its rights under this Schedule using external auditors or other agents.

Technical Specification

The e-Invoicing system is a [RESTful](#) service that allows you to [POST](#) a [JSON](#) formatted invoice to us over [HTTPS](#). The service responds with standard [HTTP Status Codes](#) informing you if the POST was successful or not and why.

Technical support can be contacted via email at dsa_supplier_support@slc.co.uk. It's recommended you make the email subject a summary and your supplier name e.g. "Unable to Connect [Supplier X]".

The information detailed below outlines the technical specification for e-invoices.

Detail	Request	Comments/Actions																		
1	<ul style="list-style-type: none"> <input type="checkbox"/> JSON is the required format for submitting invoices. <input type="checkbox"/> Attachments must be Base64 encoded PDF files and added to the JSON request <p>NB - If invalid Base64 data is submitted then your request will be rejected, but if an invalid file type was encoded the API has no way to detect this and will return a successful response. The invoice processor would pick up such an error when they attempt to open the attachment, which will delay payment.</p>	<p>We have produced 4 example JSON files, Needs Assessment, Assistive Technology, Non-Medical Helper and Travel, which can be found in appendix one.</p> <p>The data dictionary sets out the definitions of field names in the JSON request. It covers the field name, the information required, why the information is required and what format this information should be in.</p> <p>The full dictionary is included as an Excel spread sheet in appendix two.</p>																		
Detail	Response Summary																			
2	<table border="1"> <thead> <tr> <th>Code</th> <th>Name</th> <th>Return when?</th> </tr> </thead> <tbody> <tr> <td>201</td> <td>Created</td> <td>The Invoice was successfully created</td> </tr> <tr> <td>400</td> <td>Bad Request</td> <td>The JSON body was incorrect. The response body will contain a list of invalid fields.</td> </tr> <tr> <td>401</td> <td>Unauthorized</td> <td>Your API key is incorrect or has been revoked</td> </tr> <tr> <td>500</td> <td>Internal Server Error</td> <td>A problem with the API</td> </tr> <tr> <td></td> <td>Connection Timeout</td> <td>Likely a firewall issue or a problem with the API</td> </tr> </tbody> </table>		Code	Name	Return when?	201	Created	The Invoice was successfully created	400	Bad Request	The JSON body was incorrect. The response body will contain a list of invalid fields.	401	Unauthorized	Your API key is incorrect or has been revoked	500	Internal Server Error	A problem with the API		Connection Timeout	Likely a firewall issue or a problem with the API
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Detail	Response 201		
3	<p>Response Body</p> <p>An empty body is returned.</p>	<p>Response Headers</p> <p>A Location header is returned that contains a URL. Currently suppliers cannot use this URL as they have write only access to the API, but it contains a unique Invoice Id that should be logged. This is because if there are any issues with the invoice and you need to contact support, quoting this Invoice Id is the easiest way for us to find the correct invoice.</p> <p>For example (DIP1234 is the unique Invoice Id): https://dip.slc.co.uk/invoices/DIP1234</p>	<p>How you should handle</p> <p>You should mark the invoice as sent and not attempt to send it again.</p>
Detail	Response 400		
4	<p>Response Body</p> <p>This will include more information about the problem. It may be a single sentence such as “Malformed JSON” in the case of a syntactically invalid request or a list of fields containing invalid data in the case of a semantically invalid request. The main purpose of these messages is for people to read and manually correct issues, not for automatic corrections.</p>	<p>Response Headers</p> <p>No unique headers are returned.</p>	<p>How you should handle</p> <p>You should mark the invoice as failed and not attempt to send it again until someone has manually checked why it was rejected and corrected the issue. The response body should also be logged, as this will provide more information about the problem.</p>

Detail	Response 401		
5	<p>Response Body</p> <p>An empty body is returned.</p>	<p>Response Headers</p> <p>No unique headers are returned.</p>	<p>How you should handle</p> <p>All submissions should be stopped, as none will be successful if you are unauthorised. You should check you are sending your API key and supplier code correctly (see security section for more details).</p> <p>If you are sending these values correctly then you should contact support and let them know you are receiving an unauthorised response.</p>
Detail	Response 500		
6	<p>Response Body</p> <p>The body may be empty or include a simple error message.</p>	<p>Response Headers</p> <p>No unique headers are returned.</p>	<p>How you should handle</p> <p>All submissions should be stopped, as there is a problem with the API at our end and none are likely to be successful.</p> <p>You should contact support and let them know you are getting an internal server error response and if possible include the approximate time you tried submitting, as this will make investigating the issue easier.</p>
Detail	Response - Connection Timeout		
7	<p>How you should handle</p> <p>You should mark the invoice as failed and have the ability to try again at a later date. You should also check you are trying to connect to the correct endpoint and that any firewalls in your organisation are allowing outbound connections correctly.</p> <p>If everything at your end appears to be working correctly you should contact support and let them know you are receiving connection timeouts if possible include the approximate time you tried submitting, as this will make investigating the issue easier.</p>		

Detail	Security
8	<p>Several security measures are in place to ensure the safety of the API for suppliers and SLC.</p> <ul style="list-style-type: none"> <input type="checkbox"/> HTTPS must be used. <input type="checkbox"/> Suppliers IP address must be whitelisted. <input type="checkbox"/> Suppliers must submit an API key with every request. <input type="checkbox"/> Suppliers must submit a supplier code with every request.
Detail	IP Whitelist
9	<p>Only IP addresses added to the whitelist are allowed to connect to the API, therefore you must supply us with the public IP address you plan to connect from. Ideally this should be a single IP address but 2 or 3 may be allowed with adequate justification.</p> <p>NB - If your public IP address changes you will no longer be able to submit e-Invoices until our whitelist has been updated with the changes.</p>
Detail	API Key
10	<p>An API key is a unique key generated for you and must be submitted with every request. The API key will be sent to you once you have started development on your system.</p> <p>The key must be set as the Authorization header using the Bearer scheme, e.g. <code>Authorization: Bearer dfvuhsf8732yqwdbad893wruyasiksdkjffu8</code></p> <p>If the API key is missing or incorrect your request will be rejected. It's your responsibility to keep your API key secure and secret. It must not be shared with anyone else. If you believe your API key has been compromised in any way you must contact us immediately.</p>
Detail	Supplier Code
11	<p>The supplier code is a unique code created for you and must be submitted with every request. The code is part of the JSON body (see appendix one).</p> <p>If the supplier code is missing or invalid your request will be rejected.</p>

Detail	Testing
12	<p>There is a test API you can use that behaves exactly the same as the production API. It also uses the same security as the production API so you will need to send us the public IP address <i>of your test system</i> before you can try sending any invoices.</p> <p>There are no limits on how many or when invoices may be sent, so feel free to run as many tests as required to get confidence your system behaves correctly. If you have any issues using the test API you should contact support the same as you would for the production API. The endpoint for the testing environment is: https://62.189.175.117/api/invoices</p> <p>Real student data must never be sent to the test system, only obvious test data should be sent e.g. using values like “test1” for surname.</p>
Detail	Integration Testing
13	<p>Before we allow you to move to the beta testing phase on the production API we perform some formal integration testing. The purpose of integration testing is to make sure both our API and your system behave as expected and importantly allows you to test some error case scenarios that would have been difficult otherwise.</p> <p>The format is simply just a phone call between you and us where we run through all the test scenarios and ask a few questions about your system. It shouldn't take more than half an hour or so to complete but please allow for up to an hour.</p> <p>You initiate it once you feel your system meets all the requirements and will pass all the scenarios, just email support requesting integration testing with a list of dates and times you are available.</p> <p>The test scenarios can be found in appendix two.</p>

Appendix 1 – Example JSON Files

Example Needs Assessment Invoice JSON File

```
{
  "is" : [ "needs-assessment", "dsa", "supplier", "invoice" ],
  "supplierCode" : "supplierx",
  "supplierName" : "Supplier X",
  "remittanceContact" : "Penny Safe, Finance",
  "supplierAddressLineOne" : "Supplier X Corp.",
  "supplierAddressLineTwo" : "1 The Street",
  "supplierAddressLineTown" : "Someplace",
  "supplierAddressLineCounty" : "Somecounty",
  "supplierAddressLinePostCode" : "SC1 1AA",
  "supplierAddressLineCountry" : "GB",
  "contactDetails" : [
    {
      "contactName" : "Supplier X Finance Dept.",
      "contactEmail" : "finance@supplierx.co.uk",
      "contactPhoneNumber" : "019912345678"
    }
  ],
  "studentForenames" : "Stu",
  "studentSurname" : "Dent",
  "dateOfBirth" : "1980-01-26",
  "customerReferenceNumber" : "12345678901",
  "invoiceDate" : "2013-08-29",
  "invoiceNumber" : "1",
  "subTotal" : "1500.00",
  "totalVat" : "300.00",
  "totalAmount" : "1800.00",
  "balanceToPay" : "1800.00",
  "baseCurrency" : "GBP",
  "terms" : "To be paid within 30 days",
  "fundingBody" : "Student Finance England",
  "sortCode" : "112233",
  "accountNumber" : "12345678",
  "bankAccountName" : "Supplier X Finance Dept.",
  "items" : [
    {
      "description" : "Needs assessment description",
      "quantity" : "1",
      "cost" : "500.00",
      "amountExVat" : "500.00",
      "vatPercent" : "0.2",
      "vatAmount" : "100.00",
      "amountIncVat" : "600.00"
    },
    {
      "description" : "Other Needs assessment description",
      "quantity" : "2",
      "cost" : "500.00",
      "amountExVat" : "1000.00",
      "vatPercent" : "20",
      "vatAmount" : "200.00",
      "amountIncVat" : "1200.00"
    }
  ]
}
```

Example Assistive Technology Invoice JSON File

```
{
  "is" : [ "assistive-technology", "dsa", "supplier", "invoice" ],
  "supplierCode" : "supplierx",
  "supplierName" : "Supplier X",
  "remittanceContact" : "Penny Safe, Finance",
  "supplierAddressLineOne" : "Supplier X Corp.",
  "supplierAddressLineTwo" : "1 The Street",
  "supplierAddressLineTown" : "Someplace",
  "supplierAddressLineCounty" : "Somecounty",
  "supplierAddressLinePostCode" : "SC1 1AA",
  "supplierAddressLineCountry" : "GB",
  "contactDetails" : [
    {
      "contactName" : "Supplier X Finance Dept.",
      "contactEmail" : "finance@supplierx.co.uk",
      "contactPhoneNumber" : "019912345678"
    }
  ],
  "studentForenames" : "Stu",
  "studentSurname" : "Dent",
  "dateOfBirth" : "1980-01-26",
  "customerReferenceNumber" : "12345678901",
  "invoiceDate" : "2013-08-29",
  "invoiceNumber" : "1",
  "subTotal" : "50.00",
  "totalVat" : "15.00",
  "totalAmount" : "65.00",
  "balanceToPay" : "65.00",
  "baseCurrency" : "GBP",
  "terms" : "To be paid within 30 days",
  "fundingBody" : "Student Finance England",
  "sortCode" : "112233",
  "accountNumber" : "12345678",
  "bankAccountName" : "Supplier X Finance Dept.",
  "items" : [
    {
      "code" : "00001",
      "description" : "Some equipment",
      "quantity" : "1",
      "cost" : "10.00",
      "amountExVat" : "10.00",
      "vatPercent" : "0.5",
      "vatAmount" : "5.00",
      "amountIncVat" : "15.00"
    },
    {
      "code" : "00002",
      "description" : "Some more equipment",
      "quantity" : "2",
      "cost" : "20.00",
      "amountExVat" : "40.00",
      "vatPercent" : "0.25",
      "vatAmount" : "10.00",
      "amountIncVat" : "50.00"
    }
  ],
  "attachments" : [
    {
      "filename" : "attachment1.pdf",

```


Example Non-Medical Helper (Includes AT Training) Invoice JSON File

```
{
  "is" : [ "non-medical-helper", "dsa", "supplier", "invoice" ],
  "supplierCode" : "supplierx",
  "supplierName" : "Supplier X",
  "remittanceContact" : "Penny Safe, Finance",
  "supplierAddressLineOne" : "Supplier X Corp.",
  "supplierAddressLineTwo" : "1 The Street",
  "supplierAddressLineTown" : "Someplace",
  "supplierAddressLineCounty" : "Somecounty",
  "supplierAddressLinePostCode" : "SC1 1AA",
  "supplierAddressLineCountry" : "GB",
  "contactDetails" : [
    {
      "contactName" : "Supplier X Finance Dept.",
      "contactEmail" : "finance@supplierx.co.uk",
      "contactPhoneNumber" : "019912345678"
    }
  ],
  "studentForenames" : "Stu",
  "studentSurname" : "Dent",
  "dateOfBirth" : "1980-01-26",
  "customerReferenceNumber" : "12345678901",
  "invoiceDate" : "2013-08-29",
  "invoiceNumber" : "1",
  "subTotal" : "50.00",
  "totalVat" : "15.00",
  "totalAmount" : "65.00",
  "balanceToPay" : "65.00",
  "baseCurrency" : "GBP",
  "terms" : "To be paid within 30 days",
  "fundingBody" : "Student Finance England",
  "sortCode" : "112233",
  "accountNumber" : "12345678",
  "bankAccountName" : "Supplier X Finance Dept.",
  "items" : [
    {
      "timesheetDate" : "2013-09-18",
      "supportWorker" : "El Ping Hand",
      "supportDescription" : "2 hours of note taking",
      "hours" : "2",
      "hourlyRate" : "20.00",
      "amountExVat" : "40.00",
      "vatAmount" : "2.00",
      "amountIncVat" : "42.00"
    },
    {
      "timesheetDate" : "2013-09-19",
      "supportWorker" : "El Ping Hand",
      "supportDescription" : "4 hours of note taking",
      "hours" : "4",
      "hourlyRate" : "10.00",
      "amountExVat" : "40.00",
      "vatAmount" : "5.00",
      "amountIncVat" : "45.00"
    }
  ],
  "attachments" : [
    {
      "filename" : "timesheet1.pdf",
    }
  ]
}
```


Example Travel Invoice JSON File

```
{
  "is": [
    "travel",
    "dsa",
    "supplier",
    "invoice"
  ],
  "supplierCode": "supplierx",
  "supplierName": "Supplier X",
  "remittanceContact": "Penny Safe, Finance",
  "supplierAddressLineOne": "Supplier X Corp.",
  "supplierAddressLineTwo": "1 The Street",
  "supplierAddressLineThree": "Somesmallerplace",
  "supplierAddressLineTown": "Someplace",
  "supplierAddressLineCounty": "Somecounty",
  "supplierAddressLinePostCode": "SC1 1AA",
  "supplierAddressLineCountry": "GB",
  "contactDetails": [
    {
      "contactName": "Supplier X Finance Dept.",
      "contactEmail": "finance@supplierx.co.uk",
      "contactPhoneNumber": "019912345678"
    },
    {
      "contactName": "Supplier2 X Finance Dept.",
      "contactEmail": "finance2@supplierx.co.uk",
      "contactPhoneNumber": "019912345678"
    }
  ],
  "studentForenames": "Stu",
  "studentSurname": "Dent",
  "dateOfBirth": "1980-01-26",
  "customerReferenceNumber": "12345678901",
  "invoiceDate": "2013-08-29",
  "invoiceNumber": "1",
  "subTotal": "10.00",
  "totalVat": "2.00",
  "totalAmount": "12.00",
  "balanceToPay": "12.00",
  "baseCurrency": "GBP",
  "terms": "To be paid within 30 days",
  "fundingBody": "Student Finance England",
  "sortCode": "112233",
  "accountNumber": "12345678",
  "bankAccountName": "Supplier X Finance Dept.",
  "items": [
    {
      "journeyDate": "2013-08-26",
      "pickUpPoint": "1 High St SC1 1LL",
      "dropOffPoint": "University Campus B10 OKK",
      "description": "Adapted minibus",
      "cost": "12.00",
      "waitCost": "1.00",
      "publicTransportCost": "1.00",
      "amountExVat": "10.00",
      "vatPercent": "0.2",
      "vatAmount": "2.00",
      "amountIncVat": "12.00"
    }
  ],
}
```


Appendix 2 – Test Scenarios

Test	Test Name	Action	Expected	Notes
1	success	Send a valid invoice with all mandatory field values as mentioned in the API data dictionary provided by SLC.	<p>Should receive a 201 response code along with the location id in the response header.</p> <p>Once it is submitted successfully, supplier should verify that their system should NOT be able to resend the same invoice.</p>	This can be tested before official integration testing with SLC
2	success with attachment	Same as above but the invoice also includes an attachment.	Same as above.	This can be tested before official integration testing with SLC
3	authentication	Sends invoice with an Invalid Supplier Key header.	<p>Should receive a 401 response code and should be able to handle error validation successfully.</p> <p>Also, supplier needs to make sure that their system should NOT keep on sending the invoice without rectifying the issue. Invoice should be able to be resent once supplier key rectified.</p> <p>If invoices are sent in batches the entire batch should be stopped as soon as a 401 response is received.</p>	This can be tested before official integration testing with SLC
4	invalid data	<p>Send invalid JSON data that does not meet the criteria as mentioned in the API data dictionary provided by SLC.</p> <p>For example a bank sort code that has more than 6 digits or a Customer Reference Number that is not 11 digits.</p>	<p>Should receive a 400 response code along with the error message in the response body.</p> <p>Also, supplier needs to make sure that their system should NOT keep on sending the invoice without rectifying the issue. Invoice should be able to be resent once data has been fixed.</p>	This can be tested before official integration testing with SLC

5	connection timeout	Sends a valid invoice as per success test.	<p>Should receive either a 0 response code or some kind of connection timeout error.</p> <p>Also, supplier needs to make sure that their system should NOT keep on sending the invoice without rectifying the issue. Invoice should be able to be resent once SLC has corrected the connection issue.</p> <p>If invoices are sent in batches the entire batch should be stopped as soon as a timeout is received.</p>	Suppliers will not be able to test this outside of official integration testing with SLC
6	server error	Sends a valid invoice as per success test.	<p>Should receive a 500 response code along with the error message in the response body.</p> <p>Also, supplier needs to make sure that their system should NOT keep on sending the invoice without rectifying the issue. Invoice should be able to be resent once SLC has corrected the issue.</p> <p>If invoices are sent in batches the entire batch should be stopped as soon as a 500 response is received.</p>	Suppliers will not be able to test this outside of official integration testing with SLC