SUBMIT APPLICATIONS USING OUR API - UK Market Region

Before you start...

The service protocol is designed to facilitate communications with Affiliate Systems using standard client-side technologies such as HTTP, JavaScript, JSON, and JQuery in addition to more advanced server-side technologies. This allows Affiliates to submit applications directly from client-side assets or using back-end services

The service protocol employs an asynchronous pattern to facilitate a richer risk-adverse relationship with brand owners. Here are a few sample benefits of using this pattern:

 The Affiliate System can monitor detailed status of the submitted application and provide near realtime feedback to Applicants to assure them progress is being made and their Application is still being actively considered by lending partners

TIP

Lenders are becoming more risk-adverse so they are taking longer to reach acceptance decisions. Consequently, Journey's may take longer to be presented to the same number of lenders as they might have in the past. As a practical matter we need to help drive user expectations and encourage them to be more patient by showing that real progress is still being made

- This allows the Affiliate System to submit supplemental requests while an original application request is still being processed. For Example:
 - Requesting that a Journey be Aborted due to Affiliate System timeout
 - Requesting that a Journey be Aborted due to Affiliate System detecting that the session has been abandoned by the Applicant

TIP

Both of the aforementioned examples are mitigation strategies for avoiding Non-Redirected Leads

Here is a basic walk-through of the basic interactions between the Affiliate System and our service endpoint

- 1. The Affiliate System submits the Application request
 - The Ping Tree System will verify the integrity of the request and performs basic validation checks to ensure the protocol rules have been followed correctly. If the request is valid, the service will respond with a Correlation ID which can be used by subsequent processes to check the status of the application, retrieve current progress, abort requests, etc... Otherwise, the service will respond with a message detailing why the application is being rejected. In most cases, rejections relate to missing, incomplete, or invalid application data
- 2. The Affiliate System continuously requests the current status of the Application using the Correlation ID provided in the previous step
 - Affiliate Systems should poll for status updates every 2-3 seconds and update the progress

indicator shown to Applicants

- 3. Once the Affiliate System receives a final status for their application, they should stop polling the service and take steps to finalize the Applicants session
 - For responses that contain redirect URLs. The URL should be decoded and the session redirected to the supplied URL

Submitting an Application Request

Requests should be packaged in standard JavaScript Object Notation (JSON) or Extensible Markup Language (XML) format and submitted to the service endpoint using an HTTP POST request



All responses will contain a JSON (or XML) object expressing the results of the submission. The returned message will contain a Correlation ID which should be retained so you can make subsequent requests against the same Application or request analysis of an individual request by our support team

In cases where the Application Request is rejected the message will contain a list of reasons why the Application was not accepted for presentation to Lenders. Refer to the <u>Application Response Contract Details</u> section for details

The following HTTP Response Codes reflect general statuses that could be returned when submitting Applications

Response Code	Status	Detailed Description
202	Accepted	The request has been Accepted for processing and will be presented to the Affiliates assigned Ping Tree
400	Bad Request	In most cases this indicates the request was malformed and could not be parsed/read by our system. It could also indicate no Application details were actually provided. These Applications should not be re-submitted until they are corrected
401	Not Authorized	In most cases this indicates the requested Affiliate ID is known but is currently disabled
403	Forbidden	This indicates the request was understood but could not be fulfilled as a result of contextual errors with the request. These Applications should not be re-submitted until the underlying issues are addressed. Here is a summary of the circumstances that could result in this response:
		Duplicate submissions detected while applications for the same Applicant are still in progress
		TIP

This usually indicates the Affiliate site is not handling form submission double-clicks or use of the browser back button leading to duplicate submissions

- The Affiliate ID identified in the request is not known
- · The Applicant did not consent to credit searches
- The Application was submitted with region or currency context that is not supported by the Affiliate's configuration
- The Application failed data validation checks. Refer to the response errors list for details

500 Internal Server Error 503 Service

This indicates we experienced an unexpected fault while processing the request. This could relate to in-progress maintenance, etc... You may wait 500+ milliseconds and resubmit although continued failures should be treated as fatal. If these problems persist, you should contact support for further analysis

In most cases this indicates we are performing system maintenance, deploying changes, etc... You may wait 500+ milliseconds and resubmit although continued failures should be treated as fatal

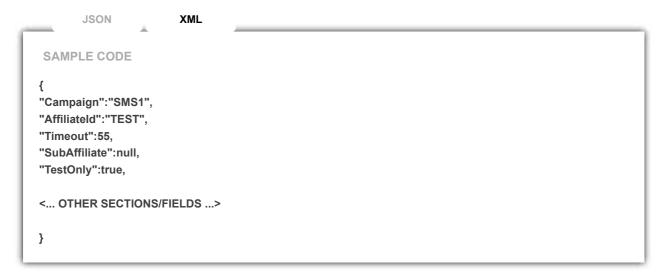
Application Request Contract Details

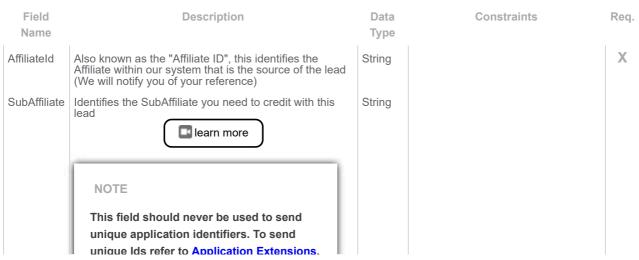
Unavailable

The application request contains the following fields with some validation requirements dependent on the Applicants region. All sections are required and there are subtle differences between the XML and JSON which are documented in the field notes

ROOT APPLICATION DATA

This data is used to identify the source of the lead and set some additional context related to its handling

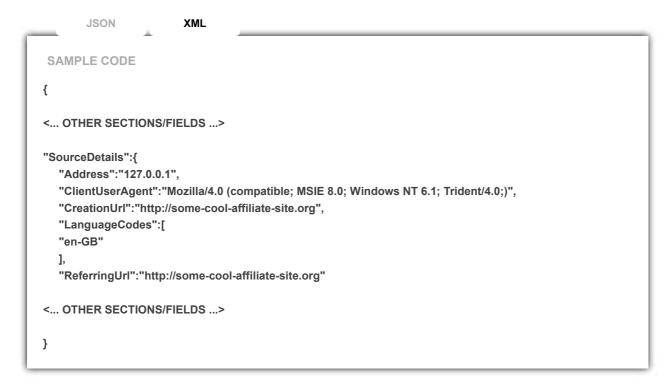




Campaign	Defines the campaign that was the source of the lead.	String		
Timeout	Defines the amount of time; in seconds; the Affiliate will wait for a response before assuming the lead is declined. The service will automatically abort requests to avoid Non-Redirected Leads	Integer	In practical terms the value should range from 45 to 120 seconds. Set to zero if you have not preference and we will set based on current predictions	X
TestOnly	Instructs the service to treat the Application as a Test application and not to submit the Application to Lenders that do not support a test context	Boolean	true false	X

SOURCE DETAILS

This data is used to identify information about the system the actual lead is using to submit an Application request



Field Name	Description	Data Type	Constraints	Req.
Address	The IP address of the applicants client submitting the Application	String	IPv4 Addresses should be formatted using w.x.y.z notation. Localhost and broadcast addresses will not be accepted. Setting hard-coded or randomly generated addresses will be detected and your account will be disabled. Note: This should be pulled from the applicants original request context.	X
ClientUserAgent	Identifies the Affiliate within our system that is the source of the lead (We will notify you of your reference)	String	The user agent details from the Applicant's web browser. Setting hard-coded or randomly generated user agents will be detected and your account will be disabled. Note: This should be pulled from the applicants original request context. Do not send, unknown, N/A, etc	X
CreationUrl	URL of the website that originally created the Application	String		X
ReferringUrl	URL of the website that was the source of the Application Lead. For many Affiliates this will be the same as the Creation URL	String	The site URL where the applicant originally applied	X
LanguageCodes	Array of language codes from the Applicant session	String (Array)		

APPLICATION DETAILS

This data constitutes the specific leads request for a loan

```
JSON
                        XML
SAMPLE CODE
{
<... OTHER SECTIONS/FIELDS ...>
"Application":{
"AddressCity": "Test City",
"AddressCounty":"County Test",
"AddressMoveIn":"\/Date(1373388747000)\/",
"AddressPostcode": "BT602EW",
"AddressStreet1":"Test Street",
"BankAccountNumber": "12345678",
"BankCardType":10,
"UsesOnlineBanking":false,
"BankRoutingNumber": "123456",
"ConsentToCreditSearch":true,
"ConsentToMarketingEmails":true,
"DateOfBirth":"\Date(1373388747000)\\",
"IncomePaymentType":4,
"Email": "test.tester@random-test-system.com",
"EmployerIndustry":1,
"EmployerName": "Test Corp",
"EmploymentStarted":"\Date(1373388747000)\/",
"FirstName": "Test",
"HouseNumber":"1",
"FollowingPayDate":"\Date(1373388747000)\\",
"HomePhoneNumber": "01123456789",
"HouseName": "Test",
"IncomeSource":2,
"JobTitle": "Construction Worker",
"LastName":"Tester",
"LoanAmount":500,
"MobilePhoneNumber": "07123456789",
"NationalIdentityNumber":"",
"NationalIdentityNumberType":1,
"NextPayDate":"\/Date(1373388747000)\/",
"PayAmount":100,
"PayFrequency":5,
"ResidentialStatus":1,
"Term":1,
"Title":1,
"WorkPhoneNumber": "02123456789",
"MonthlyMortgageRent":600,
"MonthlyCreditCommitments":100,
"OtherExpenses":250,
"Transport":150,
"Food":200,
"Utilities":210,
"ConfirmedByApplicant":true,
"MaritalStatus":2,
"LoanProceedUse":1,
"NumberOfDependents":1,
"CombinedMonthlyHouseholdIncome":3000,
"MinimumCommissionAmount":0,
"MaximumCommissionAmount":0,
```

"AnnlicationExtensions":[

```
{"x":"foo"},
    {"y":"world"}
}
<... OTHER SECTIONS/FIELDS ...>
}
```

Field Name	Description	Data Type	Constraints	Req.
Title		Integer (Enum)	 1 = Mr 2 = Mrs 3 = Ms 4 = Miss 	X
			For JSON requests only use the numeric value	
FirstName	Applicants Legal First Name		The name must be 2 or more characters in length and not contain any special characters or numbers	X
LastName	Applicants Legal Last Name		The name must be 2 or more characters in length and not contain any special characters or numbers	Х
DateOfBirth	The Applicant's date of birth	DateTime String (JSON)	The applicant must be 18 years of age or older, and be formatted in the JSON Epoch format (Ex. "DateOfBirth":"VDate(647136000000)/"). This is the number of milliseconds that have elapsed since January 1, 1970 (midnight UTC/GMT)	X
Email	The Applicant's email address	String		Х
HomePhoneNumber	The Applicants Home Telephone Number	String	10-11 Digits	X
MobilePhoneNumber	The Applicants Mobile Telephone Number	String	11 Digits starting with 07	X
WorkPhoneNumber	The Applicants Work Telephone Number	String	10-11 Digits	X
EmployerName	The company name of the Applicant's employer	String	The name must be greater than 1 character in length, and should be set to unemployed if the Applicant has no employer	X
JobTitle	Role of the Applicant with their employer	String		
EmploymentStarted	Role of the Applicant with their employer	DateTime String (JSON)	The string must be formatted in the JSON Epoch format (Ex. "DateOfBirth":"VDate(647136000000)\/"). This is the number of milliseconds that have elapsed since January 1, 1970 (midnight UTC/GMT)	X
EmployerIndustry	The industry that best describes the employers business	Integer (Enum)	 1 = ConstructionManufacturing 2 = Military 3 = Health 4 = BankingInsurance 5 = Education 6 = CivilService 7 = SupermarketRetail 8 = UtilitiesTelecom 9 = HotelRestaurantAndLeisure 10 = OtherOfficeBased 11 = OtherNotOfficeBased 12 = None 13 = DrivingDelivery 14 = AdministrationSecretarial 15 = MidLevelManagement 16 = SeniorLevelManagement 	X

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				17 = Skilled fraue18 = Professional	
	IncomeSource	The type of employment that best described the Applicants Income Source	Integer (Enum)	For JSON requests only use the numeric value 1 = SelfEmployed 2 = EmployedFullTime 3 = EmployedPartTime 4 = EmployedTemporary 5 = Pension 6 = DisabilityBenefits 7 = Benefits	X
	PayFrequency	The frequency that best describes the Applicants pay day schedule	Integer (Enum)	For JSON requests only use the numeric value 1 = Weekly 2 = BiWeekly 3 = Fortnightly 4 = LastDayMonth 5 = LastWorkingDayMonth 6 = SpecificDayOfMonth 7 = TwiceMonthly 8 = FourWeekly 9 = LastFriday 10 = LastThursday 11 = LastWednesday 12 = LastTuesday 13 = LastMonday For JSON requests only use the numeric value	X
	PayAmount	The net "Monthly" amount paid to the Applicant after taxes	Integer	Whole Integer values only. No decimal amounts. Values above 15,000 will be rejected	X
	IncomePaymentType	The method by the employer to pay the Applicant	Integer (Enum)	 2 = Cheque 3 = Cash 4 = RegionalDirectDeposit 5 = NonRegionalDirectDeposit For JSON requests only use the numeric value	X
	NextPayDate	The next day the Applicant is due to be paid	DateTime String (JSON)	The string must be formatted in the JSON Epoch format (Ex. "NextPayDate": "VDate(647136000000)V"). This is the number of milliseconds that have elapsed since January 1, 1970 (midnight UTC/GMT). This date must be in the future and cannot be either a Saturday or a Sunday. The date may not be farther then 45 days in the future. The pay date cannot be the same date the Application is submitted and may not be a Bank Holiday	X
	FollowingPayDate	The pay date following the next pay day	DateTime String (JSON)	The string must be formatted in the JSON Epoch format (Ex. "FollowingPayDate":"\Date(647136000000)\"). This is the number of milliseconds that have elapsed since January 1, 1970 (midnight UTC/GMT). This date must be in the future and cannot be either a Saturday or a Sunday. This date shall be after the NextPayDate, must be within 45 days of the NextPayDate, and may not be a Bank Holiday	X
	LoanAmount	Amount of requested Loan	Integer	Whole Integer values only. No decimal amounts	X
	Term	Number of months to pay back the loan. Only used for instalment and guarantor loan products	Integer	Whole Integer values only. No decimal amounts. Enter 1 for payday loans	X
	NationalIdentityNumber	The id that is used on the Applicants National ID	String	For the UK Region this would be the National Insurance Number and is only required when the Bank Card Type if set to None or Unknown.	С
	NationalIdentityNumberType	The type of NationalIdentityNumber heing supplied. If not	Integer (Enum)	1 = NationalInsurance For ISOM requests only use the numeric value.	

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		known set to zero		For JSON requests only use the numeric value	
	ConsentToCreditSearch	Indicated whether or not the Applicant agrees to a credit search	Boolean	 true false Applicants that do not allow Credit Search will have their applications declined 	X
	ConsentToMarketingEmails	Indicated whether or not the Applicant agrees to marketing emails	Boolean	true false	X
	ResidentialStatus	Indicated whether or not the Applicant agrees to marketing emails	Integer (Enum)	 1 = HomeOwner 2 = PrivateTenant 3 = CouncilTenant 4 = LivingWithParents 5 = LivingWithFriends 6 = Other For JSON requests only use the numeric value	X
	HouseNumber	Applicants House or Flat Number	String	* You must specify either the HouseNumber or the HouseName for applications to pass validation checks	X *
	HouseName	Applicants House Name	String	* You must specify either the HouseNumber or the HouseName for applications to pass validation checks	X *
	AddressStreet1	Applicants Street Address	String		X
	AddressCity	Name of the city where the Applicant resides	String		X
	AddressCounty	Name of the county where the Applicant resides	String		X
	AddressMoveIn	The date the Applicant moved into their current residence	DateTime String (JSON)	The date must be formatted in the JSON Epoch format (Ex. "AddressMoveIn":"\Date(647136000000)\"). This is the number of milliseconds that have elapsed since January 1, 1970 (midnight UTC/GMT)	X
	AddressPostcode	Postal code of the Applicants residence	String		X
	UsesOnlineBanking	The Applicants Bank Account Number	Boolean	true if the applicant uses online banking, otherwise false.	
	BankAccountNumber	The Applicants Bank Account Number	String		X
	BankCardType	The Applicants Bank Card Type	Integer (Enum)	 2 = Solo 3 = SwitchMaestro 4 = Visa 5 = VisaDebit 6 = VisaDelta 7 = VisaElectron 9 = MasterCard 10 = MasterCardDebit For JSON requests only use the numeric value	X
	BankRoutingNumber	The sort code to the Applicants Bank	String	In the UK Region this is the same as the Sort Code	X
	MonthlyMortgageRent	Monthly mortgage or rent payments	Decimal		X
	MonthlyCreditCommitments	Monthly credit payments not related to mortgage or rent	Decimal		X
	OtherExpenses	Other regular expenses (Ex. bills, food, etc)	Decimal		X
	Transport	Petrol, rail cost	Decimal		X
	Food	your monthly food costs	Decimal		X

Utilities	Council tax, heating, telephone	Decimal		X
ConfirmedByApplicant	Indicates whether or not expense details where confirmed by the applicant	Boolean	true false	X
MaritalStatus	The Applicants Marital Status	Integer (Enum)	1 = Single2 = Married	X
LoanProceedUse	The Applicants Loan Proceed Use	Integer (Enum)	 3 = LivingTogether 4 = Separated 5 = Divorced 6 = Widowed 7 = Other For JSON requests only use the numeric value 1 = Subsistence 2 = OneOffPurchase 3 = Other 4 = DebtConsolidation 5 = CarLoan 6 = PayBills 7 = PayOffLoan 8 = ShortTermCash 9 = HomeImprovements 	X
NumberOfDependents	The Applicants Number	Byte	For JSON requests only use the numeric value	X
CombinedMonthlyHouseholdIncome	Of Dependents The Applicants	Decimal	Only required when the applicants Marital	X
Combinedworthly Householdincome	Combined Monthly Household Income	Decimal	Only required when the applicants Marital Status is "Married"	^
MinimumCommissionAmount	The minimum price a lender must be willing to pay you for the lead to be presented to them	Decimal		
MaximumCommissionAmount	The maximum price a lender pays for the lead to be presented to them	Decimal		
ApplicationExtensions	Affiliate-specific data to be attributed to the Application	Name/Value Pair (Array)		
	TIP			
	This constitutes a list of data values the Affiliate would like attributed to the Application. In most cases, this constitutes data the Affiliate would like passed back to them as part of registered			



Retrieving the status of submitted applications

To request the status of an Application that is currently in progress, all you require is the associated Correlation ID and the endpoint address. With these details you can submit an HTTP GET request and receive a response indicating the current status of the Application; if known.

Response Code	Status	Detailed Description	
202	OK	An Application with a matching Correlation ID was found and the status details are present in the response payload	
404	Not Found	No Application matching the requested Correlation ID is currently or recently in progress	
500	Internal Server Error	This indicates we experienced an unexpected fault while processing the request. This could relate to in-progress maintenance, etc You may wait 500+ milliseconds and resubmit although continued failures should be treated as fatal. If these problems persist, you should contact support for further analysis	
503	Service Unavailable	In most cases this indicates we are performing system maintenance, deploying changes, etc You may wait 500+ milliseconds and resubmit although continued failures should be treated as fatal	

Here is a sample of a raw HTTP request header



Here is a sample of a raw HTTP response (with header). Refer to the Application Response Contracts section for details.

```
HTTP PROTOCOL SAMPLE

HTTP/1.1 404 Not Found
Content-Type: application/json; charset=utf-8
Content-Length: 105

{
    "Errors":null,
    "CorrelationId":"6a1aef90-2f73-46fd-af37-5389e66d33fa",
    "Message":"Unknown Correlation ID"
}
```

Application Response Contract Details

The application response contains the following fields

RESPONSES TO APPLICATION SUBMISSION REQUESTS

```
SAMPLE CODE

This is a sample response message received when an Application Submission Request has been accepted for further processing

{
"CorrelationId":"5d8cb571-1fd9-43ac-b93f-be797d95705f",
"StatusCheckUrl":"/application/status/5d8cb571-1fd9-43ac-b93f-be797d95705f"
}
```

```
SAMPLE CODE

This is a sample response message received when an Application Submission Request has been rejected from further processing

{
    "CorrelationId":"dffbeaa2-a653-490d-937a-50cda99ed67a",
    "Errors":["The NextPayDate cannot be on the weekend, in the past, or on the day of submission"],
    "Message":"The Application did not pass validation checks"
}
```

CorrelationId	Unique ID assigned to the Application. This is used to check the status of the application, retrieve current progress, abort requests, etc	String (UUID/GUID)	
StatusCheckUrl	This contains the relative url to the service endpoint that may be used to check for status updates	String (URI)	
Errors	Array of error/validation messages detailing specific problems with the focal request. This will only be present when requests are rejected	String (Array)	
Message	General description of why the focal request was rejected. This will only be present when requests are rejected	String	

Description

RESPONSE TO APPLICATION STATUS REQUESTS

Field Name

```
SAMPLE CODE

This is a sample response message received when an Application Submission Request has been accepted for further processing

{
    "CorrelationId":"6b7952cb-a9dd-4c6d-a84a-ff78eb6b27dd",
    "EstimatedCommission":{
        "Amount":15.500000000000,
        "CurrencyCode":"GBP"
        },
        "PercentageComplete":100,
        "RedirectionUrl":null,
        "Message":null,
        "Status":"NoLenderMatchFound"
}
```

Data Type

Field Name Description **Data Type** String (UUID/GUID) CorrelationId Unique ID assigned to the Application. This is used to check the status of the application, retrieve current progress, abort requests, etc... PercentageComplete The current percentage of lenders consulted on the Affiliates configured Ping Tree. String When the Journey is complete, the value will reflect 100 The estimated commission for leads that are successfully redirected to Lenders. Commissions for CPF lenders may not crystallize in time for inclusion in the response EstimatedCommission Amt: Decimal and may appear as zero, these commissions will be reflected in the portal and server-to-server pixels may be configured to communicate earnings CC: String RedirectionUrl This contains the absolute URL to the matched partner's web site. Any time a URL is String (URI) present the lead should be redirected to the provided URL If processing of an application faults this contains a general description of why. For rejected Application Submissions this will provide a generic description why Message String Status The current status or final result of the Journey. See detailed result description below String

The following results/statuses can be expected from the service

Result/Status	Description	Behaviour Expected From Affiliate
Unknown	This indicates the status of the Application cannot be assessed because the Correlation ID does not refer to an active record or the record does not exist	Ensure the correlation you making requests against are properly formatted in the request. If you are making a request against old Applications you will need to request Resurrection before the status details will be available
Resurrecting	This status identifies that someone has requested a historic record be reactivated so its state can be retrieved	Pause status requests for 1-5 seconds and try your request again
Processing	This status identifies a Journey is still in progress. If an Abort request has been submitted this status will be reflected until the Abort action is completed	Pause status requests for 1-2 seconds and try your request again. TIP Do not call the service at rates less than 1 second. The service will not provide updates more frequent then that
LenderMatchFound	The status identifies the Application has been matched to a CPA partner and the Journey has ended	Redirect the Applicant to the URL supplied in the response TIP URLs are encoded according to the JSON (or XML) encoding guidelines. Ensure the URL is properly decoded before performing the redirect
ConditionalLenderMatchFound	The status identifies the Application has been matched to a CPF partner and the Journey has ended	Redirect the Applicant to the URL supplied in the request TIP URLs are encoded according to the JSON (or XML) encoding guidelines. Ensure the URL is properly decoded before performing the redirect

NoLenderMatchFound	The status identifies the Application Journey has ended and was not matched any partner offer	None
Rejected	The status identifies the Application Journey never started because it was never accepted for processing. Most commonly this is due to validation errors	None
Withdrawn	The status identifies the Application Journey was short-circuited by an Affiliate Request to Abort or based on Affiliate defined configurations related to QoS, Abandoned Session detection, etc	If the rates are withdrawal are higher than expected, contact your Affiliate Manager to adjust thresholds that lead to these actions
Erred	The status identifies the Application Journey was ended because a fault was experienced	None

Submitting Application Synchronously

Generally speaking, this approach is considered an anti-pattern and can lead to a poor reputation with lenders under a number of circumstances. This pattern also prevents you from providing real-time progress information to applicants while they wait for their applications to be processed leading to higher non-redirect rates. With that said, we do support this on a case-by-case basis.

TIP

If you're a .NET developer using Visual Studio 2012 / 2013 / 2015 or later, try using the NuGet Package provided by WITTI Solutions. This API submits leads asynchronously but makes them appear synchronous to your code without sacrificing options to capture real-time progress information. This API will also assert timeout and abort actions on your behalf. For a complete code sample, review our NuGet Integration Guide.

OVERVIEW OF THE PROCESS

- 1. Submit Applications using the same instructions provided above in the section titled <u>Submitting an Application Request</u>. Instead of receiving a response with the Status Check URL, you will receive a Fault Response details rejection details as defined above or a final status message as defined above.
- 2. When submitting applications, add an HTTP Header with the name "App-Handling-Type" with a value "synchronous". This will instruct our platform that you desire a synchronous handling behaviour.

This is a sample request header which includes the synchronous handling directive

POST https://leads.pingyo.co.uk/application/submit HTTP/1.1

Host: leads.pingyo.co.uk

Content-Length: 2240

App-Handling-Type: synchronous

Accept: application/json, text/javascript, *.*

Content-Type: application/json; charset=utf-8