Partner Service

Specification

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1. Introduction

1.1 Overview

The Alphera Partner Service enables Partners who sell Alphera financial products to use their own system to enter vehicle, customer and financial product information to transfer this information directly into the Alphera system (FAMOS) using Web Services.

The Alphera Partner Service consists of 6 Web Services that will provide the following functionality to the Partner:

- Ability to calculate or verify quotations.
- Ability to submit completed proposals and request an underwriting decision.
- Ability to re-submit changes on an existing proposal.
- Ability to check the current status of an existing proposal.
- Ability to check current status and to retrieve all information about an existing proposal.
- Ability to retrieve Residual Values for a specific new or used vehicle for purpose of quoting on Select / PCP Products.

This is illustrated in the following Context Diagram:
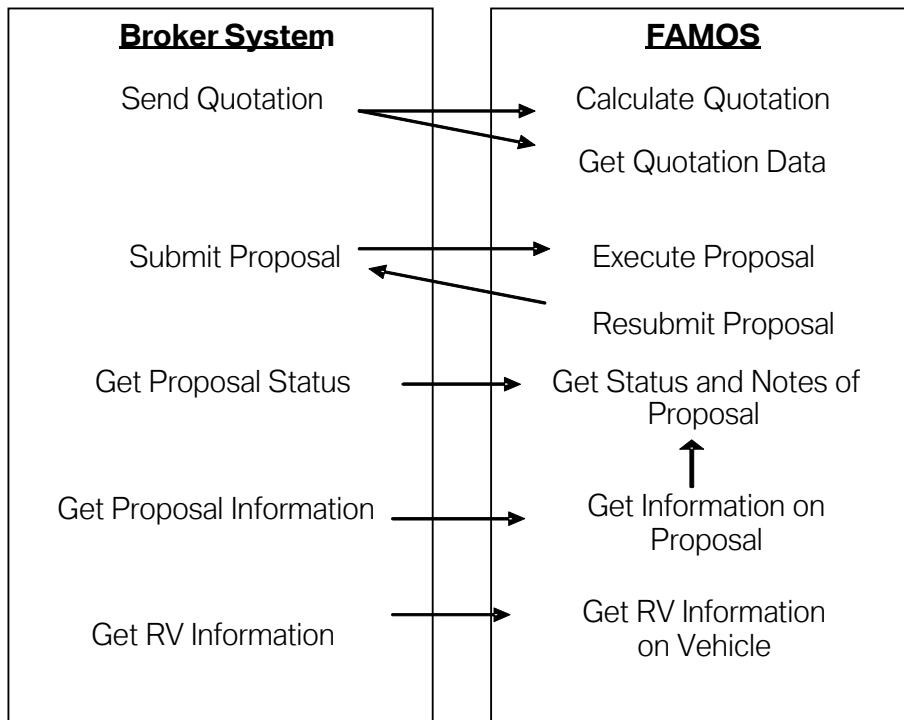
The above web services are generic for all the Partners who wish to use the FAMOS Interface. Partners must provide the required information in the specified XML format and using the specified SOAP technology.

1.2 Out of Scope

The Interface web services do not support document retrieval, submitting proposals for pay-out or settlement requests. These actions therefore need to be completed directly in FAMOS.

The Interface does not support Partnerships or Limited Companies customer types.

The Interface does not support Contract Hire or Loan products.

2. Summary and Scope

2.1 Web Services

The Partner Interface consists of 6 separate Web Services, each of which allows you to perform a particular operation.

2.1.1 Quotation Service

This is a calculation that allows you to submit information to FAMOS so that a quotation may be calculated and returned to your system. **No** data will be saved in FAMOS.

You will also be able to use this service to verify that quotations have been calculated correctly in your system. This will enable you to check that you have the same result as FAMOS before proceeding with the customer proposal. In this instance you will also supply the values you have calculated, and FAMOS will check whether these are within the specified tolerance levels. If not, then the FAMOS calculated figure will be returned in the response.

The response will contain the quotation information and any error messages that are generated when FAMOS calculates the quotation.

2.1.2 Proposal Service

This service allows you to submit information to FAMOS to calculate a quotation (as described above) and create a proposal. The proposal and associated quotation **will** be saved in FAMOS, and if the proposal passes all of the validation checks, it will be automatically submitted for underwriting.

If you are not able to supply all of the information required for a proposal in FAMOS, the proposal will be partially created, and you may then enter the missing information and submit the application directly in FAMOS.

The response will contain the quotation and proposal information, any error messages and a status code (this identifies whether the proposal has been submitted to Underwriting).

Resubmission

This service will also allow you to modify existing proposals if they are in specific queues and resubmit them through the Interface. Resubmission will take the existing proposal back to quotation, replace the existing data with the new information and automatically re-submit it in FAMOS. The resubmitted information will be subject to the same validation checks as the proposal submission. Please note that if you resubmit after the residual value data has been updated then the new residual value would be required. To hold the old residual value, you would need to contact our Dealer Support department directly for approval.

2.1.3 Proposal Status Service

This service allows you to submit a proposal number and request the current status, e.g. Accepted, Declined, Accepted with Terms.

The response will contain the current status of the proposal and any notes that the Alphera Financial Services team have added when reviewing the proposal.

2.1.4 Proposal Information Service

This service allows you to submit a proposal number and request all information about an existing proposal.

The response will contain all of the information held on FAMOS about the proposal, including the current status and any notes that have been added.

2.1.5 Residual Value Service

This service allows you to submit basic vehicle and product details to request the residual value for that specific vehicle.

The response will contain the residual value returned from FAMOS.

The Five services are described in more detail later in this document.

2.2 Customers

The following types of customers are supported by the solution:

- Private Individuals / Sole Traders

Quotations and proposals for all other customer types (Partnerships, Limited Companies, or Zero-Rated) can be entered directly into FAMOS.

2.3 Products

The following products are supported by the solution:

- Hire Purchase
- PCP (Select)
- Lease Purchase

Quotations and proposals for all other products can be entered directly into FAMOS.

2.4 Rounding Behaviour

Where the balance to finance is not exactly divisible by the term, to the penny, FAMOS will:

a) Adjust the interest charges (and APR rate) by the remaining rounding amount, on interest bearing quotations.

b) Adjust the deposit amount by the remaining rounding amount, on zero percent quotations.

c) Adjust the regular rental amount (by a penny) on zero percent quotations where the adjustment would have resulted in a negative deposit.

These adjustments will also impact the Balance to Finance and Total Amount Payable.

A new warning message will be included in the response when the deposit is adjusted.

2.5 Vehicles

The following vehicles may be sold via the service:

- Cars
- Light Commercial Vehicles

- Motorbikes

The rules for identification of a vehicle are as follows:

- For the Quotation Service the Partner must supply a valid long CAP code. Please note that in some instances, used BMW vehicles will not be identified as our internal CAP code does not 100% match the official CAP data.

- For the Proposal Service the Partner may supply a file without the CAP code (although this isn't the preferred method) but the proposal will then be put on hold in FAMOS and the Partner must identify the vehicle using the 'Vehicle Selection Queue' (see section 15) before it can be released for an underwriting decision.

For Group Brands only, FAMOS will access the Group Vehicle Match Service (GVMS) via the POS GUI and the Partner Interface when a vehicle search is initiated. Query model for fetching vehicle data, for PI process is following:

Name	Description	Mandatory
capCode	The CAP code. Minimum length : 1	YES
ivsCode	The IVS code.	NO
manufacturer	The manufacturer.	NO
registrationNumber	The registration number.	NO
transmission	The transmission.	NO
vehicleState	The vehicle state.	NO
vehicleType	The type of vehicle.	NO
vin	The VIN.	NO

The response contains the following fields:

Name	Description		
builtFlag	Indicates whether object contains information for a specific vehicle, or only model data.		
capCode	CAP code.		
capId	CAP id.		
chassis	The Chassis number.		
colour	The vehicle colour.		
factoryFittedOptions			
firstRegistrationDate	The date vehicle was first registered.		
ivsCode	IVS code.		
registrationNumber	The registration number.		
responseMessage	code	Numeric code associated with message.	
	content	The message content.	
transmission	The transmission.		
vdrId	VDR id.		
vin	The VIN.		

2.5.1 Used vehicles.

This allows retailers to search for a specific vehicle and receive enhanced vehicle details back without having to select the model etc. Unlike new vehicles, there is no option to indicate that the vehicle is built, as a vehicle must be built in order for it to be used.

POS will call the GVMS at this stage, to search for the vehicle using VIN/Chassis and VRM. POS will perform a comparison of the returned vehicle details. The following scenarios could occur:

If the GVMS is successful in locating a vehicle with the supplied VIN/Chassis and VRM the GVMS will return model identifier (CAP code) and vehicle details (Colour, 1st registration date, VIN, VRM). Once the user selects the save button:

- An asset record will be created using the model details sourced from POS repository and the additional vehicle data returned from the GVMS.

- The asset will be marked as built (to dictate that FFOs will not be editable).

- The found FFOs (if any) will be written to POS with prices as sourced from the POS repository.

If the GVMS is successful in locating a vehicle with the supplied VIN/chassis but the VRM is not a match a warning will be returned to the user. The warning message will explain that the supplied details don't align but the user will be allowed to continue with the proposal process.

If the vehicle is not found using VIN/Chassis an error will be returned to the user explaining the supplied VIN/Chassis could not be found. The user will have the ability to re-enter the vehicle details.

2.5.2 New vehicles

The retailer has the ability to differentiate between built and non-built vehicles. For vehicles marked as non-built the user has to manually select using the make, model and series drop downs or search using IVS code, as per current.

For cars marked as built (using the vehicle-built indicator), the Group Vehicle Lookup will be enabled and the user will enter VIN/Chassis to lookup the vehicle. POS will call the GVMS at this stage, to search for the vehicle using only VIN/Chassis.

Once the user selects the save button:

- An asset record will be created in POS using the model details sourced from POS repository and the additional vehicle data returned from the GVMS.

- The asset will be marked as built.

- The found FFOs (if any) will be written to POS with prices as sourced from the POS repository.

Where the VIN/chassis cannot be found by GVMS an error will be returned to the user. The user will have the option to re-search using VIN /chassis again. There will be no option to select the model etc. from drop downs or mark as not identified but the vehicle can be marked as not built, therefore allowing the user to select the model etc. using drop downs.

If the user cannot find the correct model etc. using the drop down menus, they will not be able to mark the vehicle as Not Identified.

If the model is selected (using drop downs) the asset record will not be marked as built but the proposal process will be allowed to continue.

If the retailer decides that the incorrect vehicle has been identified and returned from the GVMS they can change vehicle and mark the vehicle as not built and select model etc. using drop down menus.

3. Technical Information

3.1 Overview

The data will be transferred using Web Services (XML messages using SOAP). For further information on certificates please refer to section 9 in the document.

3.2 Process

3.2.1 The Partner will supply an XML file via Web Services. The file must meet the following criteria:

- The minimum-security level we require is 2 way SSL (Certificates) as described later in the document.

- The file must include an authentication record.

- Data must be supplied in the required format listed in this document.

- Data that is normally selected manually in FAMOS from a drop-down list must be supplied in the FAMOS format from your system (e.g. employment status, marital status).

3.2.2 A security check will be performed to verify that you may use the Web Service as follows:

- Authorisation is carried out between the Web Service and you (the service to the Web Service).

- The connection between the client and the Web Service is to be established using 2-way SSL communication.

3.2.3 Verification that you are an Alphera customer and that you can use the submitted product type. The xml will be verified. If the xml is incorrect then an error will be returned.

3.2.4 The data is then validated to ensure that it is of the correct length and type and all the mandatory data items are present.

3.2.5 If the data is valid, it will be processed by FAMOS.

3.2.6 The data will be verified as described against each service and processed in FAMOS.

3.2.7 The response will be sent to you in an XML file via Web Services.

3.2.8 If there are errors, then these will be returned to you in the response under tag processingmessagelist. Multiple errors will be included in a single response except in the case that subsequent errors are caused by an initial error; in this case only the first error will be returned.

The only occurrence where 2 processingmessage will be returned is where a dealer subsidy is included. An example of the response is below;

- <processingmessagelist>

- <processingmessage type="**WARNING**" code="**25**">

- <![CDATA[

This quotation contains a dealer subsidy.

]]>

</processingmessage>

- <processingmessage type="**ERROR**" code="**5**">

- <![CDATA[

Mandatory data missing.

Address:

Post town

address validation not attempted

]]>

```
</processingmessage>

</processingmessagelist>
```

3.3   Transmission Details

Web service request will be initiated from you and called by your system routines. FAMOS will not initiate any action – it simply responds to a request from your systems.

3.4 Authentication

Each SOAP message must include an authentication record. The fields that should be included in the authentication records are as follows:

Field Name	Description	Data Type	Mandatory
Login ID	FAMOS Login	String (8)	Y
Password	FAMOS Password	String (50)	Y
XML ID	Identifier to show which Web Service is requested	String (50)	Y

We do not validate the IP address.

For more details on SOAP Messages please read the FAQ's section.

3.5 Service Names

3.5.1   The values used for each service in the XML are as follows:

Service Type	Value
Quotation	calculate
Proposal / Resubmission	submit
Proposal Information	getQuoteInformations
Proposal Status	getStatus
RV Information / GVMS	rvaluerequest

4. Quotation Service

4.1 Overview

This is essentially a calculation service that allows you to submit information to FAMOS so that a quotation may be calculated and returned to your system. No data will be saved in FAMOS.

You will also be able to use this service to verify quotations that have been calculated in your system. This will enable you to check that you have the same result as FAMOS before proceeding with the customer proposal. In this instance you will also supply the values they have calculated, and FAMOS will check whether these are within a specified tolerance level. If not, then the FAMOS calculated figure must be used.

The response will contain the quotation information and any error messages that are generated when FAMOS calculates the quotation.

4.2 Process

4.2.1 The default process to submit a new quotation to FAMOS via the service will be as follows:

- You submit a request via Web Services. There are 2 options:

    o You submit information for FAMOS to calculate a quotation

    o You submit information for FAMOS to verify a quotation calculated in your own system.

- The information will be checked using the usual FAMOS business rules, including whether all the mandatory data has been provided.

- If there are errors, then the quotation will not be calculated.

- The response will include:

    o The original information provided.

    o Any values that have been calculated by FAMOS.

    o Messages about any errors that have been created, including instructions about how to resolve them.

- You must follow these instructions and resubmit the data.

- The quotation will be calculated when there are no errors remaining.

4.2.2 Key Details

Parameters required for vehicle identification are described in the section Vehicles 2.5. The CAP code will be validated by FAMOS and if it is a valid code, the vehicle make, model and derivative data for the quotation will be automatically populated with the details held in FAMOS (make, model and derivate details are required in case of missing or invalid CAP details). Note, this means if you supply an incorrect CAP code the vehicle details that you have provided will be overwritten. This should be checked when the response is received.

If the CAP code cannot be validated by FAMOS then an error message is returned.

When the Quotation Service is used to verify a quotation that has been calculated in your system then the following points apply.

- FAMOS will perform the quotation calculation, produce a monthly payment and check this against the submitted monthly payment. If these two values differ by more than a specified tolerance amount, then an error message will be returned.

- You must ensure that the vehicle calculation, VAT and rounding rules in your system match those in FAMOS.

For Group Brands vehicles, please note the following:

For new vehicles the following scenarios can occur:

1. Vehicle successfully found using VIN/Chassis.

2. Vehicle not successfully found using VIN/Chassis.

For used vehicles POS will need additional logic to determine which of the following scenarios has occurred:

1. Single vehicle found using VIN/Chassis and VRM.

2. Multiple vehicles found using VIN/Chassis and VRM.

3. Vehicle is found using VIN/Chassis but not found using VRM.

4. Vehicle is not found using VIN/Chassis.

5. Proposal Service

5.1 Overview

The proposal service provides the same functionality as the Quotation Service but will create and save a quotation and a proposal in FAMOS. Data required for this service can be found later in the document. When a complete proposal is submitted with all the mandatory information it will be automatically submitted for Underwriting.

There is the option to submit proposals with incomplete proposal data (but not quotation details) and then enter the remaining information directly via FAMOS in order to complete the proposal. This proposal must be manually submitted for Underwriting in FAMOS. This process can also be used for proposals where you can supply all of the proposal data but there are problems with the data, for example address details not found on FAMOS.

This service is designed to allow you to resubmit an existing proposal with amended details.

Please Note

Each new submission will create a new proposal in FAMOS; therefore, if multiple valid proposals are submitted via the interface for the same customer and vehicle, multiple searches will be performed at the Credit Reference Agency.

For this reason, we advise that you use resubmission service to make any amendments to an existing proposal.

5.2 Process

5.2.1   The Default process to submit a new proposal to FAMOS via the service will be as follows:

- You submit an XML file via the Proposal Web Service.

- The file should contain all of the information required by FAMOS to create a quotation and a proposal.

- The service will then check the information using the usual FAMOS business rules, including whether all of the mandatory data has been provided.

- The response will include:

    o The original information provided.

    o The monthly rental calculated by FAMOS. If this differs from the monthly rental provided by more than a tolerance amount defined in FAMOS then an error will be returned.

- If there are no errors returned and all of the data provided is correct and complete, the following applies:

- o The proposal will be created, saved in FAMOS and automatically submitted for Underwriting.
- o The response will include the FAMOS proposal number.
- If there is some missing mandatory data in the proposal submission, the following applies:
    - o The proposal will not be created in FAMOS and will not be submitted for Underwriting.
    - o The response will include error codes, error messages and instructions on how to resolve them.
    - o You must follow the instructions provided and re-submit the proposal with corrected data.
- If all the mandatory data for the proposal creation and calculation is provided, but some of the data required for an underwriting submission is missing or cannot be validated (e.g. customer address cannot be validated etc.) the following applies:
    - o The proposal will be created in FAMOS in 'Proposal' status.
    - o The response will include the FAMOS proposal number.
    - o The proposal will **not** be submitted for Underwriting.
    - o You should either resubmit the proposal using the returned Proposal number with amended / complete data or enter any missing data and manually submit the proposal directly in FAMOS.

The proposal submission service has three scenarios where the proposal will be created in FAMOS but **not submitted for underwriting**:

A. Incorrect CAP Code

The CAP code within the XML will be validated by FAMOS and if found in the FAMOS vehicle data repository the vehicle make, model and derivative data will be automatically populated in the resulting proposal record with the details held in FAMOS.

If the CAP code does not exist in the FAMOS vehicle data repository the proposal will not be created but the XML data will be captured by FAMOS. The partner will log into FAMOS and navigate to the 'missing vehicle data' queue. The proposal will be located, and the partner will use the standard FAMOS drop downs on vehicle make, model and derivative to find the vehicle. Once the correct vehicle has been selected, the partner submits the proposal. FAMOS will then attempt to create the proposal and if all validations are passed, submit for an underwriting decision. If a validation error is encountered, the error or warning is displayed to the partner in FAMOS.

B. Unrecognised Address / Bank Details

The address and bank details within the XML will be validated by FAMOS. If one (or both) cannot be validated FAMOS will create the proposal but not submit for underwriting. The partner will log into FAMOS, search for the proposal and using the standard FAMOS address/bank look up functionality find the address/bank. Once found the partner will submit the proposal for an underwriting decision.

If a proposal is re-submitted with a new address/bank which cannot be validated, the existing address/bank details will NOT be updated with the new values, and the proposal will be submitted to underwriting with original data. Warnings will be returned to advise that the address/bank have not been amended and could not be validated.

C. Regular Repayment Tolerance

The quotation and proposal submission services have a tolerance on the estimated regular rental amount contained within in the request message: If FAMOS calculates the regular rental amount to be an amount that is more than £1 from the estimated amount then an error will be contained in the response. If the amount is within £1 tolerance, then the proposal will be created (for proposal submissions only) and the FAMOS calculated regular rental amount included in the response.

D. Group vehicle not found by the GVMS Microservice introduced in February 2021

The getRValueservice, calculate and submit services are now calling the new GVMS web service for group vehicles only (BMW and MINI makes) when the registration number or VIN has been supplied. If the GVMS service is unable to find the vehicle an ERROR 20 will be sent in the response. On a USED vehicle the supplied CAP Code is ignored. On a NEW vehicle the supplied CAP code must be correct, if not an ERROR 20 is returned (even though the car may actually exist in IVS).

For non-group vehicles, these services are not impacted.

Where the request message contains <newvehicle> with a chassis and IVS finds that the vehicle has been registered, the FAMOS proposal created will be a <u>NEW</u> vehicle, and contain the 1st registration date and age (plus the chassis). This is different to how it works in FAMOS: When a GVMS search is performed for a new built vehicle (using the chassis) FAMOS displays the <u>USED</u> vehicle screen.

On NEW

If chassis supplied, then GVMS will find vehicle

If chassis supplied and correct but registration incorrect then GVMS will find vehicle, a warning will be displayed when you view the proposal in FAMOS.

If chassis not supplied and CAP code correct, then FAMOS will find vehicle

If chassis not supplied and CAP code incorrect, FAMOS will assign to vehicle selection queue.

If no chassis or registration CAP code incorrect FAMOS will assign to vehicle selection queue.

On all, the list price is not trusted – the difference is added to allowance or FFO total amount.

On USED

If chassis and registration are correct, then GVMS will find vehicle. The CAP code is ignored – can be wrong.

If registration or chassis is incorrect then GVMS will find vehicle, a warning will be displayed when you view the proposal in FAMOS. The CAP code is ignored – can be wrong.

If chassis and registration are both incorrect then FAMOS will assign to vehicle selection queue

5.3   Process – Re-submitting Data

The process for re-submitting information to update an existing proposal is as above, however you must include the FAMOS proposal number in the service file.

There are a number of reasons why you may want to overwrite the existing proposal data:

- If the proposal submission created a proposal but did not submit to Underwriting.

- If the proposal is initially declined, you may amend the details in their system and resubmit the information via the service to overwrite the existing proposal in FAMOS.

- The customer requirements may change. In this case you may wish to amend the details and re-submit the proposal. However, the proposal may not be automatically updated via the service if it has passed a certain stage of the process in FAMOS.

- Please note, depending on the changes made, proposal resubmission may or may not trigger another credit search.

- Please note if a resubmission is sent during a Residual Value change period, then the new Residual Value will need to be used. You will need to contact Dealer Support to honour the previous residual value. Residual Value updates are normally performed at the beginning of the calendar month.

5.4　Key Details

5.4.1　Missing CAP Code

If you are unable to supply a valid CAP code for the vehicle, the following process applies.

- The proposal will not be available in the usual Proposals queue in FAMOS but will instead be available for selection from a new queue of proposals with missing vehicle data.

- The user will select the proposal from this queue and will then be prompted to select the appropriate vehicle from the usual FAMOS drop down lists.

- If the proposal is now complete, it will be automatically submitted for underwriting.

5.4.2　Address and Bank Lookups

In FAMOS when a user enters a postcode that is not recognised (it may be a new address or invalid) you are allowed to overwrite the validation of this field and complete the proposal. This is also true of bank account number validation. This is not possible via the interface. In these instances, the incomplete proposal will be created in FAMOS, but the address or bank details must be manually selected in FAMOS and submitted to Underwriting.

If a proposal is re-submitted with a new address or new bank details which cannot be validated, the existing address and bank details will NOT be updated with the new values, and the proposal will be submitted to Underwriting with original data. Warnings will be returned to advise that the address and bank details have not been validated.

Distance Sale

It is your responsibility to ensure that the agreements that are `Distance Sold` are identified and the appropriate flags are submitted to ensure the correct document is generated in FAMOS.

Combining VAT and non-VAT products on an agreement

Our documentation does not accommodate both VAT and non-VAT bearing items. To facilitate these types of requests you can add the gross value (inclusive of VAT) into the non-vatable items field.

6.   Settlement Capture

6.1   Third Party Settlement

6.1.1   Retailers will have the opportunity to enter third party settlement details regarding any outstanding vehicle finance the customer has with third party suppliers (not Group Brand or ALPHERA). whilst using the submission service. This increases the strength of an application as there is more information, leading to a higher chance of acceptance.

Example:

```
<request>
    <applicationrequest>
            <broker>

                …
            </broker>
            <dealernotes> </dealernotes>
            <distancesold>0</distancesold>
            <privateindividual>

                …
            </privateindividual>
            <thirdpartysettlement>
                    <lendername>Flash Auto</lendername>
                    <settlementamount>2100.00</settlementamount>
                    <monthlyrepayment>200.00</monthlyrepayment>
            </thirdpartysettlement>
            <contractpurchase>

                …
            </contractpurchase>
            <usedvehicle>
            </usedvehicle>
    </applicationrequest>
</request>
```

6.2   Group Brand Contra Settlement

6.2.1   Separately to the above option, the contra service offers the same opportunity to enter internal settlement details regarding any outstanding vehicle finance the customer has with either a Group Brands or ALPHERA finance agreement.

Example:

```
<request>
    <applicationrequest>
            <broker>

                …
            </broker>
```

```
            <dealernotes> </dealernotes>
            <distancesold>0</distancesold>
            <privateindividual>

                    …

            </privateindividual>
            <thirdpartysettlement>

                    …

            </thirdpartysettlement>
            <contractpurchase>

                    <contractpurchaseinput>

                            …

                            <partexchange>0.00</partexchange>
                            <depositamount>5000.00</depositamount>
                            <financesettlement>
                             <agreementnumber>3247426</agreementnumber>
                             <registrationnumber>FL16XUR</registrationnumber>
                             <amount>1000.00</amount>
                             <expirydate>2023-07-05</expirydate>
                             </financesettlement>
                            <commissionrate>5.82</commissionrate>
                            <finalpayment>8088.28</finalpayment>

                            …

                    </contractpurchaseinput>

            </contractpurchase>
            <usedvehicle>
            </usedvehicle>
        </applicationrequest>
</request>
```

7. Product Rate / Commission Tables

7.1 Key Details

The next section will describe how your system should read the Product rate tables. Most products will use a rate table to calculate the commission payable.

The rate table will illustrate the term, APR rate and commission rate calculated as a % of cash price or amount financed.

We have the ability to select whether to either allow or restrict Dealers from quoting below the minimum rate in the table.

It will not be possible to quote beyond the uppermost rate in the rate table.

It will not be possible to subsidise beyond the next rate in the rate table. *Subsidy's must not be used as a default setting and should only be applied when requested by the dealer.*

The calculated commission amount will no longer be included in the customer's regular instalments.

Where the BTF is not exactly divisible by the term resulting in a rounding difference, the rounding difference will adjust the deposit (for 0% deals) or interest charges for interest bearing deals. On occasions the regular rental will be adjusted by 1p to avoid a negative deposit.

Note: The below FBM rate table is for illustrative purposes only.

APR rate	Commission Rate	Term	APR rate Discount	Partner Contribution
7.30%	10.10%	36 months	0%	0%
7.20%	9.91%	36 months	0.10%	0.19%
7.10%	9.72%	36 months	0.20%	0.38%
7.00%	9.53%	36 months	0.30%	0.57%
6.90%	9.34%	36 months	0.40%	0.76%

You must send the correct APR rate and corresponding commission rate for PCP Products with a rate table. For fixed rate products you must send the APR rate and `0` in the commission field.

8.   Disbursements

8.1.1   As we are unable to fund certain insurance products there may be a need to disburse these products from the customer agreement and this can be facilitated via the Partner Interface. If you require any further information on this topic there is a document available. Please contact partnerinterfacesupport@bmwfin.com. Please note you will need to provide different data fields as outlined in the table below (XML tags) for different Value Added types.

8.1.2   An additional **nonmandatory** data tag NonVehicleItems (<nonvehicleitems>) containing all of the fields in the table below will be required as input for the following services:

- Quotation services (Input)

- Proposal Services (Input)

	Data fields XML	FAMOS Field Name	XML Tags	Type
8.1.3	QUO_NVI_Amount (Item 1)	"Vehicle Replacement/Finance Gap	nviamount1	Mandatory in the section

		Insurance"		
8.1.4	QUO_NVI_Amount (Item 2)	"Insured Warranty"	nviamount2	Mandatory in the section
8.1.5	QUO_NVI_Amount (Item 3)	"Other Insurance"	nviamount3	Mandatory in the section
8.1.6	QUO_NVI_Amount (Item 4)	"Additional Non-Vatable Items"	nviamount4	Mandatory in the section
8.1.7	QUO_NVI_Amount (Item 5)	"Vehicle Retention Fee"	nviamount5	Mandatory in the section
8.1.8	QUO_NVI_Amount (Item 6)	<blank> (For Future use)	nviamount6	Mandatory in the section
8.1.9	QUO_NVI_Amount (Item 7)	<blank> (For Future use)	nviamount7	Mandatory in the section
8.1.10	QUO_NVI_Amount (Item 8)	"Additional Vatable Items"	nviamount8	Mandatory in the section

8.1.11   If the new <nonvehicleitems> section is present then the above tags are mandatory. If, however, the <nonvehicleitems> tag is not present in the Input XML, the default value of zero will be entered in each of the data fields in FAMOS.

8.1.12   The additional Output fields in the table below will be returned from FAMOS via the Partner Interface for the following services:

- Quotation services (Output)
- Proposal Services (Output)
- Proposal Information Services (Output)

Data fields	XML Tags	Type
8.1.13 "Additional Insurance Items (including IPT where applicable)" (E)	additionalinsurance	Mandatory
8.1.14 "Additional Non-Insurance Services (including VAT)" (F)	additionalservices	Mandatory
8.1.15 "Deposit Applied to Non-Vehicle items" (H)	depositonnonvehicleitems	Mandatory

8.1.16   In order to send a request from the Partner Interface, the new XSD tags will be added to the end of each financial products, as per the example XML shown below:

Product types	XML Tags
8.1.17 Hire Purchase – input. Similarly, for: Lease Purchase –Input	…<estimatedregularfinancepayment>688<estimatedregularfinancepayment> <initialpayments><initialpayments> <partexchange>2500.00< partexchange > <depositamount>1000</depositamount>

Contract Purchase - Input	<nonvehicleitems>
	<nviamount1>244.80</nviamount1>
	<nviamount2>0.00</nviamount2>
	<nviamount3>0.00</nviamount3>
	<nviamount4>0.00</nviamount4>
	<nviamount5>0.00</nviamount5>
	<nviamount6>0.00</nviamount6>
	<nviamount7>0.00</nviamount7>
	<nviamount8>0.00</nviamount8>
	</nonvehicleitems>
	</hirepurchaseinput>…
8.1.18 Hire Purchase – Output Similarly, for: Lease Purchase –Output Contract Purchase - Output	…<regularfinancepayment>688<regularfinancepayment>
	<regularfinancepaymentincluding><<regularfinancepaymentincluding>
	<creditarrangementfee1>2500.00<creditarrangementfee1>
	<creditarrangementfee2>1000<creditarrangementfee2>
	<additionalinsurance>224.80</additionalinsurance>
	<additionalservices>0.00</additionalservices>
	<depositonnonvehicleitems>224.80</depositonnonvehicleitems>
	</hirepurchaseouput>…

8.1.19   If the following validations are breached for the additional fields in the XML, the following error messages will be returned to the Partner Interface user:

Interface		Error No.	Validation	Error Message
8.1.20	Quotation Proposal	80	A check will be added when the user submits a Quotation, Proposal through the Partner Interface. If not, then the quotation cannot be submitted, and an error message will be presented.	"The Non-Vehicle Item amount value is invalid. Please re-submit a valid value".
8.1.21	Quotation Proposal	81	A check will be added when the user submits a Quotation, Proposal through the Partner Interface. If not, then the quotation cannot be submitted, and an error message will be presented.	"There is insufficient Customer Deposit to cover the total of Non-Vehicle Items to be disbursed. Please increase the Customer Deposit".

These new error messages will follow the standard error format and process for the Partner Interface, to prevent subsequent quotation calculation or proposal submission in FAMOS.

9. Security Requirements

9.1.1   Example 2-Way SSL Communication
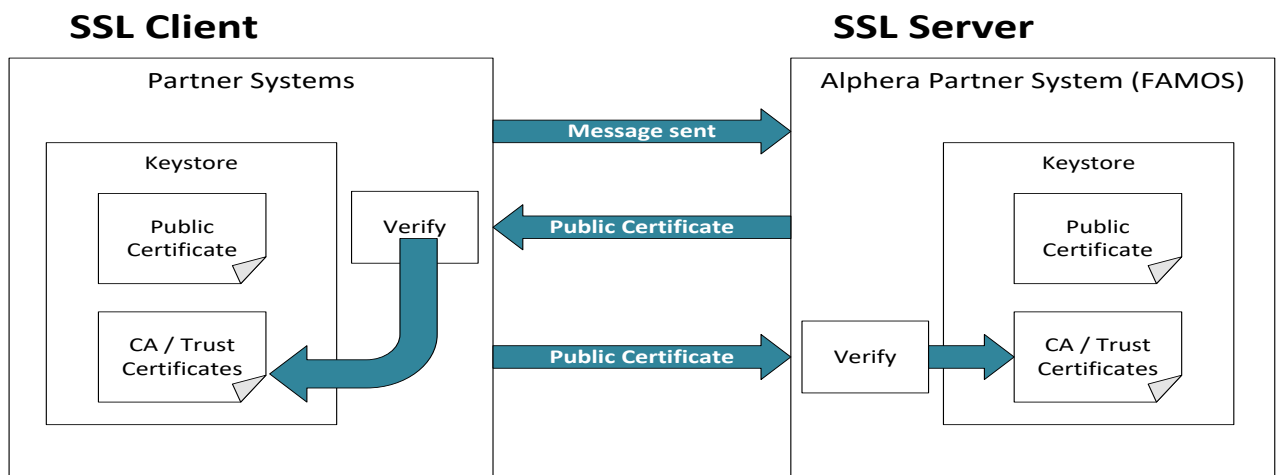
When a call is made to the web service, the sender and receiver are verified and authenticated using digital certificates before the communication channel is opened up. The public certificate is sent from you and verified against our list of trusted certificates which has been signed by a certificate authority. In a similar way, our public certificate is sent and verified against your list of trusted certificates (also signed by a certificate authority). This verification of certificates happens almost instantaneously upon a call being made.

If verification is successful, the channel is opened and the message sent reaches the web service. If verification is unsuccessful e.g. because of a missing or incorrect certificate, the channel remains closed, and no data reaches the web service.

2-way SSL connection is required before any data exchange can be achieved. It is a secure communication channel which involves the checking of digital certificates to verify and authenticate the parties involved in communication sent through the Alphera Partner Service to FAMOS

9.1.2   On boarding

- You will need to provide your public certificate along with your certificate chain to Partnerinterfacesupport@bmwfin.com.

- The public certificate and certificate chain will then be added to the list of trusted certificates file (trust store) by us. In return, we will provide you with our public key and certificate chain to allow you to verify the server.

9.1.3   Testing

We will provide you with the URL for a Non-production environment which will enable you to submit test cases to prove that the Alphera Partner Service is working as expected with the new 2-way SSL configuration. Once these tests have been successfully completed, the new production URL will be provided.

9.1.4   Expired certificates

Expired Certificates – We will notify you in advance and provide you with a new certificate before the expiration date of the current certificate (minimum of two weeks before expiry).

Your expired certificate – It is your responsibility to notify us and provide a new certificate at least two weeks prior to the expiration of your current certificate.

10.   Proposal Status Service

10.1 Overview

This service should be used to enquire about the current status of a proposal that has already been submitted for Underwriting.

10.2 Process

10.2.1 The default process for submitting a Proposal Status request to FAMOS via the service is as follows:

- You submit a request via Web Services. This file must contain the FAMOS proposal number that you are enquiring about.

- FAMOS will identify the required proposal and check the current status.

- The response will consist of the current status of the proposal in FAMOS and any notes that are attached to the proposal in FAMOS.

- If the proposal requires manual consideration by the Underwriting team the response will also include the position of the proposal in the Underwriting queue so that you can estimate the timescale for completion

- To receive the latest status of the proposal you will need to continue polling the service. A suggested frequency is as follows after 1 min, 2min, 4 min, 8 min, etc. It is also suggested that polling is stopped after a week or following underwriting (status: DEC or ACC)

10.3 Key Details

10.3.1.1 The status codes and descriptions that may be returned via the Web Service are described below:

Status code	Status meaning	Notes
QUO	Quotation	
PRO	Proposal	
SUB	Submitted	Submitted to underwriting
REF	Referral	In the underwriting queues

AIF	Additional information	
ACC	Accepted	
AWT	Accepted with terms	
FAT	Financial accept with terms	
DEC	Declined	
PYR	Payout requested	
AWP	Awaiting payout	
PYC	Payout confirmed	
PYD	Payout declined	
COM	Activation completed	
NTU	Not taken up	
ARC	Archived	

The proposal resubmission service i.e. where the proposal number is within the request, will only update proposals at certain FAMOS status. If not at one of those status, the response will contain an error:

Status	Response wording	Action in FAMOS
ACC –accepted	None	**Overwrite and resubmit (if poss.)**
ACF – activation failed	Payout has been confirmed for this proposal. Submission via interface is not available. Changes can only be made via FAMOS.	No updates
ACR – activation requested	Payout has been confirmed for this proposal. Submission via interface is not available. Changes can only be made via FAMOS.	No updates
AIF – additional information	None	**Overwrite and resubmit (if poss.)**
ARC – archived	The Proposal is at archived status. Changes cannot be made to this proposal.	No updates
AWP – awaiting payout	The Proposal is awaiting payout status. Submission via interface is not available. Changes can only be made via FAMOS.	No updates
AWR – accept with terms recommended	Proposal at referral status. Please contact…	No updates
AWT – accepted with terms	None	**Overwrite and resubmit (if poss.)**
CDE – credit decision service	Proposal at submitted status. Please contact…	No updates
CEX – credit decision exceptions	Proposal at referral status. Please contact…	No updates
COM – activation completed	Proposal at activation completed status. Submission via interface is not available. Changes cannot be made to this proposal.	No updates
DEC – declined	None	**Overwrite and resubmit (if poss.)**
FAQ – financial accept quotation	Proposal at referral status. Please contact…	No updates
FAR – financial accept recommended	Proposal at referral status. Please contact…	No updates
FAT – financial accept with terms	Proposal at financial accept with terms status. Submission via interface is not available. Changes can only be made via FAMOS.	No updates
FAW – financial accept with terms waiting	Proposal at referral status. Please contact…	No updates
FUI – further investigation	Proposal at referral status. Please contact…	No updates
NMB – near match on bp	Proposal at referral status. Please contact…	No updates
NTU – not taken up	None	**Overwrite and resubmit (if poss.)**
PRC - csc proposal	Proposal at referral status. Please contact…	No updates
PRO – proposal	None	**Overwrite and resubmit (if poss.)**
PYD – payout declined	Proposal at payout declined status. Submission via interface is not available. Changes can only be made via FAMOS.	No updates
PYR – payout requested	Proposal at payout requested status. Submission via interface is not	No updates

	available. Changes can only be made via FAMOS.	
QUC – csc quotation	Proposal at referral status. Please contact…	No updates
QUO – quotation	None	**Overwrite and resubmit (if poss.)**
RAC – accept recommended	Proposal at referral status. Please contact…	No updates
RDE – decline recommended	Proposal at referral status. Please contact…	No updates
REF – referral	Proposal at referral status. Please contact…	No updates
SPI – special investigation	Proposal at referral status. Please contact…	No updates
SUB – submitted	Proposal at submitted status. Please contact…	No updates
SUP – submitted for partnerships	Proposal at submitted status. Please contact…	No updates

11.   Proposal Information Service

11.1 Overview

This service should be used to request all the information about an existing proposal from FAMOS. Refer to section 2 of the document to obtain further information on reproposals (Getquoteinfo).

11.2 Process

11.2.1 The default process for submitting a Proposal Information request to FAMOS via the Information web service is as follows:

- You submit a request via Web Services. This file must contain the FAMOS proposal number.

- FAMOS will identify the required proposal and check the current status.

- The response will consist of all of the information held in FAMOS regarding that proposal, including the current status of the proposal in FAMOS and any notes that are attached to the proposal in FAMOS. Residual Values Service.

12. Residual Value Service

12.1 Overview

This service should be used to request the residual value from FAMOS for a specific vehicle via its CAP Code.

12.2 Process

12.2.1 The default process for submitting a Residual Value request to FAMOS via the service is as follows:

- The file must contain the mandatory data **(i.e. vehicle type shown in Vehicle Data table 13.2.2)**

- FAMOS will identify the CAP Code (if it exists in the database).

- FAMOS will calculate the residual value. The Product Code must be included so the correct RV is returned.

- The response will consist of the residual value, CAP Code, term, mileage and Product Code.

- The RV response may not be able to return Residual Values for specific BMW vehicles due to the identification process and differences between CAP and BMW Group data.

13.   File Formats

13.1 Overview

13.1.1   This chapter describes the data required by FAMOS when creating quotations and proposals.

13.2 File Formats Nodes and Submission

13.2.1   Quotation Data

XML Field Name	Description	Data Type	Mandatory
agreementnumber	Agreement Number	Number	N
amount	Settlement Amount	Number (15.2)	N
Annualmileage	Annual Mileage	Number (10.0)	Mandatory PCP
applicationnumber	Quotation Number	Number (10)	Mandatory for status and information requests Also used in Proposal service for proposal resubmission, in which case it must contain a value.
Dealernotes	Dealer notes	Text (4000)	N Notes containing more than 4000 characters will be truncated. Unusual characters are allowed, but characters which are XML reserved characters (e.g. &, <) have to be submitted with their HTML value.
distancesold	Distance Sold flag	Number 0: not a distance sold 1: distance sale	N If the field is included in the XML, it must contain a valid value (1 or 0) If the field is not included in the XML, proposal will be set up with a default value of '0'

XML Field Name	Description	Data Type	Mandatory
customerapr	APR	Number	Mandatory
balancetofinance	Balance to Finance	Number (15.2)	Output only
ccaregulated	CCA Regulated	String (1) 0 – No 1 – Yes	Output only
commission	Insurance Commission Amount	Number (15.2)	N
commissionrate	Commission rate	Number	Mandatory PCP
creditarrangementfee1	Credit Arrangement Fee 1	Number (15.2)	Output only
creditarrangementfee2	Credit Arrangement Fee 2	Number (15.2)	Output only
customertype	Customer Type	Number (1) PI – Individual	Mandatory
depositamount	Deposit Amount	Number (15.2)	Mandatory
estimated regularfinancepayment	Estimate monthly rental	Number(15.2)	Mandatory
excessmileage	Excess Mileage	Number (15.2))	Output only
expirydate	Settlement Expiry Date	Date Pattern : YYYY-MM-DD	N
finalpayment	Final Payment	Number(15.2)	Mandatory on PCP – this is the RV
financecommissionamount	Finance Commission Amount	Number (15.2)	N
frequency	Frequency – set to monthly	String 0 – Monthly	Mandatory
grossannualincome	Gross Annual Income	Number(15.2)	Mandatory
initialpayments	Initial Payments – set to zero.	Number (10.0) Set to 0	Mandatory
interestcharges	Interest Charges	Number (15.2)	Output only
levelcode	Insurance Product Code	String (10) LI –Protect 1 (Life & GAP)	Mandatory if servicecode is GPP

XML Field Name	Description	Data Type	Mandatory
	LCI - Protect 2 (Life, Critical Illness & GAP)		
	LCA – Protect 3 (Life, Crit. Illness, Acc., Sick. & GAP)		
	LCU – Protect 4 (Life, Crit. Illness, Unemploy. & GAP)		
	LCAU – Protect 5 (Life, CI, Acc., Sick., Unemploy. & GAP)		
maximumfinalpayment	Max Final Payment	Number	Output only
lendername	Lender Name	Text (4000)	N
monthlyrepayment	Monthly Repayment	Number (15.2)	N
nonvehicleitems	Non Vehicle Items (Disbursements)	XML Heading	Non Mandatory
nviamount1 nviamount2 nviamount3 nviamount4 nviamount5 nviamount6 nviamount7 nviamount8	Non Vehicle Items Details	Number (15.2) Number (15.2) Number (15.2) Number (15.2) Number (15.2) Number (15.2) Number (15.2) Number (15.2)	Mandatory only if nonvehicleitems is present.
partexchange	Part Exchange (minus any finance settlement)	Number (15.2)	Mandatory
productcode	Product Code	String (10)	Mandatory
purchasefee	Purchase Fee	Number (15.2)	Output only
registrationnumber	Vehicle Registration Number	String (7)	N
regularfinancepayment	Regular Finance Payment	Number (15.2)	N
regularfinancepaymentincludingservices	Regular Total Payment – Finance + Insurance	Number	Output only
regularpayment	Regular Insurance Amount (inc IPT)	Number (15.2)	Output
residualvalue	Residual Value	Number (15)	N
servicecode	Insurance Required Indicator	GPP	N

XML Field Name	Description	Data Type	Mandatory
subsidyamount	Subsidy Amount	Number (15.2)	N
subsidyrate	Subsidy Rate	Number (7.4)	N
subsidytype	Subsidy Type	Number (1) 5 – Next Rate Banding	N
term	Term (Months)	Number (10.0)	Mandatory
terminalrest	Terminal Rest – set to zero	Number (1) Set to 0.	Mandatory for LP
thirdpartysettlement	Third Party Settlement	Number (15.2)	N
totalamountpayable	Total Amount Payable	Number (15.2)	N
totalcommissionamount	Total Commission Amount	Number (15.2)	Output only
totalpayment	Total Insurance Payable	Number (15.2)	Output only

13.2.2 Vehicle Data

XML Field Name	Description	Data Type	Mandatory
basicprice	Basic Vehicle Price (inc VAT)	Number (15.2)	Mandatory
capcode	Vehicle CAP Code	String (20)	Mandatory
chassisplatenumber	Chassis/ Plate Number	String (50)	N
dealerfittedoptions	DFO inc VAT	Number (15.2)	N New vehicles only
deliverycharges	Delivery inc VAT	Number (15.2)	Mandatory new vehicles only
derivative	Vehicle Derivative	String (50)	Mandatory
discountamount	Discount Amount	Vehicle (15.2)	N New vehicles only Not required if Discount Percent field populated
discountpercentage	Discount Percent	String (10)	N NEW Vehicle only Not required if Discount Amount

XML Field Name	Description	Data Type	Mandatory
			Populated
firstregistrationdate	First Registration Date	Date Pattern : YYYY-MM-DD	Mandatory on used vehicles
ivscode	Vehicle IVS Code	Number (7.4)	N For future use
manufacturer	Vehicle Manufacturer	String (50)	Mandatory
model	Vehicle Model	String (50)	Mandatory
ontheroadprice	OTR Price (includes VAT)	Number (15.2)	Mandatory
othernonvatableitem	Other Non-VATable Item	Number (15.2)	Mandatory
registrationfee	Registration Fee	String(30)	Mandatory new vehicles only
registrationnumber	Registration Number	String (6)	Mandatory on used vehicles
roadfundlicence	RFL	String (50)	Mandatory
startmileage	Start Mileage	Number (10)	Mandatory used vehicles only
totaloptionscost	Total Options Cost (inc VAT)	Number (15.2)	N New Vehicle only
vatqualify	VAT Qualifying Flag	String (50) 0 – No 1 – Yes	Mandatory used vehicles only
vehicletransmission	Transmission	String (1) M – Manual A – Automatic	Mandatory
vehicletype	Vehicle Type	String (10) CAR – Car LCV- Light Commercial Vehicle MCY - Motorcycle	Mandatory

13.2.3   Customer Data

XML Field Name	Description	Data Type	Mandatory
contactatwork	Contact At Work Flag (indicates if the customer has agreed to be contacted at	Number(1) 0 – False	Mandatory

XML Field Name	Description	Data Type	Mandatory
	work)	1 – True	
customertype	Customer Type	String PI – Individual ST – Sole Trader	Mandatory
dateofbirth	Date of Birth	Date Pattern : YYYY-MM-DD	Mandatory
dependants	This has to be set to 0, reserved for future use.	Number (10)	Mandatory
email	Email	String (50)	Mandatory
forename	Forename (e.g. "Andy")	String (30) [a..z, A..Z]	Mandatory
formername	Former Name	String(30) [a..z, A..Z]	N
gender	Gender	Number (5) 0 = Male 1 = Female	Mandatory
homephone	Home Phone	Number (30) [0..9] Should have a space between the area and number.	N Either homephone or mobilephone must be present so they neither are mandatory but one must be populated
maritalstatus	Marital Status	String (10) M Married S Single D Divorced W Widowed E To be Married C Cohabiting X Separated O Other	Mandatory
middlename	Middle Name	String (30) [a..z, A..Z]	N
mobilephone	Mobile Phone	Number (30) [0..9]	Mandatory

XML Field Name	Description	Data Type	Mandatory
		Should have a space between the area and number.	
residentialstatus	Residential Status	STRING(10) O - Owner Occupier J - Joint Owner P - Living with Parents F - Tenant/ Furnished U – Tenant/ Unfurnished C - Council Tenant T - Other Tenant X - Other	Mandatory
surname	Surname (e.g. "Carroll")	String (30) [a..z, A..Z]	Mandatory
title	Title	String (10) 01 – Mr 02 – Mrs 03 – Miss 04 – Dr 05 – Rev 06 – Sir 07 – Ms 08 – Prof 09 - Hon 10 - Count 11 – Countess 12 – Father 13 – Lord 14 – Lady	Mandatory

13.2.4   Address Data (current and previous)

Previous Address data is only required if the customer has lived at their current address for less than 3 years. A minimum of 3 years address data is required; please note that when the proposal is submitted FAMOS will automatically change the current address to 3 years to pass validation.

XML Field Name	Description	Data Type	Mandatory
county	House County	String	N
district	House District	String	N
flat	Flat Number	String	N
housename	i.e. Merrydown	String (50)	N This field is only mandatory if the house number is blank
housenumber	i.e. 16	String (20)	N
housestreet	House Street	String	N
locality	House Locality	String	N
postcode	Post Code (e.g. " RG27 9UF")	String (20)	Mandatory This field is mandatory if the post town is not populated
posttown	Post Town (e.g. "Hook")	String (50)	Mandatory This field is mandatory if the postcode is not populated
timeataddressmonths	Number of Months at Address i.e. 1 to 12	Number (10)	Mandatory
timeataddressyears	Number of Years at Address i.e. 1 to 28	Number (10)	Mandatory

13.2.5   Employment Data (current and previous)

Previous Employment data is only required if the customer has been at their current employment less than 3 years.

XML Field Name	Description	Data Type	Mandatory
county	House County	String (50)	N
district	House District	String (50)	N
employername	Employer's Name (e.g. "Alphera Financial Services") OR Trading Name	String (50)	Mandatory - if employment status is full-time, part time or self-

XML Field Name	Description	Data Type	Mandatory
			employed
employmentindustry	Employment Industry	String (10) BNF - Banking and Finance CAL - Catering and Leisure CNT - Construction EDU - Education EDG - Engineering HSS - Health and Social Services IT - Information Technology MAN - Manufacturing MDE -Military and Defence RTR - Retail Trade TAS - Technical and Scientific TRN - Transportation TXI - Taxi TRT - Travel and Tourism UTL - Utilities OTH - Other FFM - Farming, Fishing, Forestry, Mining ARE Arts and Entertainment DVI Driving School	N Mandatory – if employment status is full-time, part-time or self-employed
employmentstatus	Employment Status	String(10) FTE - Full-Time Employed PTE - Part-Time Employed SFEP - Self-Employed Professional SFEN - Self-Employed Non-	Mandatory

XML Field Name	Description	Data Type	Mandatory
		Professional NWK - Non-Working	
flat	Flat Number	String (20)	N
grossannualincome	Gross Annual Income	Number (15.2)	Mandatory
housename	Employer's House Name e.g. Europa House	String(50)	N
housenumber	Employer's House Number e.g. 5	String (20)	N
housestreet	House Street	String (50)	N
jobdescription	Job Description (e.g. "Business Analyst")	String (50) [a..z, A..Z]	Mandatory
locality	House Locality	String (50)	N
nonworkingstatus	Non-working Status	String (10) RET (retired) HSW (housewife) HSH (househusband) STU (student) OTH (other)	Mandatory – Only if Employment status is Non- working
officephone	Office Number	String (30) [0..9]	N
parttime16hours	Set to 0	Number (1) 0 – False 1 - True	Mandatory
postcode	Employer's Post Code (e.g. "RG27 9UF")	String (20)	N
posttown	Employer's Post Town (e.g. "Hook")	String (50)	N
stafforservicenumber	Staff or Service Number	String (100)	N
timeinoccupationmonths	Number of Months in Occupation	Number (10)	Mandatory for individual
timeinoccupationyears	Number of Years in Occupation	Number (10)	Mandatory for individual
timetradingmonths	Number of Months Trading	Number (10)	Mandatory for soletrader
timetradingyears	Number of Years Trading	Number (10)	Mandatory for sole trader

XML Field Name	Description	Data Type	Mandatory
timewithemployermonths	Number of Months With Employer	Number (10)	Mandatory for individual
timewithemployeryears	Number of Years With Employer	Number (10)	Mandatory for individual
tradename	Trading name of Sole Trader	String(100)	Manadatory for Sole Trader.

13.2.6 Bank Data (current and previous)

XML Field Name	Description	Data Type	Mandatory
accountname	Name of Bank Account	String(50)	Mandatory
accountnumber	Bank Account Number	String(12) [0..9]	Mandatory
address1	Bank Address 1	String (50)	N
address2	Bank Address 2	String (50)	N
address3	Bank Address 3	String (50)	N
address4	Bank Address 4	String (50)	N
bankname	Bank Building Name	String (50)	N
branchname	Branch Name	String (50)	N
county	Bank County	String (50)	N
paymenttype	Direct Debit Only	String Set to DD	Mandatory
postcode	Bank Postcode	String (20)	N
posttown	Bank Post Town	String (50)	N
sortcode	Bank Sort Code	String (8) [0..9] Pattern : xx-xx-xx	Mandatory
timeAtBankMonths	Number of Months at Bank	Number (10)	Mandatory
timeAtBankYears	Number of Years at Bank	Number (10)	Mandatory

Please Note – On occasion banks will require additional validation of accounts so will fail submission. These accounts will need to be validated by our Dealer Support team directly in FAMOS.

13.2.7 Dealer Notes

XML Field Name	Description	Data Type	Mandatory
type	Type of Note e.g. Dealer Note Set to 0 - Dealer Note	String(50)	Mandatory
note	Note	String (50)	Mandatory

13.2.8   Residual Values Request

XML Field Name	Description	Data Type	Mandatory
New/Used Indicator	New/Used Indicator		Mandatory
capcode	Vehicle CAP Code	String (20)	Mandatory
currentmileage	Current Mileage	Number (10)	Mandatory used vehicles only
registrationdate	Registration Date	Date Pattern : YYYY-MM-DD	Mandatory if used vehicle
productcode	Product Code	String (10)	Mandatory
Term	Term (Months)	Number (10.0)	Mandatory
Annualmileage	Annaula Mileage	Number (10.0)	Mandatory

13.3   Used techniques

To access the web services in the Production environment the URL used should be https://famos-uk.bmw.com/FAMOS/services   or   https://famos-pi-uk.bmw.com/FAMOS/services (from Feb 2017) followed by the following depending on the service required:

1.   Quotation service
2.   Proposal submission service
3.   Status service
4.   Information service
5.   Residual value service

The status of the web service can be checked by using the following link in an internet browser: https://famos-uk.bmw.com/FAMOS/services/StatusService or

https://famos-pi-uk.bmw.com/FAMOS/services/StatusService (from Feb 2017). The expected result is:
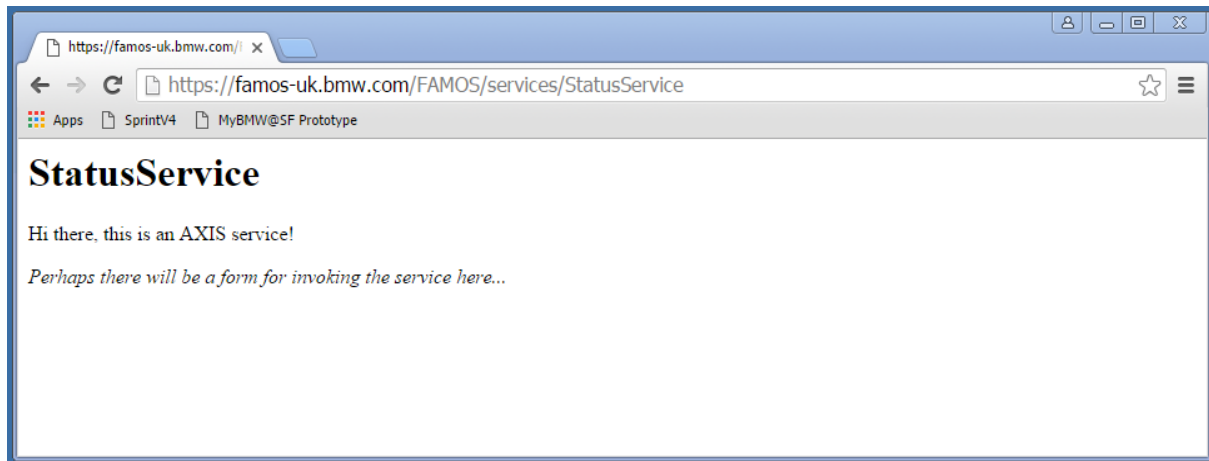
A test harness exists for use by Application Operations (for support) and Design Team (for investigation and testing FAMOS changes).

The location of the test harness is:

file:\\Europe.bmw.corp\winfs\FG-Data\FG-EU___EMEA\FG-EU-3-UK\02-FG-EU-3-UK-2\02_Team\F3-IT%20Projects%20Team\FAMOS\28%20Partner%20Interface

There is one test harness executable per environment: Production Support, Test, Integration and ECAP test.

The test harness is currently configured to point to the internet (test/int) web service, but can be configured if need be to point to the intranet web service. There is a separate configuration file and certificate which can be used when using TLS.

On occasions Application Operations check the partner interface is operational by submitting Information service and Residual Value service requests. The XMLs for such a test are:

Information request service

Information
Request.txt

Residual value request service

Residual Value
Request.txt

The XML is pasted into the test harness and, using the "A BMW Dealer" logon name and password, the method is set to getRValue or getQuoteInformations and the Call Web Service button selected. The response is checked to confirm the partner interface is operational.

13.4 Test harness TLS configuration

Changes related to TLS have been made to the test harness code and configuration file. The changes allow:

The test harness tool to be pointed at either the existing web server or the new TLS servers. To do this, the URL is updated in the configuration file.

To check the correct client certificate (test-harness.pfx) is installed locally on the users' computer. This is done by installing the certificate and adding the following tag into the configuration file:

 <transport clientCredentialType="Certificate" />.

This tag should only be used when pointing at the TLS server.

The user can decide whether they wish to manually evaluate the server certificate. When the configuration file includes the above certificate tag and the TLS server URL, a flag will appear in the GUI of the test harness. See below.
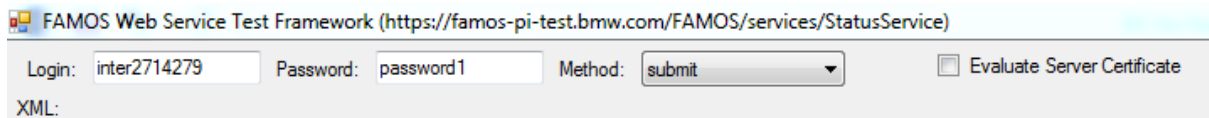
When the flag is checked and a call is made to the web server, a pop up will be displayed asking the user to manually authenticate the server certificate. This gives the option to accept or reject. The server certificate must be accepted in order to open the communication channel with FAMOS. See below.
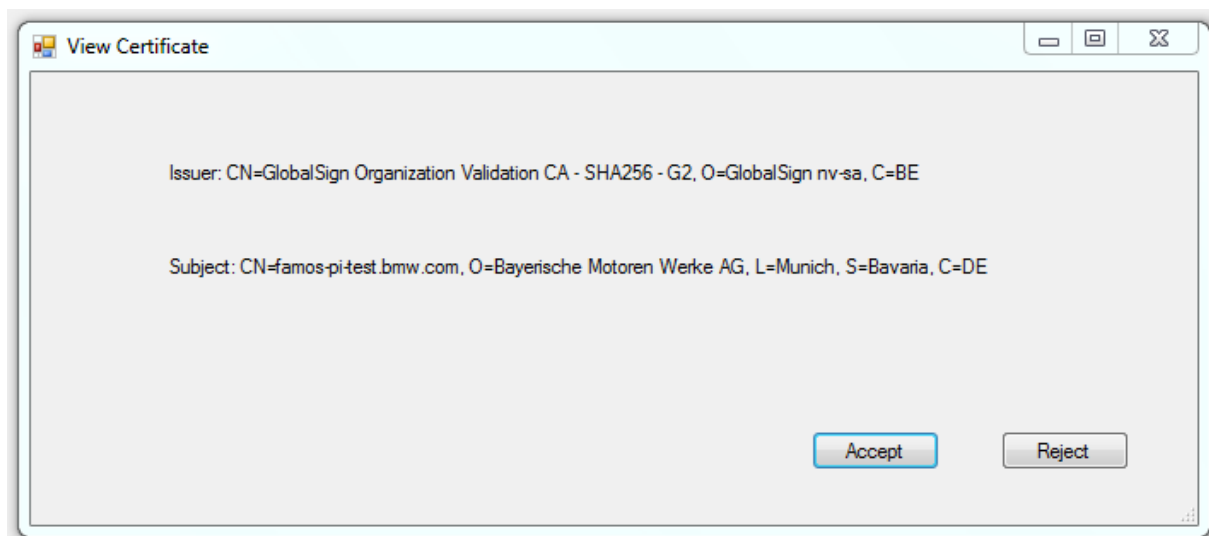
An error message is returned in the response file to alert the user if an error is encountered with TLS. Note, this is not an error message configured in FARM but an error message displayed before the TLS communication channel is established. The error message reads: Could not establish secure channel for SSL/TLS with authority 'famos-pi-test.bmw.com.

Example certificate and configuration files for the FAMOS test environment are given below:

Test Harness Certificate

TLS Config

1 Way Config

The source code for the test harness is stored in Subversion in the following location:

https://lpintrae.muc:4756/svn/csharp/trunk/TestFamosService

14. Management/ Support and SLA's

14.1 Implementation and Production Support

Email: Partnerinterfacesupport@bmwfin.com

Appendix 1 –

	#	Error Message	Resolution/ Guidance
ERROR	1	Login is missing	FAMOS is experiencing an issue with your credentials which is stopping you from being able to log in. Please contact PartnerInterfaceSupport@bmwfin.com ensuring to quote the specific credentials receiving this error
ERROR	2	Username or Password incorrect or account locked. Please contact FAMOS Support	Please refer to guidance on Error 1
ERROR	3	The XML is invalid please correct and resubmit : <ISSUE DETAILED HERE>	Please check all information on the XML and its formatting is correct as currently an error has been identified
ERROR	4	The CAP Code does not match the vehicle type	Please check the vehicle CAP code has been entered correctly, be aware this includes spacing within the code itself. If you are still experiencing an error please contact PartnerInterfaceSupport@bmwfin.com
ERROR	5	Mandatory data is missing, please complete and resubmit. The missing data are: <ISSUE DETAILED HERE>	Please refer to mandatory data fields that are detailed on the XML response and ensure all relevant data has been entered. If you require further assistance, please contact Sales Support

ERROR	6	The product is unavailable:The selected product is not compliant with the retailer or asset. Please change the product code or asset. Please change the product code to an acceptable product.	Package/ Product details entered are invalid. Please contact PartnerInterfaceSupport@bmwfin.com ensuring provide retailer site ID
ERROR	7	The following data is outside the product	Please refer to the product handbook (accessible here) for most up to date information on vehicle age restrictions for each brand
ERROR	8	Unable to process the calculation :No plan was found	Some element of the Package/ Product details entered is invalid. Please contact PartnerInterfaceSupport@bmwfin.com ensuring provide retailer site ID
ERROR	9	The regular payment provided does not match the calculation in FAMOS. The expected value is ##### Please change parameters and recalculate.	Please ensure regular payment calculations match what is shown in FAMOS. If you continue to find discrepancies with calculations that do not appear correct then please contact PartnerInterfaceSupport@bmwfin.com detailing the issue and providing all relevant information (i.e. screenshots)
ERROR	10	The Proposal number is unknown. Please supply the correct proposal number	Please review proposal number entered as currently incorrect. If you require further assistance please contact Sales Support
ERROR	11	The status does not allow the update	You cannot currently make any changes to the proposal due to its status in FAMOS. If you require further assistance please contact Sales Support
ERROR	12	The quotation/proposal is locked. Please resubmit later	This propsal is currently locked. If you require further assistance please contact Sales Support
ERROR	16	The address cannot be verified. (Customer's [previous/current] address)Too many addresses retrieved.	Please check details of address noted in error are correct
ERROR	20	The vehicle cannot be identified	Please check vehicle details as currently it cannot be identified by our system

ERROR	24	INTERNAL ERROR	An INTERNAL ERROR has occurred. Please contact PartnerInterfaceSupport@bmwfin.com with both request and response XML's provided to enable us to review the error
ERROR	26	The OTR price provided does not match the broken down vehicle costs. Please correct and resubmit.	On The Road price is currently flagging as incorrect when matched against broken down vehicle costs, please check information has been entered correctly. If you require further assistance please contact Sales Support
ERROR	27	Vehicle not eligible for funding.	We do not offer funding for this vehicle
ERROR	28	The proposal process cannot be completed: [additional errors will be listed]	Please address additional errors listed
ERROR	45	The proposal has been NTU'd and cannot be resubmitted	The status is 'Not Taken Up', this cannot be modified and a new proposal will need to be created
ERROR	46	The Proposal is currently in the Payout process and Release Lock must be performed before resubmitting.	Please contact Sales Support

WARNING	16	The customer [previous/current] address cannot be verified. Address change not applied. Too many addresses retrieved.	Please check details of address noted in error are correct. If you require further assistance please contact Sales Support
WARNING	17	The customer cannot be verified at that [previous/current] address	Please check details of address noted in error are correct
WARNING	32	Option price from XML doesn't match the price from catalog.Option price from XML doesn't match the price from catalog	

Appendix 3 – Calculations

14.2 Vehicle Calculations

Vehicles are calculated as follows in FAMOS:

14.2.1 New Vehicle

When supplying new vehicle pricing to FAMOS via the service the vehicle should be priced as follows:

Basic Price – Defaults to list price of vehicle (inc. VAT), but can be overwritten.
Options Price (Inc VAT)

+ Dealer Fitted Options price (these are VAT able options only and include VAT)

Total Price

Then apply discounted price or rate to get

Total price after discount

Then add

Delivery (inc. VAT)
RFL (VAT not applicable)
Other non-vatable items (these are for non-vatable options)

+ Registration Fee (VAT not applicable)

OTR price

Values in Italics are calculated, **values in bold are mandatory.**

14.2.2 Used Vehicle

No VAT is payable on these vehicles so the VAT qualifying indicator is set to off.

Vehicle Price
RFL (no VAT payable)

+ Other non-vatable items (no VAT payable)

OTR Price

Values in Italics are calculated, **values in bold are mandatory.**

14.2.3 Used Vehicle VAT Qualifying

VAT is payable on these vehicles as the VAT qualifying indicator is switched on.

Vehicle Price (inc. VAT)
RFL (no VAT payable)

+ Other non-vatable items (no VAT payable)

OTR Price

Values in Italics are calculated, **values in bold are mandatory.**

14.3   Calculation of Quotations

For FAMOS to calculate the quotations each quote will require the following data:

14.3.1 Hire Purchase

- Vehicle Data - OTR price
- Product code
- Customer Type
- Deposit amount
- P/x
- Annual mileage
- Term
- Initial payments - 0
- Customer Rate
- Payment Frequency - Monthly only

14.3.2 PCP (Select)

- Vehicle Data - OTR price
- Product code
- Customer Type
- Deposit amount
- P/x
- Annual mileage
- Term
- Initial payments - 0
- Customer Rate
- Commission Rate
- Payment Frequency - Monthly only
- CAP Code

14.3.3 Lease Purchase

- Vehicle Data - OTR price
- Product code
- Customer Type
- Deposit amount
- P/x Annual mileage
- Term
- Initial payments - 0
- Customer Rate
- Commission Rate
- Payment
- Frequency Monthly only
- Terminal Rest – No
- CAP code

14.4 Verification of Quotations

For FAMOS to verify the quotation will require the following data in addition to that described for the calculation:

14.4.1 Hire Purchase

- Finance Regular Payment Amount
- Total Amount Payable (TAP) = all monthly payments+ fees +deposit
- Balance To Finance = Cash Price – Deposit – p/x
- Finance Commission Amount

14.4.2 PCP (Select)

- Finance Regular Payment Amount
- Finance Final Payment Amount must be less than or equal to RV in FAMOS.
- APR
- Total Amount Payable (TAP) = all monthly payments+ fees +deposit
- Balance To Finance = Cash Price – Deposit – p/x
- Finance Commission Amount

14.4.3 Lease purchase

- Finance Regular Payment Amount
- Finance Final Payment Amount must be less than or equal to RV in FAMOS.
- APR
- Total Amount Payable (TAP) = all monthly payments+ fees +deposit
- Balance To Finance = Cash Price – Deposit – p/x
- Finance Commission Amount

14.5 Rounding rules

Monetary values should be rounded up or down to the nearest penny. There is a parameter in the Partner interface that will allow a tolerance in rounding errors in the calculation of monthly payment so that deals will not be rejected due to small discrepancies between the rental calculated by the Partner Interface and that calculated by FAMOS. In this scenario the value calculated by FAMOS will be the monthly payment used not the value provided by the partner.

14.6 Commission rules

16.6.1 Lease, Lease Purchase and Select financial products

Commission for Lease, Lease Purchase and Select products is calculated as follows:

Commission rate * Advance (or Balance of Finance) = Commission due

Scale rate

Note: The Scale rate for a dealer is the rate Alphera FS has agreed is the minimum at which business can be written. There are only a few exceptions where commission is paid for deals written at or below the scale rate. There is also a maximum commission rate that must not be exceeded.

16.6.2 Hire Purchase financial products

Commission for Hire Purchase deals is calculated as follows:

Flat rate – Scale rate * term (years) = a%

Balance to Finance * a% * Difference in Charges split = Commission due.

Note: Some Hire Purchase deals have front end commission on charges that exceed the rate of 35% up to a maximum agreed in the dealer package. Hire purchase commission is calculated as follows: The interface can process a proposal that includes a dealer subsidy.
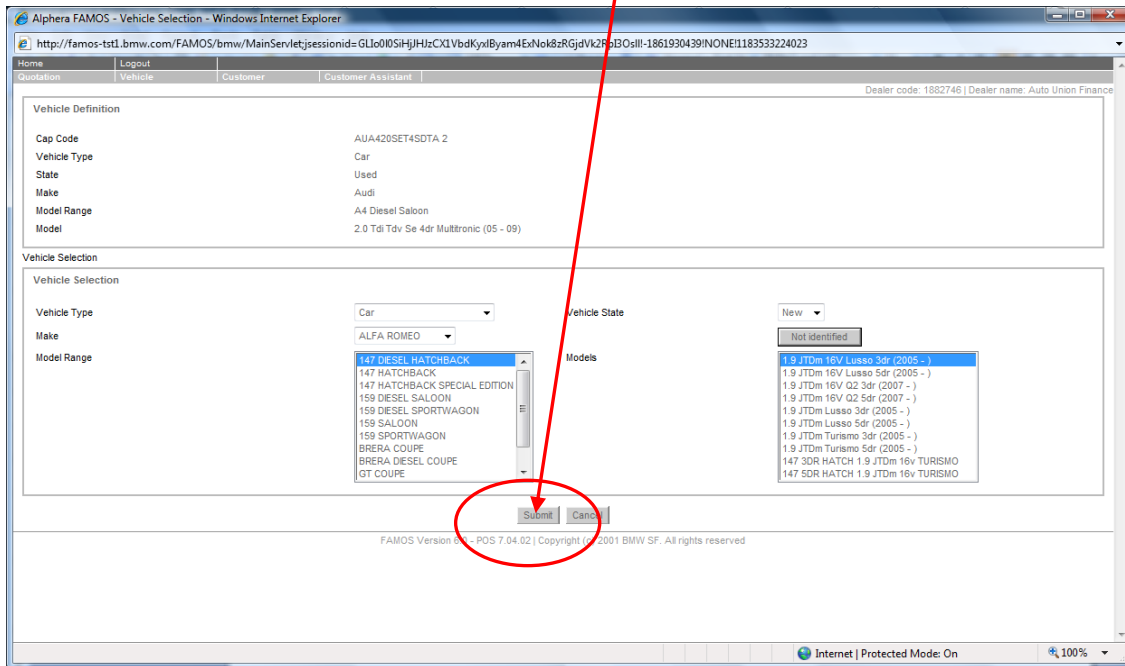
15. Appendix 4 – Vehicle Selection Queue

The vehicle selection queue is available to dealers who use the Partner Interface. Proposals sent via the Partner Interface that have a missing or unmatched CAP Code will be sent to this queue.
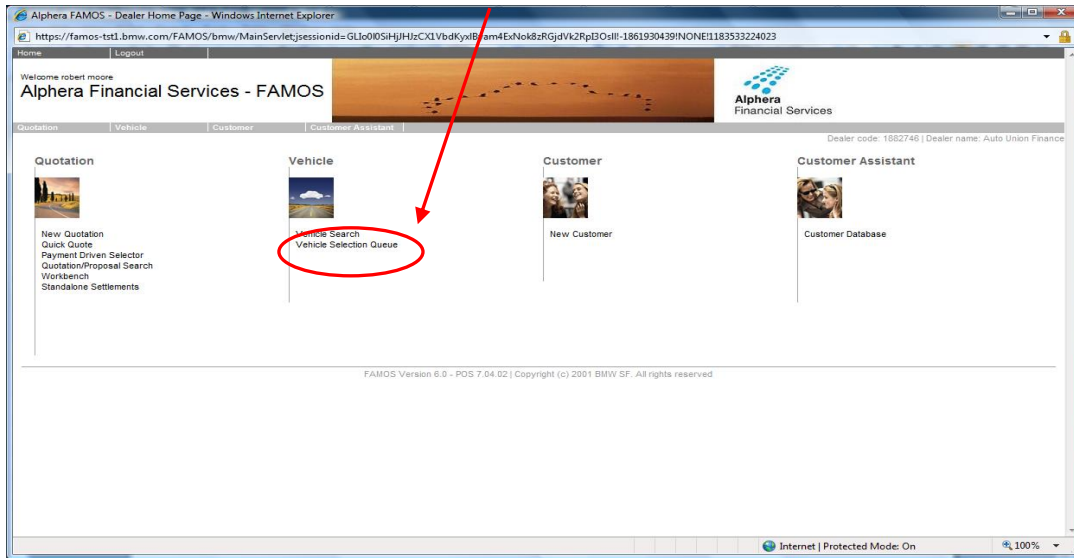

From this queue you will be able to select the proposal by placing the cursor over the ID of desired row.
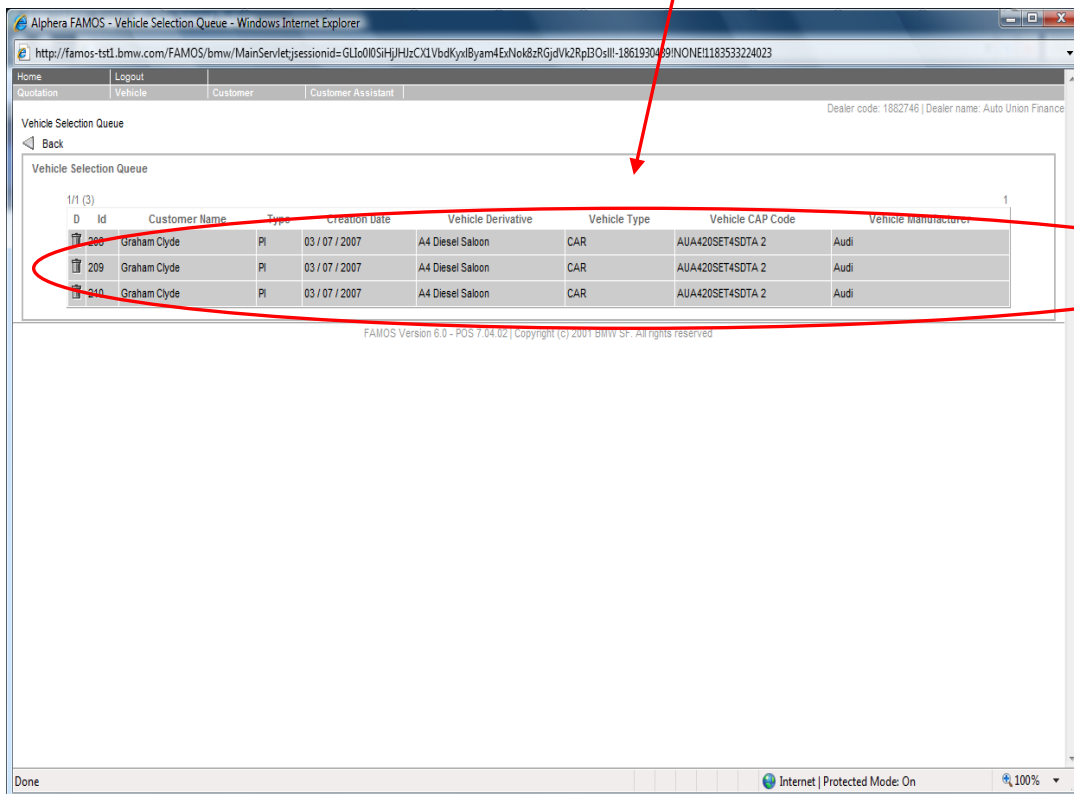
When the proposal has been selected you will be able to choose the correct vehicle and submit the proposal.

The proposal will then be checked for errors if there are no errors it will be removed from the vehicle selection queue, submitted to Underwriting and a message displayed containing the proposal number in the field entitled application number (see below):
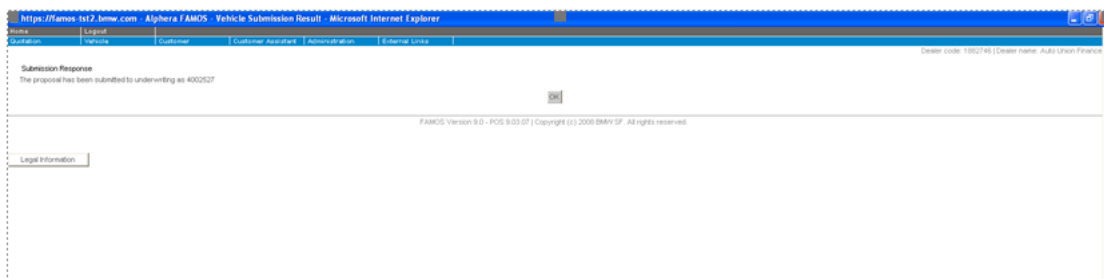
If there are errors an error message will be displayed, the proposal will be removed from the vehicle selection queue and should be edited and resubmitted to FAMOS (see below).

It is also possible for you to select a 'Not Identified' vehicle when you select this option then you will be sent to the vehicle identification screen (see below).

The proposal will then be checked for errors if there are no errors it will be removed from the vehicle selection queue, submitted to Underwriting and a message displayed containing the proposal number in the field entitled application number (see below):

If there are errors an error message will be displayed, the proposal will be removed from the vehicle selection queue and should be edited and resubmitted to FAMOS (see below).

If the financial product requires a Residual value it will be removed from the vehicle selection queue and transferred to the 'Missing RV queue' for completion by our Sales Support team, the following message displayed (see below):

If the vehicle details are valid the proposal will be placed in the 'Missing RV Queue'. The proposal can then be submitted and if there are no errors then the proposal will be submitted to Underwriting. If there are errors, it won't be possible to submit the proposal and an error will be displayed. It will then be removed from the 'Missing RV Queue' and the Dealer will be informed of the error and asked to correct and resubmit.

16. FAQ's

16.1 Partner Interface communication specification

16.1.1 Web Services definition

Is there a Web Services definition (WSDL) available from a URL?

No, the WSDL cannot be generated using that link due to a conflict with an XML parsing library (xmlparserv2.jar) chosen by Munich and to be used as part of FAMOS.

Instead of the WSDL an equivalent has been provided called WSDD, details are below:

16.1.2 SOAP Envelope definition

What is the SOAP envelope required for a Partner Interface message?

Each Partner Interface message type has a similar format for the SOAP message that packages the XML.

The SOAP message consists of a definition Envelope, a Header (not used) and a Body (containing the actual Partner Interface XML).

16.1.3 HTML protocol

What is the HTML protocol used to communicate with the Partner Interface?

An HTML 'POST' is used to communicate the SOAP message, which uses the public part of the web service certificate.

A connection can be established by setting the user name to AUTHENTICATED.

16.1.4 Partner Interface messaging

Is the Partner Interface use synchronous or asynchronous message handling?

As the Partner interface utilises SOAP, it uses a synchronous message-handling. i.e. it is expected that the caller will await the response from the Web Service.

This implies that the caller will always know the context of any given message.

The Web service will always return a response to any message sent, unless there is a system outage.

16.1.5 Will the Partner Interface always return a Partner reference needed for asynchronous message handling?

There is no place in the SOAP Envelope or Header for a partner reference.

In the Body of the message, the Partner reference is stored in the brokerreference tag within the XML.

The same brokerreference IS usually returned in the response to a message. The exceptions to this rule are noted below:

The 'Status' message NEVER returns a 'brokerrreference' value.

The 'Submission' message will NOT return a 'brokerrreference' value:

If there is an XML parsing error (Error code 3) because the XML is invalid according to the Partner Interface XSD schema.

If there is a bank account error (Error code 3) because the XML is incomplete.

If there is an invalid Registration number (Error code 7) because the XML is incorrect.

16.2 Partner Interface XML

16.2.1 General XML questions

What are the <![CDATA[message]]> constructs?

CDATA is used for all text fields in the response as it is a standard construct.

DOM will support it, otherwise there would be issues with reserved characters.

16.2.2 Are you able to supply notes within their submitting XML?

Yes.

16.2.3 Fee values are marked as "Output only?

We don't need the fees in the input as these are derived from the product details in FAMOS.

FAMOS will only use its internal figures for these Output only fields, hence the recommendations to set to 0.

BMW will supply the standard values for these fees for use in Partner calculations.

16.2.4 All deposits and part exchanges should not include finance settlement values. These fields should only contain a net value to be applied to the vehicle.

17.   XSD / XML Examples

17.1 XSD Fields

Broker_XSD
mandatory fields.xlsx

17.2 Example XMLs

17.2.1   Proposal XML with SOAP Message

valid xml file.txt

17.2.2   Proposal XML

Example Proposal.txt

17.2.3   Status Service XML

Status Update.txt

17.2.4   Quote XML

Quote.txt

17.2.5   Residual Value XML

Get RV Value.txt

GetRValueGVMS.txt

17.3   WDSL Example

WSDL.docx

17.4   WSDD Information

server-config.wsdd.x
ml

Frequently Asked Questions

How do I set up user accounts? The Partner Interface support team will set your user accounts up for Partner Interface access. Please contact them on partnerinterfacesupport@bmwfin.com. Please ensure that the site id is provided in order for the set up to be processed. Please be aware this is not for individual user accounts.

If I get a package or rate error where do I access new package and rate information? The Partner Interface team will make best endeavours to provide this information to you as soon as available however if this information has not been provided, contact Partnerinterfacesupport@bmwfin.com, who will provide this information.

What Partner Interface test environment should be used to assist with integration testing? The current test environment used is https://famos-pi-ps.bmw.com/FAMOS/services/StatusService

Contact partnerinterfacesupport@bmwfin.com to obtain user id and password credentials to use for any testing. We will also provide you with the relevant SSL certificate to connect to any endpoint.

When your SSL certificates are expiring who do I contact? Contact partnerinterfacesupport@bmwfin.com. Please ensure you have done this well in advance of the certificate expiry date.

When do our certificates expire and how do we get new ones? The Partner interface support group will send over certificates to our registered contact in advance of the certificates expiring.

PARTNER INTERFACE BEST PRACTICE GUIDELINES

PARTNER INTERFACE QUERY GUIDE	
*** please provide request and response XMLs for error queries – particularly if unrelated to username of package errors***	
Type	**Required information**
User ID error (#1 or #2):	Site ID(s) and Username(s) affected
Package/ product error (#6 or #8):	Site ID(s)
Certificate renewal:	Production (LIVE) or Production Support (TEST) environment? Date when your certificate expires
	Once above confirmed we'll provide SharePoint link to BMW Cloud where you can upload the certificate(s), please ensure the file is in .cer or .crt file format. We will subsequently email you to confirm installation date once

	we have the file(s)
Other error:	Please provide request and response XML and detail any further relevant information to support
Other query:	Please detail nature of query in as much detail as possible and include relevant supporting information/ attachments/ contacts etc where applicable

Should the matter be urgent, then please contact **BOTH** the PI support team directly on the below details and follow out of office direction