

Tandvårdsstöd
Care Provider Interfaces
GetMessage v2

IT-product

Date

Version

Get Message v2

2016-06-13

RevC

Versions

Version	Date	Changes	Name
RevA	2009-03-18	First signed off version	
RevB	2015-02-18	<ul style="list-style-type: none"> Updated for TVS R4b compliance as this was not done properly in the R4b project. Some updates but no functional change for MajRelease 2015. Signed-off after review.	Lars Dalenius
RevC	2016-06-13	<ul style="list-style-type: none"> Updated document using new template. Attribute "vendor-name" changed to mandatory. Length of "vendor-name" is changed to char(30). Length of "product-name" is changed to char(30). Added "Complex Type" in tables for grouped elements, i.e yellow lines, since this is the type used in the xml-schema. Updated statistics Signed-off by Mohamed Osman 	Lars Dalenius

Attachment- and reference list

Number	Title, document ID, search path
1	Solman: 009_20_xml_schema_pack
2	Grupprum Tandvårdsstöd förvaltning, typ=Systemdokument: Teknisk arkitektur Tandvårdsstöd

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1 Introduction

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The Care Provider Interface "GetMessage" is used by the clinics to fetch asynchronous responses. Like all other interfaces, this interface only works on the clinic level, not on the care provider level. Each clinic has its own "mailbox" in SHS. When a clinic wants to check if there are any asynchronous response messages to receive, they use the GetMessage interface.

The main information in this document are tables containing all parameters and their translation between XML and SAP-CRM. The following color codes are used in the tables:

Color	Description
	Cells are changed or added in this version of the document.
	Parameters are removed in this version of the document.
	Parameter is not translated between XML and SAP.
	Complex Type which does not contain a single value, but several parameters.

Table 1 Color codes used in the parameter and translation tables

2 Integrations

The Care Provider Interface "GetMessage" makes use of one interface for the internal FK communication with SAP:

No	Description
1	An integration used to allow the dental system to send a GetMessage request to SHS in order to fetch asynchronous responses (SHS = FK:s Spridning och HämtningsSystem).

The first step in the GetMessage interface is to send a GetMessage request to SHS, specifying clinic-id. If there are any response messages in their mailbox, the oldest message (FIFO) in the mailbox will be sent back encapsulated in the GetMessage response. As long as the mailbox is not empty the clinic will get one response message at a time whenever they do a GetMessage request. The messages are delivered in the same order as they were sent from SAP-CRM. When the mailbox is empty a QueueEmptyResponse will be sent back encapsulated in the GetMessage response.

The anticipated message flow is depicted in the following diagram:

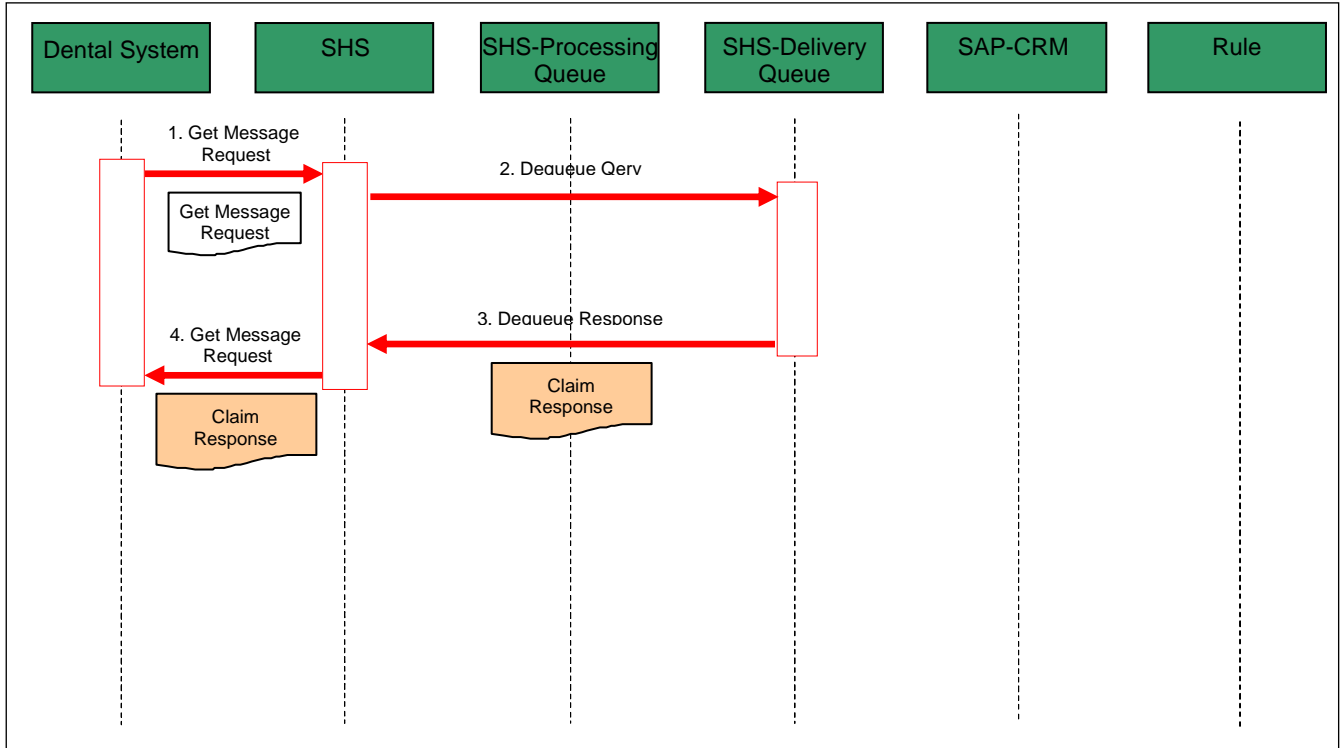


Figure 1 Sequence diagram for the GetMessage interface.

Architecturally, the messages will flow in the following manner:

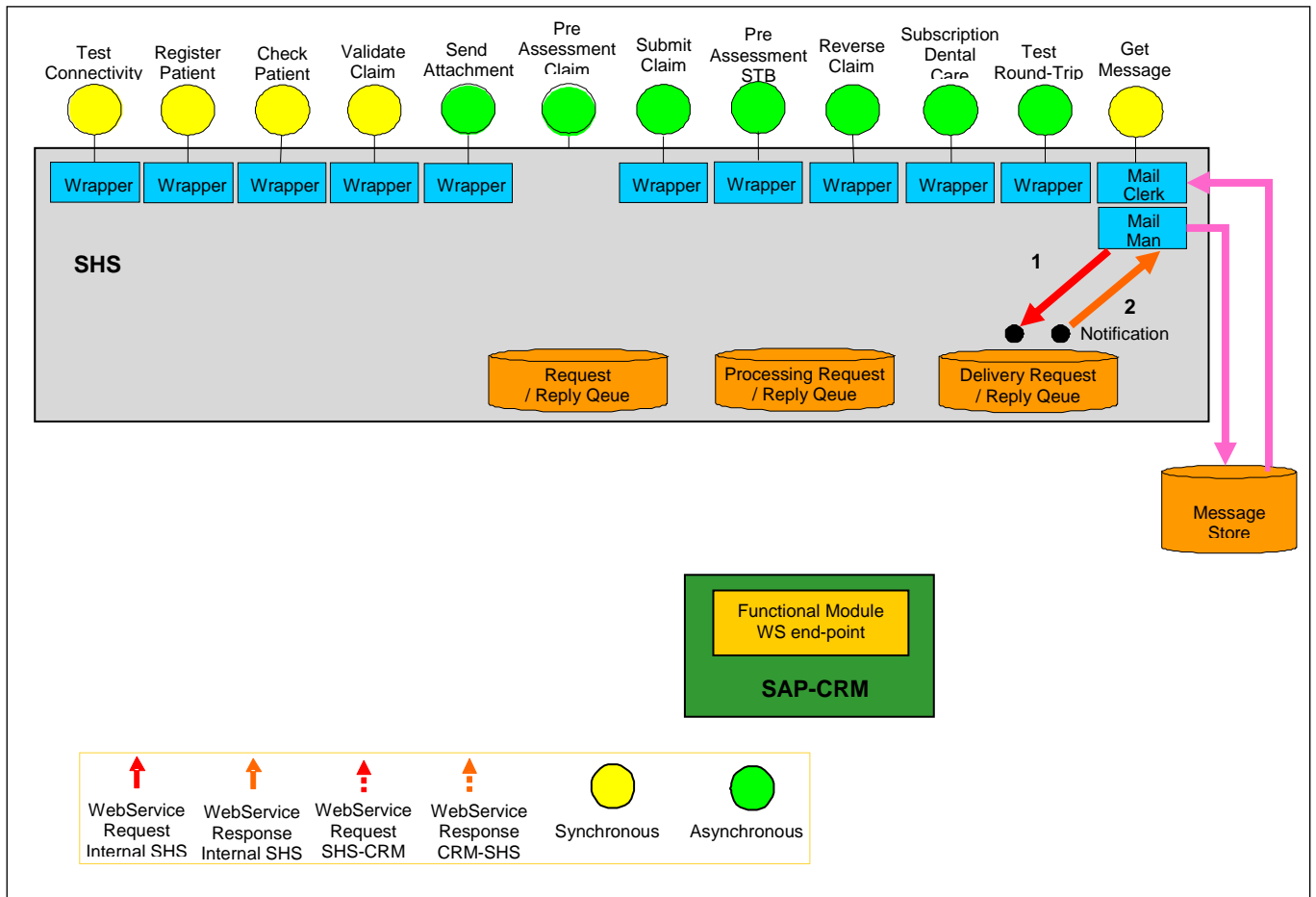


Figure 2 Architectural overview for the GetMessage interface.

2.1 Re-requesting asynchronous response messages

If a clinic wants to retrieve a specific response message, the clinic can use the optional element “message-request-id” in the request. If the message is available in the Message store, it will be delivered encapsulated in the GetMessageResponse. If not, they will receive an encapsulated QueueEmptyResponse.

Some asynchronous interfaces can respond with several asynchronous response messages in case they are being manually handled. In that case, there will be several responses with the same request-id. Only the latest asynchronous response will be delivered when specifying a request-id in the GetMessage request.

2.2 How long are asynchronous responses saved in SHS?

When an asynchronous response message is received by a clinic, by using the GetMessage interface, the message is flagged for pending deletion, but it is still saved for 1 week, before actually being deleted.

Asynchronous response messages which are not requested by a clinic using the GetMessage interface are deleted from SHS after one month and will never be able to be received.

3 Integration 1

The interface is invoked by the dental system which sends a request and receives a synchronous response back.

3.1 GetMessage request

The GetMessage request is used for either requesting non delivered asynchronous response messages for a clinic or to specify a specific response to receive.

Fetching a specific or an already delivered message is possible by using the optional element request-id in the GetMessage request.

3.1.1 Message and translation

The following section describes how to translate the incoming request parameters and attributes from the XML message received at the SAP-CRM system through WS.

Any SAP-CRM parameters that are not mentioned in the table below are optional and will not need to be sent in.

XML				Details	
Name	Element / Attribute	Optional	Data type	Description	Comments
shs-invoked-interface	Attribute	X	char (36)		This attribute may be ignored. It is not sent to SAP-CRM.
request-id	Attribute		char (36)	ID used to link the request with the response.	
vendor-name	Attribute		char (60)		This attribute is mandatory, it is used for statistics.
product-name	Attribute	X	char (30)		This attribute may be ignored. It is not sent to SAP-CRM
version-number	Attribute	X	char (15)		This attribute may be ignored. It is not sent to SAP-CRM

XML				Details	
Name	Element / Attribute	Optional	Data type	Description	Comments
organization-number	Attribute	X	int (10)	The organizational number of the care provider.	This parameter is sent in to be able to attach the correct organization number to the asynchronous response. This XML attribute is always overwritten by SHS with the ID from the certificate. The certificate is issued with the care provider's organization number as ID.
user-id	Attribute		int (12)	User sending the request.	Used for iLogging purposes
clinic-id	Element		int (8)	The id that the clinic has been assigned by FK.	
message-request-id	Element	X	char (36)	The request ID for a previous asynchronous request.	Used if the clinic wants to fetch a response for a specific request.

Table 2 Overview over parameters and their translation for the GetMessage request.

3.1.2 Sample XML

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:tan="http://fk.se/SHS/xsd/tanden">
  <soapenv:Header/>
  <soapenv:Body>
    <tan:FK.TV.GetMessageRequest
      organization-number="2021005521"
      request-id="00000001-1000-0000-0000-000000000005"
      shs-invoked-interface="Get Message"
      vendor-name="FKtest"
      product-name="R4Tanden"
      version-number="V2"
      user-id="198203041234">
      <tan:clinic-id>33300001</tan:clinic-id>
    </tan:FK.TV.GetMessageRequest>
  </soapenv:Body>
</soapenv:Envelope>
    
```

Figure 3 Sample XML for a GetMessage request.

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```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:tan="http://fk.se/SHS/xsd/tanden">
  <soapenv:Header/>
  <soapenv:Body>
    <tan:FK.TV.GetMessageRequest
      organization-number="2021005521"
      request-id="00000001-1000-0000-0000-000000000005"
      shs-invoked-interface="Get Message"
      vendor-name="FKtest"
      product-name="R4Tanden"
      version-number="V2"
      user-id="198203041234">
      <tan:clinic-id>33300001</tan:clinic-id>
      <tan:message-request-id>a4924e42-4214-ba93-af22-9873923e3028</tan:message-request-id>
    </tan:FK.TV.GetMessageRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

Figure 4 Sample XML for a GetMessage request that requests a specific response message.

3.2 GetMessage Response

The GetMessageResponse delivers one asynchronous response message from the clinic mailbox in SHS. The response messages are delivered in the same order they arrived, i.e. FIFO.

If an error occurred, an error message will be provided, see ch.3.3.

3.2.1 Message and translation

XML				Details	
Name	Element / Attribute	Optional	Data type	Description	Comments
request-id	Attribute		char (36)	ID used to link the request with the response.	
organization-number	Attribute		int (10)	The organizational number of the care provider.	
Asynchronous response message	Element			The asynchronous response message. <ul style="list-style-type: none"> • One of the following: • ReverseClaimResponse • PaymentSpecificationResponse • PreAssessmentClaimResponse • PreAssessmentSTBResponse • SendAttachmentResponse • SubmitClaimResponse • SubscriptionDentalCareNotificationResponse • TestRoundTripResponse • QueueEmptyResponse 	

Table 3 Overview over the parameters and their translation for a GetMessage response.

3.2.2 Sample XML

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <FK.TV.GetMessageResponse request-id=
      "00000001-1000-0000-0000-000000000005" organization-number=
      "2021005521" xmlns="http://fk.se/SHS/xsd/tanden">
      <QueueEmptyResponse request-id=
        "00000000-0000-0000-0000-000000000000"/>
    </FK.TV.GetMessageResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

Figure 5 Sample XML for a GetMessageResponse when the clinic's mailbox is empty or the message with the specified request-id is not in SHS.

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <FK.TV.GetMessageResponse request-id=
      "00000001-1000-0000-0000-000000000005" organization-number=
      "2021005521" xmlns="http://fk.se/SHS/xsd/tanden">
      <SendAttachmentResponse.v2 request-id=
        "00000001-1000-0000-0000-000000000003"/>
    </FK.TV.GetMessageResponse>
  </soapenv:Body>
</soapenv:Envelope>
    
```

Figure 6 Sample XML for a GetMessageResponse which contains a SendAttachmentResponse.

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <FK.TV.GetMessageResponse request-id=
      "00000001-1000-0000-0000-000000000005" organization-number=
      "2021005521" xmlns="http://fk.se/SHS/xsd/tanden">
      <SubmitClaimResponse.v3 request-id=
        "a4924e42-4214-ba93-af22-9873923e3028">
        <claim-id>8000019212</claim-id>
        <claim-status>M</claim-status>
        <item-result item-id="1">
          <status>N</status>
        </item-result>
        <item-result item-id="2">
          <status>N</status>
        </item-result>
      </SubmitClaimResponse.v3>
    </FK.TV.GetMessageResponse>
  </soapenv:Body>
</soapenv:Envelope>
    
```

Figure 7 Sample XML for a GetMessageResponse which contains a SubmitClaimResponse with status “Manual handling”.

3.3 GetMessage Error response

An error response is sent if there is a technical problem or if the header validation fails. Technical errors could be sent directly from SHS, but header validation errors are sent from SAP-CRM.

In the case where the inbound message from SHS is corrupted or there is an issue sending the request to SAP, SHS will generate an error response and send it to the clinic mailbox.

3.3.1 Message and translation

XML				Details	
Name	Element / Attribute	Optional	Data type	Description	Comments
request-id	Attribute		char (36)	ID used to link the response with the request.	This value must be copied from the "request-id" message of the inbound request XML message.
organization-number	Attribute		int (10)	The care provider's organization number	This value must be copied from the "organization-number" parameter in the inbound request XML message.
error	Complex Type				
error/error-code	Element		int (3)	The unique code for the type of error that has occurred	
error/error-text	Element		char (255)	The header/short description of the error	
error/error-details	Element	X	char (255)	A more detailed description of the error.	

Table 4 Overview over the parameters and their translation for an Error response

3.3.2 Sample XML

The following sample demonstrates a possible error message returned synchronously from SHS that needs to be returned to the clinic's mailbox:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <FK.TV.GetMessageResponse
      request-id="00000001-1000-0000-0000-000000000005"
      organization-number="2021005521"
      xmlns="http://fk.se/SHS/xsd/tanden">
      <ErrorMessage request-id="a4924e42-4214-ba93-af22-9873923e3028">
        <error>
          <error-code>001</error-code>
          <error-text>Connection Error</error-text>
        </error>
      </ErrorMessage>
    </FK.TV.GetMessageResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

Figure 8 Sample XML for a GetMessage Error response.

3.3.3 Error Messages

Code	Text	Source
001	Connection Error	Any
002	Technical Error	Any
003	Invalid XML	SHS

Table 5 List of possible GetMessage Error messages

4 Volumes

The following data is based on the total traffic during April 2016 (30 days).

Distribution to be spread throughout the day, but likely to be more load during the workday hours.

Received GetMessage requests:

per Year	per Month	per Day	per Hour	Size
13 077 828	1 089 819	36 327	1 514	~0.5kb

Table 6 Preliminary forecast for the volumes of GetMessage requests.

5 Best practices

It is possible either to use the generic GetMessage request or with the element message-request-id to fetch a particular response.

Below are the best practices that are recommended when using the GetMessage with the message-request-id, in order to avoid any performance issue. The example taken is from a Submit Claim, but this applies to all asynchronous interfaces that use the GetMessage.

It is possible to use the GetMessage interface on a specific request id with a 5 minutes interval when the vendors want to retrieve the response message corresponding to this request-id, given the following best practices are followed:

1. If the GetMessage interface on a request id returns the response that the claim is in status Approved, Partially Approved or Declined, then stop sending the GetMessage with the request-id.
2. If the GetMessage interface on a request id returns the response that the claim is in status manual handling, then stop using the GetMessage with the request id. Use the generic GetMessage instead, since the case handling for cases in status manual handling can take a few days.
3. If the GetMessage interface on a request id doesn't return a response at all, then send it again a 2 second time after 5 minutes minimum. If no answer is received the 2nd time again, then stop sending the GetMessage with request id and use the generic GetMessage. If the answer is still not in the generic GetMessage at the end of the day, then resubmit the claim.

If only GetMessage requests with message-request-id was used during the day, then use the generic GetMessage (no message-request-id) every evening in order to empty the queue.

